Parochial Politics: Ethnic Preferences and Politician Corruption

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Abstract

This paper examines how increased voter ethnicization, defined as a greater preference for the party representing one's ethnic group, affects politician quality. If politics is characterized by incomplete policy commitment, then ethnicization reduces average winner quality for the pro-majority party with the opposite true for the minority party. The effect increases with greater numerical dominance of the majority (and so social homogeneity). Empirical evidence from a survey on politician corruption that we conducted in North India is remarkably consistent with our theoretical predictions.

1 Introduction

> Our vote and your rule, this will not work anymore
>
> *Campaign slogan of BSP, an Indian low caste party*

This paper sets out to make an almost elementary point: If voters care about the ethnic identification of politicians, then candidates and/or parties that are associated with the numerically dominant group in a jurisdiction enjoy a competitive advantage. They will win even when along other dimensions – competence, probity etc., i.e. what, for want of better word, we will call quality – they are not quite as good.

This simple observation has an important corollary: as a polity becomes more ethnicized in that citizens become likely to vote following ethnic identity rather than any other marker, the quality of its political representation will worsen. This is for two reasons: first, the probability that the

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dominant group candidates win, goes up; second, the quality threshold at which a dominant group can win goes down.

This view stands in tension to the increasingly standard view that ethnically fragmented societies have worse economic outcomes.[1] In a context where voting is ethnicized increasing the numerical dominance of the larger group makes a jurisdiction more homogenous and less fragmented. For example, with two groups the standard measure of ethnolinguistic fragmentation is maximized when the groups are equal sized (this is also when Esteban and Ray (1994) measure of polarization is maximized).[2] In contrast, in our story outcomes worsen as we move away from equal sized groups. Of course, as the electorate approaches complete homogeneity, ethnicity is unlikely to remain an important consideration for voters. Specifically, if beyond a critical group size the number of parties representing an ethnic group is increasing in group size then we anticipate a U-shaped relationship between group-size and quality of representation. In other words, with voter ethnicization politician quality is maximized when effective political competition is either between parties representing equal sized groups or between parties representing the same ethnic group.[3]

Is the effect we highlight worth taking seriously as a practical matter? We start by using the 2007 Freedom House country reports to code the incidence of ethnic politics in democratic countries. A country received the highest ranking of "1" if the country report did not mention ethnic political parties, or ethnic-based discrimination. A country receives lower rankings as ethnic politics become more important. The lowest ranking of ".2" was given if ethnic-political ties are the dominant force in the political party organization. Of the 137 countries on our sample, ethnic politics is part of the political landscape in 52 countries. In Figure 1 we plot the incidence of ethnic politics against the World Bank control of corruption rating for the country and observe a significant positive correlation(see Appendix for data details).

[1] Existing evidence, largely from cross-sectional regressions, suggests that low income countries are particularly susceptible to such divisions, and that this, in turn, is correlated with reduced GDP (Alesina, Baqir, and Easterly 1999), lower GDP growth (Easterly and Levine 1997), worse private provision of public goods (Miguel and Gugerty (2004), Khwaja (2004)) and increased corruption (Mauro 1995).

[2] Specifically, with two groups of size x and $1-x$ ELF, defined as $1-x^2-(1-x)^2$, is maximized at $\frac{1}{2}$.

[3] It is also worth noting that while jurisdictions within a country are often homogenous, this is unlikely to be sufficient if the electorate as a whole is divided. The reason is that under most electoral systems individual jurisdictions elect legislators who represent them in a multi-legislator parliament and each group will seek to capture control of the parliament. An implication is that the way the groups are distributed across jurisdictions matters, and partisan gerrymandering, which typically increases social homogeneity within jurisdictions, can create substantial inefficiencies.

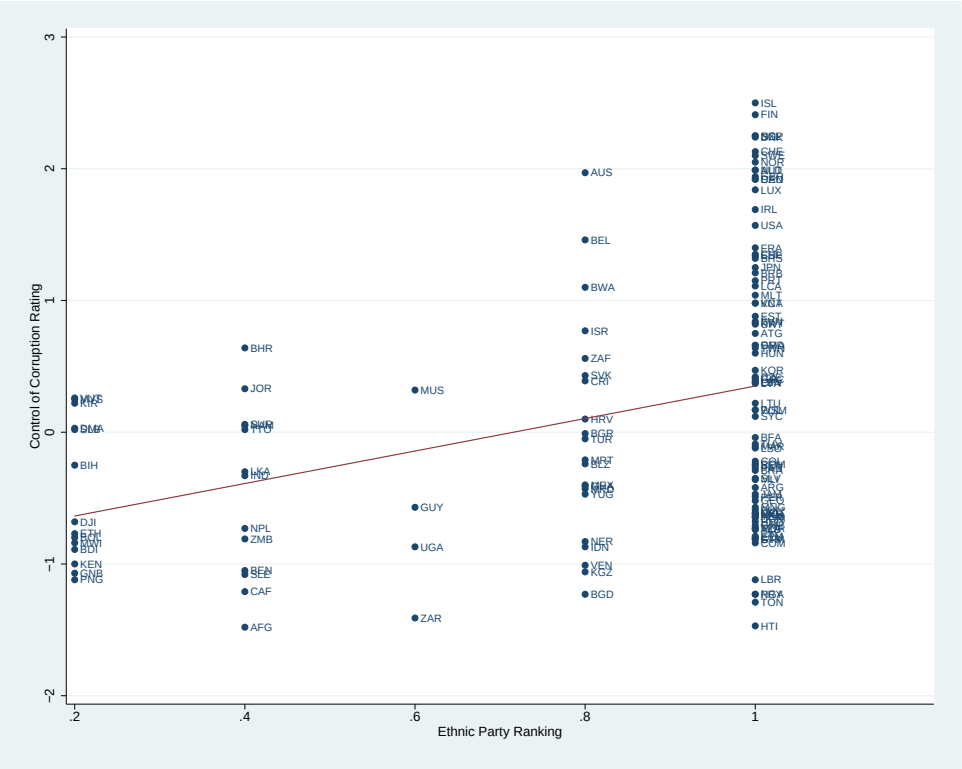

Figure 1: Ethnic Politics and Corruption

The classic manifestation of ethnic politics is the presence of explicitly ethnic political parties, i.e. parties which derive their support from, and claim to serve the interests of, an identifiable ethnic group. In a classic book on ethnic conflict Horowitz (1985) argued that political parties in low income countries are more likely to be organized along ethnic lines, and that in regions and countries dominated by ethnic party competition, the parties which represent the largest ethnic group tend to have an electoral advantage. In Figure 1 it is clear that ethnic politics is more prevalent in low income countries, especially those in Sub-Saharan Africa (on this, also see Posner (2007) and Norris and Mattes (2003)), though Canada, Belgium and Spain are important exceptions (Alonso 2005).[4]

It is difficult to use cross-country data to go beyond such correlations, and identify the channels of influence. In our empirical analysis we, therefore, focus on a single country and combine detailed

[4]Also, after the collapse of communism, a number of East European countries have seen the rise of ethnic politics, most famously the region that used to be called Yugoslavia (Somer (2001), Bugajski (1995)). Political parties in Latin American countries have tended to differentiate on class lines, however, indigenous parties have enjoyed recent electoral success in some Latin American countries, especially Bolivia and Ecuador and, to more limited extent, Colombia, Nicaragua and Venezuela (Cott 2005).

data on politician quality at multiple points of time with significant time-series variation in voter ethnicization to isolate the link between ethnic politics and the quality of governance.

Our analysis draws upon a field survey which we conducted in 2003 in Uttar Pradesh (UP), India's largest state, which is famous for its ethnicity (meaning caste in this case) based politics. For electoral purposes the state is divided into single member jurisdictions, and elections are based on plurality rule. For over a hundred jurisdictions in this state we collected information on economic outcomes, and criminal activity, of the winner and runner-up in the 1980 and 1996 election. These data allow us to examine how the numerical dominance of specific caste groups in a jurisdiction affected the quality of elected politicians.

Our analysis exploits the well-documented rise in caste-based identification among voters in this state between 1980 and 1996. The fact that voter ethnicization increased the electoral dominance of the numerically dominant ethnic group in a particular jurisdiction allows us to examine the effect of greater electoral dominance *within the same jurisdiction.* To distinguish the effect of interest from other time trends we exploit the fact that our model predicts different trends for winners from the same party depending on whether or not the party represents the numerically dominant group in the jurisdiction. Within a jurisdiction the quality of the majority party winner should worsen with voter ethnicization while the average minority party winner's quality should improve. Since the identity of the majority party varies across jurisdictions, this strategy allows us to control for differential time trends by party.

Our empirical analysis strongly supports the proposed theory. Moreover, the magnitude of the identified effects of increased ethnicization on politician corruption are relatively large. Our results suggest that, at least along some dimensions, the entire increase in corruption in our sample jurisdictions between 1980 and 1996 is attributable to the politician affiliated with the party that shared the ethnic identity of the dominant population group in that jurisdiction. Further, the increase is concentrated in jurisdictions with substantial one-group domination.

The structure of this paper is as follows: Section 2 locates this research within the existing literature, and Section 3 provides the historical and social context; this also provides a justification for our empirical approach. Section 4 develops a simple model of political competition to identify how increased voter ethnicization reduces politician quality. Section 5 describes our data-sets and empirical strategy. Section 6 provides the main results, and Section 7 concludes.

2 Related Literature

A large, and growing, theoretical literature in political economy examines the implications of taste diversity for the effectiveness of the electoral process. In one dimensional models with policy commitment increased diversity does not alter a party's electoral incentive to choose the median voter's preferred outcome. Things get more interesting when we move to two dimensions. Alesina, Baqir, and Easterly (1999) construct a two dimensional model with policy commitment, where voters care about the type of the public good and the taxes they pay for it. They assume that voters first choose taxes, anticipating that the money will be spent on the public good preferred by the individual with the median public good preferences. As a result, the voter with median public good preferences will be the most willing to pay the highest taxes while the median voter for the choice of tax rates will expect not to like the provided public good nearly as much and, therefore, will want lower taxes. This effect becomes more pronounced as diversity increases because the distance between the median voter for the choice of tax rates and the median voter who chooses how to spend the money increases. As a result, increases in diversity lower overall public good provision.

An important driving force behind this result is that everyone pays identical taxes. If we drop this assumption then it is possible for one large group in the population to form a coalition with a smaller group with very different preferences by simply paying it off through a directed transfer. In particular as Levy (2005) and Fernandez and Levy (2007) elaborate, this sets up a conflict between targeted transfers and general redistribution. Increased diversity matters because it changes the possibilities for targeted transfers: Some diversity makes targeted transfers easier, since there is now something to target by, but greater diversity might make such targeting inefficient since preferences vary too much in the population. In a world where the set of possible policies is limited relative to the potential diversity in voter preferences, Fernandez and Levy (2007) suggest that diversity will first reduce, but then (beyond a critical level of diversity) increase, the extent of general redistribution.

In a similar environment Lizzeri and Persico (2005) ask what happens if the possibility of targeting specific groups, represented by the number of political parties (think of each party as catering to a specific part of the taste distribution), goes up. They show that an increase in the number of parties may monotonically worsen public good provision. Myerson (1993) is

another model where multiple parties (three in this case) compete along two dimensions: He argues that strategic voting creates substantial scope for coordination failures, and, as a result, the best candidate may not be chosen.

Our model is, in many ways, simpler than these multi-dimensional models. Like Alesina, Baqir, and Easterly (1999) we have one dimension along which preferences differ and another (we call this candidate quality) where everyone has the same preference (in Alesina, Baqir, and Easterly (1999) everyone wants lower taxes). But, we differ in that there is no demand-side link between the two dimensions. As a result, political competition with policy commitment would lead to the highest possible quality always being delivered—keeping its policy along the other dimension fixed, a party always increases its vote share by delivering higher quality.

