The Distributional Consequences of Political Reservation

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Abstract

We examine how political reservation in favour of socio-political minorities affects inequality in private wealth and access to public goods. We focus on across-group, within-group and within-sub-group distribution of outcomes. Using data on a range of public goods across 45,000 villages and private assets for nearly 20 million rural households across the Indian state of Bihar, we show that reservation for scheduled castes (SC) for the post of village-council heads: (a) does not affect overall provision of public goods or private assets or the private assets of non-SCs (b) improves outcomes for individuals living in the dominant scheduled caste village (c) improves both, the absolute and relative well-being of households in the top-decile of the *ex-post* distribution of wealth scores among SCs. We also have suggestive evidence to show that reservation: (d) improves well-being of own-sub-caste of village-council head, with greater improvements at the bottom of the wealth distribution. Using data on night-lights, we provide evidence to suggest that re-election incentives could potentially play a role in explaining our results. The impact of political reservation, thus, cannot be reduced to the simplistic binary of equity- or efficiency - improving: the web of winners and losers is more complex than previously characterized.

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1 Introduction

It has become increasingly common to reserve seats in elections for under-represented and socioeconomically backward groups in developing-country settings. Mandated political representation is seen as a way of restoring balance and ensuring that interests of the less-privileged are represented in a democratic set up.

The literature has tended to focus on impact of reservation on mean outcomes for in-group and out-group members (Besley, Pande, Rahman and Rao 2004; Duflo, Fischer and Chattopadhyay 2005). Indeed, recent work finds that political reservation for minorities in India causes negligible impact on mean outcomes for minorities (Bardhan, Mookherjee and Torrado 2010; Dunning and Nilekani 2013; Bhavnani 2016). A smaller set of papers - Das, Mukhopadhyay and Saroy (2017) and Anderson & Francois (2017), to name two, recent ones - focus on measuring the impact of political reservation on outcomes across all households in a GP, but find contrasting results.

This paper begins by presenting results that speak to both these strands of the literature. However, the main focus is on a related, key concern, namely, the distribution of benefits within groups; this assumes greater importance because, in our setting, reservation occurs in favour of groups that display considerable within-group heterogeneity and hierarchy. Indeed, one critique of political reservation in India has been that it favours only the a tiny sliver of persons at the top[3]of the under-represented group and leaves the rest no better. Is this a valid concern? If yes, are there mitigating factors?

Empirically ranking households within geographies on the basis of some measure of well-being is often challenging because of a lack of sufficiently representative data at every tier of the welfare distribution. Furthermore, measuring within-group favouring of households requires granular data on sub-group ethnicity. Also, observational data may not imply causality. Using a unique dataset measuring social and economic characteristics of *every*[4] rural household - nearly 20 million in all – in the state of Bihar, we address these concerns. We use data on ownership of assets to create wealth scores of households and use last names of members as a proxy for ethnicity (sub-caste). Furthermore, we establish causality by exploiting the rule for reservation

[3]Popularly termed the "creamy layer" in India.

[4]While the Socio-Economic Caste Census (SECC) claims to have surveyed every household, the dataset we have received from the government of Bihar is near-complete

of seats for political minorities which gives rise to a regression discontinuity design.

In this paper, we focus on political reservation in favour of village-council - Gram Panchayat (GP) - heads, also known colloquially as "Mukhiyas". A little under 17 % of GPs are reserved for scheduled castes (SCs) - a group comprising historically marginalized (and fairly heterogenous) set of sub-castes, many of which formed the erstwhile "untouchable" community. Bihar first saw reservation in favour of SCs in the year 2006. We measure outcomes around the end of a full five-year term.

Like Munshi and Rosensweig (2016) and Pande et al (2011), we measure impact of political reservation on private *and* public goods: however, unlike the former our public goods are somewhat locally excludable, thereby allowing a level of targeting of these too; furthermore, this paper measures outcomes across a wider class of public goods, a range of private assets and socioeconomic indicators at the household level.

Our results suggest that political reservation, while having no significant impact on mean outcomes of either SCs or non-SCs (and thereby, across the GP), affects the SC distribution of wealth scores. Households at the top of the SC distribution in reserved GPs do significantly better in absolute terms. Furthermore, relative to households below them, households in the top decile of the distribution are up to 15 % better. These elite SC households also seem to gain on non-SC households.

We find some preliminary evidence of clientelistic politics along sub-caste lines (see Munshi & Rosensweig (2016)). Members of the Mukhiya's own sub-caste are over-represented in the top decile of SCs. Furthermore, the wealth distribution of Mukhiya's sub-caste members dominates that of the SCs in unreserved GPs. Their wealth-rank in the caste hierarchy relative to their own sub-castes in unreserved GPs increases by 0.12-0.17 s.ds. To be sure, this does not entirely rule out the hypothesis that members of *ex-ante* wealthier sub-castes are likelier to become Mukhiyas. Within the Mukhiya's sub-caste, we find evidence of pro-poor targeting (Bardhan & Mookherjee (2016); also Wantchekon (2003), Fujiwara & Wantchekon (2013)), which suggests, by induction, that elite-favouring occurs mainly in the non-Mukhiya's sub-castes.

We find no evidence of reservation impacting public good provision across the GP. However, like Pande et al (2005) and Duflo et al (2005), we find evidence of targeting of public goods within a GP. In particular, the population-normalized share of public goods increases in SC-

dominant villages within a GP. Since SCs are scattered across villages, it is not always the case that the SC-dominant village exactly coincides with the Mukhiya's village. This suggests that while private wealth benefits of political reservation may occur only at the top of the SC distribution, public goods are targeted towards *all* SCs.

What explains these results? We have some evidence to suggest that re-election incentives (Ferejohn 1986; Rogoff & Sibert 1988; Persson-Tabellini 2000; Ferraz & Finan 2009) drive public good targeting towards SC-dominant villages. Using annual data on nightlights, we find that the share of nightlights emananting from the SC-dominant village significantly rises in the years 2009-2011, but there is no impact otherwise. In 2009, the reservation status for all GPs was extended by another term. In other words, GPs reserved in 2006 for SCs would continue to remain reserved till 2016. 2011 was the year of the second cycle of GP elections. The fact that we see the increase in share of lights from SC-dominant villages only in these intervening years and do not see a similar pattern in the years leading up to 2016, when reservation status of GPs would change, suggests to us that re-election incentives could have played a role in explaining the patterns we observe. Towards the end of the paper, we discuss if re-election incentives could also drive elite-favouring within SCs.

The results suggest that mandated political reservation could help redistribute resources - both public and private – towards disadvantaged groups, without worsening mean outcomes. In the context of asset-wealth, reservation somewhat increases within group-inequality for the disadvantaged groups, but may actually reduce across-group inequality. Furthermore, re-election incentives could mitigate clientelistic tendencies.

The rest of the paper is organized as follows: we begin by briefly outlining the setting and context of our paper, before proceeding to delve into our data and empirical strategy. We then outline our results in stages: first, we look at impact of reservation on overall outcomes, before looking at targeting towards SCs. We then look at targeting within SCs. We discuss re-election incentives as a potential mechanism. The paper ends with a discussion of our findings.

2 Context

The setting of this study is the state of Bihar, one of India's poorest states. The mid-2000s marked a phase of high growth and infrastructure spending and saw the state emerge from a

phase of significant law and order troubles (see Witsoe 2013; Vaishnav 2017). While elections for Mukhiyas were held since 2001, the year 2006 marked the beginning of political reservations for disadvantaged groups and women. This considerably changed the composition of the new cohort of Mukhiyas. In 2001, when there was no reservation, roughly 1 % of Mukhiyas were SCs (GUPTA 2001). This number went up to nearly 17 % in 2006.

The period saw a turn in the role of GPs in helming the development agenda at the local level. The financial year 2005-06 saw a three-fold increase in the devolution of State Finance Commission funds towards local councils[5]. Furthermore, 2005-06 was also the year the MGNREGS - a national rural works programme that empowered workers to demand and access up to 100 days of work per household - was launched. Funds for the scheme were routed through the tiers of the bureaucracy to GPs, which then allocated it for construction of rural assets and employed local labour. The funds earmarked for this scheme, alongside a slew of other centrally sponsored schemes targeted at rural households, ensured that Mukhiyas sworn in in 2006 had seen an unprecedented increase in access to funds for development work.

SCs in Bihar - as is often the case in the rest of India too - are not a homogeneous whole. In fact, they comprise a diverse set of sub-castes, occupying different rungs in the social ladder. While there is no denying the presence of a pan-SC identity, to say that there exists no rivalries between sub-castes would be patently untrue. Indeed, in 2007 a separate group called "Mahadalit" was carved out to include those SC sub-castes that were particularly underprivileged and special benefits were extended to this group (Kumar & Somanathan 2017).

