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Status Inequality and Public Goods

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Abstract

The association between social diversity and state-provided public goods is a central political economy problem. This paper highlights how status inequality is a distinct political channel when diverse groups are spatially segregated. Social status impacts citizens' ability to petition the state successfully and modulates state favoritism or discrimination. We use data from nearly 600,000 Indian villages to show that caste-based status inequality modifies the effect of diversity on local public goods politics. Diversity only negatively impacts local public goods in units where lower-caste groups are numerically preponderant. Such diversity deficit is further amplified when higher-caste groups numerically dominate larger administrative units and lower-caste groups are segregated.

Key words: Spatial Segregation, Partial Decentralization, Distributive Politics, India

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Abstract

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Introduction

The negative association between social diversity and public goods is at the heart of political economy scholarship. Primary channels include varying group preferences, coordination failures, the inability to sanction out-group members, or even outright strife (Alesina et al., 1999; Habyarimana et al., 2007). Recent empirical evidence, however, has shown that this diversity penalty is not robust in sub-national settings (Gerring et al., 2015; Bazzi et al., 2019; Montalvo and Reynal-Querol, 2021; Kustov and Pardelli, 2018). The effect of diversity on state-provided public goods is contingent on the state-society interplay between citizen mobilization and the state response to such mobilizations (Chandra and Wilkinson, 2008; Singh and vom Hau, 2016). A strong regional identity that binds diverse social groups (Singh, 2016), the use of state institutions as an arbiter leading to increased state capacity (Charnysh, 2019), a reduction in elite capture (Cruz et al., 2020), all help ameliorate any adverse effects of diversity. The spatial segregation of diverse groups can also engender competition among neighborhoods (Tajima et al., 2018) that improves public goods outcomes. However, segregation also poses challenges for community mobilization (Trounstine, 2016), and facilitates group favoritism or discrimination by state elites leading to an uneven spatial distribution of public goods (Ejdemyr et al., 2018).

In this paper, we argue that status inequality is a distinct channel which moderates the local-level group mobilization efforts and top-down assignment decisions around the placement of public goods. We develop a "status refraction" theory in which status inequality acts as a refracting lens that modifies the established social diversity and spatial segregation channels of local public goods. Our theory accounts for the depressed availability of public goods for low-status groups in a partially decentralized political system where the demand (community mobilization) and supply (top-down state provisioning) aspects of public goods politics criss-cross multiple administrative tiers of the state. We build upon the idea that lower levels of accountability which characterizes public administration in developing countries confers considerable discretionary powers to the decision-makers to indulge in in-group

favoritism and out-group discrimination (Bardhan, 2002; Wantchekon, 2003). In a diverse but status-unequal society, we argue, that the spatial distribution of high-status groups modulates the effect of diversity and segregation on local public goods.

While decentralization of governance encourages claim-making through civic mobilization opportunities and local competition even within socially diverse local units (Tajima et al., 2018), marginalized groups are less successful in the presence of top-down discrimination (Pande, 2020). Spatial segregation abets such clientelistic political behavior through strategic placement of public goods to maximize electoral benefits, demonstrate group power, or both (Ejdemyr et al., 2018; Harris and Posner, 2019). Our theory, therefore, posits that local units with a numerical dominance of low-status group — regardless of the diversity levels — leads to a *status deficit*. Diversity emerges as an impediment to public goods only when the low-status groups are in a numerical majority. While strong community mobilization can potentially overcome this deficit, low-status groups lack the required political *mobilization agency* when they reside in a local unit spatially embedded in a larger administrative unit with a high-status majority. Identity-based residential sorting, however, makes these status differences more salient and leads to a *segregation penalty* for the low-status groups. Segregated units numerically dominated by low-status groups are less likely to mobilize claims successfully with the upper-tier state administration, with a numerical majority of high-status groups.

With a long history of caste-based status inequality and a partially decentralized public-goods regime, rural India is an attractive empirical site to test the status refraction theory. The primary locus of status inequality in rural India demarcates the formerly "untouchable" caste groups (administratively classified as the "Scheduled Castes" or SCs) and the indigenous tribal groups (Scheduled Tribes or STs) from the rest of the population. SCs and STs are India's most marginalized social groups occupying the lowest rung on all socio-economic indicators, despite constitutionally mandated protection and affirmative action quotas in elections, employment, and education. While the decentralized public administration sys-

tem allows rural communities in India to mobilize and make successful public goods claims on the state (Krishna, 2002; Sanyal and Rao, 2018; Kruks-Wisner, 2018), there are also ample opportunities for discretionary behavior associated with clientelistic party politics (Bohlken, 2018), and in-group favoritism (Besley et al., 2004; Munshi and Rosenzweig, 2015; Lee, 2018), which perpetuates marginalized groups' disempowerment. As a result, the effect of historical status inequality in a resource constrained polity is likely to be refracted across multiple administrative channels resulting in spatially unequal distribution of local public goods.

We test our theory using data on more than 20 state-provided public goods from all Indian villages ($\approx$ 830 million rural residents in nearly 600,000 villages) from the last available census, 2011. Consistent with our theory, we find that a village where low-status groups numerically dominate is more likely to suffer from a public goods deficit. The likelihood of such a deficit increases when a village is located within a sub-district where higher-status groups are numerically dominant. We do not find such a penalty when higher-status groups numerically dominate. While we do not make causal claims, we undertake multiple robustness checks to ensure our results remain stable even after including a large set of covariates across different specifications corresponding to the complexities of public goods politics in India.

This paper contributes to the burgeoning interdisciplinary scholarship on the economic and political implications of identity-based group divisions by emphasizing status inequality as an important channel–distinct from diversity and residential segregation–for explaining spatial inequality in local public goods. Combining theoretical insights on group power from the fields of sociology (Ridgeway, 2019, 2014), social psychology (Ridgeway, 2019, 2014; Sidanius and Pratto, 2001), and ethnic politics in "ranked" societies (Horowitz, 1985), we inform the political economy scholarship (Banerjee et al., 2007) on the need to incorporate status inequality in its formulations. We further build upon the recent revisions to the diversity-development association (Pardelli and Kustov, 2022; Charnysh, 2019; Cruz et al.,

2020; Tajima et al., 2018; Singh, 2015) which underscores the primacy of the nature of state-society interactions (Singh and vom Hau, 2016) in influencing the demand (the ability of groups to mobilize) as well as the supply (state allocation) of public goods.

In the Indian context, the present study improves our current understanding on how caste affect public goods placement (a field of inquiry initiated by the seminal work of Banerjee and Somanathan (2007)) by showing that the presence of diverse caste groups in a region also manifests itself in the form of residential sorting and status differences characterizes everyday durable inequality. Contrary to the conventional wisdom, our findings suggest that it is status inequality, and not diversity, which reduces the supply of public goods in villages where the low-status groups are in a majority. We show that segregation further depresses the ability of public goods supply despite greater likelihood of in-group cooperation pointing towards institutional discrimination inherent in the top-down administrative system. Analyzing data at the most elementary administrative unit – a village – in the country allows us to unpack the local politics of public goods placement, hitherto ignored in the scholarship. Our theoretical formulation further improve upon the extant scholarship by engaging with the 'partially' decentralized nature of India's public administration (Bardhan, 2002) in which public goods placement is determined by a combination of community-driven demand mobilization and state-determined supply decision. Our findings also contribute to emerging body of empirical evidence around how despite greater active claim-making on the state (Krishna, 2002; Sanyal and Rao, 2018; Kruks-Wisner, 2018) and enhanced political agency of the oppressed caste groups through local democratization (Chauchard, 2017; Dunning and Nilekani, 2013), caste-based discrimination continue to be rife in rural India (Munshi and Rosenzweig, 2015; Lee, 2018; Anderson, 2011).

Status Inequality amidst Diversity and Segregation

The political economy scholarship earmarks the strength of collective action in a diverse society as responsible for public goods creation (Alesina and La Ferrara, 2005; Habyarimana

et al., 2007). State-driven public groups provision in resource constrained environment, however, is determined by a more complex state-society relationship (Singh and vom Hau, 2016) which includes the nature of spatial competition as generated by residential segregation (Tajima et al., 2018) and the political preferences of state elites responsible for the supply of public goods Ejdemyr et al. (2018). We posit here that the mismatch between "bottom-up" community demand and 'top-down' state-sanctioned supply of public goods within a multi-scalar decentralized public administration structure–common in most developing countries–is particularly acute when the diverse groups are also unequal in status.

Status Inequality as Political Power

In a diverse society, not all social groups are equal. Often, some groups have a higher social status than others. Status, in the short run, may be earned by economic prosperity, social advancement, or political capture but made 'durable' in the organization structure of a society through highlighting and maintenance of social differences and esteemed cultural superiority of one group over the other (Ridgeway, 2014). In 'ranked' ethnic societies (Horowitz, 1985), such status inequality emerges from long-rooted psychological and social dominance of one group over others which translates to political and economic power (Sidanius and Pratto, 2001; Pratto et al., 2006). Status inequality, therefore, leads to a differential "systematic power in community decision making" (Stone, 1980) and influence over the state apparatus. The cultural order, including mythologies, are used to legitimize such ascriptive status differences resulting in the persistence of historical status ranks and the dominant group's hegemony, commonplace in regions with histories of slavery, feudalism, aristocracy, colonialism, or an entrenched caste hierarchy.[1] As a result, the high status groups have a disproportionate influence over the bureaucracy and civil society even when they do not officially hold political office.