We avoid this uninteresting outcome by building in a supply-side link between the two dimensions. In our model there is no policy commitment. Instead, very much like in the citizen-candidate models (Besley and Coate (1997), Osborne and Slivinski (1996)), or the models of partisan politics (see, for instance, Alesina and Rosenthal (1989)), policies are embodied in politicians who also come with their own fixed quality. The key assumption is that there are two parties and each party has a fixed supply of candidates, who each represent a different combination of policy and quality. As a result, to get a candidate who will deliver a specific policy, voters might have to sacrifice quality. As politics gets more ethnicized, voters place more weight on the policy dimension (policies can be targeted towards ethnic groups) and quality is sacrificed.

Our model shares its central assumption—scarce supply of high quality politicians —with Besley and Coate (1997) who argue that the most competent politician may not be chosen if he can not commit to the majority-preferred policy. The model of partisan politics in Alesina and Rosenthal (1995, Chapter 8) is in many ways even closer to our model: indeed our model can be seen as an extension of their model where parties have a choice of potential candidates. However neither paper emphasizes the comparative statics that is at the heart of our paper— how a shift in the demand for particular policies resulting from increased ethnicization of voting influences the equilibrium choice of candidate quality.

Our paper does not examine reasons for why voters begin to value the ethnicity of political parties or candidates. However, given that we emphasize changes in the degree of ethnicization over a relatively short period, it is natural to think of these preferences as historical rather than

primordial (Shils (1957), Huntington (1996)).[5] That is, we see them primarily as a product of political organization along ethnic lines.

There are number of available theories of how changes in the economic or political environment may make the ethnic dimension politically salient: In a recent paper (Esteban and Ray 2006) have argued that, for certain configurations of economic inequality, coalitions formed along ethnic lines may be better placed to extract resources from the state. A second reason relates to the choice of state transfers – increasing the potential for patronage-style public goods may increase voter ethnicization (Chandra (2004), Glaeser and Goldin (1995)). Finally, it could be that political parties respond to changes in the extent of political competition they face by priming voters along ethnic lines so as to move political competition away from dimensions where they are electorally weaker.[6]

While our theory does not directly rely on the reason why voters favor ethnic parties, it does affect the interpretation, especially in welfare terms. At one extreme if the support for ethnic parties comes from their ability to redistribute effectively then their presence provides real value to some voters and our valuation of ethnic politics depends on how we weigh the preferences of the beneficiary groups relative to the losers. On the other hand, if all voters get from an ethnic party is the assurance that they would be protected from its rapacity, which would be directed towards other ethnic groups (Myerson (1993), Miquel (2006)), then we would expect the electoral victory of a more honest politician, who does not extract resources for his personal benefit, to improve welfare. Yet another possibility is that politicians do very little for their supporters, either because they are too busy doing things for themselves or because they cannot really target very effectively. A voter might still favor his own ethnic party for historical, social or symbolic reasons, but we would not expect changes in the politician's identity to substantially alters redistribution between these groups.[7]

[5]The primodialist view does not square well with existing evidence. As Fearon (1999) points out it is hard to square this view with the well-documented fact that the same person may vote along ethnic lines in one set of elections and along class or other lines in another set of elections. Moreover as both Horowitz (1985) and Bates (1983) document, ethnic identities often get more or less emphasized in response to changes in the political environment (such as changes in jurisdictional or national boundaries).

[6]Theories that predict an important role for ethnic voters. but are less well placed to explain increases in ethnicization include the suggestions by Bates (1983), Fearon and Laitin (1996) that a shared language and shared social networks make political action easier to organize. A related explanation is that the determinate nature of ethnic identities increases the incentive for ethnic politics, because there is less risk that others will adopt the same identity in order to lay a claim on the rents from power (Fearon (1999), Caselli and Coleman (2005)).

[7]If this were the case, and voters were rational in holding these preferences, we expect the effects of group

3 The Rise of Ethnic Politics in Uttar Pradesh

Our analysis focuses on politics in India's most populous state, Uttar Pradesh (UP). UP has a population of 166 million and over 80% of it's population is Hindu by religion. Ethnic politics in UP, as in much of India, is closely linked to the structure of the Hindu caste system – a hierarchical social ordering of population groups. Historically, lower castes (which consist of Scheduled castes (SC) and Other Backward Castes (OBC)) have faced significant social, economic and political disadvantage. According to the 1931 census (the last Indian census to collect caste data), upper castes constituted roughly 20% of UP's population while a majority of its population (57%) is low caste.[8]

India is a federal country, and UP has an independent state legislature. Elections are based on plurality rule, with single-member jurisdictions. To comply with the constitutional requirement of political affirmative action, roughly 20% of UP jurisdictions are reserved for Scheduled Castes (SC). Only SC candidates can stand for election in reserved jurisdictions.

At Independence, the Congress Party dominated UP politics. While Congress, the party of Mahatma Gandhi, clearly aspired to be the party of all Indians, its leadership in UP had historically been upper caste.[9] In the early years after Independence urban upper caste Hindus also dominated Jan Sangh the main opposition party in UP. The various communist and socialist parties constituted the third, and only major, block that attempted to align itself with lower caste interests and to cultivate lower caste leaders.[10] While non-Congress parties were (briefly) the ruling party in the late 1960s, and between 1977-1980, the Congress hegemony in UP remained largely unchallenged until after 1984. Throughout this period low caste legislators were mainly

dominance on politician quality would relatively small.

[8]There are also caste divisions among other Indian religions and tribes – Christians, Muslims, Sikhs and Scheduled Tribes – though these have no theological basis within those religions. Moreover, in most of India these religious groups are a relatively small minority. These groups are more likely to view themselves as a single group rather than a collection of even smaller individual groups with both a caste and religious identity. For these reasons we focus on Hindu low castes in this study, while recognizing that any such distinction remains, inevitably, imperfect.

[9]In 1960 roughly 60% of its legislators were upper caste and less than 10% lower castes (Meyer 1969).The rest were non-Hindus and individuals belonging to the so-called middle castes. Congress party leadership showed a similar pattern – in 1968 75% of the UP Congress Committee members were upper caste. A single president of its branches at the district or town-level was SC and none belonged to other backward castes (OBC) (Jaffrelot 2003).

[10]Of these, the most important party (electorally) wasBhartiya Kisan Dal (BKD) which was formed in 1967 when a group of Congress legislators led by a non-upper caste politician broke away to set up a pro-peasant party. In two brief episodes in the late 1960s and early 1970s, BKD was part of coalition government that ruled UP. In the early 1970s the socialists and BKD merged to form the Bhartiya Lok Dal (BLD), which claimed to represent peasants and the rural poor more generally

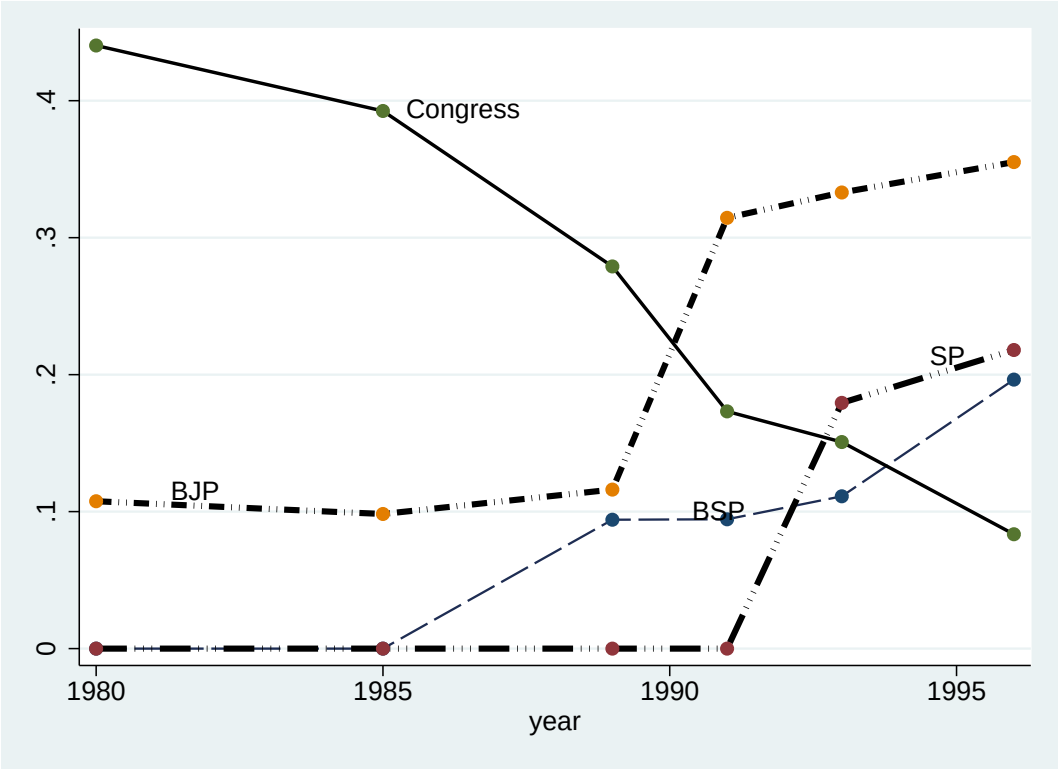

Figure 2: Party Vote Shares

confined to reserved jurisdictions, where only SC candidates could stand for election.

In 1984 an explicitly low caste, specifically SC party, the Bahujan Samaj Party (BSP) was formed. The party campaign slogans make its ethnic nature clear (*Brahmins, Thakurs and Banias are thieves, the rest belong to the oppressed group*) and the party used the population size of lower castes as a justification for its quest for power (*85% living under the rule of 15%, this will not last, this will not last* and *The highest number has to be the best represented.*) A second low caste party which mainly targeted OBC voters, the Samajwadi Party (SP), was formed in 1992. Since the early 1990s one (or both) of these two parties have been a part of the elected UP state government. Figure 2 shows the very substantial rise in the vote share of these two low caste parties since the mid 1980s.

Prominent explanations for the rise of low caste parties include the growth of popular low caste movements spearheaded by individuals who went on to form low caste parties (Yadav 2000); affirmative action and agricultural growth which created a class of middle class low caste citizens who demanded political recognition and social change (Chandra 2004) and the political use of

affirmative action, especially by the socialist parties (Jaffrelot 2003).[11] These reasons were very likely also responsible for the simultaneous hardening of upper caste Hindus political stance along both caste and religious lines. This was reflected in the growing political influence of the Bharatiya Janata Party (BJP).

By the late 1990s voter survey data shows significant alignment of voters along caste lines: upper caste voters were overwhelmingly more like to vote for the Congress and the BJP, the two non-low caste parties, while lower castes predominantly voted for SP and BSP (Table 1). While similar survey data is unavailable for earlier years, a time-series analysis of electoral data suggests an increase in voter ethnicization. Table 2 compares electoral outcomes in a representative sample of UP jurisdictions in 1980 and 1996.[12] We measure low caste presence in a jurisdiction by its low caste population share (now on, LOshare; the construction of this variable is further discussed in Section 5). For the set of majority and non-majority LOshare jurisdictions, we compute the fraction of jurisdictions from which a non-low caste party candidate (i.e. a Congress or BJP candidate) was elected in 1980 and 1996. Relative to a jurisdiction which is less than 50% LOshare, the probability that a non-low caste party candidate was elected legislator from a majority LOshare jurisdiction fell by 38% between 1980 and 1996.[13] In other words, the period between 1980 and 1996 is marked by the emergence of a strong negative correlation between the low caste population share and the electoral success of the non-low caste parties.