3 Empirical Strategy

The state of Bihar is divided into 38 districts, which are further divided into 534 blocks and 8400 GPs. Within each block, the rule for reservation gives rise to an exogenous SC population cut-off below which no GP is reserved. Above the cut-off, not all GPs are reserved for SCs, as some are blocked to be reserved for OBCs. In practice, as Figure 1 shows, once we throw away GPs above the cut-off that are blocked, the first stage results in a near 85 % jump in the

[5]Panchayati Raj Institutions saw an increase in access to funds under the Twelfth Finance Commission, from 109.48 crores previously 325.92 crores. The state government of Bihar increased "establishment expenses" from 3.43 crores to 17.12 crores.

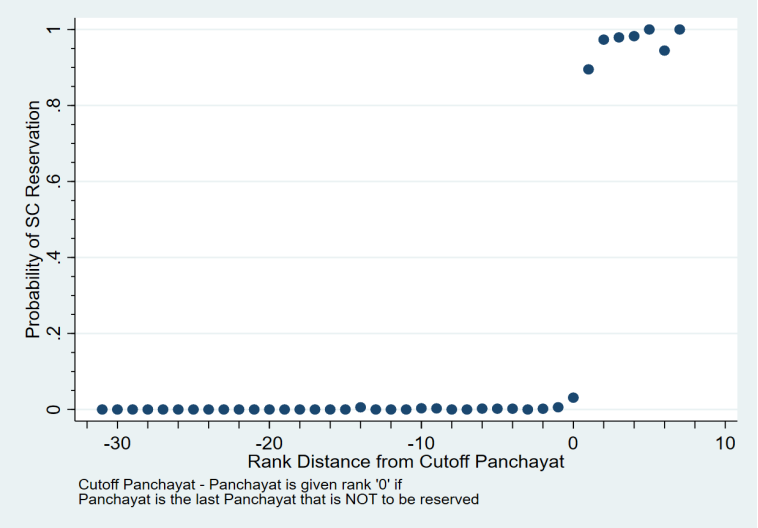


Figure 1: Graph plots the probability of reservation based on the rank of a GP within a Block. The last GP not to be reserved is given a rank 0 and the first GP to be reserved is ranked 1 and so on. Therefore, all negative ranks correspond to GPs not to be reserved and positive ones to GPs to be reserved.

probability of reservation[6]. Thus, we have a fuzzy pooled RD with a strong first stage.

Our running variable is the difference in SC population of a GP and the mean of the SC Population of the last Panchayat to not be reserved and the first GP to be reserved. Thus, for GP i in Block j:

$$Running_{ij} = SCPop_{ij} - (\frac{SCPop_{1j} + SCPop_{0j}}{2}) \tag{1}$$

where $SCPop$ refers to SC Population and 0 and 1 subscripts stand for the the last GP to not be reserved and the first GP to be reserved, respectively.

4 Data

We have 3 main data sources. First, from the State Election Commission in Bihar, we collected data on reserved and unreserved Panchayats and characteristics of Mukhiyas elected in 2006, 2011 and 2016.

Second, we collect data on census village characteristics using Census of India's Village Amenities Surveys of 2001 and 2011. This allows us to not merely collect details on availability

[6]We asked election officials serving at the time about the small discrepancy on the prediction in theory and the actual reservation. We were told this may have been because of the following reasons: officers calculating the cut-off wrongly; disputes regarding actual SC population figures; manipulation by local officials of the status of reservation of GPs. At least one instance of manipulation was flagged and officials punished.

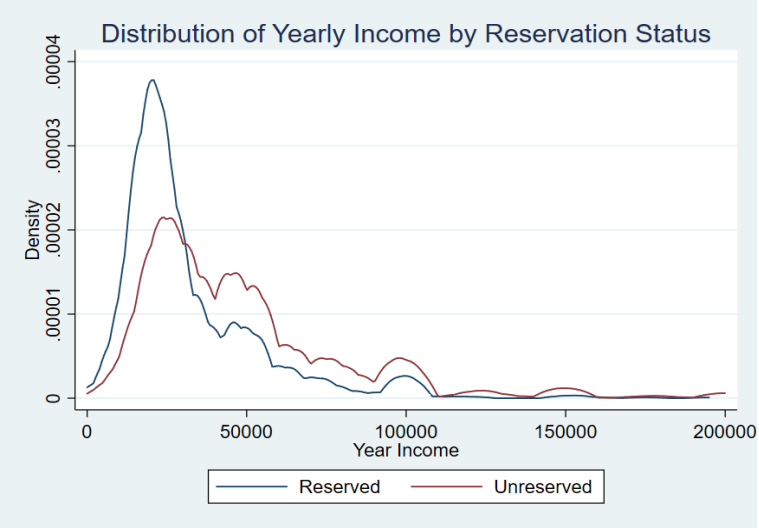


Figure 2: Figure plots kernel densities of self-reported yearly income (under 200000 of Mukhiyas in 2006 in reserved and unreserved GPs.

of various types of public goods in villages in reserved and unreserved GPs, but also contains indicators related to size, demographics and geography of these villages.

Finally, from the Bihar government's Rural Development Department, we gained access to the Socio Economic Caste Census (SECC). This survey, conducted in 2012, covered all rural households - nearly 20 million - of Bihar. At the within-household level, the survey contains basic information on members of the household including gender, broad caste category, age, type of occupation and education status.

At the household level, the dataset contains information on the following: type of dwelling including number of rooms, characteristics of wall and roof; employment and income characteristics including whether household has a member having a government job and main source of household income; asset ownership (vehicle, fridge, mechanical agricultural equipment etc); details on land-owned.

5 Results

5.1 Overall

We first measure how reservation for SCs impacts the socio-economic background of the incoming Mukhiyas in 2006. Mukhiyas in reserved GPs report significantly lower annual incomes (0.49 sd) - see figure 2 – are younger (0.46 sd) when compared to their unreserved counterparts and

Table 1: Overall Impact on Mukhiya's Characteristics

	Impact of SC reservation on incumbent Mukhiya				
	(1)	(2)	(3)	(4)	(5)
	Yearly Income(INR)	**Age**	**Master's**	**Any Degree**	**Barely Literate**
SC Reservation	-0.49***	-0.47***	-0.07	-0.12	0.24***
	(0.07)	(0.09)	(0.09)	(0.10)	(0.08)
# Observations	4467.00	4614.00	4664.00	4664.00	4664.00
District Fixed Effects	YES	YES	YES	YES	YES
Lower Bandwidth	450.713	461.95	466.549	438.58	477.032
Upper Bandwidth	450.713	461.95	466.549	438.58	477.032
Block Clusters	YES	YES	YES	YES	YES
Control Mean	.003	-.014	.007	.01	-.018

All regressions are run across all districts and all Mukhiyas for which data is available. RD is run using the optimal CCT bandwidth below and above the cut-off point. Additional covariates: Proportion of SCs in the Panchayat, Total Population of the Panchayat, Total SCs in the Panchayat, whether reserved for females, whether reserved for OBCs, Distance to nearest town, Distance to district centre, Total Area of GP. Standard errors are clustered at the block level.*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

are likelier to be barely literate (0.24 sd). Somewhat surprisingly, they are not significantly less likely to hold a degree. That being said, a degree-holding Mukhiya in 2006 was not commonplace: only 12 per cent of all Mukhiyas are have one. SC Mukhiyas are, as indicated previously, almost always first-timers. To summarize (see Table 1), reservation for SCs result in GP-heads who come from worse socio-economic backgrounds and are inexperienced.

Despite being led by Mukhiyas who are obviously disadvantaged on these observables, reserved GPs do not see households doing worse on assets owned. Furthermore, these GPs do no worse in the provision of public goods (See Figure 3 below).[7]

5.2 Targeting Towards SCs

Next, we measure the impact of reservation on targeting of resources - public and private - towards SCs. Surprisingly, we find no impact of reservation on asset ownership among SCs. However, we do find evidence of public good targeting towards the SC-dominant village[8]. Following Duflo et al (2005), for each public good, we calculate the population normalized share of

[7]These results may be ostensibly similar to Das, Mukhopadhyay and Saroy (2017), but the mechanisms for those findings do not apply here for the following reasons. First, the average share of SCs in our reserved GPs is around 25 % and SCs are almost never a majority by themselves in a GP. Second, re-election incentives here, therefore, are not because of the size of SCs, but driven almost entirely by the freezing of the reservation rule for another term. Thus, it is never the case that an incumbent Mukhiya - elected because of reservation - has no chance at re-election in the next term.

[8]We define the SC dominant village in the GP is the GP that has the highest concentration and number of SCs within a GP, as per Census 2001 data. For each village within a GP, we calculate an *SC Index*: it is the product of the share of SCs in the village and the number of SCs in the village - the village with the highest value of this index is deemed as the SC dominant. We use this index as opposed to its individual components since both number and share of SCs are important in determining dominance.

the public good[9] accruing to the dominant SC-village within a GP. Therefore, for public good i in GP G with dominant village v:

$$PopulationNormalizedShare_{iG} = (\frac{ShareofPublicGood_{iv}}{ShareofPopulation_{iv}}) \quad (2)$$

We standardize the population normalized shares of these individual public goods and create a public good index. The normalized index of the six main public goods we consider increases by over 0.5 s.d post-reservation (see Figure 4).