It is important to note that status inequality, as we theorize here, is distinct from between-

[1] Apart from India's caste system, examples of such marginalization include African American descendants of chattel slavery and Romas (Anderson and Massey, 2001; Stewart, 2013).

group inequality (Baldwin and Huber, 2010; Alesina et al., 2016; Houle et al., 2019; Huber and Suryanarayan, 2016) which captures material differences in income, asset, or quality of life of different groups vis-a-vis the others but status inequality derives its strength from the psychological dominance which influences overall social norms and cooperative behavior within and between groups (Pettigrew and Tropp, 2006; Waring and Bell, 2013). Status inequality, therefore, captures a more 'durable' form of inequality between groups through the persistence of status beliefs in everyday social relations and thereby the organizations of resources and power in a society (Ridgeway, 2019).[2] Differences in status, as a result, endows high-status groups with residual authoritarianism, even within a democratic polity, and the state-society relations are therefore characterized by "personalism, familism, pre-bendalism, clientelism, and the like" (O'Donnell, 1993). Institutionalized surveillance, discrimination, and punishment by high-status groups with power undermine collective action efforts by low-status groups (Barth, 1969; Sidanius and Pratto, 2001).

In the local politics of public where multiple layers of the state (from the federal to local governments) are responsible for local public goods provisioning, high status elites attempt to exercise their discretionary powers as a response (supply) to citizen mobilization and claims (demand) at each spatial scale in stark contrast to the Weberian-style rules-based egalitarian bureaucractic structure (Weber, 1978).[3] As result, even when 'collective action is about power and politics,' political outcomes such as the provision of public goods might ultimately depend upon 'who has the right to act' (Tilly, 1977, p. 12), and not surprisingly, it is the high status group.

Multi-scalar public goods politics

Recent public goods scholarship has recognized the multi-scalar nature of state-society interactions and shifted its focus from intra-unit diversity to inter-unit spatial segregation

[2]According to Ridgeway (2019), micro-level inequality across people belonging to different groups does not capture the macro-processes which perpetuate the "shared cultural status beliefs" about respect and esteem which underpin the relational group-level inequality in resources and power.

[3]Elite preference for in-group bias and out-group discrimination is a typical feature of developing countries. See Rugh and Trounstine (2011); Ejdemyr et al. (2018); Harris and Posner (2019); Besley et al. (2004, 2005).

(Ejdemyr et al., 2018; Tajima et al., 2018). The level of geographic aggregation has a strong impact on the association between public goods and social diversity because of the potentially varied patterns of local spatial segregation which not only creates its own politics but also creates issues of statistical inference (Bharathi et al., 2021a; Gerring et al., 2015; Bazzi et al., 2019; Bharathi et al., 2018). We focus on the local scale–the most elementary administrative unit–in a decentralized regime where multiple layers of the state are responsible for providing public goods while diverse communities, including local political elites, mobilize support — coordinate, petition, and lobby — for its favorable placement. Thus, public goods politics involves an intersection between "top-down" placement of local public goods (supply) and the local community mobilization (demand). The state's response to such demands for public goods in a diverse society can either be accommodating or exclusionary (Singh and vom Hau, 2016). We argue that when diverse social groups are not created equal, status inequality modifies or 'refracts' the state response (decided at a more aggregated spatial scale) to community efforts at mobilizing local public good demand much to the detriment of the low status groups.

As a motivation for our status refraction argument, consider the stylized demographic representation in Figure 1. The figure shows two social groups — "Blacks" and "Whites" — that are unequal in social status (with Whites clearly above Blacks on the status hierarchy totem). Blacks and Whites reside in two different counties, A and B, with four towns each. Perfect segregation characterizes each of the eight towns in Figure 1. Thus, intra-unit diversity measured as standard fractionalization is identically zero in each of the eight towns across two counties. Further, both counties also experience the highest possible level of inter-unit spatial segregation. The counties are involved in providing public goods in the towns under their jurisdictions. Our status refraction theory posits that the public goods outcomes in the two counties of Figure 1 are different despite the congruence in intra-unit diversity and inter-unit segregation. In particular, the Black residents who reside in the county demographically dominated by Whites (A) will have the poorest public goods outcome.

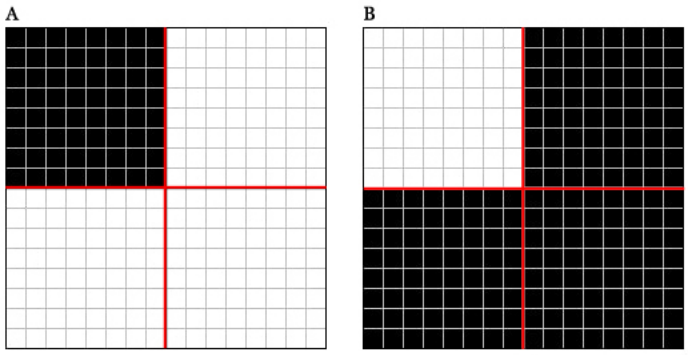

Figure 1: *Status Refraction*

We build on extant theories of public goods politics that jointly consider intra-unit diversity and inter-unit segregation, but are "status-blind" and do not distinguish between the demographic compositions within counties, A and B. Drawing on empirical data from Malawi, Ejdemyr et al. (2018) focus on the residual discretionary powers available to the elites to influence supply-side decisions. Inter-unit spatial segregation abets the strategic placement of local public goods in elites' co-ethnic neighborhoods.[4] On the demand side, Tajima et al. (2018) use data from Indonesia to show how inter-unit segregation facilitates greater public goods mobilization among co-ethnics. Such mobilizations engender a virtuous "spatial interdependence" competition between segregated units that increases the overall supply of public goods. We argue that status inequality is the key to a theory of public goods politics combining these supply and demand insights. Status inequality not only determines the extent of discretionary power available to elites on the supply side but also modulates the success of any demand-side mobilization.

Status Refraction Hypotheses

We propose three related but analytically distinct testable status refraction hypotheses to formalize our discussion of how status inequality modifies established channels of public

[4]On the broader detrimental effects of residential segregation on political polarization and reduced trust, see Rugh and Trounstine (2011) and Kasara (2013).

goods politics.

Status Deficit

Institutionalized forms of domination and marginalization are characteristic features of societies where status inequality is politically salient. It impinges on both in-group solidarity and out-group exclusion — two central mechanisms underlying the celebrated diversity deficit hypothesis. Incentives generated by costs of exclusion from resource-rich networks are at the heart of intra-group and inter-group cooperation. Inter-group cooperation can emerge in the presence of economic complementarities (Jha, 2013; Montalvo and Reynal-Querol, 2021) and potentially engender credible sanctioning mechanisms that are otherwise unavailable in a diverse society (Miguel and Gugerty, 2005). The costs of defection from a dominant-group consensus are prohibitive for the subordinate groups. However, this incentive architecture is conditional on status inequality (Hoff et al., 2011; Hoff and Pandey, 2006).

Socially dominant groups can better deploy their coercive arsenal when numerically preponderant. Such units can — if only through coercion — transcend barriers to collective action and overcome any potential diversity deficit. However, units with high concentrations of historically marginalized groups will experience a diversity deficit without such coercion channels. Thus, one of the central predictions of our theoretical framework is that the diversity channel for public goods is contingent on status inequality. We must observe a "status deficit," rather than a generic "diversity deficit."

> `Hypothesis 1 (Status Deficit Hypothesis):` *The negative association between diversity and public goods (diversity deficit) is limited to units where lower-status groups are in a numerical majority.*

Mobilization Agency

When the state provides public goods top-down, effective political mobilization requires sufficient political agency to petition an upper-tier administration. In a society characterized by status inequality and unequal distribution of political agency, not all demand mobilizations are equally potent. High-status groups have a "taste for discrimination" sustained and amplified by the unequal distribution of power (Becker, 1957). High-status groups can deploy their "active social capital" to solve inter-group coordination problems and access the state (Krishna, 2002).

Besides political marginalization, social dominance and discrimination are institutionalized through the impact of status inequality on group psychology (Sidanius and Pratto, 2001; Pratto et al., 2006). In a state-driven multi-scalar public goods regime, lack of political agency is particularly detrimental when a local unit numerically dominated by a low-status group is spatially embedded within a larger administrative and political unit with a high-status majority — for example, a black neighborhood in a white majority city. Public goods in such units are likely to be further repressed.

> `Hypothesis 2 (Agency Hypothesis):` *Public goods are further lowered in units where lower status groups are preponderant but are embedded in larger administrative units where higher status groups numerically dominate.*

Segregation Penalty

The impact of spatial segregation on public goods provision is theoretically contentious. When the state provides public goods in a "top-down" manner, segregation makes it easier for elected representatives to favor neighborhoods dominated by in-group constituents (Ejdemyr et al., 2018). As a direct corollary, spatial units dominated by out-group constituents can be subject to discrimination. Such discrimination (or favoritism) is especially rampant when spatial segregation results in increased political polarization and reduced social trust

(Kasara, 2013; Trounstine, 2016).