The historical discussion above, and the evidence presented, suggests a significant ethnicization of UP politics along caste lines between 1980 and 1996. In the rest of the paper we take this change as given, and look for other implications of increased voter ethnicization. In particular, it is widely held that corruption and criminality among UP politicians has increased in the period since 1980. Our detailed evidence, which will be described later, corroborates this claim. For the moment it suffices to mention that our survey shows that, between 1980 and 1996, the fraction of UP state politicians who either won or came second in the election and had a criminal record doubled from 7.6% to 16.2%. The rest of this paper focusses on the connection between increased

[11] In 1989, the federal government led by the Janata Dal leader V.P. Singh, announced that roughly 50% of public sector jobs will be reserved for lower castes. The upper castes rose up in violent protest all over North India, and UP was one of the most affected states.

[12] These are also the 102 jurisdictions covered by our politician survey.

[13] Using a continuous measure of LOshare in a regression framework suggests that, between 1980 and 1996, a 1% increase in the low caste population share of a jurisdiction reduced the likelihood that a non-low caste party candidate would win by 2.7%.

ethnicization of the voter population and the increase in corruption and criminalization.

4 A Simple Model of Ethnic Party Competition

The basic ingredients of our model have already been discussed. Voters care about two dimensions. One dimension, quality, is something everyone cares about. Differences in voter identity translate into differences in their preference along the other dimension. This dimension is naturally thought of as an ethnically targeted policy. There are two parties and each party has a number of potential candidates, who differ along both the quality, and policy, dimensions. However candidates from the two parties differ systematically in the policies they offer: One party is pro-majority (i.e. all its candidates offer pro-majority policies) and the other is anti-majority. Once the two parties have chosen their candidates, voters pick the one they like, and the candidate with the most votes wins. We are interested in how this equilibrium changes when ethnic preferences in the population become more dispersed. In principle to answer this question we have to know greater dispersion in preferences changes candidate choice and also how, given a fixed set of candidates, vote shares change. A very convenient property of our model is that as long as there are two parties, changes in preferences leaves the choice of candidates unaffected. This is what we show first. The next step is then quite straightforward. Extensions of the model, including a model with three parties where the choice of candidates does change, are discussed in the concluding sub-section of this section.

4.1 A model of multi-dimensional political competition

A key element of our theory is the ethnicization of the voter population. To allow for this we assume a large population of voters characterized by a scalar $\lambda \in [\lambda_0, \lambda_1]$, $\lambda_0 < 0 < \lambda_1$, distributed as $G(\lambda, \delta)$, where δ is a parameter that shifts the distribution. Assume that $G(\lambda, \delta)$ is symmetric around its mean. In addition, almost without loss of generality, we assume that $\lambda_0 + \lambda_1 < 0$. That is, more of the weight of the distribution is in the negative orthant. Since G is symmetric around its mean, its median, λ_m and mean coincide, and by our previous assumptions, $\lambda_m < 0$. In our model λ is a measure of how aligned a voter's interests are with those of the majority population group. Someone with a $\lambda < 0$ is better off when a politician pursues a pro-majority policy, while someone with a $\lambda > 0$ is worse off.

Candidates enter elections through one of two political parties, indexed as $j \in (L, R)$. A party chooses its candidates to maximize its chances of winning. Each potential candidate is characterized by a vector (Q, P). Q represents quality—probity, charisma, competence, commitment—something that all voters value equally. P represents parochialism, or more specifically the willingness to favor the majority group. P can be positive or negative, so a politician's parochialism is measured by $|P|$. A voter λ evaluates politician (Q, P) using the metric $Q + \lambda P$.

Party j is characterized by a list of potential candidates $C_j = \{(Q_j^1, P_j^1), (Q_j^2, P_j^2), ...(Q_j^n, P_j^n)\}$.[14] Each party selects one candidate per jurisdiction. We assume political competition is independent across jurisdictions, and, therefore, in defining the equilibrium we focus on the single jurisdiction case.[15]

Parties are strictly ordered in terms of parochialism. For party R, P is always positive with a minimum $\underline{P} > 0$. For party L, the pro-majority party, P is always negative with a maximum $\underline{P} < 0$.[16]

For interpreting our results, it is useful to define a measure of welfare. One possible measure is the sum of individual decision utilities, $Q + P \int \lambda dG(\lambda, \delta)$, but this is by no means obvious. For example what value should society put on the fact that certain representatives of the upper caste party, BJP, might be particular effective in finding ways to humiliate lower castes, or that certain leaders of the low caste parties insult high caste bureaucrats in public? It is true that this can be a source of pleasure and pride for party supporters, but it is hard to imagine a reasonable social welfare measure that gives substantial positive weight to this part of their preferences.

A general measure that accommodates a range of possibilities is $Q + \int S(\lambda P, \delta) dG(\lambda, \delta)$. A special case is where $\int S(\lambda P, \delta) dG(\lambda, \delta) = 0 \forall (P,\delta)$ – which is tantamount to saying that the parochialism creates no social value and social welfare is simply Q.[17]

[14] The assumption that each party's list is equally long is essentially without loss of generality because some of the candidates could be dominated by others.

[15] This is probably best interpreted as a situation where voters have a very strong preference for local candidates (say because they know more about them). Hence each party has a jurisdiction-specific candidate list.

[16] In our empirical analysis we interpret parties L and R as the low caste and non-low caste party respectively. In much of UP, the low-caste party is the pro-majority party, however in some jurisdictions the non-low caste parties represent the majority.

[17] Since we lack an empirical counterpart to this measure of welfare, we are unable to use these measures to evaluate our empirical results)

Figure 3: Party Position and Voter Utility

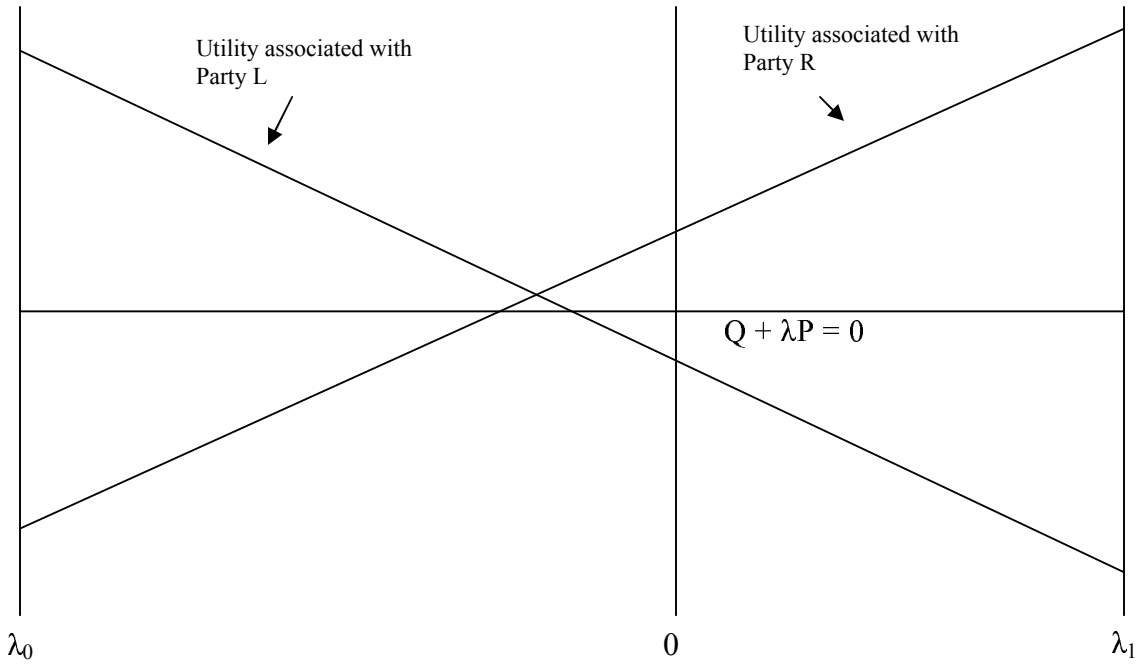

Figure 3: Political Equilibrium

4.2 Equilibrium

The basic play of the voting game is as follows: Each party chooses a candidate for election from its list and then voting occurs. With two party competition, sincere voting is a voter's best response. Each voter chooses the candidate who maximizes $Q + \lambda P$ for his particular λ. This determines party vote shares: v_L, v_R. We consider a first-past-the-post voting system so that the party with the higher vote share wins. Parties understand the game structure and choose the candidate that maximizes vote share.[18] In case of a tie both parties have an equal chance of winning. Figure 3 represents a voting equilibrium. The horizontal axis represents λ. The left and right extremes are λ_0 and λ_1 respectively, and the intermediate vertical represents the

[18] We assume this even when they have no chance of winning since this is the only weakly undominated strategy.

value 0. The asymmetry between λ_0 and λ_1 reflects the fact that low λ individuals constitute a majority. The vertical axis represents the expected utility associated with a candidate. This is a two-candidate equilibrium with each candidate represented by a straight line which gives, for each λ, the value they deliver to that voter. Everyone between A and B votes for Party L and everyone between B and C for Party R. Who wins depends on the λ distribution.

Claim 1 *The political competition game has a pure strategy equilibrium for any* $G(\lambda)$.

The proof is in the appendix. The basic intuition is straightforward. Holding Q constant, electoral incentives imply party R wants to choose the lowest possible P value and party L the highest possible P value. Hence parties' best response change in a well defined way – starting from a given $(P_L, P_R), P_L$ will go down along the sequence of best responses and P_R will go up. Since both are bounded the process must converge to a pure strategy equilibrium.
Further, since it is a two-person zero sum game, the players must earn the same minmax payoff in all equilibria of the game (which gives us the equilibrium vote share). As long as both parties have a positive vote share, in a generic game, only one pair of strategies will give us the minmax payoff. Hence, equilibrium strategies will be unique. However, if one party's vote share is zero then multiple choices for each party may give both parties the same vote shares even in a generic game.

Claim 2 *The equilibrium vote shares associated with inter-party competition in candidate selection are unique. In a generic games where both parties have a positive vote share, the equilibrium candidate choice is also unique.*

The next result tells us that the equilibrium choice of candidates is independent of the underlying distribution of preferences.

Claim 3 *With fixed party candidate lists parties' candidate choice is independent of a change in the* λ *distribution as long as both candidates have a positive vote share under both distributions.*

Proof. Suppose Party L chooses the same candidate in both cases. Given this candidate Party R faces exactly the same choices in both cases: it wants to capture the voter with the lowest λ that it can get, given Party L's candidate. Therefore party R will choose the same candidate.

The same outcome remains an equilibrium and, since the equilibrium is unique, this is the only equilibrium. ■

This is extremely convenient from the point of view of pinning down the comparative statics of the model, since we can take candidate choice as given and focus on how changing λ affects the vote shares of the candidates.

4.3 Some comparative statics

Let λ_m be the median value of λ for some $G(\lambda)$. For any fixed P_L, P_R and Q_R; define $Q_L(P_R - P_L, Q_R, \lambda_m)$ to be the value of Q_L such that $Q_L + \lambda_m P_L = Q_R + \lambda_m P_R$. Clearly (Q_L, P_L) beats (Q_R, P_R) for any $Q_L > Q_L(P_R - P_L, Q_R, \lambda_m)$,. This is the winning quality threshold for Party L, and is increasing in Q_R. Moreover, since $\lambda_m < 0$, Q_L is decreasing in $P_R - P_L$ and since $P_R - P_L > 0$, Q_L is decreasing in λ_m.

We define voter ethnicization as increased dispersion of the λ distribution.

Definition 1 *Voter ethnicization in a jurisdiction has increased when the distribution function of λ changes from $G(\lambda)$ to $\widetilde{G}(\lambda)$ such that $\widetilde{G}(\delta\lambda) = G(\lambda)$ for some $\delta > 1$.*

Ethnicization stretches the support of λ from $[\lambda_0, \lambda_1]$ to $[\delta\lambda_0\ ,\ \delta\lambda_1]$where $\delta > 1$. It also ensures that $\widetilde{G}(0) = G(0)$. That is, it causes those against pro-majority policies become even more so with the converse true for those in favor of anti-majority policies. Since the fraction of pro-majority voters is kept constant it is not a mean preserving spread.