A similar result is obtained when we consider night-lights emanating from the SC-dominant village within a GP. Using yearly data on night-lights, we consider a similar indicator to the one constructed for public goods, except, in this case, we create, for each GP, the population normalized share of night-lights emanating from the SC dominant village. Controlling for shares in 2005, we calculate the mean change in the share of night-lights for the period 2007-2011. Table 2 displays the results - the share of night-lights from the SC dominant village increases by 30 %. Insofar as night-lights are a proxy for economic activity, these results seem to indicate that reservation affects the spread of economic activity within a GP and biases it in the favour of the SC-dominant village.

Are SCs in the dominant village doing better in material terms? We use asset data to compare the mean difference in wealth scores[10] between SCs in the dominant village and those elsewhere. We then attempt to measure if reservation impacts this difference. The coefficient is positive, but insignificant, suggesting to us that SCs in the dominant village of the GP are weakly better off post-reservation. We combine this difference with the normalized public good index to develop a welfare index for the SC dominant village that combines both improvements in public goods and private assets. Expectedly, and following from our previous results, the welfare index is positive and improves by 0.6 s.ds post-reservation for the SC-dominant village within the GP (see Figure 5).

To be sure, the very nature of private assets allow us to make more meaningful statements than whether households in the dominant SC village are better off or not. For instance, we can ask, which households in the distribution are better off? Does sub-caste matter? These

[9] A simple example will clarify what the share of the public good in this context is: suppose there are 5 villages in a GP. Suppose 4 of these have a primary school and one of these is the dominant SC village. Then, the share of primary schools to the SC dominant village is 1/4 or 0.25.

[10] We use PCA+ scores here. Definition given in the next section.

questions, and more, are explored in the following sections.

Table 2: Impact on Lights Share from SC-Dominant Villages

	Share of night-lights from SC-dominant Village
	(1)
	Lights 2007-11
SC Reservation	0.30**
	(0.15)
Observations	4033.00
District Fixed Effects	YES
Lower Bandwidth	
Upper Bandwidth	
Block Clusters	
Control Mean	

Dependent variable: *Average population normalized share of night-lights emanating from the SC dominant village within a GP for the period 2007-11.* Regression is run across all districts and GPs where lights data is available. RD is run using the optimal CCT bandwidth below and above the cut-off population of SCs within each Block. Regression controls for population normalized share of night-lights for the year 2005 for SC dominant village within a GP. Additional covariates: Proportion of SCs in the Panchayat, Total Population of the Panchayat, Total SCs in the Panchayat, whether reserved for females, whether reserved for OBCs, Distance to nearest town, Distance to district centre, Total Area of GP. Standard errors are clustered at the block level.*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

5.3 Within-SC Targeting

Using the Socio-Economic Caste Census, we create asset scores for households based on binary variables detailing assets owned[11]. We create 3 main types of asset scores: a raw sum of assets (RSOA) score that weighs all assets equally and adds up the binary variables; a pair of scores derived from a principal component analysis (PCA) of assets. We use two PCA scores - PCA and PCA+. The former uses exactly the same set of assets used to derive the RSOA score. The latter score is richer, adding "Bad Roof", "Bad Wall" (Roof or Wall made of grass/thatch/bamboo/wood/mud), whether main household occupation is cultivation (as opposed to casual labour) and ownership of a farmer's credit card[12] to the mix. We also construct a normalized asset score (NA) that first standardizes asset ownership and then creates an index similar to the public good index described above.

[11]In creating the score, we use the following assets: concrete being the predominant material of roof of the dwelling room, burnt brick or concrete being predominant material of the wall of dwelling room, household has anyone with a government job, household pays income tax, ownership of fridge, telephone or landline, any motorized vehicle or fishing boat, land, mechanized agricultural equipment and irrigation equipment)

[12]Ownership of a Kisan Credit Card with limit beyond INR 5000

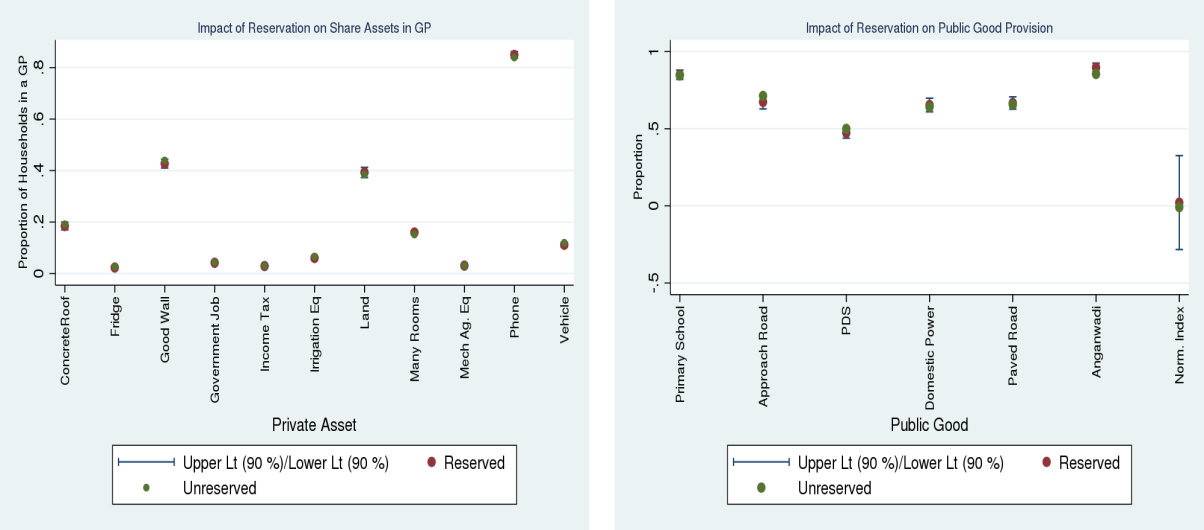


Figure 3: Figure shows plots describing the overall impact of reservation for SCs. Panel (A) plots the impact of reservation on asset ownership among households in reserved and unreserved GPs while Panel (B) plots the impact on public good provision in the same set of GPs. In panel (A), for each asset, two points are plotted - the average ownership of the asset in unreserved GPs (coloured green) *and* the ownership in reserved GPs (coloured maroon), as measured by the sum of the ownership in unreserved and the RD estimate of reservation using a CCT bandwidth. In Panel (B), a similar exercise is done for various public goods. The last pair of points in Panel (B) pertain to a normalized public good index. District Fixed effects are included in all regressions and additional GP-specific controls are added. All standard errors are clustered at the Block level.

Figure 4: Figure shows plots describing the impact of reservation for SCs on outcomes for SCs. Panel (A) plots the impact of reservation on asset ownership among SC households in reserved and unreserved GPs while Panel (B) plots the impact on public good provision in the SC dominat village in the same set of GPs. In panel (A), for each asset, two points are plotted - the average ownership of the asset in unreserved GPs (coloured green) *and* the ownership in reserved GPs (coloured maroon), as measured by the sum of the ownership in unreserved and the RD estimate of reservation using a CCT bandwidth. In Panel (B), a similar exercise is done for various public goods. The last pair of points in Panel (B) pertain to a normalized public good index. District Fixed effects are included in all regressions and additional GP-specific controls are added. All standard errors are clustered at the Block level.