However, in a top-down multi-scalar system, segregation can also potentially ameliorate the negative impact of diversity. Segregated homogeneous units can better organize and politically articulate demand for public goods. Better public good provision in one segregated unit can trigger increased mobilization in other units, and this "sibling rivalry-like" effect can overcome diversity deficits in segregated regions (Tajima et al., 2018). However, such virtuous cycles are unlikely to fructify in a society characterized by pervasive status inequalities. Lack of political agency limits the successful advocacy efforts of low-status groups. Thus, spatial segregation dampens public goods when status inequality is politically salient.

`Hypothesis 3 (Segregation Penalty Hypothesis):` *Spatial segregation of diverse groups with unequal status ranks undermines the provision of public goods.*

Local Public Goods in Rural India

Extant public goods scholarship has not paid adequate attention to the role of multi-scalar administration in India. Governments at the federal (known in India as the central or the union government), state, and local levels all have direct and indirect roles in rural public goods provisioning. Federal and state governments incur rural public goods expenditure that percolates to districts, sub-districts, and finally to the lowest tier of representative government — the *Gram Panchayats*, or village councils that represent a small cluster of villages. Elected representatives at the *panchayat* level and those above in the administrative hierarchy possess residual discretionary powers to determine the allocation of public goods. The local government, however, has little financial autonomy and relies on local elites to petition the state above. Decentralization in India is, thus, "partial" at best (Bardhan, 2002). Given the substantial local spatial variation, studying public goods politics requires going beyond large sub-national aggregations such as states, parliamentary constituencies, or dis-

tricts.[5] These large aggregates conceal politically salient micro-ecology of local segregation and status inequality across caste groups, which is essential to understand how the supply and demand sides of public goods politics intersect.

Caste is the primary axis of status inequality that defines superordinate-subordinate relations in rural India (Srinivas, 1962; Beteille, 2012). The durability of the caste order foments "spiteful preferences" that inhibit collective action (Hoff and Pandey, 2006; Fehr et al., 2008). "Upper" caste groups exert a disproportionate influence on the state even when they are not formally in political control (Ahuja, 2019). Favoritism and discrimination across spatial scales characterize India's partially decentralized public goods regime. Dense clientelistic networks connect politics at the local, district, state, and national levels. The spatial distribution of status-unequal caste groups mediates in-group favoritism and out-group discrimination in these networks. Political elites at district and state levels are incentivized to appeal to a core in-group constituency through the targeted placement of public goods (Bohlken, 2018). This allows local elites to deploy public resources to maintain their clientelistic networks. Spatial inequality of public goods is often contingent on where the elected representative or her in-group constituents reside (Besley et al., 2004, 2005), and the demographic strength of high-status caste groups (Lee, 2018; Munshi and Rosenzweig, 2015). Thus, the ensuing local politics around public goods across the multi-scalar administration in rural India presents a fecund site to understand the interaction of status inequality and group diversity at multiple geographic scales.

[5] For prominent examples of such aggregate units of analysis, see Banerjee and Somanathan (2007); Singh (2015).

Data & Methods

Village-level Census Data

We use the latest available Indian decennial census data (2011) containing aggregate social group information for ≈ 830 million rural residents from 595,906 villages contained within 5,878 sub-districts to compute the measures of diversity, segregation, and status inequality. The Indian census demarcates the most significant status boundaries in rural India — Scheduled Castes (SCs), Scheduled Tribes (STs), and the residual "others" (OTH). Village level Census 2011 data is also used to construct measures of local public goods. The census village directory contains information on multiple variables regarding the existence of schools (primary, secondary, or higher), various kinds of health facilities, public infrastructure, and other essential public services like sanitation or piped water. We create four different public goods indices by aggregating twenty-two different individual public goods using the PCA (principal component analysis) method. The indices correspond to education, health, road, and sanitation facilities.[6]

We abstract away from the complexities of India's caste system, including an enormous diversity of caste groups (≈ 4,000 ascriptive endogamous *jati* groups). Our principal interest here is the "graded inequality" in status associated with the caste order (Ambedkar, 1987). SCs and STs are the most marginalized groups in India. The distinction between the SC-ST composite and others represents the psychological, social, and cultural demarcation of the historically "untouchable," and indigenous tribal groups from the rest of India's diverse social order. The boundary between "touchable" and "untouchable" groups, central to ascriptive status ranks, is also congruent with material inequality (Guru, 2009; Sarukkai, 2009; Jaaware, 2018).[7] The residual census category, "others" (OTH), also includes dominant upper caste groups alongside peasant groups that are administratively classified as "Other Backward Castes," or OBCs. The OBC groups are considerably more economically

[6] *Cf.* Appendix A for details.

[7] In Appendix Figure C.1, we show how SC and ST landownership lag others across all districts in India.

mobile and politically powerful than SC-ST groups despite electoral quotas for the latter (Hnatkovska et al., 2012; Deshpande and Ramachandran, 2017; Iversen et al., 2017), and the marginalized sentiments among SC-ST groups continue to persist (Kothari, 1995, pp. 20).[8]

Metrics

Fractionalization

To measure village-level diversity, we compute the workhorse fractionalization metric, FRA, using the population shares of the three census groups – SC, ST, and OTH:

$$FRA_i = 1 - \left(\sum_{\forall\, k \in i} \pi_{ik}^2 \right) \tag{1}$$

In Eq. 1, π_{ik} is the population share of sub-group k in village i. FRA_i represents the probability that two randomly selected individuals in village i belong to distinct sub-groups.[9]

[8] Arguably, any empirical study of rural India must account for the thousands of heterogeneous *jati* groups within the broad census aggregates. We do not use *jati* data from the 1931 census — the last time elementary caste group data was collected and tabulated — as a proxy for present-day diversity. We cannot be sure that the 1931 demography is consistent with current social diversity, and such use is predicated on assumptions that are not verifiable. For example, Banerjee and Somanathan (2007) assume that fertility rates and migration rates are uniform across groups (despite the intervening partition of the Indian subcontinent that precipitated one of the most significant migration events in modern history). The potential econometric biases from these untestable assumptions are more severe than any additional insights that we might glean by using 1931 *jati* data (Kelly, 2019). As discussed below, all our empirical models include district fixed effects, thus controlling for *jati* diversity at the district level — the highest spatial resolution at which the 1931 *jati* data is available (at the sub-district level, the tables combine caste and religion categories, and such data is not reported at the village level). We also test our main results using an alternate specification for segregation that allows us to use sub-district fixed effects and our results remain unaltered (Appendix Table G.4). More importantly, an adequate empirical test of the central predictions of our status refraction theory is contingent on the availability of high-resolution spatial data rather than detailed caste (*jati*) information. We do not include religion as a demographic axis, as our evidence comes from rural India. The primary religious cleavage in India — the conflict between Hindus and Muslims — is most salient in urban India (Varshney, 2003). However, in the online appendix, we use sub-district-level religion share data and find that our results are not altered (Appendix Table G.8).

[9] See Appendix figures B.4 and B.5 for empirical distributions of FRA_i.

Spatial Segregation

Spatial segregation is computed using the method proposed in Goodman and Kruskal (1954).

$$SEG_j = \sum_{\forall i \in j} \frac{n_i}{n_j} \left(1 - \frac{FRA_i}{FRA_j}\right) \tag{2}$$

For the sub-district j, the metric, SEG_j, represents the extent to which village-level fractionalization indices in sub-district j are different from the aggregate sub-district level fractionalization. In Eq. 2, n_i and n_j are populations of village i and sub-district j respectively.[10]

Status Refraction

We use the intuition underlying the stylized depiction in Figure 1 to formally represent the status refraction of village diversity — our primary variable of interest. We first define a "status refractor" (REF_{ij}) to account for the spatial distribution of diverse groups with differing status ranks for a village i located in sub-district j. We operationalize the status refractor, REF_{ij} as a categorical variable by comparing demographic preponderance at village and sub-district levels, calculated as an interaction between the group with the largest population share at respective levels. If D_i is the preponderant group in village i, and D_j the preponderant group in larger sub-district j, we define status refractor (REF_{ij}) for a village i nested within the larger sub-district j as a simple interaction of the two categorical variables which results in four different categories of villages presented in Table 1. Finally we interact this status refractor, REF_{ij}, with village-level fractionalization, FRA_i to describe how status refraction modifies diversity.

Status Refractor ($REF_{ij} = D_i \times D_j$)	**Village Demographic Dominance** (D_i)	**Sub-district Demographic Dominance** (D_j)
REF_{oo}	Non SC/ST Groups (O)	Non SC/ST Groups (O)
REF_{os}	Non SC/ST Groups (O)	SC/ST Groups (S)
REF_{ss}	SC/ST Groups (S)	SC/ST Groups (S)
REF_{so}	SC/ST Groups (S)	Non SC/ST Groups (O)

Table 1: *Status Refractor Levels*

[10] *Cf.* Online Appendix §B for summary statistics and geographic variation. The appendix also shows how 50% of all national variation in village-level diversity is within the sub-districts.