Corollary *Voter ethnicization lowers the median value of λ*

To see this, let λ_m be the median value corresponding to G and by $\widetilde{\lambda}_m$ the median value associated with $\widetilde{G}$. Now by definition of the median, the share of the population above the median, $G(0) - G(\lambda_m) + 1 - G(0) = \frac{1}{2}$ (recall that $\lambda_m < 0$). With ethnicization, the share of the population above the median becomes $\widetilde{G}(0) - \widetilde{G}(\lambda_m) + 1 - \widetilde{G}(0)$. But since $1 - \widetilde{G}(0) = 1 - G(0)$ and $\widetilde{G}(0) - \widetilde{G}(\lambda^*) = G(0) - G(\lambda^*/\delta) < G(0) - G(\lambda^*)$, $\widetilde{G}(0) - \widetilde{G}(\lambda_m) + 1 - \widetilde{G}(0) < G(0) - G(\lambda_m) + 1 - G(0) = \frac{1}{2}$. In other words λ_m is too far to the right to be the median under the new distribution. The new median, $\widetilde{\lambda}_m$, must be to the left of the old median: $\widetilde{\lambda}_m < \lambda_m$.

Since we have proved that the change in the distribution will not affect candidate choice, the only effect of voter ethnicization is through the fall in the median value of λ_m. As already observed, when λ_m goes down $Q_L(P_R - P_L, Q_R, \lambda_m)$ must also go down. In other words, the

quality threshold that the party L candidate has to reach in order to win goes down. By exactly the same logic, the quality threshold the Party R candidate has to reach in order to win must go up.

Claim 4 *An increase in voter ethnicization lowers the quality threshold for Party L winners and raises it for Party R winners.*

Under the assumption that the actual list of candidates available to run for a particular party in any jurisdiction is a random draw from some larger set of notionally possible candidates, the lowering of the quality threshold increases the likelihood that Party L will have a candidate who is above the threshold. The probability of Party L winning, therefore, goes up. Moreover a direct consequence of the lowering of the threshold, is that the average quality of party L winners will go down.

The effect on the Party R candidates is exactly the reverse. They will be less likely to win, but conditional on winning they will be higher quality on average. To summarize

Proposition 1: *An increase in voter ethnicization leads to Party L winning more often and lowers the average quality of the Party L winners. By the same token the average quality of the Party R winner will go up.*

This ought to be entirely intuitive: increased voter ethnicization thins out the middle of the distribution, while expanding the extremes. Since the minority party has to capture the middle in order to win, this makes it harder for them to win and helps the majority party. The fact that it is easier for party L candidates to win almost mechanically lowers the quality of Party L winners and raises the quality of those from Party R who can still win.

Next let us examine the effect on the quality gap between the winner and the loser. Note that because Party L is the majority party, $Q_L(P_R - P_L, Q_R, \lambda_m) < Q_R$, i.e. Party L candidates face a lower quality threshold for winning, the quality gap between the winner and loser in any jurisdiction for every realization of $\{P_L, P_R, Q_R\}$ can be written as

$$\int_{\min\{Q_L\}}^{Q_L(P_R-P_L,Q_R,\lambda_m)} [Q_R - Q'_L] \Pr\{Q_L = Q'_L | P_L\} dQ'_L +$$
$$+ \int_{Q_L(P_R-P_L,Q_R,\lambda_m)}^{Q_R} [Q'_L - Q_R] \Pr\{Q_L = Q'_L | P_L\} dQ'_L +$$
$$\int_{Q_R}^{\max\{Q_L\}} [Q'_L - Q_R] \Pr\{Q_L = Q'_L | P_L\} dQ'_L$$

The first and third terms in this expression are non-negative, while the second term is non-positive. As noted above, an increase in voter ethnicization lowers λ_m, and therefore $Q_L(P_R - P_L, Q_R, \lambda_m)$ must go down. This reduces the first, positive, term in the above expression and increases (in absolute value) the second, negative term. Hence, relative to losers, the quality of winners falls.

Proposition 2: *Relative to the quality of the losers, the quality of the winners must, on average, fall when voter ethnicization increases.*

Once again, the result ought to be obvious. We already observed that with increased voter ethnicization Party L candidates are more likely to win. We expect these candidates to have been, on average, worse even before the increase in voter ethnicization since they have the advantage of being backed by the majority group. Now they are more likely to win which lowers average winner quality. To make matters worse, the average quality of the Party L winners goes down when voter ethnicization goes up (this is a part of what Proposition 1 tells us).

Finally, as discussed in Section 3 a fixed fraction of jurisdictions are reserved for SC candidates , such that only Scheduled Castes candidates can stand for election in these jurisdictions (Pande 2003). In our model this is naturally captured by the assumption that $P_R - P_L$ is small in these jurisdictions, since all the candidates share a relatively similar ethnic background. This would mean that $\frac{dQ_L(P_R - P_L, Q_R, \lambda_m)}{d\lambda_m} = P_R - P_L$ is small in these jurisdictions, with the implication that the fall in the quality of the winners, relative to the losers, associated with an increase in voter ethnicization will be smaller.

Proposition 3: *The fall in the quality of the winners, relative to that of the losers, associated with voter ethnicization will be smaller in reserved jurisdictions.*

This is only slightly less obvious than the two preceding results. The logic is easiest to see if we imagine that both parties have the same P in these jurisdictions. In that case the parties would compete exclusively along the quality dimension and since everyone has identical preferences over quality, the rise in voter ethnicization will not affect the identity of the winner.

4.4 Three Party Case

The discussion in Section 3 suggests that voter ethnicization after 1980 was accompanied by an increase in the number of competitive political parties. To examine how voter ethnicization affects politician quality when political competition is also affected, we consider a three party

generalization of our model. Specifically, we include a third, centrist, party, denoted as party N, whose candidates have $P \in (\underline{P}, \overline{P})$. In Uttar Pradesh, the Congress party, could arguably be seen as such a party.

As before, a pure strategy equilibrium, if it exists, must be generically unique. For expositional ease we assume sincere voting.

The most important difference is that, voter ethnicization may alter parties' candidate choice. To see this we consider the case characterized by the following assumption

Three Party Assumption*Before the increase in ethnicization:*

(i) *A pure strategy equilibrium existed.*

(ii)*The party associated with the majority group (Party L) had a vote share of zero* (iii) *The party associated with the minority group (Party R) received some majority group votes (i.e. from voters with* $\lambda < 0$).

In this situation, Party N's candidate must be its best response to just Party R's candidate. We make the following assumptions on how ethnicization changes the equilibrium

Assume the increase in voter ethnicization makes the Party L candidate viable (i.e. eats into Party N vote share). Now Party N faces a trade-off: it can either retain its old candidate or choose a new one, that does better against Party L but worse against Party R. Not surprisingly, depending on available candidates and Party L's candidate choice, it may be optimal for party N to change its candidate. This, in turn, might induce Party R to change its candidate.

To examine In the Appendix we prove the following simple result:

Proposition 4: *Consider the environment defined by* ***Three party assumption****. An increase in ethnicization such that Party L becomes competitive (in the sense of obtaining a positive vote share), and a pure strategy equilibrium continues to exist, will lead to Party R and Party N either not changing their candidates or changing them to being more pro-majority (or less anti-majority) and lower quality*

In other words, when voter ethnicization alters the number of competitive parties, the selection of candidates might change. Moreover, unlike the *electoral selection* effect that we have highlighted until now, this *candidate substitution* effect could potentially lower the quality of *both* the winner and the losers.

If an increase in voter ethnicization leads to a Party L candidate winning then the average quality of Party L winners must decline (since these Party L candidates were not competitive

precisely because they were low quality). However, if a Party R candidate continues to win, then Proposition 4 tells us that it is no longer obvious that the quality will be higher than before. Nevertheless, relative to Party R winners, we still expect the quality of the Party L winners to decline faster and this is the main proposition we test.

Turning to the winner-loser quality gap, the fact that both the winner and loser quality might decline raises the possibility that ethnicization may not reduce this gap. In other words the candidate substitution effect weighs against finding a winner-loser gap effect.

To summarize, the theory offers three testable propositions: First, voter ethnicization will worsen majority party winners, while minority party winners will improve.[19] Second, the winner-loser gap in quality will decline with voter ethnicization. And finally, this change in the winner-loser gap will be smaller in reserved jurisdictions. We now turn to testing these.

5 Empirical Strategy

In this section we first describe our data-sets and related measurement issues and then outline our regression framework.

5.1 Data

The data used in this paper comes from multiple sources which we describe below.

A. Politician Survey

Our main measures of politician corruption are from a field survey in 102 UP jurisdictions which we conducted between July and November 2003.[20] We collected information on the economic

[19] This is true as long as the list is independently drawn at random from the same population in both periods. It is worth emphasizing that this "clean" prediction is from comparing jurisdictions with different numerically dominant groups. If we compare two jurisdictions where the same group dominates, but the extent of dominance varies, then an increase in ethnicization may not reduce winner quality by more where the group is more dominant – in a jurisdiction where the dominance is so strong that any Party L candidate will win, an increase in ethnicization will not affect the expected quality of the winner. On the other hand, of course, ethnicization has no effect if no group is dominant, so for small levels of dominance any further increase in a group's dominance will amplify the effect of voter ethnicization.

[20] We started with the 1991 UP districts and combined districts with below five jurisdictions which gave us a sample of 51 districts (a district is the administrative unit below the state and the average district has 7.5 jurisdictions). We randomly sample three jurisdictions per district, of which a randomly selected two enter the main sample and a third was used for substitution (jurisdiction boundaries have been constant since 1977).

and political characteristics of the politicians who either won, or were the runner-up, in these jurisdictions in the 1980 and 1996 election.

For each district and election year we selected as respondents two journalists from the pool of prominent journalists who covered that election in the district, and two politicians from those elected from non-sample jurisdictions in the district (the Data Appendix provides further details, and Appendix Table 1 describes respondent characteristics). Close to 90% of the respondents lived in the district about which they were questioned during the relevant election. We asked each respondent about three randomly assigned candidates from the district, and our premise that politicians and journalists know a lot about other politicians of their own era was evidenced in their ability to answer detailed questions on the politicians. Respondents for both the 1980 and 1996 sample had known the politicians for roughly the same number of years at the time of election, and in each year roughly 20% of the respondents shared the caste identity of the politician they are questioned about (the number is similar for sharing party identity).

Table 3 describes the multiple correlates of political opportunism on which our survey collected information.

The most straightforward is the corruption rank of the politician. Each respondent was asked to rank politicians on a 1-10 corruption scale, where 10 is the most corrupt. On the same scale she also ranked three hypothetical politician vignettes, termed X, Y and Z. The vignettes were clearly distinguished in their corruption performance, with X the least, and Z the most, corrupt. We combine a respondent's ranking of actual and hypothetical politicians to construct an ordinal ranking – a politician with a corruption rank below politician X gets a corruption rank of one, a rank of two if it equals that for politician X, three if it is between the rank of politician X and Y and so on (on the construction of such ordinal ranks see King, Murray, Salomon, and Tandon (2004)). This ordinal rank controls for respondent specific biases in what constitutes corruption.

Our second set of measures are assessments of economic gain enjoyed by the politician after entering politics. We use four measures of economic gain: use of political office for personal gain, significant improvement in economic position, starting or expanding business and/or contracting activity and obtaining licenses for petrol pump or ration-shops. We report the average effect for these four measures, where we equally weight the four measures and use Seemingly Unrelated regressions to compute the covariance matrix. [21] Finally, we use information on criminal activity

[21] A similar measure is used by Kling, Liebman, and Katz (2007); as they have distinct treatment and control

by candidates as a separate measure of performance.