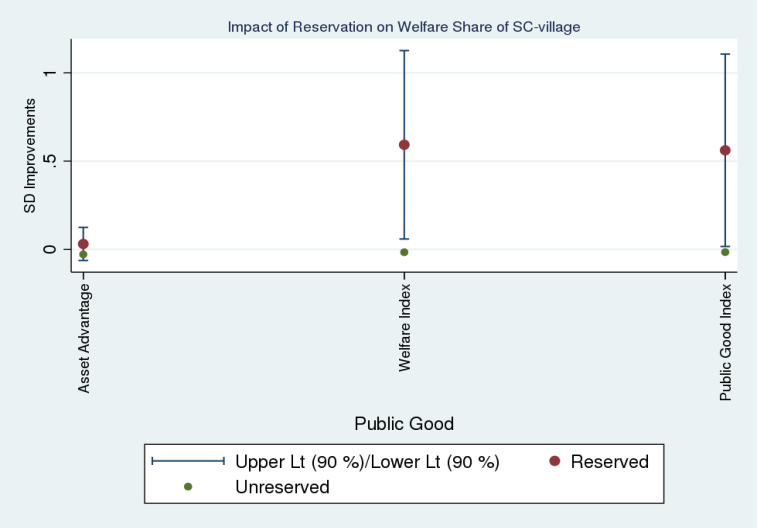
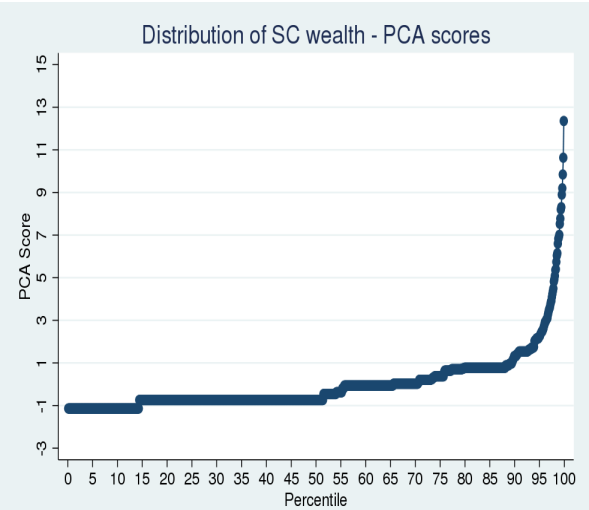


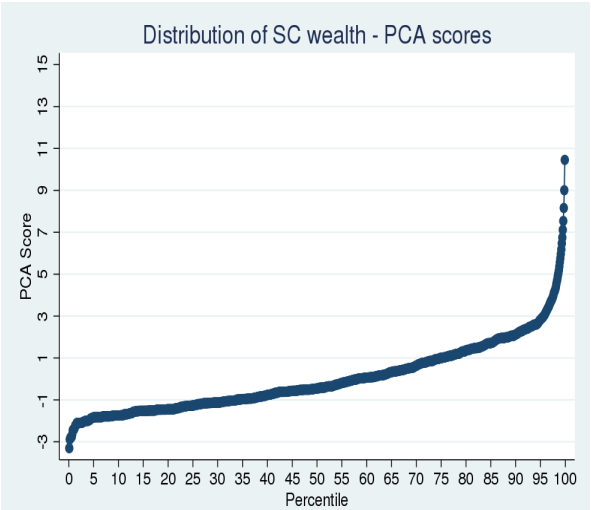
Figure 5: Figure shows plots describing the impact of reservation for SCs on outcomes for the SC dominant village in s.d units. "Asset Advantage" refers to s.d improvements in relative well-being of SC households in the dominant village as opposed to their counterparts elsewhere within the GP. The "Public Good Index" is the Norm. Index from Figure 4(b). The "Welfare Index" combines the public good index and the asset advantage. District Fixed effects are included in all regressions and additional GP-specific controls are added. All standard errors are clustered at the Block level.

5.3.1 Inequality

We begin by describing the nature of inequality in our data. As Figure 6 shows, both PCA and RSOA scores show relatively flat slopes up to the 90th percentile and only then do we see a steep rise. Indeed, 90 % of our sample of 2,951,690 SC households have an RSOA score in the range 0-3. The richest household, on the other hand, has a score of 11. The top 10 % of households own 21 % of the assets.

While SCs at the top are disproportionately well off, we do not see the staggeringly high inequality levels seen across India or the rest of the world. This is not unexpected: Bihar is among India's poorest states, and in 2006, was only beginning to be tugged by the forces that, in India, propelled the rise of inequality. Within Bihar, our work concerns itself with SCs - comprising the most marginalized households; even the richest among the SCs are discriminated socially and economically. Finally, bunching of asset scores at the bottom of the distribution could indicate at least two things: first, that SCs are largely poor and concentrated at the bottom of the wealth distribution; second, perhaps our data does not possess the fineness to separate out households at the bottom of the distribution. Both these explanations could be simultaneously true.





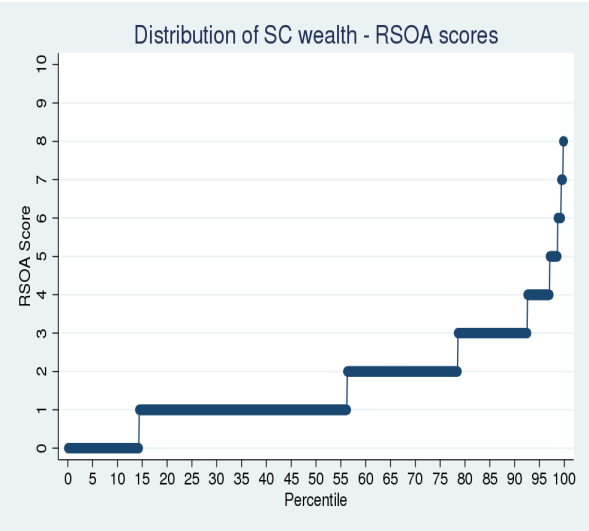


Figure 6: Figure shows plots of (A) PCA Scores (B) PCA+ scores (C) RSOA Scores across the 2,951,690 SC households in our data.

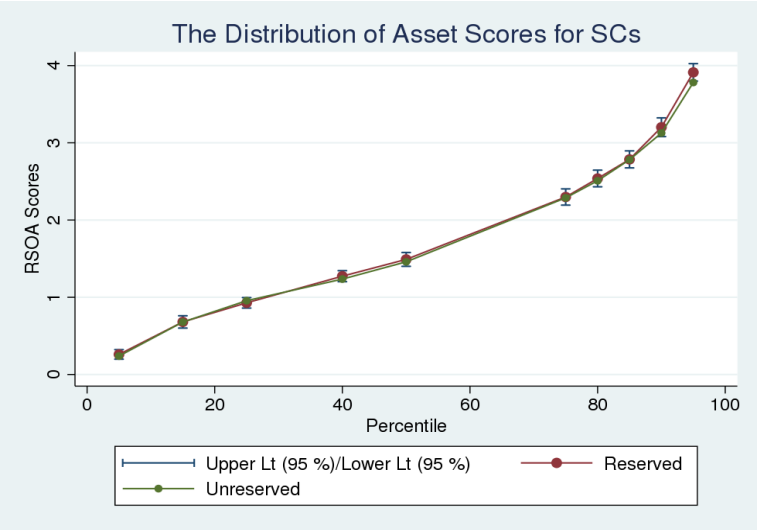


Figure 7: Figure plots the distribution of RSOA scores in reserved and unreserved GPs for SCs. We use RSOA scores in this graph. The estimate for the score in the reserved GP is plotted as the sum of the mean score for the unreserved GPs around the cut-off and the RD estimate. District Fixed effects are included in all regressions and additional GP-specific controls are added. All standard errors are clustered at the Block level.

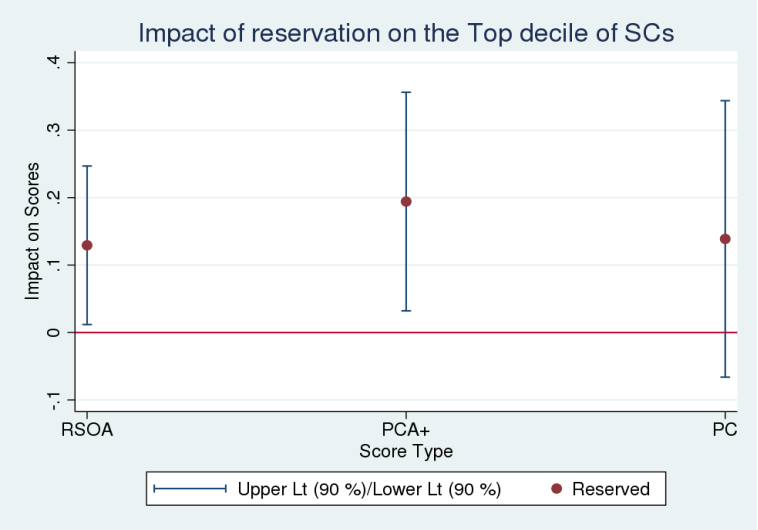


Figure 8: Graph plots improvements in asset scores at the top decile for three different types of wealth scores.

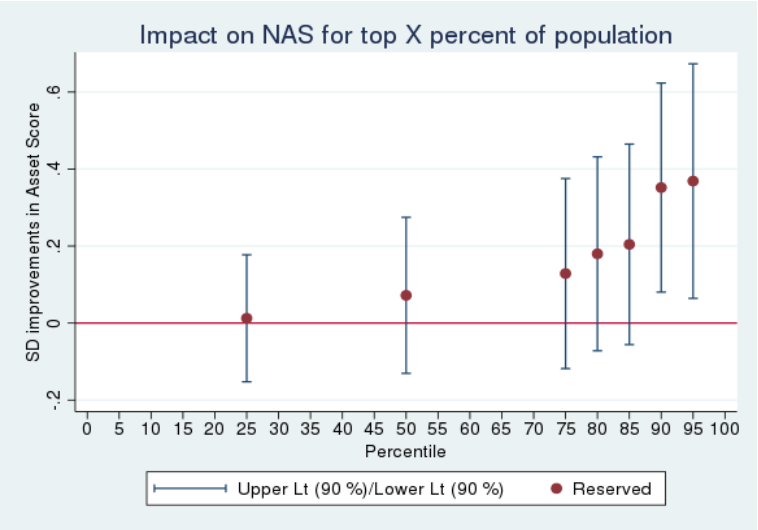


Figure 9: Graph plots improvements in NA scores (Y axis) for households ranked above a specific percentile (X axis) of the PCA score. It shows that households beyond the 25th percentile look just the same, but as we restrict our set of households to those at higher and higher percentiles, households in reserved GPs do better. This effect is entirely driven by households in the top decile.