The spatial unevenness in public goods primarily reflects how different groups "have historically benefited from or been harmed by their interactions with the state" (Pardelli and Kustov, 2022). Therefore, the numerical preponderance of low-status groups in a spatial unit captures this asymmetric state-society interaction.[11] This historical disadvantage faced by low-status groups intensifies further when they are embedded in a spatial unit dominated by high-status groups. Diminished social capital available to low-status groups further lowers such units' ability to petition the state (Krishna, 2002). Diversity, therefore, becomes an impediment to development in democratic systems only when it is characterized by group dominance (Collier, 2001).

Empirical Models

To test our three status refraction hypotheses, we estimate village level OLS regressions of the following type:

$$Y_{ijp} = \alpha + \beta \cdot REF_{ij} + \gamma \cdot FRA_i + \lambda \cdot (REF_{ij} \times FRA_i) + \omega \cdot SEG_j + \vec{\theta} \cdot \vec{V_i} + \vec{\delta} \cdot \vec{T_j} + \epsilon_i \quad (3)$$

where Y_{ijp} is the PCA index of public goods (of category p), in village i, contained within sub-district j. In Eq 3, our primary interest is in estimating how status refraction modifies the association between diversity and public goods — we model this as the interaction between refractor-level (REF_{ij}) and fractionalization (FRA_i). We control for the overall level of spatial segregation in the sub-district (SEG_j). Additionally, $\vec{V_i}$ and $\vec{T_j}$ in Eq. 3 are the village-level and sub-district level control-vectors respectively. Our baseline village-level controls include shares of SC and ST residents, share of cultivators, geographical area of the village, total population, sex ratio, and distance to the nearest town. Baseline sub-district level controls include shares of SC and ST, sub-district level diversity, total sub-district population (log), total number of villages in the sub-district (log), workforce participation rates, and sex-ratio. Controlling for population shares of the marginalized groups ensures that the status refraction channel does not pick up group dominance association (Kustov and

[11] In related work, the historical population share of enslaved people or the proportion of the White slaveholding population in the United States (Suryanarayan and White, 2021), and the share of literates among the apex caste group in India (Suryanarayan, 2019) have been used as status inequality proxies.

Pardelli, 2018). All our models include district fixed effects. We normalize diversity (FRA_i) and segregation (SEG_j) by two standard deviations to aid interpretation of status refractor that is modeled as a categorical variable (Gelman, 2008).

The coefficient on the interaction between diversity and status refractor (λ) is central to testing our hypotheses. The categorical variable, REF_{ij} is operationalized as three different (0,1) dummy variables with the $REF_{_{OO}}$, corresponding to upper-caste dominated villages in upper-caste dominated sub-districts serving as the reference category. As an example, the model in Eq. 3 takes the following form for SC-ST dominated villages situated in a sub-district dominated by non-SCST groups.

$$Y_{ijp}\,\big|_{REF_{_{SO}}} = (\alpha + \beta_{_{SO}}) + \ (\gamma + \lambda_{_{SO}}) \cdot FRA_i + \ \omega \cdot SEG_j + \ \vec{\theta} \cdot \vec{V_i} + \ \vec{\delta} \cdot \vec{T_j} + \epsilon_i \qquad (4)$$

In Eq. 4, the total coefficient on diversity, $(\gamma + \lambda_{SO})$, represents how status inequality modifies established the diversity channel of public goods politics.

Results

As a benchmarking exercise, Table 2 presents two sets of estimates that include diversity and spatial segregation, but do not account for status refraction. We find that village-level diversity is positively associated with all public goods except for health infrastructure; and segregation has a negative association with all public goods except health. These estimates are contrary to findings at spatially aggregated levels (Banerjee and Somanathan, 2007) but broadly consistent with the village level analysis(Bharathi et al., 2021a).

Diversity Deficit, or Status Deficit?

Upon including the status-refractor categorical variable (without diversity interaction in the upper panel and the full model of Eq. 3 to capture refracted diversity in the bottom panel), the estimates in Table 3 validate all three central predictions of our status refraction frame-

Panel A: Diversity and Public Goods				
	Education	**Health**	**Road**	**Sanitation**
FRA	0.018***	-0.012***	0.029***	0.007***
	(0.003)	(0.003)	(0.003)	(0.003)
R-Squared	0.395	0.145	0.278	0.422
N	595911			
Panel B: Diversity, Segregation, and Public Goods				
	Education	**Health**	**Road**	**Sanitation**
FRA	0.016***	-0.011***	0.027***	0.005*
	(0.003)	(0.003)	(0.003)	(0.003)
SEG	-0.016**	0.008	-0.028**	-0.018
	(0.006)	(0.014)	(0.010)	(0.011)
R-Squared	0.395	0.145	0.278	0.422
N	595906			

Notes: All models include district fixed effects, as well as village and sub-district controls.
Robust standard errors clustered at the district level are reported in parentheses.
** $p < 0.01$, *** $p < 0.001$.

Table 2: *Benchmark Estimates*

work. First, the results show why the status refraction channel is a potential missing variable in extant diversity and public goods models. The full model (bottom panel) clearly shows that the association between diversity and public goods is heterogeneous and modulated by status inequality. In upper-caste dominated villages (REF_{OO}, and REF_{OS}), there is a positive association between diversity and public goods (in the notation of Eq. 3, $\beta + \lambda > 0$) regardless of which group is numerically dominant in the larger sub-district. In villages where the marginalized groups are numerically dominant (REF_{SO}, and REF_{SS}), there is a negative association between diversity and public goods.[12] Thus, we find strong evidence for our "status deficit hypothesis" (*H1*) and the "agency hypothesis" (*H2*). We also find similar evidence for the status deficit hypothesis in the upper panel of Table 3 where the level of status refractor does not interact with diversity.

Figure 2 summarizes the centrality of status inequality in multi-scalar public goods pol-

[12] $\beta + \lambda > 0$ for roads in REF_{SS}-villages — the only exception across eight cases.

itics. The figure presents average marginal association (Brambor et al., 2006; Hainmueller et al., 2019) between diversity on public goods *conditional* on status refraction as reported in Table 3. The marginal plots in the figure underscore why neglecting the status inequality channel amounts to ignoring the heterogeneous association between diversity and public goods. Villages where dominant-caste groups demographically dominate exhibit a positive association between diversity and public goods; the opposite is true in villages where the historically marginalized groups are in a plurality. While the graph supports *H1*, we also offer evidence that *H2* hold using the average marginal association between diversity and public goods. These findings are reported in Table 4. For villages dominated by other caste groups, the estimated average marginal association between diversity and public goods is positive whereas for those with SC-ST dominance the provisioning of public goods falls as these villages become more diverse supporting *H1*. Consistent with *H2*, *OS* villages enjoy diversity dividend whereas *SO* villages suffer from diversity debit.

Segregation Penalty

Beyond modulating favoritism or discrimination, spatial segregation can engender a virtuous public goods cycle triggered by segregated homogeneous communities being able to petition the state effectively. However, such "interdependence mechanisms" (Tajima et al., 2018) implicitly assume equal distribution of political agency across groups — an assumption that does not hold in a society characterized by status inequality. The evidence supporting our theoretical prediction (*H3*, the segregation penalty hypothesis) is mixed. While we find that subdistrict-level segregation is negatively associated with indices for educational facilities and roads (Table 3), we also report that villages in segregated subdistricts have better access to health facilities although the coefficient is statistically insignificant. The evidence presented here contradicts the "virtuous spatial interdependence" mechanism proposed by Tajima et al. (2018) in the Indonesian context. While local elite capture and clientelism are rife in both places (Ostwald et al., 2016; Bardhan, 2002), India's partially decentralized administration is characterized by a fragmented network of political brokers responsible for

lobbying and petitioning higher-level political actors to supply public goods. In Indonesia, political parties have a limited grassroots presence, and public service delivery is "much less prone to such manipulation by non-state actors" (Berenschot, 2019). Decentralization characterized by elite-driven, rule-bound bureaucratic networks in Indonesia ensures greater democratic accountability compared to the broker-driven citizen-state interactions in India. Furthermore, despite being one of the most ethnically diverse regions in the world — around 600 ethnic groups spread across over 1800 islands — Indonesian society is not characterized by the steep status gradient like India's caste society (Ananta et al., 2015).[13] As a result, out-group discrimination against the low-status groups, resulting in *segregation penalty*, is not observed.[14]

Robustness Checks

We perform several additional robustness checks to confirm that the status refraction channel introduced here is not an artifact.