A natural concern relates to the veracity of subjective reports on corruption (on this, see, for instance, Olken (2006)). To check for this we conducted a second survey in summer 2005. For a random sample of politicians we independently obtained information on their ownership of petrol pumps or schools from the head of the district petrol association and the principal of district college and members of district teacher association respectively. We then physically verified their existence and ownership. We also verified the criminal records for a random sample of 75 politicians sampled in 1996 from the Local Intelligence Unit cell of the district police. Appendix Table 2 shows a high match rate, especially when all respondents agree. Throughout we report two specifications - one which includes all reports (the Allsample) and a second which includes a single observation for each politician (the Agreedsample). In the second specification, the variable of interest (a dummy variable) takes a positive value only if all respondents agree that the politician has engaged in the activity being asked about and zero otherwise.

A related concern is that the composition of the respondent sample may have changed over time in different ways in different places. Examining multiple measures of corruption helps since the concern is probably less true of the more "bland" questions (like whether the politician's family started any new businesses) than questions on the corruption record of candidates. It is also reassuring that in Table 3 the average corruption rank for the three hypothetical politicians are almost identical in 1980 and 1996.[22] In all the regressions using the Allsample we control for respondent characteristics – respondent age, college education, whether he is a journalist and finally, whether he shares the politician's party affiliation, caste or is a friend or relative (and cluster our standard errors by politician).

Finally, since our data is retrospective it summarizes a politician's life (or at least life up to now) rather than measuring his performance at the time of the election. It potentially captures, in part, the consequence of having been elected (and, therefore, having had the chance to take bribes). That said, since our main regressions compare across winners we do not expect this to be a source of bias.

groups they normalize their variables using the control group mean and standard deviation.

[22]Further, a regression of these corruption ranks on the interaction of our measure of jurisdiction demographics, LOshare, with year dummies suggests that no over time changes in norms which are correlated with jurisdiction demographics.

B. Demographic and Party data

We measure a jurisdiction's demographic make-up by its share of low caste population: LOshare as reported in the 1931 census (this was the last census to collect caste-wise data; see Banerjee and Somanathan (2007) for more details on these data).[23] To account for subsequent population growth we scale low caste population share by the 1991 Hindu population share. For a subset of low castes, scheduled castes we have more recent census data, and a comparison of 2001 and 1931 census data shows that that 1931 and 2001 numbers are highly positively correlated.[24] A second check is offered by our survey data, where we asked respondents to identify the politically dominant groups in the jurisdiction. The correlation between LOshare and political dominance by low castes as reported in our survey exceeds 80%.

As a proxy for the degree of voter ethnicization, we rely on the widely shared claim (also supported by our data on voting patterns) that ethnic identification in the voter population rose significantly between 1980 and 1996. While we lack a direct measure of people's preferences, Tables 1 and 2 provide strong evidence that ethnic, in this case caste-based, voting increased significantly over this period.

Finally, we use the nature of party campaigns, membership, and especially party leadership, to code the ethnic nature of political parties. By this metric two of the most important political parties in UP, the Congress and BJP, remain predominantly non-low caste.[25] Clearly, in the long run electoral pressures may cause parties' ethnic affiliation to reflect the population majority. However, the rise of low caste political movements is relatively recent and the leadership of the Congress and BJP has continued to be dominated by upper castes. We, therefore, code these two parties as non-low caste parties.

[23] We include as low castes the castes which are officially classified as scheduled castes, other backward castes and tribes defined as scheduled tribes.

[24] A number of papers document low inter-district migration in India, see for instance Munshi and Rozensweig (2006).

[25] Our focus on the ethnic (caste) affiliation of the political party, rather than the candidate, is in keeping with the political science literature. Horowitz (1985) notes that "ethnically aware voters have understood that presenting a multiethnic slate is an exigency of political life, even for an ethnic party, and have accordingly voted for the ethnic party rather than for or against the ethnic identity of the individual candidates. When voters elect minority members of their ethnic party, it is wrong to regard this as non-ethnic voting. Quite the contrary: it is party and not candidate ethnic identification that counts."

5.2 Estimation

Our model offers three testable predictions. First, voter ethnicization should lower winner quality in jurisdictions where the winning candidate belonged to the party representing the majority population group (relative to jurisdictions where the winning candidate is from the minority party). Second, within a jurisdiction voter ethnicization should reduce winner quality relative to the loser and, finally, such reductions in quality should be smaller in reserved jurisdictions where all candidates shared the same ethnic identity.

The simplest empirical test would be to consider an election marked by significant voter ethnicization and compare winner quality across jurisdictions, and winner-loser quality within jurisdictions. However, it is difficult to lend the findings from such an exercise a causal interpretation. Jurisdictions which share similar demographic composition but elect legislators from different parties may also differ along other unobserved dimensions which directly affect the electoral popularity of candidates. Similarly, within a jurisdiction the quality of a winner and loser may systematically differ.

To address these concerns we rely on the panel nature of our data. We implement an empirical strategy which focusses on identifying the relationship between changes in voter ethnicization and politician quality within a jurisdiction.

More specifically, to examine how voter ethnicization affects winner quality we estimate:

$$Y_{irjt} = \alpha_j + \gamma_1 P_i \times LO_j \times 1996 + \gamma_2 LO_j \times 1996 + \gamma_3 P_i \times 1996 + \gamma_4 1996 + \gamma_5 P_i \times LO_j + \gamma_6 P_i + \gamma_7 X_r + \epsilon_{irjt} \quad (1)$$

where r denotes respondent, i winner, j jurisdiction and t year. P_i is a dummy which equals one if the politician belongs to a non-low caste party, LO is the low caste population share (LOshare) and X_r is a vector of respondent characteristics. α_j and γ_1 capture jurisdiction and time year effects.[26]

Equation 1 estimates dissimilar winner quality for winners from the same party elected from jurisdictions with differing LOshare. The regression separately controls for pure time effects and time-invariant jurisdiction effects. γ_1, the main coefficient of interest, captures the change in

[26] Regressions using the full sample of respondent reports (the All sample) control for respondent characteristics (the vector) and cluster standard errors by politician. The Agreed sample regressions have a single observation per politician and do not include respondent controls.

politician quality for a jurisdiction which has a positive value of LOshare but elects a legislator from the non-low caste party. The underlying identifying assumption is that in the absence of voter ethnicization (between 1980 and 1996) the evolution of politician quality across jurisdictions with similar levels of LOshare would not have systematically differed depending on whether the ethnic identity of the winning party matches that of the majority population group.

Our model also has predictions for how γ_2, γ_3 and γ_4 should be signed. Specifically, γ_2 captures the symmetric effect for jurisdictions with positive LOshare which elect a legislator from the low caste party, should have the opposite sign to γ_1. Similarly γ_3 and γ_4 capture the change in politician quality in jurisdictions which elect a legislator from a non-low caste and low caste party respectively, but are similar in having no low castes in the population (i.e. zero LOshare). We predict that γ_3 and γ_4 should be oppositely signed. However, causal interpretation of γ_2, γ_3 and γ_4 have an important caveat. Specifically, γ_2 and γ_3 also act as controls for economic trends which vary by LOshare and party respectively. Similarly, γ_4 also captures pure time trends. For these reasons, we primarily focus on interpreting the γ_1 coefficient while checking whether, in line with the model, we observe symmetric but opposite signed effects for the pairs γ_1 and γ_2, and γ_3 and γ_4.

To examine how voter ethnicization alters the winner-loser gap in quality within a jurisdiction we estimate:

$$Y_{irjt} = \alpha_{jt} + \gamma_1 W_{ijt} \times 1996 + \gamma_2 W_{ijt} + \gamma_3 W_{ijt} \times R_j \times 1996 + \gamma_4 W_{ijt} \times R_j + \gamma_5 X_r + \epsilon_{irjt} \quad (2)$$

Here, W_{ijt} is a dummy which equals one if the politician won the election and $R_j = 1$ if the jurisdiction was reserved for Scheduled Castes.[27] α_{jt} denotes jurisdiction*year fixed effect, its inclusion implies that we control flexibly for time varying jurisdiction-specific variables. The main coefficients of interest are γ_1 and γ_3. γ_1 captures the change in the winner-loser quality gap in non-reserved jurisdictions between 1980 and 1996, and γ_3 the differential effect in reserved jurisdictions. Our identifying assumption is that any over time changes in the party composition of winners (relative to losers) are uncorrelated with differences in candidate quality across parties. We will be able to use our results on winner quality to check this assumption. Specifically, a finding that quality changes for the low caste party winners in predominantly low

[27] Between 1980 and 1996 the reservation status of jurisdictions remained fixed.

caste jurisdictions and high caste party winners in jurisdictions where high castes are dominant are symmetric would support this identifying assumption.

6 Results

6.1 Voter Ethnicization and Corruption

Table 4 examines how voter ethnicization affects winner quality (equation (1). In Column (1) we see that, as measured by politician's ordinal corruption rank, pro-majority politicians in 1996 are more corrupt.[28] The first row coefficient tells us that relative to 1980, in 1996 a candidate from the non-low caste party who wins from a high LOshare jurisdiction has a significantly lower corruption rank. In contrast, the coefficient in the second row tells us that the effect in 1996 for a non-low caste party winner from a zero LOshare jurisdiction is positive. As discussed earlier, under the assumption of *no other party i specific time effect*, this suggests that a non-low caste candidate who wins from a low LOshare jurisdiction is significantly *more* corrupt. As predicted by the theory, we observe a symmetric effects for the low caste party winners in the third and fourth row: Under the assumption that there is no separate time effect for high LOshare jurisdictions, these results imply that a low caste party winner from a high LOshare jurisdiction is relatively more corrupt in 1996. Finally and perhaps most strikingly, the 1996 year dummy has a significant negative coefficient. In absence of any pure time effect, this coefficient picks up the change in corruption between 1980 and 1996 among low caste party winners in jurisdictions with zero LOshare. The fact that it is negative is notable, since the general perception is of an increasing trend in corruption, which would imply a positive pure time effect. It would suggest that the selection effect emphasized by our model was strong enough to swamp the time trend. Columns (2) and (3) show an identical pattern for economic gain by politicians – winners whose party affiliation is pro-majority in the jurisdiction are more likely to have economically gained from being in politics in 1996 while winners' from the less pro-majority party are less likely. The 1996 dummy remains significant and resolutely negative. The results are very similar for the All and Agreed samples. Appendix Table 3 shows that this pattern of results holds for each separate measure of economic gain.[29]

[28] Since rank is not a dummy variable it is unclear what should be the default rank when respondent reports do not agree. Therefore, we only report results for the Allsample.

[29] The one exception is ownership of petrol pumps or ration shops. This is relatively unsurprising: the propensity

In columns (4) and (5) we find significant evidence that voter ethnicization increased the likelihood that the politician had a criminal record in jurisdictions where the politician's party ethnic identity reflects that of a larger fraction of the population and less so in other jurisdictions.

6.2 Voter Ethnicization and the Winner-Loser Corruption Gap

In Table 5 we examine the link between voter ethnicization and the winner-loser gap in corruption (equation 2). In column (1) we observe a significant decline in winner quality, relative to losers, in 1996 as measured by the corruption rank. This decline is completely absent in reserved jurisdictions. In columns (2) and (3) we observe very similar trends in our average measure of economic gain. That is, relative to the runner-up in the jurisdiction, the winner's propensity to benefit economically increased by 1996. Once again, this effect is absent for reserved jurisdictions.[30] Interestingly, in columns (4)-(5) we see no significant effect of voter ethnicization on the overall winner-loser gap in criminality (though we do see a differential effect in reserved jurisdictions). A potential explanation is that while opportunities for economic corruption are mainly realized when holding political office, criminal activities are readily engaged in even when outside office (and, indeed, most criminal records are acquired before entering politics).