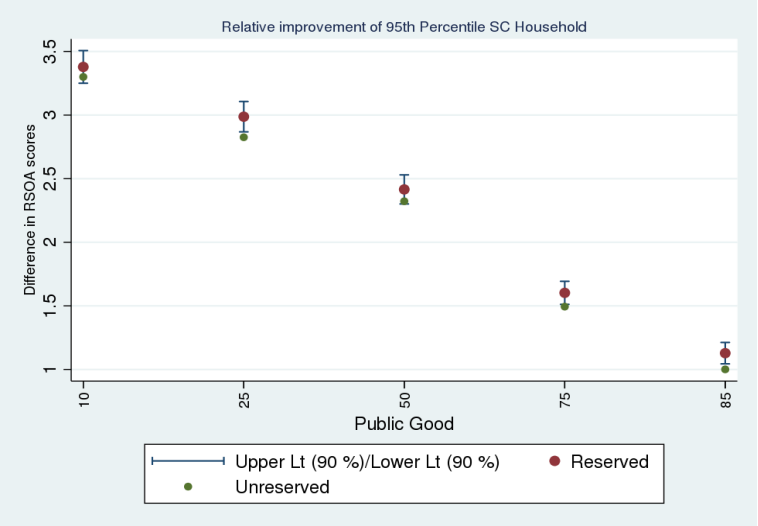


Figure 10: For each GP, we calculate the difference in RSOA scores between the SC household at the 95th percentile and those at various percentiles below. Figure plots the impact of reservation on this difference. The estimate for the difference in the reserved GPs is plotted as the sum of the mean difference for unreserved GPs around the cut-off and the RD estimate of the impact of reservation. District Fixed effects are included in all regressions and additional GP-specific controls are added. All standard errors are clustered at the Block level.

5.3.2 Decile-based analysis

In Figure 7, we plot the RSOA scores for SCs in reserved and unreserved GPs. Once again, note the steep rise in scores at the very top of the distribution in both types of GPs. As can be seen, the scores overlap everywhere but at the top decile (estimates and standard errors in Appendix).

Figure 8 plots improvements in different types of wealth-scores for the top decile. Again, we see that the top decile does significantly better for the RSOA scores and PCA+ scores, and the effect is positive but insignificant for the basic PCA score. The mean wealth score is between 5 and 10 per cent higher at the top of the distribution.

Figure 9 uses an alternative method to measure impact of reservation on households at the top of the wealth distribution - using NAs, it compares improvements at only the very top decile with improvements across a greater set of deciles. The estimates for improvement are arrived at in the following manner: first, we rank all households by their PCA scores. Then, we restrict our sample to only those households beyond specific percentiles (see X axis in Figure 9) in reserved and unreserved GPs. We then calculate the mean value of the NA score for these households and estimate the impact of reservation. It is this effect that is plotted in Figure 9 - this varies from 0.35-0.40 s.ds for the top decile and the effects are insignificant for populations below. The increasing trend in effect sizes is driven by the greater weight of the top decile in smaller samples. Finally, as a measure of inequality, we plot the difference in RSOA scores between the household at the 95th percentile in a GP and those at percentiles below. Following from our previous findings, we would expect this difference to be larger in reserved GPs and Figure 10 (and Tables 8, 9, 10 in the Appendix) affirms this: the 95th percentile household improves upon households below by 4- 14 %.

Are the households at the top of the SC distribution better off in material terms relative to their non-SC counterparts? Table 3 presents the results: the 95th percentile household of the SC distribution is catching up with households belonging to higher castes in reserved GPs. Column 1 shows that the 95th percentile SC household, while already better off than the 25th percentile non-SC household in unreserved GPs, is widening that gap. Column 4, on the other hand, shows that while, on average, the 95th percentile SC household is worse off than the 85th percentile non-SC household, this gap is reducing because of reservation. Column 6 shows that

such an effect is not visible for households below the top decile.

Table 3: Impact on Mukhiya's Sub-Caste's Wealth

	Impact of SC reservation on inequality (between SCs and non-SCs)					
	(1)	(2)	(3)	(4)	(5)	(6)
	95-25	**95-50**	**95-75**	**95-85**	**90-75**	**75-25**
SC Reservation	0.14*	0.12	0.17**	0.17**	0.12*	0.01
	(0.07)	(0.07)	(0.07)	(0.08)	(0.06)	(0.06)
/ Observations	7319.00	7319.00	7319.00	7319.00	7319.00	7319.00
District Fixed Effects	YES	YES	YES	YES	YES	YES
Lower Bandwidth	456.585	450.061	449.229	417.826	469.64	439.646
Upper Bandwidth	456.585	450.061	449.229	417.826	469.64	439.646
Block Clusters	YES	YES	YES	YES	YES	YES
Control Mean	2.521	1.652	.467	-.302	-.191	1.013

Dependent variable: *Difference in RSOA scores between the SC household at a particular percentile and a non-SC household at a particular percentile.* Additional covariates: Proportion of SCs in the Panchayat, Total Population of the Panchayat, Total SCs in the Panchayat, whether reserved for females, whether reserved for OBCs, Distance to nearest town, Distance to district centre, Total Area of GP. Standard errors are clustered at the block level.*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

5.3.3 Co-ethnic Targeting

Using data on surnames of the Mukhiya and the household head[13], we attempt to test for the presence of co-ethnic targeting. One implication of this approach towards identifying coethinicity is that we are unable to perform the match for most woman Mukhiyas, since they go by the generic second-name *Devi*[14].

Even in the case of men, surnames are, of course, an imprecise measure of coethnicity. Multiple sub-castes could employ the same surname. Consequently, multiple surnames could map on to the same sub-caste. For instance, the surname *Kumar* is prevalent across the caste hierarchy. Therefore, *Paswans* could go by the surname *Paswan* or *Kumar*. In this specific instance, we deal with this issue by simply dropping the surname *Kumar* from our sample - of Mukhiyas and households - altogether.

These fears are somewhat mitigated by the fact that within a GP, it is unlikely that, in the case of a match between surnames of the Mukhiya and the household head, the two belong to different sub-castes. It is more likely that some other co-ethnic households are excluded, because they have a different surname. This implies that while we may only be capturing a sub-set of coethnic households, we almost never capture the wrong ones[15]. In our data, the

[13]In the case of households headed by women, we use father's name of the household head

[14]We do not have data on the surname of the father/spouse of the woman Mukhiyas

[15]Note, also that, our search for surname matches is only within SC households - so the subset of sub-castes is

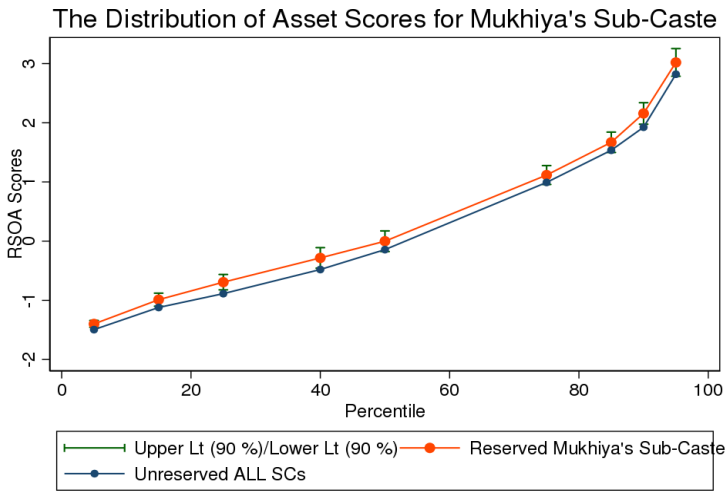


Figure 11: Figure plots the distribution of PCA+ scores for SCs belonging to Mukhiya's sub-caste in reserved GPs and SCs in unreserved GPs. We use RSOA scores in this graph. The estimate for the score in the reserved GP is plotted as the sum of the mean score for the unreserved GPs around the cut-off and the RD estimate. District Fixed effects are included in all regressions and additional GP-specific controls are added. All standard errors are clustered at the Block level.

Mukhiya's sub-caste has a median size of 25 % of the SC population. Thus, we seek refuge in the geographical smallness of a GP and forge forward with our analysis.