Optimal Sorting

In sub-national settings, individuals can migrate to areas with better public goods. Endogeneity concerns from such "optimal sorting" are further compounded by differential optimal sorting propensities across social groups. However, these concerns are unfounded in the context of rural India. Demographic shares have remained stable across decades, so the correlation between SC/ST populations in 1991 and 2011 is over 0.94 at the village level and over 0.98 at the sub-district level (Bharathi et al., 2021a). Marriage-related mobility among women is India's most significant component of internal migration. However, diversity patterns are not impacted as marriages are almost always within endogamous caste

[13] Indonesia has been a stellar example of nation building through embracing "unity in diversity, diversity in unity'.' Such cultural integration has resulted in peace and stability (Bazzi et al., 2019).

[14] Empirically, the extent of local social diversity in India and Indonesia is vastly different. As depicted in Appendix Figure F.1, the Indian census data better spans the theoretical range of values that the fractionalization metric can assume, which assures that our segregation penalty results are not being driven by idiosyncrasies of how spatial segregation operates in India.

Panel A: Association without Status Refraction Interactions				
	Education	**Health**	**Road**	**Sanitation**
REF_{OS}	0.037*	0.074	0.056*	0.002
	(0.017)	(0.038)	(0.025)	(0.033)
REF_{SO}	-0.102***	-0.044***	-0.022*	-0.022*
	(0.011)	(0.009)	(0.009)	(0.009)
REF_{SS}	-0.084***	-0.030	0.049*	-0.007
	(0.017)	(0.037)	(0.023)	(0.033)
FRA	0.011***	-0.015***	0.026***	0.005
	(0.003)	(0.003)	(0.003)	(0.003)
SEG	-0.016**	0.007	-0.027**	-0.018
	(0.006)	(0.015)	(0.010)	(0.011)
R-Squared	0.402	0.147	0.280	0.423
N			595906	
Panel B: Association with Status Refraction Interactions				
	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	0.009	0.024	0.043***	0.023
	(0.014)	(0.012)	(0.012)	(0.012)
$REF_{SO} \cdot FRA$	-0.202***	-0.138***	-0.076***	-0.057***
	(0.012)	(0.014)	(0.012)	(0.011)
$REF_{SS} \cdot FRA$	-0.139***	-0.078***	-0.048**	-0.050***
	(0.016)	(0.015)	(0.015)	(0.014)
REF_{OS}	0.025	0.056	0.033	-0.010
	(0.018)	(0.039)	(0.027)	(0.032)
REF_{SO}	0.246***	0.185***	0.111***	0.086***
	(0.020)	(0.023)	(0.022)	(0.019)
REF_{SS}	0.251***	0.182***	0.174***	0.101**
	(0.028)	(0.043)	(0.031)	(0.034)
FRA	0.102***	0.043***	0.058***	0.032***
	(0.007)	(0.007)	(0.007)	(0.006)
SEG	-0.015**	0.008	-0.027**	-0.018
	(0.006)	(0.015)	(0.010)	(0.011)
R-Squared	0.402	0.148	0.280	0.423
N			595906	

Notes: All models include district fixed effects and village, sub-district controls. Robust standard errors clustered at the district level are reported in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 3: *Status Refraction and Public Goods*

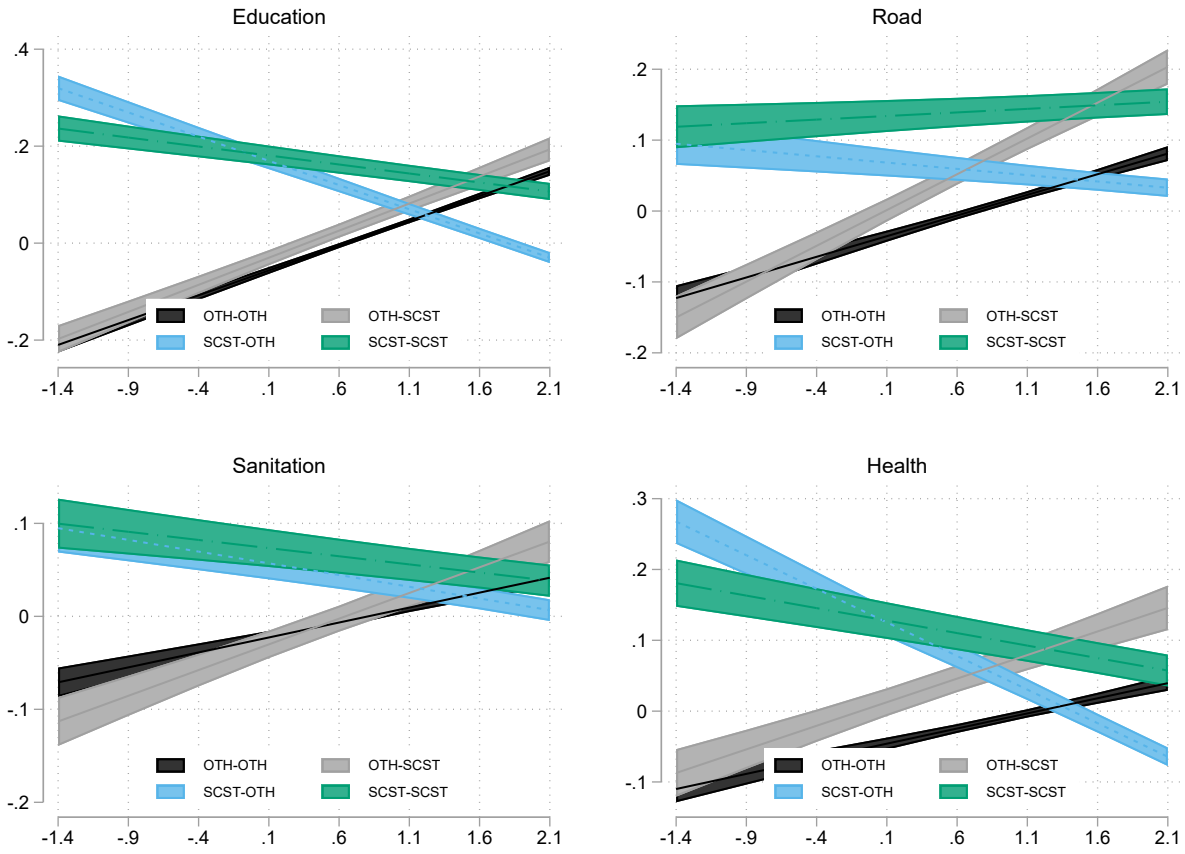

Figure 2: *Predicted Marginal Effects of Fractionalization (FRA_i), conditional on Status Refractor (REF_{ij}). The plots correspond to models in Panel B of Table 3.*

	Education Index	Health Index	Road Index	Sanitation Index
REF_{OO}	0.102***	0.043***	0.058***	0.032***
	(0.003)	(0.004)	(0.004)	(0.003)
REF_{OS}	0.112***	0.067***	0.101***	0.055***
	(0.006)	(0.008)	(0.007)	(0.006)
REF_{SO}	-0.100***	-0.095***	-0.018***	-0.025***
	(0.004)	(0.004)	(0.004)	(0.004)
REF_{SS}	-0.037***	-0.035***	0.010**	-0.018***
	(0.003)	(0.004)	(0.004)	(0.003)

Notes: The coefficients reported here are the average marginal association between diversity and public goods for each refractor. The average marginal associations are based on the models in Table 3 $+ p < 0.10$, $* p < 0.05$, $** p < 0.01$, $*** p < 0.001$.

Table 4: Average Marginal Association: Diversity and Public Goods

groups (Rosenzweig and Stark, 1989). The bulk of Indian non-marriage migration is circular so that workers temporarily migrating during the lean agricultural season are counted as permanent residents of the village where they reside in the census data (Keshri and Bhagat, 2012). We would also like to allay any concern that demarcation of village boundaries–akin to explicit redrawing of administrative boundaries in the United States around race–could be potentially endogenous to status or public good provision. Indian village boundaries and its settlement patterns exhibit a remarkable degree of continuity despite changes to governance, land tenure systems, and revenue structures during the colonial period.[15]

Additional Interactions

We estimate the status refraction channel using an interaction between the status refractor and diversity. However, we must rule out the possibility that our empirical results are not picking up other status inequality channels that we have not theorized. The models in Table 5 add other possible interactions between our explanatory variables — $(REF_{ij} \times SEG_j)$, $(REF_{ij} \times FRA_i \cdot SEG_j)$, and $(FRA_i \times SEG_j)$. We use these additional interactions as controls rather than hazard any *ex-post* interpretations (Hainmueller et al., 2019). However, as seen in Table 5, our central results remain unchanged. We use the models in Table 5 as the base for all further robustness checks reported here.

We also estimate a fully moderated regression model with REF_{ij} interacted with all village level controls, sub-district level controls, and district dummy variables. Our main associations could be driven by omitted interactions between REF_{ij} and these controls. As

[15]Given the centrality of land revenues for the colonial administration, the meticulous demarcation of village boundaries was an important exercise during the colonial period. For the most part, current day boundaries are entirely congruent with those enumerated by the colonial land revenue survey efforts even while larger sub-national aggregations such as the districts and sub-districts have undergone significant changes. For example, the village boundaries enumerated during the 1871 census (the first ever Indian census) in the Madras Presidency are wholly congruent with present day boundaries. Further, caste groups in India are congruent with occupations groups. As B.R. Ambedkar, the primary author of independent India's constitution famously observed caste is not merely division of labor but the "division of laborers." Thus, villages in India consist of multiple caste groups that live in spatially segregated residential quarters. For details, see Baden-Powell (1899); Viswanath (2014).

seen in Appendix Table D.1, our main findings remain stable with these fully interactive models.