6.3 Robustness checks

While our results fit well with our theory, it is important to discuss alternative interpretations of our findings. First, since our results rely perceptions of corruption one may worry that these are potentially biased in ways that favor dissimilar candidates in different jurisdictions. Media bias is one possibility: perhaps our respondents simply report what the media tells them, and the media is biased. However, for such a bias to generate our results the media must be systematically biased against the party associated with the dominant group in each jurisdiction, which seems implausible.[31] A more nuanced view is that media bias influenced voters but not our respondents. One reason for this could be our choice of individuals who are highly involved

of politicians to own petrol pumps was unchanged over this period, suggesting that few new pump permits got issued over this period.

[30] Panel B of Appendix shows very similar patterns for the individual measures of economic gain, except for petrol pump and ration-shop ownership.

[31] Our regressions always control for whether respondent and politician share the same caste and same party. Our results are robust to including time trends in these variables and allowing for differential effects for politicians and journalists.

in politics and therefore likely to have their own sources of information about corruption are respondents. However, since they were chosen to be in diverse in their political views we would not expect them to share the same biases.It is therefore plausible that at least when they all agree that a particular politician was corrupt, it reflect the undeniable nature of his corruption rather a shared bias against him. It is reassuring that our results are very similar for the All and Agreed sample.[32] Finally, we should note that throughout this period both the national and state media were controlled by the upper castes, and if they were biased, it was against low caste parties everywhere.

A related, but distinct, issue is the extent to which these measures correlate with actual corruption. For instance, if politicians' salaries saw a significant increase over time, then honest politicians may have also become wealthier. This may well be compounded by the fact that the economy is changing and the honest but hard-working son of a politician benefits more from his father's connections today even when there is absolutely no abuse of power. This is a concern if the trend in such phenomena are correlated with jurisdiction demographics *and* party identity – for instance, if low caste politicians saw a relatively greater salary increase in jurisdictions where they form a population majority. In general, it is harder to imagine reasons for why trends in these variables will vary by party and jurisdiction demographics. We also expect this to be less of a problem with sharper questions like whether the politician was a criminal or associated with them and whether they used their influence to benefit their families.

Another concern is that the perception of corruption may reflect other, more positive, aspects of the candidates. For example, people may assume that more visible candidates are more corrupt, simply because their name comes up in more places, and it is possible that the winners from the party representing the dominant group are more visible. For this to be a problem for us, this has to be more than a jurisdiction fixed effect: the gap between perception and reality must have gone up over time. However one cannot off-hand rule out this possibility. To check that this

[32] A different concern is that our survey provides measures of lifetime corruption which reflects both the politician's type and opportunities available. We, therefore, undertook a cross sectional analysis where we measured legislator quality by his criminal record before he was elected. We obtained the criminal records from the affidavits filed by the candidate as part of the paperwork required for standing for election (filing criminal record became mandatory only in 2004. We were, therefore, limited to a cross-sectional analysis). If the relative worsening of pro-majority legislators finally leads to the election of worse legislators per se, then we would expect to see the trend that we saw in the panel data to be reflected in a cross sectional analysis. We found that a non low caste party candidate who wins from a high LOshare jurisdiction was relatively less likely to have a criminal record with the converse true for low LOshare jurisdictions.

doesn't underlie our results, Table 6(a) considers an array of other measures of politician quality as reported by our respondents (for brevity we report results for the sample of all respondents, the results for the agreed sample are very similar). In Panel A we report the results for the winner sample, and in Panel B we examine the winner loser gap. Columns (1)-(3) consider measures which should be strongly correlated with visibility but do not necessarily have anything to do with corruption. These measures are whether the politician was known for development activities, whether he held a party or ministerial position, whether he was associated with setting up or expanding schools. The patterns we found for the corruption measures do not show up here. In columns (4)-(7) we consider more ambiguous measures of quality. Columns (4) and (5) ask whether the politician was associated with business groups or criminals. Interestingly, it appears that what changed between 1980 and 1996 was politicians' propensity to engage directly in business and criminal activities— not their association with these groups. Finally in columns (8)-(9) we ask whether the politician used his political influence to benefit his party and own social group. We see no trend in using political influence for party gain. This is consistent with the fact that where raising money for the party was concerned, respondents stated that there was little shame in doing this (you cannot run a party without money). Hence, we expect this measure to mix competence and standing in the community, with corruption.[33] In Panel A, column (9) we do find evidence that politicians who were elected from jurisdictions where their party did not represent the majority were significantly less likely to use political influence for their social group. This potentially reflects the increasingly polarized nature of politics over this period. However, the effect is absent in the corresponding winner-loser gap regression.

Another alternative concern is that our markers of corruption reflect unobserved quality – for instance, a politician who uses political influence for personal gain may also be very good at using political office to bring his constituents material benefits. In Table 6b we explicitly examine politician ability to deliver public goods. It is often held that rent-seeking behavior and pork barrel politics go together, and so voters may be willing to vote for corrupt politicians because they benefit in terms of public good provision. We fail to find any support for the thesis. We consider three types of public goods – number of kilometers of road built, number of schools constructed and number of villages electrified. We also construct an average index of these

[33]Respondents stated that the politicians whom they most admired and respected (such as Lal Bahadur Shastri and C.B. Gupta, from the 1960s and Rajiv Gandhi from the 1980s), did collect money for the party.

three measures, which is estimated within a SUR framework. In Column (1) we consider this average index and find that jurisdictions where the candidates elected did not share the party affiliation of the dominant group (and were higher quality candidates according to our corruption measures) were also jurisdictions where public good provision increased by more between 1980 and 1996. The same trend is apparent for individual public good measures. We take this as strong evidence against the thesis that more corrupt candidates are better able to provide for their constituents.

Our results very strongly point towards the *selection* effect we identified, i.e. lower quality pro-majority candidates are more likely to win when voter ethnicization increases. However, in a more general setting, one may also expect candidate substitution where, in response to increased voter ethnicization, parties alter their candidate choice.

In Table 7 we examine candidate substitution. In column (1) we see that the non-low caste party, on average, was 24% less likely to field an OBC candidate in 1980 but this probability fell by over 15% points by 1996. Further, in column (2) we see that this increase was increasing in the low caste population share of the jurisdiction. In columns (3)-(4) we consider SC candidates. Here we find no evidence of candidate substitution, either over time or across in the case of SC candidates – it would appear this group continued to rely on political reservation for representation.

7 Discussion

These results are consistent with our hypothesis that ethnicization of voting behavior creates opportunities for corrupt politicians. The magnitude of the estimated effect is also substantial. For example, take the rank measure and consider how much more corrupt the winner from a low caste party in the average jurisdiction became between 1980 and 1996. The coefficients on the 1996 dummy is -3.46 and on $LOshare \times 1996$ is 6.49. Therefore, the increase in corruption of a low caste party winner in the jurisdiction with the average level of LOshare (0.57) is $-3.46 + (0.57)(6.49) = 0.43,$ i.e. close to zero. The coefficient on $LOshare \times 1996 \times nonlowcasteparty$ is -7.20 and that on $1996 \times nonlowcasteparty$ is 4.25. So the difference in the increase in corruption between 1980 and 1996 for high and low caste winners in the jurisdiction with the average level of LOshare is 4.25 + (0.6)(-7.2)= 0.06 In other words both the high caste and low caste winners in the jurisdiction with the average level of LOshare remained of similar quality, despite the fact

that corruption, on average, increased.

It is the jurisdictions with a more biased caste distribution which show a really substantial change in corruption. For example in the jurisdiction at the 90th percentile in the distribution of LOshare (LOshare= 0.71), the increase in corruption of a low caste party winner is $-3.46 + (0.71)(6.49) = 1.14$ while the decrease in the corruption of the high caste party winners, relative to the low caste party winners, is 4.26 + (0.71)(-7.21)= -0.85.

The results also make clear that it would misleading to blame the rise on corruption entirely on a general rise in peoples' tolerance for corruption. People clearly still see corruption as something undesirable: The non-low caste candidates, it is apparent from our results, had to show themselves to be remarkably uncorrupt in order to have a chance of winning in jurisdictions dominated by low castes and vice versa. Equally, the data provides no support for the view that corrupt politicians are also good at pork-barrel politics.

Finally the fact there is such a sharp trade-off between ethnic loyalties and quality, is a product of the fact that there are not enough good candidates who are also seen as credible representatives of some ethnic group. One might imagine however that this could change over time, as more and more good candidates invest in also being seen as a representative of a specific ethnic group, and competition among them drives out the corrupt candidates.

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8 Appendix

8.1 Proofs

Claim 1 *The political competition game has a pure strategy equilibrium for any* $G(\lambda)$.

Proof. Let (Q_L^1, P_L^1) be some Party L candidate and (Q_R^1, P_R^1) be the best response of party R to this candidate. Assume the expected utility curves associated with these two candidates intersect at λ_R^1.

Now let (Q_L^2, P_L^2) be the best response to (Q_R^1, P_R^1) and assume that they intersect at $\lambda_L^2 > \lambda_R^1$. Let (Q_R^2, P_R^2) be the best response to (Q_L^2, P_L^2) and assume they intersect at λ_R^2. Then by revealed preference,

$$Q_R^1 + \lambda_R^1 P_R^1 > Q_R^2 + \lambda_R^1 P_R^2$$

but

$$Q_R^2 + \lambda_L^2 P_R^2 > Q_R^1 + \lambda_L^2 P_R^1$$

$$\Rightarrow \lambda_R^1(P_R^1 - P_R^2) > \lambda_L^2(P_R^1 - P_R^2)$$

$\Rightarrow P_R^2 > P_R^1$ since $\lambda_L^2 > \lambda_R^1$.

Now let (Q_L^3, P_L^3) be the best response to (Q_R^2, P_R^2) and let them intersect at λ_L^2. Then by revealed preference,

$$Q_L^2 + \lambda_L^2 P_L^2 > Q_L^3 + \lambda_L^2 P_L^3$$

but

$$Q_L^3 + \lambda_R^2 P_L^3 > Q_L^2 + \lambda_R^2 P_L^2$$

$$\Rightarrow \lambda_L^2(P_L^2 - P_L^3) > \lambda_R^2(P_L^2 - P_L^3)$$

$\Rightarrow P_L^3 < P_L^2$ since $\lambda_L^2 > \lambda_R^2$.

Therefore as we repeat this process, now starting from (Q_L^3, P_L^3) and (Q_R^2, P_R^2), we will get P_L going down and P_R going up. Since they are both bounded the process must converge to a pure strategy equilibrium. ■

Proposition 4: *Consider an increase in voter ethnicization in a three party model of political competition. Make the following assumptions about the equilibrium before the increase in ethnicization:*

(i) *A pure strategy equilibrium existed.*

(ii) *The party associated with the majority group (Party L) had a vote share of zero (i.e. it was not competitive).*

(iii) *The party associated with the minority group (Party R) was getting some votes from the majority group (i.e. voters with* $\lambda < 0$*).*

If after the increase in ethnicization Party L becomes competitive in the sense of being able to achieve a positive vote share, and a pure strategy equilibrium continues to exist, then either Party R and Party N candidates will not change or if they change, it will be in the direction of being more pro-majority (or less anti-majority) and lower quality

Proof. Suppose the initial equilibrium was described by (Q_N, p_N) and (Q_R, p_R). After the increase in voter ethnicization creates a new equilibrium with candidates $(Q'_L, p'_L), (Q'_N, p'_N), (Q'_R, p'_R)$ in which all three candidates have a positive vote share. Suppose in the initial equilibrium λ_R^{11} is the voter who was indifferent between the two parties. In the new equilibrium λ_R^{22} is the one who is indifferent between parties R and N and λ_N^{22} is the one who is indifferent between parties N and L. Finally, let λ_R^{12} be the voter who is indifferent between (Q_R, p_R) and (Q'_N, p'_N) and λ_N^{12} is the one who is indifferent between (Q_N, p_N) and (Q'_L, p'_L)

Suppose $p_N < p'_N$. By revealed preference,

$$Q_N + \lambda_R^{11} p_N \geq Q'_N + \lambda_R^{11} p'_N$$

Since $p_N < p'_N$, $Q_N + \lambda p_N \geq Q'_N + \lambda p'_N$ for all $\lambda < \lambda_R^{11}$. Then it follows from the fact that $p'_L < p_N$, that $\lambda_N^{22} > \lambda_N^{12}$ (since both of these are to the left of λ_R^{11}, (Q_N, p_N) dominates (Q'_N, p'_N)). On the other hand (Q'_N, p'_N) got chosen in equilibrium 2. Therefore it must be the case that $\lambda_R^{22} > \lambda_R^{21}$.