5.3.4 Mukhiya's sub-caste relative to ALL SCs

First, we take the distribution of asset scores for members of the Mukhiya's own sub-caste in reserved GPs and compare them to the average SC household in the unreserved GPs[16][17]. The distribution of scores is plotted in Figure 11 - the Mukhiya's sub-caste does significantly better at nearly every point in the distribution. Furthermore, we find that the Mukhiya's own sub-caste is over-represented in the top decile: members of the sub-caste are 49 % likelier to be present in the top decile of asset scores than below.

It is, however, unclear which way the causality runs: it could be that the richer sub-castes are likelier to have a Mukhiya elected from one of their own. Indeed, there is some evidence to suggest this happens on occasion - for reserved GPs, the median size of the Mukhiya's own sub-caste is 44 households less than the median size of the top-ranked sub-caste in terms of

small, especially within a GP.

[16]We use the average SC household in unreserved GPs, as compared to the Mukhiya's coethnic households in control because of two reasons: one, we want the control-group households to be similar across specifications; two, matching surnames to Mukhiya's name over a population six times as large as the SCs is a considerably harder exercise, especially because the SECC does not even collect information on broad-caste categories such as Other Backward Castes (OBCs).

[17]Throughout this analysis, we use RSOA scores to measure asset wealth

numbers. This could imply many things, but one interpretation of the fact is the following: factors beyond mere numbers - for instance, caste hierarchy or wealth - play a pivotal role in deciding who becomes Mukhiya in the first place.

Table 4: Impact on Mukhiya's Sub-Caste's Wealth

	Impact on Mukhiya's Sub-Caste					
	(1) RSOA Scores	(2) RSOA Rank	(3) PCA Score	(4) PCA Rank	(5) RSOA Score Below Median	(6) PCA Score Below Median
SC Reservation	0.16*	0.12	0.08	0.17**	2.27***	0.24**
	(0.09)	(0.09)	(0.08)	(0.09)	(0.09)	(0.10)
Observations	6552.00	6552.00	6552.00	6552.00	6552.00	6552.00
District Fixed Effects	YES	YES	YES	YES	YES	YES
Lower Bandwidth						
Upper Bandwidth						
Block Clusters						

Dependent variable: *Mean improvements in Mukhiya's sub-caste persons in s.d units.* Regression is run across only those GPs where we have surnames of the Mukhiya and these match with households within the GP. For unreserved GPs, we calculate the average rank/score of every sub-caste across all GPs within a band-width of 200 from the cut-off. RD is run using the optimal CCT bandwidth below and above the cut-off population of SCs within each Block. Regression controls for population normalized share of night-lights for the year 2005 for SC dominant village within a GP. Additional covariates: Proportion of SCs in the Panchayat, Total Population of the Panchayat, Total SCs in the Panchayat, whether reserved for females, whether reserved for OBCs, Distance to nearest town, Distance to district centre, Total Area of GP. Standard errors are clustered at the block level.*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

5.3.5 Mukhiya's sub-caste relative to Mukhiya's sub-caste

To assuage some of these concerns, we attempt to compare like-with-like by restricting our sample to include only the Mukhiyas' sub-castes in unreserved GPs. We use the following method. Based on a sample of approximately 250 unreserved GPs closest to the cut-off , we calculate average asset-scores for sub-castes. Next, within each GP, we rank all sub-castes by asset-wealth. Above the cut-off, for each GP, we first calculate wealth-score for the all sub-castes and then calculate the rank of Mukhiya's sub-caste. Now, for every reserved GP, we calculate a rank-difference, i.e difference in rank of the sub-caste of the Mukhiya and the average rank of the same sub-caste across unreserved GPs. We perform a similar exercise for wealth-scores too. We test to see if reservation impacts wealth-scores and ranks. Intuitively, it is easy to see that improvements in wealth-scores are easier to achieve than those in wealth-ranks, since the latter involves improvements sufficient to overtake another sub-caste.

As Table 4 shows, the rank of the Mukhiya's subcaste rises by 0.12-0.17 sds. The effect is stronger and significant at the 5 % l.o.s for ranking based on PCA scores. We also see a significant increase of 0.16 s.d in the RSOA wealth-score of the Mukhiya's sub-caste. These results suggest to us that while reservation results in richer sub-castes being elected in the first place, it is possible for them to further improve their standing by increasing their asset-wealth and caste-ranking.

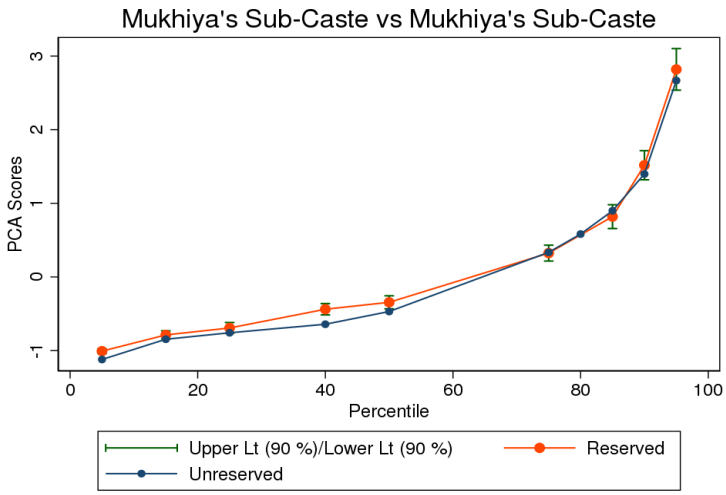


Figure 12: Figure compares Mukhiyas' sub-castes' asset scores in reserved GPs against their counterparts in unreserved GPs. We plot PCA scores. The estimate for the score in the reserved GP is plotted as the sum of the mean score for the unreserved GPs around the cut-off and the RD estimate. District Fixed effects are included in all regressions and additional GP-specific controls are added. All standard errors are clustered at the Block level.

5.3.6 Targeting within-own sub-caste

The analysis in the previous section restricted itself to mean improvements. We can, of course, extend this to improvements across the entire distribution. In other words, rather than ask 'do own-caste members benefit from reservation?', we can ask 'who among own-caste members benefit?'. Figure 12 performs this exercise, plotting a distribution of PCA scores for the Mukhiya's sub-caste in reserved GPs against their mirrors in unreserved GPs. While the Mukhiya's sub-caste performs significantly better below the median, we find, somewhat surprisingly, that these households are only marginally better off in the upper half of the distribution. Columns 5 and 6 of Table 4 reaffirm what we see in the Figure: depending on the scoring method we use, own sub-caste households in the bottom half of the distributions in reserved GPs are between 0.23 and 2.27 s.ds better off than their counterparts in unreserved GPs.

The results thus far indicate that reservation for SCs plays out differently in the space of public goods and private assets. This may be because private assets can be targeted finely, whereas public goods cannot. Another explanation is related to the nature of the private assets the SECC collects - improvements in well-being at the lower end of the distribution could show up in increased purchase of relatively cheaper goods (bicycle, footwear, clothing etc) that we do not observe.

6 Re-election Incentives

A natural question to ask is the following: if sub-castes are heterogeneous, spill-overs non-trivial and private goods allow for fine targeting, then what other factors could incentivize targeting of public goods towards *all* SCs? An explanation often cited in the literature pertains to re-election incentives. We exploit the yearly availability of village-level night-lights data to provide some evidence that suggests this.

As mentioned previously, in our data, Mukhiyas come to power in 2006 for a five-year-term with, for reasons mentioned previously, negligible re-election incentives. In 2009, however, the law was amended to freeze the reservation status of GPs for another term. This meant that for SC-reserved GPs, while fresh elections would be held in 2011, only SCs would contest.

The implications of this change in the law were three-fold: *first*, incumbent SC Mukhiyas had, all of a sudden, strong re-election incentives[18]. Standard re-election models would predict that this implied the incumbent SC Mukhiya would exert greater effort. *Second*, given that only SCs can compete in the subsequent election, a standard Downsian framework would predict targeting of resources towards SCs. *Third*, the timing of the law-change implies we should see this effect post-2009.

In Figure 13, we plot the share of night-lights emanating from the SC-dominant village by year. As can be seen, the share hovers around 1 in the unreserved GPs: in other words, insofar as night-lights are a proxy for economic activity, this suggests to us that there is no bias against or towards SCs in unreserved GPs. However, in reserved GPs, we see that the share of night-lights rises to be significantly above that in unreserved GPs only for the years 2009-2011. The fact that we do not see an increase in share of night-lights for the period 2014-16 i.e the years leading up to the subsequent election, where reservation status would change, is exactly in line with what the theory would predict. A caveat is in order here: the lights-data has been put together using two separate datasets. Hence, the years 2014 onwards may not necessarily be comparable to those before.