	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	0.008	0.010	0.030	0.001
	(0.017)	(0.014)	(0.016)	(0.015)
$REF_{SO} \cdot FRA$	-0.208***	-0.142***	-0.080***	-0.053***
	(0.012)	(0.014)	(0.012)	(0.012)
$REF_{SS} \cdot FRA$	-0.127***	-0.076***	-0.034*	-0.039**
	(0.015)	(0.015)	(0.016)	(0.015)
R-Squared	0.397	0.146	0.279	0.423
N		595906		

Notes: In addition to all covariates underlying models in Figure 2, these models include the full suite of status refractor interactions (*cf.* main text for details). Robust standard errors clustered at the district-level are reported in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 5: *Robustness Check: Additional Interactions*

Large-n

To allay the concern that our main results could potentially be an artifact of large sample size, we use a machine learning model, the Lasso double-selection method (Belloni et al., 2014; Urminsky et al., 2016). The method is implemented as a two-stage process. In the first step, control variables are chosen to predict both public goods indices and the refracted diversity variables. The potential control variables include all the village and sub-district level control variables and the district fixed effects. In the second stage, we estimate our primary regression model that includes the control variables chosen by double-Lasso. The post-Lasso regression results reported in Appendix Table E.1 show that our main findings are stable and do not represent a large-n artifact.

Potential Confounders

We present several additional robustness checks to account for many potential confounders relevant to the political economy of village life in India. In all the robustness checks below, we use the fully-saturated models from Table 5 as our baseline so that all possible interaction effects for fractionalization, segregation, and status refractor are included.

`Extreme Spatial Segregation`: Controlling for spatial segregation is central to our status refraction framework. To test its validity across all levels of segregation, we estimate models in Table 5 for a sub-sample of villages drawn from the top 5% segregated sub-districts in the country and find that our results are robust (Appendix Table G.1).

`Intra-village Segregation`: Indian villages can be internally segregated as an amalgamations of multiple nucleated clusters or hamlets of homogeneous groups (Bharathi et al., 2021b). For a subset of Indian states (accounting for ≈20% of all villages), census data includes number of hamlets in a village, that we use as an additional control, and find that our results remain unaltered (Appendix Table G.2). Our main models already control for village area and population; and the number of hamlets is highly correlated to village area (Anderson, 2011).

`Economic Activity`: It is plausible that richer villages are also the ones that are well-endowed with public goods. We use per-capita luminosity data ("night lights") as a proxy for economic development (Henderson et al., 2012), using data from Min (2016), and find that our results are robust (Appendix Table G.3).

`OBC Shares`: Using 2011-12 data from the National Sample Survey (NSS), we obtain weighted district shares of Other Backward Castes (OBCs). We then estimate the models in Table 5 for two extreme sub-samples — districts with the highest OBC share (top decile), and districts with the lowest shares (bottom decile). Our results remain unchanged

(Appendix Table G.5).

`Electoral Quotas`: It is conceivable that villages dominated by marginalized groups that fall within a "reserved constituency" (where constitutionally mandated electoral quotas for SC and ST groups are operationalized) are better able to negotiate public goods. We match each village with state assembly constituencies and control for whether the village falls in a reserved constituency (Pande, 2003) and find that our results are robust to inclusion of this electoral reservation control (Appendix Table G.6).

`Level of Urbanization`: All our models control for the distance between a village and the nearest town. As an additional control for the potential confounding effects of urbanization, we added percentage of urban population in a sub-district to the models in Table 5. Our results are unaltered (Appendix Table G.7).

`Religion`: In order to be sure that our status refraction channel is not picking up underlying religious cleavages, we estimate the models in Table 5 with sub-district religion shares. Our results are robust and not sensitive to the inclusion of religion-wise group shares (Appendix Table G.8).

`Potential Caste Conflict`: Local village-level group conflicts are not uncommon in rural India, and such conflicts potentially impinge on public goods channels that we have explicated here. Conflicts surrounding access to a water source represents an important locus of any caste discord (Anderson, 2011). Thus, we proxy potential for cast conflict at the village level by constructing an index representing incidence of a well, hand-pump, or a tap. We use this index as a control and find that our model results remain unchanged (Appendix Table G.9).

`Forest Cover`: India's indigenous tribes (STs) are concentrated in forested areas. More generally, it is plausible that extent of forest land influences public goods placement. We use

village-level forest extent data from Asher et al. (2019) as a control and find that our results remain the same (Appendix Table G.10).

`Other omitted geographical variables`: In general, diversity can be correlated with terrain elevation and ruggedness. We included data on on elevation and ruggedness at the village-level (computed using remotely sensed digital terrain maps) as additional control. Our main finding are once again robust (Appendix G.11 and G.12).

Conclusion

Our findings suggest that comparative politics must engage with the questions of "why [status] is everywhere," and "why status matters for inequality" (Ridgeway, 2019, 2014). Long histories of institutionalized discrimination and punishment (Sidanius and Pratto, 2001) sustain the congruence between group and status boundaries in such "ranked" societies (Horowitz, 1985). From Jim Crow American South to Apartheid South Africa to agrarian caste society in India, restricting access to public goods has been central to maintaining hierarchical status "boundaries" (Barth, 1969). The constant surveillance of group boundaries, including regulating access to public goods, helps institutionalize domination and marginalization (Barth, 1969; Guha, 2013). Spatial segregation of low-status groups further facilitates the withholding of public services by high-status groups as a strategy to sustain status inequality — a public goods channel documented in diverse settings (Rugh and Trounstine, 2011; Ejdemyr et al., 2018; Harris and Posner, 2019). Recent revisions to the well-established diversity deficit hypothesis have emphasized the role of state-society interactions on both the demand-side (the ability of groups to mobilize for public goods) and the supply-side (state capacity to deliver public goods) (Singh and vom Hau, 2016). We have shown that status inequality mediates local public goods politics on both the demand-side and supply-side. Status inequality acts as a refracting lens that modifies diversity deficit into a status deficit — with the status deficit being more pronounced with spatial segregation of marginalized groups.

Our analysis shows why the study of public goods politics must pay close attention to historically sedimented power configurations arising out of status inequality (Stone, 1980). The spatial structure of historically stratified groups is politically salient. Spatial inequality makes the diversity channel for public goods *contingent* on the distribution of political agency across groups. The status refraction channel introduced here not only proxies economic inter-group distance (Baldwin and Huber, 2010) and elite capture (Cruz et al., 2020), but also the socio-cultural gaps which are integral to the maintenance of politically salient power differentials across spatial scales through a modification of state capacity (Pardelli and Kustov, 2022; Charnysh, 2019). The discretionary power enjoyed by the high-status group in a partially decentralized regime allows them to indulge in widespread discrimination (Wantchekon, 2003), which contradicts the hypothesized positive spatial interdependence channel that ratchets up public goods in more homogeneous localities (Tajima et al., 2018). Higher spatial segregation makes discrimination against out-groups easier with status inequality, undermining community mobilization efforts.

In the context of rural India, we show that local diversity does not always lead to lower public goods. Decentralization allows for community mobilization. However, this decentralization's partial and incomplete nature also allows for discriminatory behavior (Munshi and Rosenzweig, 2015; Lee, 2018). Traditional Indian village councils manage inter-group grievances with varying admixtures of reciprocity and asymmetry (Sanyal and Rao, 2018). Regular elections, especially quotas for marginalized social groups, have contributed to partial democratization at the local level (Chauchard, 2017; Dunning and Nilekani, 2013). However, the asymmetry in political agency between groups allows dominant groups to exploit their rich networks even when they are in a demographic minority. Inter-group cooperation is therefore inhibited not by social diversity but by the status inequality between caste groups. Thus, the effects of diversity are contingent on demographic composition across the spatial scales. Social diversity is an impediment only when subordinate groups are in a numerical majority. Spatial segregation of low and high castes into their enclaves further amplifies

discrimination. Thus, our findings also call for a reconsideration of the long-established evidence supporting diversity deficit in India (Banerjee and Somanathan, 2007), which omits status inequality in the study of local public goods.

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Status Inequality and Public Goods

(Online Appendix)

This on-line appendix contains detailed data description, and tables referenced in the "Robustness Checks" section of the main paper.

Contents

List of Tables

List of Figures

A Data Description

A.1 Explanatory and Control Variables

All our main explanatory and control variables were constructed using the 2011 round of the Census of India. In particular, we used the *Primary Census Abstract* to create these variables.