Similarly, because $p_R > p'_N$, and at λ_R^{11},

$$Q_R + \lambda_R^{11} p_R = Q_N + \lambda_R^{11} p_N \leq Q'_N + \lambda_R^{11} p'_N,$$

λ_R^{12} (defined by $Q_R + \lambda_R^{12} p_R = Q'_N + \lambda_R^{12} p'_N$) must be no smaller than λ_R^{11}.
Finally because $\lambda_R^{22} > \lambda_R^{21}$ and $\lambda_R^{12} \leq \lambda_R^{11}$ and $p_N < p'_N$, it must be the case that $\lambda_R^{11} < \lambda_R^{21}$. Therefore $\lambda_R^{22} > \lambda_R^{12}$. Now at λ_R^{22},

$$Q_R + \lambda_R^{22} p'_R = Q'_N + \lambda_R^{22} p'_N$$

and at λ_R^{12},

$$Q_R + \lambda_R^{12} p_R = Q'_N + \lambda_R^{12} p'_N$$

Since $p_R > p'_N$,

$$Q_R + \lambda_R^{22} p_R < Q'_N + \lambda_R^{22} p'_N = Q_R + \lambda_R^{22} p'_R$$

But this contradicts the fact that party R chose (Q_R, p'_R) rather than (Q_R, p_R) in the second equilibrium since the latter clearly does better at λ_R^{22}.Therefore $p_N > p'_N$ (the case where the lines are parallel is uninteresting–one of the options will never be chosen).
To prove that $p_R > p'_R$, recall that at λ_1^{11},

$$Q_R + \lambda_R^{11} p_R = Q_N + \lambda_R^{11} p_N \geq Q'_N + \lambda_R^{11} p'_N.$$

Now because $p_R > p'_N$, λ_R^{12} (defined by $Q_R + \lambda_R^{12} p_R = Q'_N + \lambda_R^{12} p'_N$) must be no smaller than λ_N^{11}. Moreover, from revealed preference

$$\begin{aligned} Q_R + \lambda_N^{11} p_R &\leq Q_R + \lambda_1^{11} p'_R \\ Q_R + \lambda_R^{12} p_R &> Q_R + \lambda_R^{12} p'_R. \end{aligned}$$

Subtracting the second inequality from the first we get

$$(\lambda_R^{11} - \lambda_R^{12})(p_R - p'_R) \leq 0$$

It follows from the fact that $\lambda_R^{12} \leq \lambda_R^{11}$ that $p_R \geq p'_R$. Q.E.D. ■

8.2 Data Appendix

Country Rankings for Figure 1 The graph uses data on democratic countries. Democratic countries were defined as any countries receiving a "Political Rights Score" of 5 or lower in the 2007 Freedom House Country Reports .

For democratic countries, an "Ethnic Party Ranking" was created to reflect the degree to which political parties in a given country are ethnic-based. This ranking was compiled as follows based on the country reports:

- If there was no mention of ethnic political parties or ethnic-based discrimination in the report on a country, that country received an Ethnic Party Ranking of "1".
- If there was a sizable minority ethnic group with its own political party in a given country or if a sizable ethnic group in that country was described as facing discrimination, a country received a ranking of ".8" (the assumption being that further investigation will reveal that the exclusion of certain minority ethnic groups from the political process is a signal that dominant ethnic groups have utilized the political party system to promote their own ethnic party interests by organizing along ethnic lines). The threshold for an ethnic group to be considered "sizable" was that it was not explicitly described as being "very small" or that a population number was not given in the thousands for the group.
- If significant minority group political parties were present in a country, if ethnic discrimination affected a significant percentage of the population (the threshold was placed at approximately 10
- If ethnic ties played an important role in party politics in a given country but were not the only consideration in voting, that country received a ranking of ".4".
- Finally, if ethnic-political ties appeared to be the dominant force in political party organization for a given country, that country received a ranking of ".2".

The 2005 "Control of Corruption Rating" available at http://info.worldbank.org/governance/wgi2007/) was used for corruption.

Respondent Selection for Survey To identify journalists as respondents we used newspaper circulation figures to select four state-level and two district-level newspapers in each district in

the three election years. We then went to these districts and identified prominent journalists associated with these newspapers who are still alive. We then randomly selected two journalists as respondents. To identify politician respondents we divided still alive politicians into candidates from the electorally most successful party in that year, and others. For each year and jurisdiction, we randomly selected one politician from each of these groups as respondent. If all winners from either party grouping were dead, then we substituted the first runner up and so on.[34]

Caste data The last detailed caste enumeration was done by the British during the 1931 census. These data are available district-wise for each province under British rule and for semi-autonomous princely states. For jurisdictions from which national legislators are elected caste figures were obtained by weighing caste figures by area. We use data on Hindu castes that form more than 1% of the population of each state or province in 1931, and define LOshare as the fraction 1931 Hindu population that was OBC or Scheduled Caste or Tribe. We use the most current state-specific government lists to identify these groups.

[34]We substituted for 38 politicians, and no journalists. Six politicians were non-traceable and we were unable to get appointments with other 32 (either they refused, were in jail or politically too important to contact.

Table 1: Caste voting patterns in Uttar Pradesh, 1999 National election

	High Castes		Low Castes	
	Brahmins	Thakurs	Yadavs	Jatavs
% voting for				
Non-low caste party	77.90	70.00	9.80	15.30
Low caste party	7.40	4.50	66.60	73.30
Populaton share	10.00	7.00	15.00	18.00

Notes:

1. These data are from the CSDS election survey, 1999. We report the voting preferences for the two largest high and low castes.

Table 2: Jurisdiction Demographics and Non-low Caste Legislators: 1980 and 1996

	Low caste population (LOshare)	
	below 50%	above 50%
1980	0.72	0.80
	(0.09)	(0.04)
1996	0.69	0.39
	(0.09)	(0.05)

Notes:

1. The sample consists of the 102 jurisdictions covered by the politician survey. The Table reports the fraction of jurisdictions in which a candidate of the non-low caste party was elected legislator.

2. Standard errors are reported in parentheses

Table 3: Descriptive Statistics on the Rise in Corruption

	1980	1996
I. Corruption Ranking: Rank on 1-10 corruption scale, where 1 is most honest		
Vignettes		
X: Used political position to benefit party, but not himself. His lifestyle reflected his honestly earned income.	2.82	3.00
	(1.43)	(1.57)
Y: Used political position to benefit party. In addition, used it to benefit family/members of own social group. His lifestyle was better than he could afford on his honestly earned income	5.92	5.94
	(1.66)	(1.64)
Z: Used political position to benefit party and family/members of own social group. He is known for taking money from business groups and is associated with criminals. His lifestyle far exceeds his honestly earned income	9.45	9.44
	(1.01)	(1.06)
Ordinal corruption rank (scale 1-7)	3.33	3.53
	(1.33)	(1.34)
II. Politician Quality Measures (each measure is a dummy variable=1 if positive response)		
A. Economic Gain		
Economic improvement: Own/family economic situation improved a lot after entering politics	0.30	0.40
	(0.45)	(0.49)
Business/Contracting: New/ expansion of business/contracting activity since entering politics	0.40	0.54
	(0.49)	(0.49)
Petrol pump/ration shop: New/ expansion of petrol pump or ration shop since entering politics	0.08	0.08
	(0.28)	(0.28)
Personal Influence: Used political influence for personal benefit	0.30	0.42
	(0.46)	(0.49)
B. Crime:		
Criminal record: Has a criminal record	0.08	0.16
	(0.26)	(0.36)
C. Other Measures		
Party Influence: Used political influence for benefit of party	0.19	0.27
	(0.39)	(0.44)
Social Influence: Used political influence for benefit of social group	0.17	0.22
	(0.38)	(0.42)
School/Hospital: New/expansion of school or hospital since entering politics	0.22	0.26
	(0.41)	(0.44)
Business Association: Is associated with Business	0.16	0.20
	(0.37)	(0.39)
Criminal Association: Is associated with Criminals	0.14	0.21
	(0.34)	(0.40)
Known for development: Is known for development activity in his jurisdiction	0.42	0.42
	(0.49)	(0.49)
Party position/minister: Held a party position or was minister	0.46	0.46
	(0.49)	(0.49)

1. Standard deviation in parentheses.

2. All variables are from the politician survey. We report averages for the sample of winners and losers.

Table 4:Voter Ethnicization and Politician Quality

	Ordinal corruption rank	Average economic gain		Criminal record	
	All	All	Agreed	All	Agreed
	(1)	(2)	(3)	(4)	(5)
Non-low caste party*	-7.20	-1.09	-0.69	-1.00	-1.06
LOshare*1996	(1.61)	(0.33)	(0.33)	(0.34)	(0.46)
LOshare*1996	6.49	0.98	0.91	0.63	0.92
	(1.22)	(0.23)	(0.25)	(0.28)	(0.38)
Non-low caste party*	4.25	0.58	0.43	0.41	0.46
1996	(0.95)	(0.19)	(0.16)	(0.17)	(0.21)
year=1996	-3.46	-0.42	-0.42	-0.21	-0.35
	(0.73)	(0.12)	(0.13)	(0.13)	(0.16)
Non-low caste party	-2.33	-0.09	-0.10	-0.18	-0.24
	(0.50)	(0.12)	(0.09)	(0.09)	(0.12)
Non-low caste party*	4.51	0.35	0.38	0.43	0.68
LOshare	(0.90)	(0.21)	(0.19)	(0.22)	(0.29)
N	655	664	233	626	220

Notes:

1. The All sample includes all respondent reports. The Agreed sample consists of a single report per politician, where the dependent variable=1 if all respondents agreed in their response (and gave a positive response). Otherwise it equals zero.

2. The dependent variables are defined in Table 3. The average economic gain is the equally weighted average of the four measures: (i) Economic improvement (ii) Business/contracting (iii) Petrol pump/ration shop and (iv) Used political influence for personal gain, where we use SUR estimation to obtain covariance. Separate regressions for each measure are reported in Appendix Table 3.

3. The non-low caste party is a dummy variable=1 if the politician belongs to Congress or BJP parties, and zero otherwise. Loshare is the fraction low caste population share in the jurisdiction and 1996 is a dummy=1 if the year is 1996.

4. The regressions include jurisdiction fixed effects. Standard errors in regressions for the All sample are clustered by politician,. The All sample regressions also include as respondent controls: respondent age and dummies for whether the respondent has a college degree, is a journalist, knows the politician as a friend or relative and whether the respondent and politician share the same (i) caste (ii) party affiliation.