[18]One could argue that the freezing of reservation status of GPs would increase re-election incentives in unreserved GPs too. However, we have reasons to believe this effect wouldn't be as strong as in SC-reserved GPs. Among the non-SC reserved GPs, GPs could either be unreserved or reserved for OBCs. All these castes rank higher than SCs in the caste hierarchy and are likelier to be wealthier too. Furthermore, they are likely to be more numerous. Thus, unless blocked because of a reservation status change in favour of SCs, the incumbent Mukhiyas are likelier to be elected *ex ante* - i.e in the absence of a freezing of reservation status – than their SC counterparts.

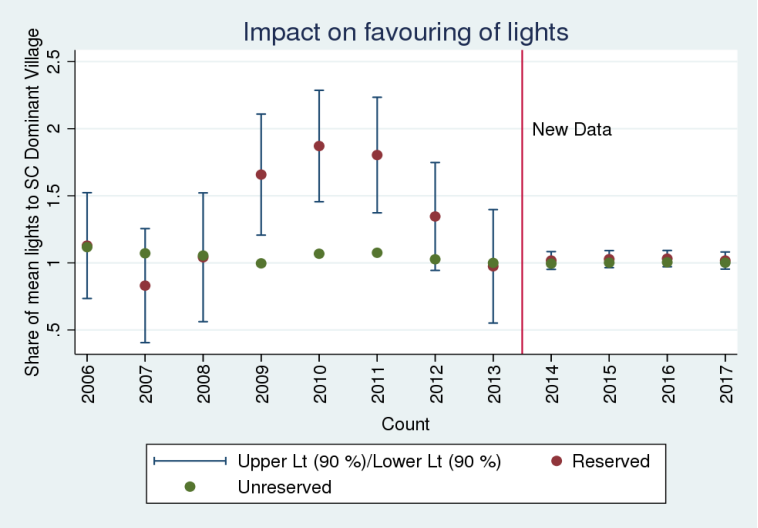


Figure 13: Figure plots the population normalized share of night-lights emanating from the SC dominant village within a GP by year. We drop extreme observations that may bias results. We control lights share for 2005. From 2013 onwards, we use new, more granular night-lights data released by NASA. Hence results may not be comparable.

7 Discussion

The paper presents a series of results, linked to the provision and targeting of public and private goods towards SCs. In this section, we discuss possible hypotheses explaining some of the findings.

Our paper has the following results: despite SC Mukhiyas coming from observably worse backgrounds, reservation for SCs seems to have no impact on mean outcomes. However, it significantly impacts targeting of public goods and, to a lesser extent, private assets, orienting provision towards SCs. Targeted provision is not uniform: economic activity in SC-dominant villages, as measured by night-lights, seems to take off only when presented with significant re-election incentives and private assets are targeted towards households lying in the top decile of the population. Furthermore, there is some evidence of targeting of private assets towards the Mukhiya's own sub-caste.

Targeting of public goods towards SCs has a reasonably straightforward explanation: under some mild assumptions, one can theoretically show that a modified version of the Osborne-Slivinksy (1996) model predicts that reservation biases outcomes in favour of the constituency of voters for whom reservation occurs (see Duflo & Chattopadhyay (2004)). The intuition rests on the fact that, insofar as preferences of the reserved group - SCs here - are distinct from those

in the unreserved group, an SC Mukhiya will want to favour his or her own kind.

On private asset targeting, the fact that we see improvements only at the top could merely suggest a problem with our data. One could argue that the specific set of assets and indicators we observe are better at measuring improvements at the top as opposed to below. Note, however, that there is at least one instance of us being able to measure differences at the bottom of the distribution using our data: when we compare Mukhiya's sub-caste with all SCs (see Figure 11), the improvements are significant, despite not being too large.

An oft-cited interpretation for these results is elite capture. Our data does suggest that socio-economically better off sub-castes are likelier to throw up winning candidates. They are also over-represented in the top-decile of asset scores. It may only be natural that they corner resources for their own. To be sure, a version of this scenario plays out, with improvements in both scores and ranks of the Mukhiya's own sub-caste. This may, however, only be a part of the story: our work indicates - although not in a directly causal manner - that within the Mukhiya's own sub-caste, improvements occur at the bottom and not necessarily at the top.

Another interpretation is that this is a "class" story: when there is a profusion of sub-castes, it is likely that there are distinct groups of elites and they cooperate to capture resources. We cannot rule out this story, since it is hard to create suitable comparison groups for the various-Mukhiya sub-castes. Instead, we rely on indirect evidence: since households in the top decile are better off and it is unclear that the Mukhiya's sub-caste elite do better than their counterparts in unreserved GPs, it must be the case that the elites from other sub-castes must be doing better than their counterparts for our results to hold.

If, indeed, it is the case that elite households are better off across sub-castes, then this could also be interpreted as a re-election strategy: since resources are sparse, buying out elites within a sub-caste could be a cheaper way of ensuring votes from these sub-castes than targeting resources at larger groups of poorer voters. Furthermore, since Mukhiya candidates are likelier to emerge from elite households, this could be a way to quash potential competition. Finally, by ensuring that the poor in one's own-sub-caste are better off, these Mukhiyas - who are likely to form the elite within their sub-caste - ensure that they reward their core vote-base. Indeed, this fits well with the re-election interpretation of public goods provision too.

One explanation for the non-negative effect of reservation on provision of public goods is

that age, education, income and experience are factors that do not matter for public good provision. Indeed, Afridi, Iversen and Sharan (2017) show that the knowledge gap between men-and-women is temporary and women leaders catch-up by the end of their tenure.

We run two tests to look for linkages between these characteristics and public good provision. Our first test involves controlling for age, education and income of the Mukhiya in the RD specification measuring impact of reservation on public good provision: controlling for these factors does not affect our results at all. Second, when we run an OLS on the entire sample, looking to associate Mukhiya characteristics with provision of public goods, we see that neither age nor being literate nor yearly income are significantly correlated with public good provision[19].

8 Conclusion

A policy of mandated political reservation could potentially create winners and losers. This paper provides evidence on both across-group and within-group members who fall under these two broad categories. It complicates the dominant narrative in the literature that categorizes the impact of reservation into equity-improving and efficiency-improving, by delving more deeply into within-group inequality and targeting of partially excludable local public goods.

Political reservation for SCs in Bihar, despite throwing up less-suitable candidates along a series of observable dimensions, does not result in worse outcomes overall, or for SCs themselves. Indeed, more public goods are targeted towards SCs and economic activity, as proxied by night-lights, seem to increase in SC-dominant villages within a GP. On the other hand, the private wealth benefits of reservation for SCs seem to show up only beyond the top decile and these elite SCs seem to gain on non-SC households. We find some preliminary evidence of clientelism by the incumbent Mukhiya who seems to favour their own-sub-caste, but the clientelism is progressive.

Our results also point towards re-election incentives being important for distributive justice. SCs in Bihar have a very small chance of being re-elected in the absence of reservation and, therefore, the results could play out differently, had reservation not been frozen, allowing incumbents to run a second time against a diminished pool of co-caste candidates.

[19] Another possible reason could be that the size of the pie is a decision taken by authorities higher up in the administrative hierarchy, but the sharing of the pie is in the hands of the Mukhiya. A deeper analysis of the negotiations between the Mukhiya and those above is beyond the mandate of this paper.

A Tables

A.1 Optimal BW

Table 5: Impact of Reservation on RSOA scores

	Impact of SC reservation on SCs across the distribution								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	SC 5	**SC 15**	**SC 25**	**SC 50**	**SC 75**	**SC 85**	**SC 90**	**SC 95**	**SC 99**
SC Reservation	0.03	0.02	-0.02	0.04	0.02	-0.00	0.09	0.13*	0.06
	(0.03)	(0.04)	(0.03)	(0.05)	(0.05)	(0.06)	(0.06)	(0.07)	(0.10)
Observations	7469.00	7469.00	7469.00	7469.00	7469.00	7469.00	7469.00	7469.00	7469.00
Mean / BW	.237 / 497.399	.68 / 480.918	.9550000000000001 / 458.168	1.458 / 436.699	2.286 / 476.291	2.774 / 432.512	3.122 / 463.222	3.783 / 465.178	5.52 / 445.259

Dependent variable: Impact of reservation on the RSOA score of the average Xth percentile household in a GP. RD is run using the optimal CCT bandwidth. Additional covariates: Proportion of SCs in the Panchayat, Total Population of the Panchayat, Total SCs in the Panchayat, whether reserved for females, whether reserved for OBCs, Distance to nearest town, Distance to district centre, Distirct Fixed Effects are added. Total Area of GP. Standard errors are clustered at the block level.*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table 6: Impact of Reservation on PCA scores