A.2 Outcome Variables

All outcome variables in this paper were constructed using the *Village Directory* of the 2011 Census data. We constructed a simple PCA (principal component analysis) based indices for different groups of public goods described below. All the indices have been standardized such that they have zero mean and a standard deviation of one. The description of some of the variables is given below:

- *Education index*: This index consists of the following educational facilities:
  - **Primary School**: Schools providing education between grade-1 and grade-5.
  - **Middle School**: Schools providing education between grade-6 and grade-8.
  - **Secondary School**: Schools providing education grade-9 and grade-10.
  - **Senior Secondary School**: Schools providing education grade-11 and grade-12.
- *Health index*: An index composed of the following healthcare services.
  - **Primary Health Center**: The most basic unit of health-services in a village, a primary health center covers a population of 20,000 in remote areas and 30,000 otherwise.
  - **Primary Health Sub-Center**: A primary health sub-center is mandated for every 5,000 people.
  - **Community Health Center**: Community health centers are slightly larger than the primary health centers. They cater to about 100,000 people.
  - **Maternal and Child Welfare Center**: It provides pre-natal and post-natal services for both mother and child. The services include regular check-up of pregnant women, giving folic tablets, counseling, delivery, immunization of children with check-up.
  - **TB Clinic**: TB clinics are government-run units established for TB-control activities.
  - **Hospital**
  - **Dispensary**: These are health centers where patients are treated and medicines provided but with no in-patient facility.
  - **Mobile Health Clinic**: These are mobile vans well equipped with a range of health services to remote villages.
  - **Family Welfare Center**: These are units that provide married and pregnant women counselling regarding small-family norms.
- *Sanitation Index*: An index for village-level sanitation facilities using the following variables.
  - **Community Toilet Complex**: Public toilets maintained either by the Panchayat or run by a private NGO.
  - **Drainage**: This could be of two types- open and closed. We code a village as having drainage facility if either of the two types are present in the village.
  - **Total Sanitation Campaign**: A government-run program that subsidizes the construction of latrines in villages.

- *Road index*: An index for village-level road facilities.
  - **NH**: These are national highways that are spread across the country and are run by the federal government.
  - **SH**: These are highways that link major towns within a state and are managed by the state government.
  - **MDR**: Major district roads serving areas of production and markets and connecting these with each other or with the main highways.
  - **Other District Road**
  - **Paved road**‘
  - **AWR**: Whether there are any all-weather roads in the village.

B The Geographic Spread of Independent Variables

Figures B.1 – B.3 show the geographic distribution of our three primary independent variables — fractionalization, segregation, and refraction level.

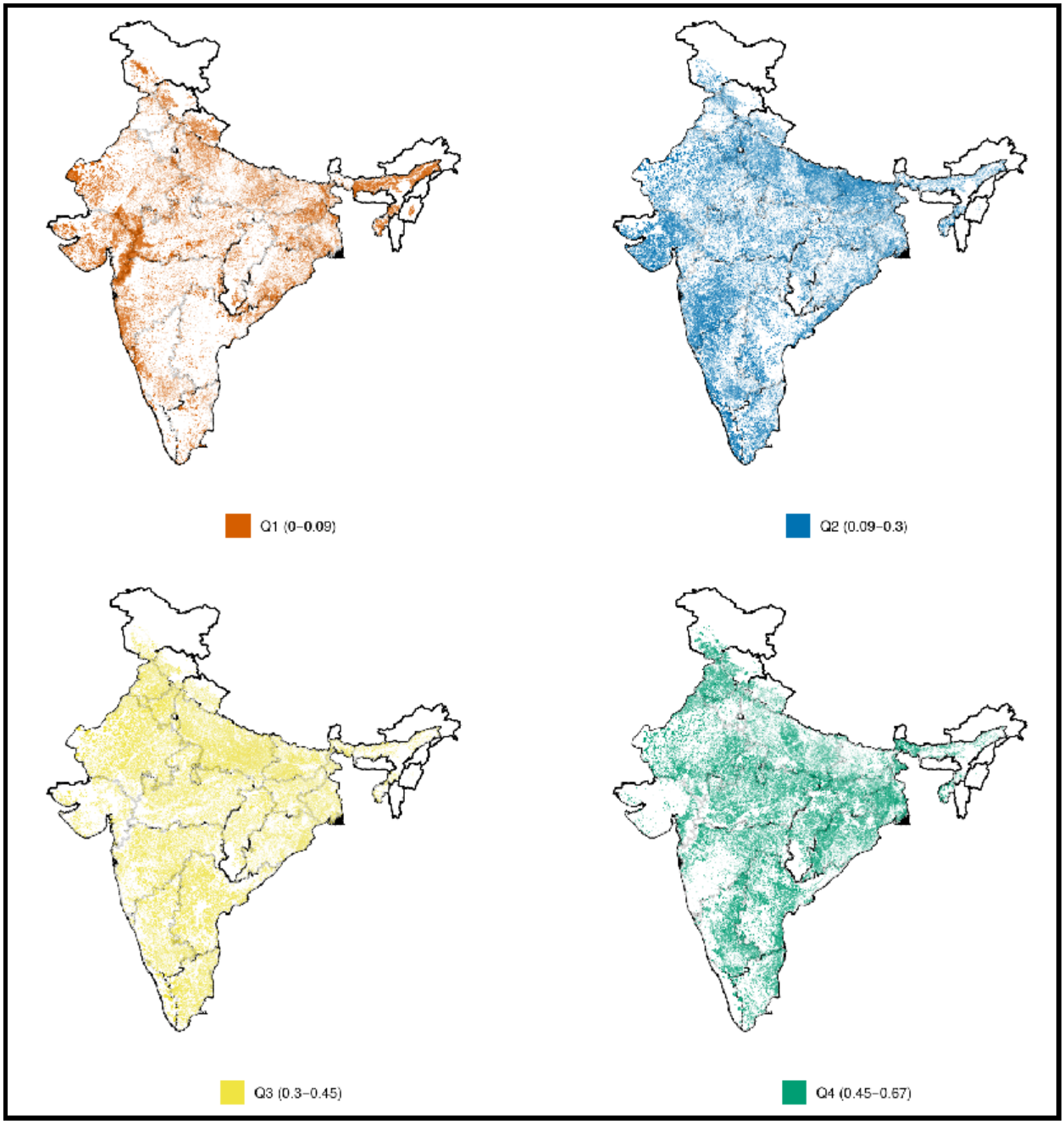

Figure B.1: *Village Fractionalization Quartiles (FRA_i).*

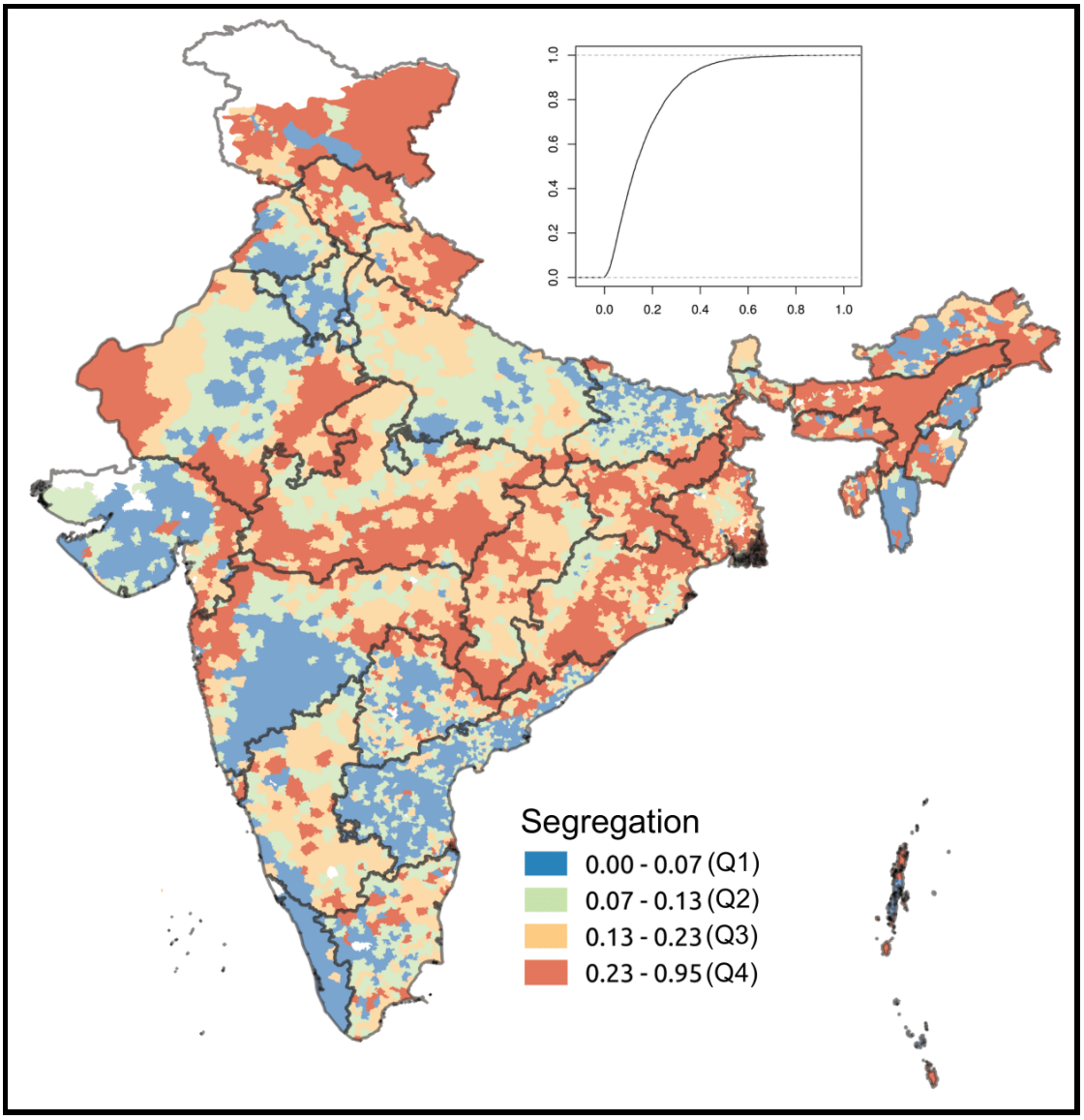

Figure B.2: *Spatial Segregation Quartiles. The map depicts levels of spatial segregation across all sub-districts in India (SEG_j). The inset figure shows the cumulative density plot (ECDF) for SEG_j.*