Table 5: Voter Ethnicization and the Winner-Loser Corruption Gap

	Ordinal corruption rank	Average economic gain		Criminal record	
	All	All	Agreed	All	Agreed
	(1)	(2)	(3)	(4)	(5)
winner*1996	0.39	0.10	0.08	0.01	0.03
	(0.13)	(0.03)	(0.03)	(0.04)	(0.04)
winner	-0.12	0.03	0.00	0.03	-0.01
	(0.09)	(0.02)	(0.02)	(0.02)	(0.01)
winner*reserved*	-0.75	-0.31	-0.28	-0.04	-0.34
1996	(0.38)	(0.08)	(0.08)	(0.11)	(0.18)
winner*reserved	0.35	0.09	0.10	0.01	0.10
	(0.28)	(0.05)	(0.05)	(0.04)	(0.09)
N	1186	1210	431	1210	408

Notes

1. The All sample includes all respondent reports. The Agreed sample has a single report per politician, where the dependent variable=1 if all respondents gave a positive response. Otherwise it equals zero.

2. The dependent variables are defined in Table 3. The average economic gain is the equally weighted average of the four measures: (i)Economic improvement (ii)Business/contracting (iii) Petrol pump/ration shop and (iv)Used political influence for personal gain, where we use SUR estimation to obtain covariance. Separate regressions for each measure are reported in Appendix Table 3.

3. Winner is a dummy variable=1 if the politician won the election, and zero otherwise. Reserved is a dummy=1 if the jurisdiction is reserved for SC candidates and 1996 is a dummy=1 if the year is 1996.

4.The regressions include jurisdiction*year fixed effects. Standard errors for regressions using the All sample are clustered by politicians and include as respondent controls: respondent age and dummies for whether the respondent has a college degree, is a journalist, knows the politician as a friend or relative and whether the respondent and politician share the same (i) caste (ii) party affiliation.

Table 6a: Robustness Checks: Other Politician Outcomes

	Party position/ minister	Known for development	Built Schools/ Hospital	Associated with		Used political influence for	
				Business	Criminals	party	social group
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Voter Ethnicization and Winner Quality							
Non-low caste	0.98	-0.96	-0.04	-0.57	-0.51	0.16	-1.09
party*LOshare*1996	(0.69)	(0.53)	(0.42)	(0.64)	(0.41)	(0.50)	(0.40)
LOshare*1996	-1.09	0.48	-0.05	0.63	0.53	0.16	1.14
	(0.56)	(0.40)	(0.35)	(0.56)	(0.33)	(0.37)	(0.33)
Non-low caste party	-0.58	0.24	0.06	0.32	0.20	0.03	0.83
*1996	(0.42)	(0.34)	(0.22)	(0.39)	(0.22)	(0.29)	(0.22)
year=1996	0.72	-0.05	0.05	-0.38	-0.18	-0.13	-0.77
	(0.34)	(0.26)	(0.19)	(0.35)	(0.17)	(0.22)	(0.19)
Non-low caste party	0.60	0.20	-0.01	0.00	-0.01	0.23	-0.38
	(0.25)	(0.18)	(0.12)	(0.16)	(0.11)	(0.15)	(0.17)
Non-low caste	-0.78	0.05	-0.16	-0.10	0.09	-0.56	0.38
party*LOshare	(0.42)	(0.30)	(0.26)	(0.28)	(0.23)	(0.28)	(0.29)
N	647	638	664	589	625	608	625
Panel B: Voter Ethnicization and the Winner-Loser Corruption Gap							
winner*1996	0.14	0.04	0.08	0.02	0.07	0.05	0.05
	(0.07)	(0.06)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)
winner	0.05	0.20	0.08	0.05	0.01	0.11	0.00
	(0.06)	(0.04)	(0.05)	(0.03)	(0.03)	(0.03)	(0.04)
winner*reserved*	-0.58	0.21	-0.24	-0.08	-0.10	-0.02	0.07
1996	(0.17)	(0.15)	(0.17)	(0.10)	(0.10)	(0.11)	(0.10)
winner*reserved	0.44	-0.16	-0.01	-0.02	0.07	-0.14	0.05
	(0.11)	(0.09)	(0.12)	(0.04)	(0.05)	(0.07)	(0.07)
N	1181	1166	1210	1093	1131	1053	1090

Notes

1. The regressions use the All sample, i.e. all respondent reports on each politician. In Panel A regressions the sample is (reports on) winners, while in Panel B the sample consists of (reports on) winners and losers. Standard errors are clustered by politician.

2. All regressions include the respondent controls listed in notes to Table 4. Panel A regressions include jurisdiction fixed effects and Panel B regressions jurisdiction*year fixed effects.

Table 6b: Robustness Checks: Public Good Provision

	Average public good provision	Roads	Schools	Electrified villages
	(1)	(2)	(3)	(4)
Non-low caste	2.25	4.13	1.82	0.82
party*LOshare*1996	(1.25)	(2.67)	(2.76)	(1.61)
LOshare*1996	-2.15	-2.64	-2.63	-1.19
	(1.05)	(2.02)	(2.73)	(1.07)
Non-low caste party	-0.84	-2.01	-0.22	-0.31
*1996	(0.70)	(1.60)	(1.54)	(0.98)
year=1996	1.65	2.38	1.03	1.55
	(0.58)	(1.17)	(1.53)	(0.65)
Non-low caste party	0.53	0.94	0.27	0.38
	(0.34)	(0.90)	(0.62)	(0.54)
Non-low caste	-1.56	-2.18	-1.55	-0.97
party*LOshare	(0.71)	(1.64)	(1.47)	(0.96)
N	225	231	225	231

Notes

1. Standard errors are clustered by district. All regressions include jurisdiction fixed effects.

2. Roads refers to the total kilometers of roads constructed in the district and Schools to the total number of primary and secondary schools in the district. Electrified villages are the number of villages electrified in the district. For comparability we create and use a normalized measure for each public good (by subtracting the sample mean and dividing by sample standard deviation). Average public good provision is the equally weighted average of the three normalized public good measures, where we use SUR estimation to obtain covariance.

Table 7: Candidate Substitution

	Obc candidate		SC/ST candidate	
	(1)	(2)	(3)	(4)
Non-low caste party	-0.24	0.10	0.03	0.05
	(0.05)	(0.05)	(0.03)	(0.05)
Non-low caste party*	0.16	-0.07	0.01	0.03
1996	(0.07)	(0.07)	(0.03)	(0.10)
Non-low caste party*		-0.60		-0.05
LOshare		(0.15)		(0.10)
Non-low caste party		0.40		-0.03
LOshare*1996		(0.20)		(0.18)
LOshare*1996		0.00		0.08
		(0.15)		(0.13)
year=1996	0.00	0.00	0.02	-0.03
	(0.05)	(0.06)	(0.02)	(0.07)
N	432	432	432	432

Notes

1. The sample consists of the winner and runner-up in the jurisdiction in 1980 and 1996. Standard errors clustered by politician id reported in parentheses. All regressions include jurisdiction fixed effects.
2. OBC candidate is a dummy=1 if the candidate caste is obc. SC/ST candidate is a dummy=1 if candidate caste is SC/ST.

3. The non-low caste party is a dummy variable=1 if the politician belongs to Congress or BJP parties, and zero otherwise. LOshare is the fraction low caste population share in the jurisdiction and 1996 is a dummy=1 if the year is 1996.

Appendix Table 1 : Summary Statistics on Respondents

	1980	1996
A. Respondent Characteristics		
College educated	38.00	49.00
	(48.00)	(50.00)
Journalist	50.00	49.00
	(50.00)	(50.00)
Age at time of election	36.30	39.00
	(10.86)	(10.55)
Respondent was living in district	88.00	85.00
during election	(31.50)	(35.70)
B. Respondent connections with politician		
Number of years had known politician	4.37	5.60
at time of election	(8.41)	(6.77)
Respondent and politician belong to	18.70	16.00
the same party	(39.00)	(36.00)
Respondent and politician belong to	17.20	21.10
the same caste	(37.80)	(40.80)
Respondent is a friend/relative of the	9.80	5.50
politician	(29.60)	(22.80)
Number of respondents	205	206

Notes

1. Percentages are reported with standard deviations in parentheses.

Appendix Table 2: Comparison of Survey data with Objective verification

	1980	1996
Petrol Pump		
Matches	90.54	90.00
Matches when all respondents agree	97.00	94.00
Mismatches where survey respondents, but not verification, say politician has petrol pump	3.00	6.00
Mismatches where verification, but not survey, says politician has petrol pump	6.00	4.00
Number candidates compared	74	76
Schools		
Matches	66	67
Matches when all respondents agree	74	74
Mismatches where survey respondents, but not verification, say respondent has school	14	14
Mismatches where verification, but not survey, says politician has school	20	19
Number candidates compared	74	76
Criminal Cases		
Matches		79
Matches when all respondents agree		84
Mismatches where survey respondents, but not LIU, says criminal record		6
Mismatches where LIU, but not survey, says criminal record		15
Number candidates compared		74

Notes

1. All match variables are in percentage

Appendix Table 3: Polarization and Politician Quality

	Used political influence for personal gain		Economic Improvement		Business/ Contracting		Petrol pump/ration shop	
	All	Agreed	All	Agreed	All	Agreed	All	Agreed
Panel A: Winners								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-low caste party*	0.72	0.45	-0.48	-0.31	2.01	1.40	0.18	-0.01
LOshare	(0.39)	(0.41)	(0.33)	(0.48)	(0.74)	(0.58)	(0.17)	(0.12)
Non-low caste party*	-1.47	-1.44	-1.04	0.02	0.99	-1.73	0.11	0.38
LOshare*1996	(0.65)	(0.86)	(0.53)	(0.83)	(0.36)	(0.88)	(0.29)	(0.22)
Non-low caste party	-0.38	-0.15	0.37	0.19	-1.99	-0.53	-0.04	0.06
	(0.22)	(0.20)	(0.18)	(0.25)	(0.55)	(0.36)	(0.09)	(0.06)
Non-low caste party	0.90	0.96	0.58	0.14	0.95	0.78	-0.09	-0.14
*1996	(0.36)	(0.45)	(0.30)	(0.42)	(0.34)	(0.53)	(0.16)	(0.09)
LOshare*1996	2.96	1.68	0.89	0.53	1.67	1.57	-0.02	-0.15
	(1.00)	(0.69)	(0.35)	(0.61)	(0.46)	(0.70)	(0.21)	(0.11)
year=1996	-0.65	-0.89	-0.41	-0.27	-0.66	-0.60	0.03	0.07
	(0.26)	(0.38)	(0.20)	(0.32)	(0.29)	(0.45)	(0.12)	(0.05)
N	630	221	664	234	664	234	664	237
Panel B: Winner and Loser								
winner	-0.02	-0.10	0.10	0.02	-0.09	0.02	0.10	0.04
	(0.04)	(0.05)	(0.03)	(0.05)	(0.10)	(0.06)	(0.03)	(0.03)
winner*1996	0.22	0.20	0.14	0.11	0.24	0.03	-0.06	-0.01
	(0.06)	(0.09)	(0.05)	(0.07)	(0.13)	(0.09)	(0.04)	(0.04)
winner*reserved	0.12	0.23	0.17	0.07	0.58	0.25	-0.20	-0.14
	(0.10)	(0.14)	(0.07)	(0.10)	(0.23)	(0.15)	(0.08)	(0.10)
winner*reserved*	-0.36	-0.42	-0.44	-0.20	-0.93	-0.47	-0.01	-0.06
1996	(0.14)	(0.24)	(0.11)	(0.12)	(0.39)	(0.24)	(0.13)	(0.15)
N	1111	392	1210	435	1210	435	1210	435

Notes:

1. Panel A regressions include the sample of (reports on) winners and Panel B regressions the sample of (reports on) winners and losers. The All sample includes all respondent reports for each politician, and in regressions with this sample we cluster standard errors by politician. The Agreed sample uses a single report for each politician where the dependent variable=1 only if all respondents agreed in their response (and gave a positive response). Otherwise it equals zero.

2. The All sample Regressions include the respondent controls listed in Table 4. Panel A regressions include jurisdiction fixed effects and Panel B regressions include jurisdiction*year fixed effects.