	Impact of SC reservation on SCs across the distribution							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	SC 5	**SC 15**	**SC 25**	**SC 50**	**SC 75**	**SC 85**	**SC 90**	**SC 95**
SC Reservation	0.01	-0.00	-0.01	-0.01	-0.01	0.01	0.09	0.13
	(0.01)	(0.02)	(0.01)	(0.03)	(0.04)	(0.06)	(0.08)	(0.12)
Observations	7469.00	7469.00	7469.00	7469.00	7469.00	7469.00	7469.00	7469.00
Mean / BW	-1.044 / 464.303	-.873 / 477.545	-.752 / 476.301	-.421 / 460.314	.267 / 524.455	.789 / 503.533	1.281 / 486.136	2.477 / 479.513

Dependent variable: Impact of reservation on the PCA score of the average Xth percentile household in a GP. RD is run using the optimal CCT bandwidth. Additional covariates: Proportion of SCs in the Panchayat, Total Population of the Panchayat, Total SCs in the Panchayat, whether reserved for females, whether reserved for OBCs, Distance to nearest town, Distance to district centre, Distirct Fixed Effects are added. Total Area of GP. Standard errors are clustered at the block level.*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table 7: Impact of Reservation on PCA+ scores

	Impact of SC reservation on SCs across the distribution							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	SC 5	**SC 15**	**SC 25**	**SC 50**	**SC 75**	**SC 85**	**SC 90**	**SC 95**
SC Reservation	0.01	-0.04	0.03	0.00	0.03	0.03	0.12	0.19*
	(0.02)	(0.03)	(0.05)	(0.07)	(0.07)	(0.08)	(0.08)	(0.10)
Observations	7469.00	7469.00	7469.00	7469.00	7469.00	7469.00	7469.00	7469.00
Mean / BW	-1.741 / 481.014	-1.403 / 485.725	-1.113 / 452.175	-.243 / 497.233	.8280000000000001 / 471.68	1.402 / 476.919	1.817 / 482.554	2.643 / 479.101

Dependent variable: Impact of reservation on the PCA+ score of the average Xth percentile household in a GP. RD is run using the optimal CCT bandwidth. Additional covariates: Proportion of SCs in the Panchayat, Total Population of the Panchayat, Total SCs in the Panchayat, whether reserved for females, whether reserved for OBCs, Distance to nearest town, Distance to district centre, Distirct Fixed Effects are added. Total Area of GP. Standard errors are clustered at the block level.*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table 8: Impact on Difference from 95th Percentile(RSOA)

	Impact of SC reservation on SCs across the distribution					
	(1)	(2)	(3)	(4)	(5)	(6)
	95-5	**95-15**	**95-25**	**95-50**	**95-75**	**95-85**
SC Reservation	0.10	0.11	0.15**	0.09	0.11*	0.12**
	(0.08)	(0.08)	(0.07)	(0.07)	(0.06)	(0.05)
Observations	7469.00	7469.00	7469.00	7469.00	7469.00	7469.00
Mean / BW	3.543 / 469.073	3.101 / 470.375	2.823 / 463.961	2.323 / 448.071	1.498 / 465.707	1.001 / 468.257

Dependent variable: Impact of reservation on the difference between the RSOA score of the average 95th percentile household in a GP and the average Xth percentile household in a GP. RD is run using the optimal CCT bandwidth. Additional covariates: Proportion of SCs in the Panchayat, Total Population of the Panchayat, Total SCs in the Panchayat, whether reserved for females, whether reserved for OBCs, Distance to nearest town, Distance to district centre, Distirct Fixed Effects are added. Total Area of GP. Standard errors are clustered at the block level.*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table 9: Impact of Difference from the 95th Percentile (PCA+)

	Impact of SC reservation on SCs across the distribution					
	(1)	(2)	(3)	(4)	(5)	(6)
	95-5	**95-15**	**95-25**	**95-50**	**95-75**	**95-85**
SC Reservation	0.18*	0.23**	0.16	0.19*	0.16**	0.16**
	(0.10)	(0.10)	(0.10)	(0.10)	(0.08)	(0.07)
Observations	7469.00	7469.00	7469.00	7469.00	7469.00	7469.00
Mean / BW	4.385 / 469.941	4.049 / 465.091	3.757 / 460.099	2.885 / 486.51	1.816 / 501.316	1.243 / 475.533

Dependent variable: Impact of reservation on the difference between the PCA+ score of the average 95th percentile household in a GP and the average Xth percentile household in a GP. RD is run using the optimal CCT bandwidth. Additional covariates: Proportion of SCs in the Panchayat, Total Population of the Panchayat, Total SCs in the Panchayat, whether reserved for females, whether reserved for OBCs, Distance to nearest town, Distance to district centre, Distirct Fixed Effects are added. Total Area of GP. Standard errors are clustered at the block level.*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table 10: Impact of Difference from the 95th Percentile (PCA)

	Impact of SC reservation on SCs across the distribution					
	(1)	(2)	(3)	(4)	(5)	(6)
	95-5	**95-15**	**95-25**	**95-50**	**95-75**	**95-85**
SC Reservation	0.12	0.13	0.14	0.14	0.14	0.12
	(0.12)	(0.12)	(0.12)	(0.11)	(0.10)	(0.09)
Observations	7469.00	7469.00	7469.00	7469.00	7469.00	7469.00
Mean / BW	3.52 / 479.391	3.349 / 478.681	3.228 / 478.948	2.895 / 477.852	2.213 / 477.014	1.688 / 477.129

Dependent variable: Impact of reservation on the difference between the PCA score of the average 95th percentile household in a GP and the average Xth percentile household in a GP. RD is run using the optimal CCT bandwidth. Additional covariates: Proportion of SCs in the Panchayat, Total Population of the Panchayat, Total SCs in the Panchayat, whether reserved for females, whether reserved for OBCs, Distance to nearest town, Distance to district centre, Distirct Fixed Effects are added. Total Area of GP. Standard errors are clustered at the block level.*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

A.2 50 % Optimal BW

Table 11: Impact of Reservation on RSOA scores (Half BW)

	Impact of SC reservation on SCs across the distribution				
	(1)	(2)	(3)	(4)	(5)
	SC 25	**SC 50**	**SC 75**	**SC 90**	**SC 95**
SC Reservation	0.01	0.09	0.04	0.10	0.13
	(0.04)	(0.06)	(0.07)	(0.08)	(0.10)
Observations	7345.00	7345.00	7345.00	7345.00	7345.00
District Fixed Effects					
Lower Bandwidth					
Upper Bandwidth					
Block Clusters					
Control Mean					

Dependent variable: Impact of reservation on the RSOA score of the average Xth percentile household in a GP. RD is run using *half* the optimal CCT bandwidth. Additional covariates: Proportion of SCs in the Panchayat, Total Population of the Panchayat, Total SCs in the Panchayat, whether reserved for females, whether reserved for OBCs, Distance to nearest town, Distance to district centre, Distirct Fixed Effects are added. Total Area of GP. Standard errors are clustered at the block level.*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table 12: Impact of Reservation on PCA + scores (Half BW)

	Impact of SC reservation on SCs across the distribution				
	(1)	(2)	(3)	(4)	(5)
	SC 25	**SC 50**	**SC 75**	**SC 90**	**SC 95**
SC Reservation	0.05	0.02	0.07	0.11	0.15
	(0.06)	(0.09)	(0.10)	(0.10)	(0.12)
Observations	7345.00	7345.00	7345.00	7345.00	7345.00
District Fixed Effects					
Lower Bandwidth					
Upper Bandwidth					
Block Clusters					
Control Mean					

Dependent variable: Impact of reservation on the RSOA score of the average Xth percentile household in a GP. RD is run using *half* the optimal CCT bandwidth. Additional covariates: Proportion of SCs in the Panchayat, Total Population of the Panchayat, Total SCs in the Panchayat, whether reserved for females, whether reserved for OBCs, Distance to nearest town, Distance to district centre, Distirct Fixed Effects are added. Total Area of GP. Standard errors are clustered at the block level.*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table 13: Impact of Difference from the 95th Percentile (PCA+) - Half BW

	Impact of SC reservation on SCs across the distribution					
	(1)	(2)	(3)	(4)	(5)	(6)
	95-5	**95-15**	**95-25**	**95-50**	**95-75**	**95-85**
SC Reservation	0.14	0.18	0.11	0.15	0.10	0.13
	(0.12)	(0.13)	(0.13)	(0.12)	(0.11)	(0.09)
Observations	7345.00	7345.00	7345.00	7345.00	7345.00	7345.00
District Fixed Effects						
Lower Bandwidth						
Upper Bandwidth						
Block Clusters						
Control Mean						

Dependent variable: Impact of reservation on the difference between the RSOA score of the average 95th percentile household in a GP and the average Xth percentile household in a GP. RD is run using *half* the optimal CCT bandwidth. Additional covariates: Proportion of SCs in the Panchayat, Total Population of the Panchayat, Total SCs in the Panchayat, whether reserved for females, whether reserved for OBCs, Distance to nearest town, Distance to district centre, Distirct Fixed Effects are added. Total Area of GP. Standard errors are clustered at the block level.*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$