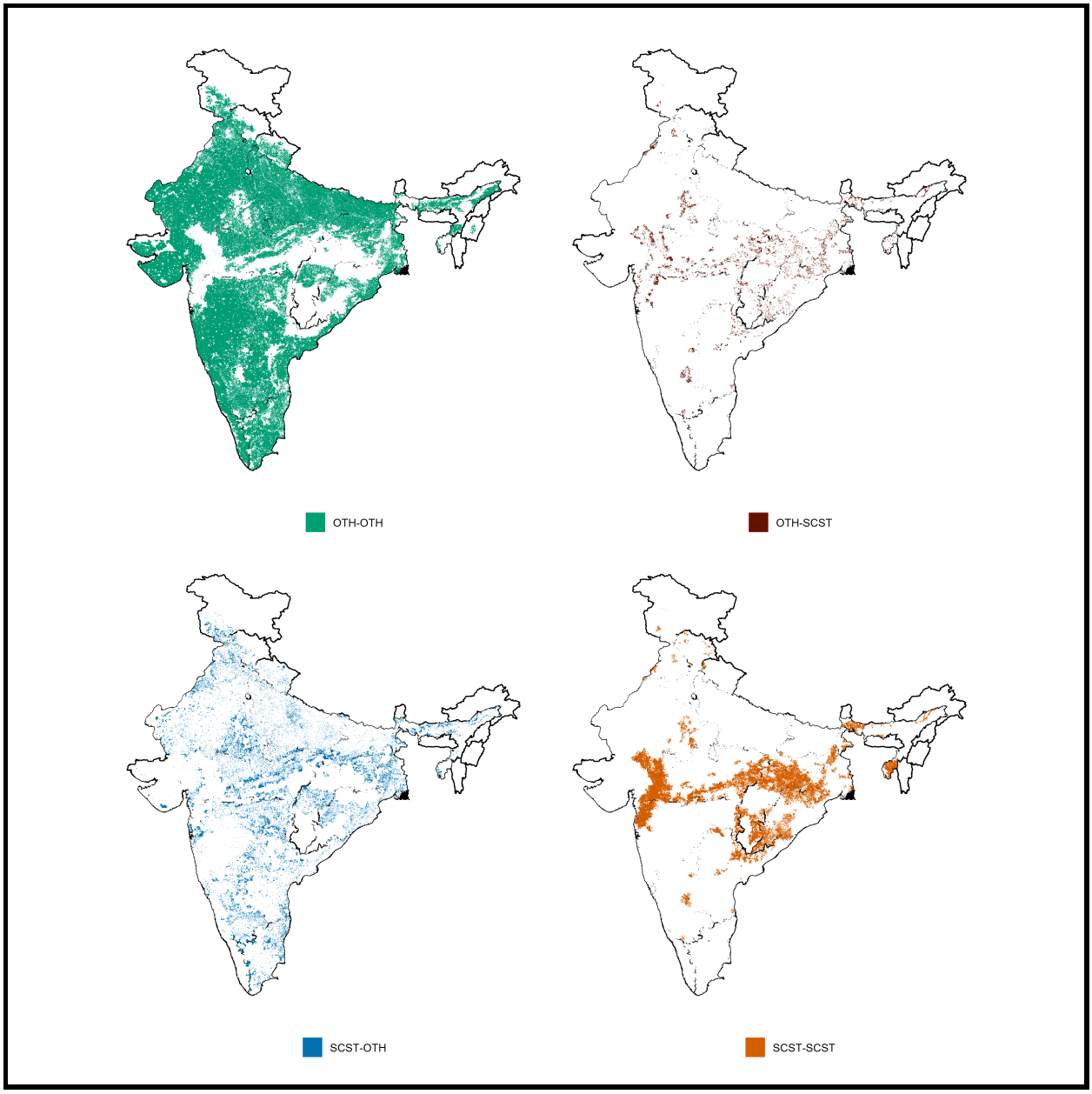

Figure B.3: *Status Refractor Geography. The maps depicts geographic distribution of the* REF_{ij} *variable used in our models.*

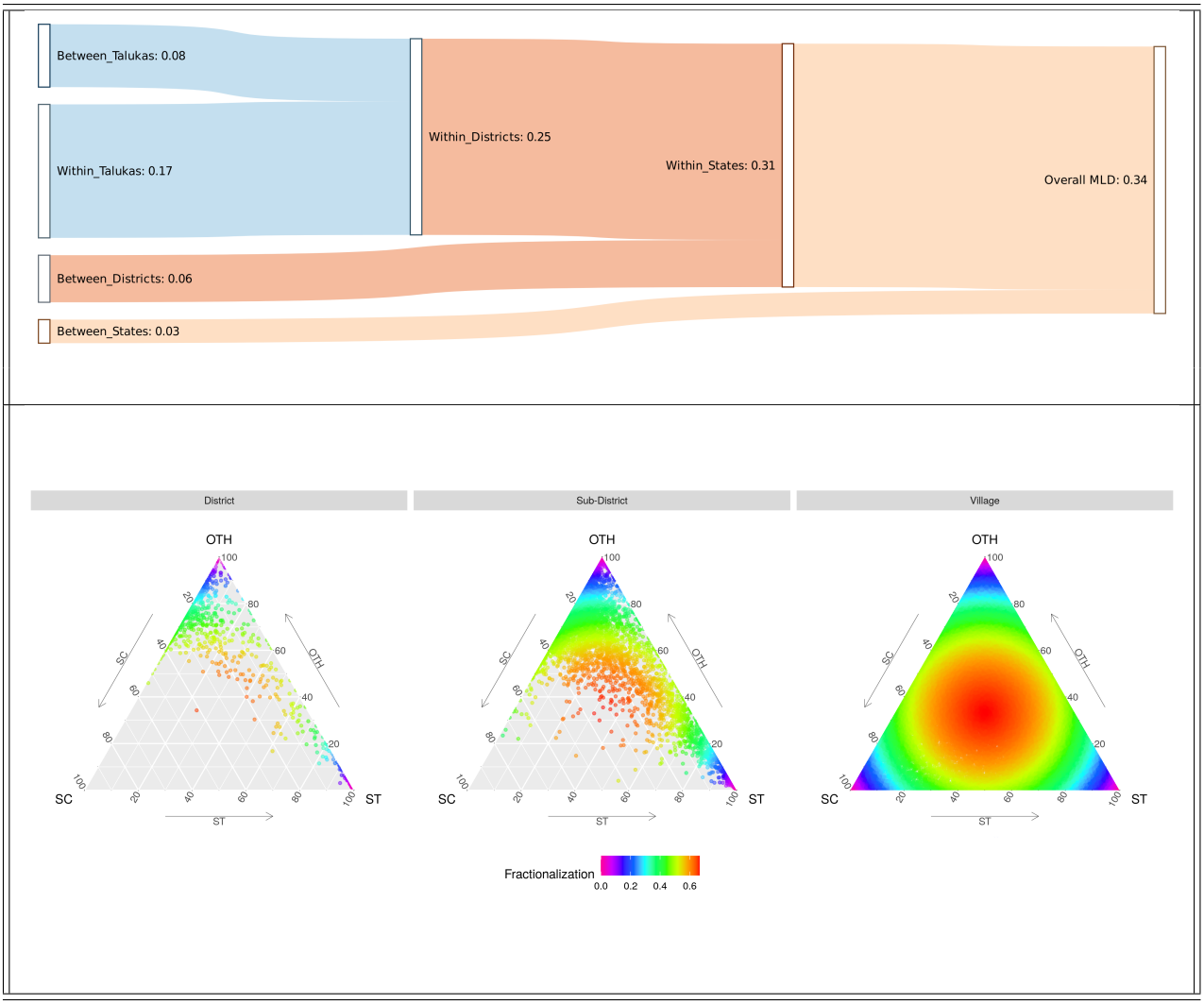

Figure B.4: *Variation in diversity by spatial scale (MLD decomposition; $n = 595,911$ villages). Data for all villages, Indian national census (2011).*

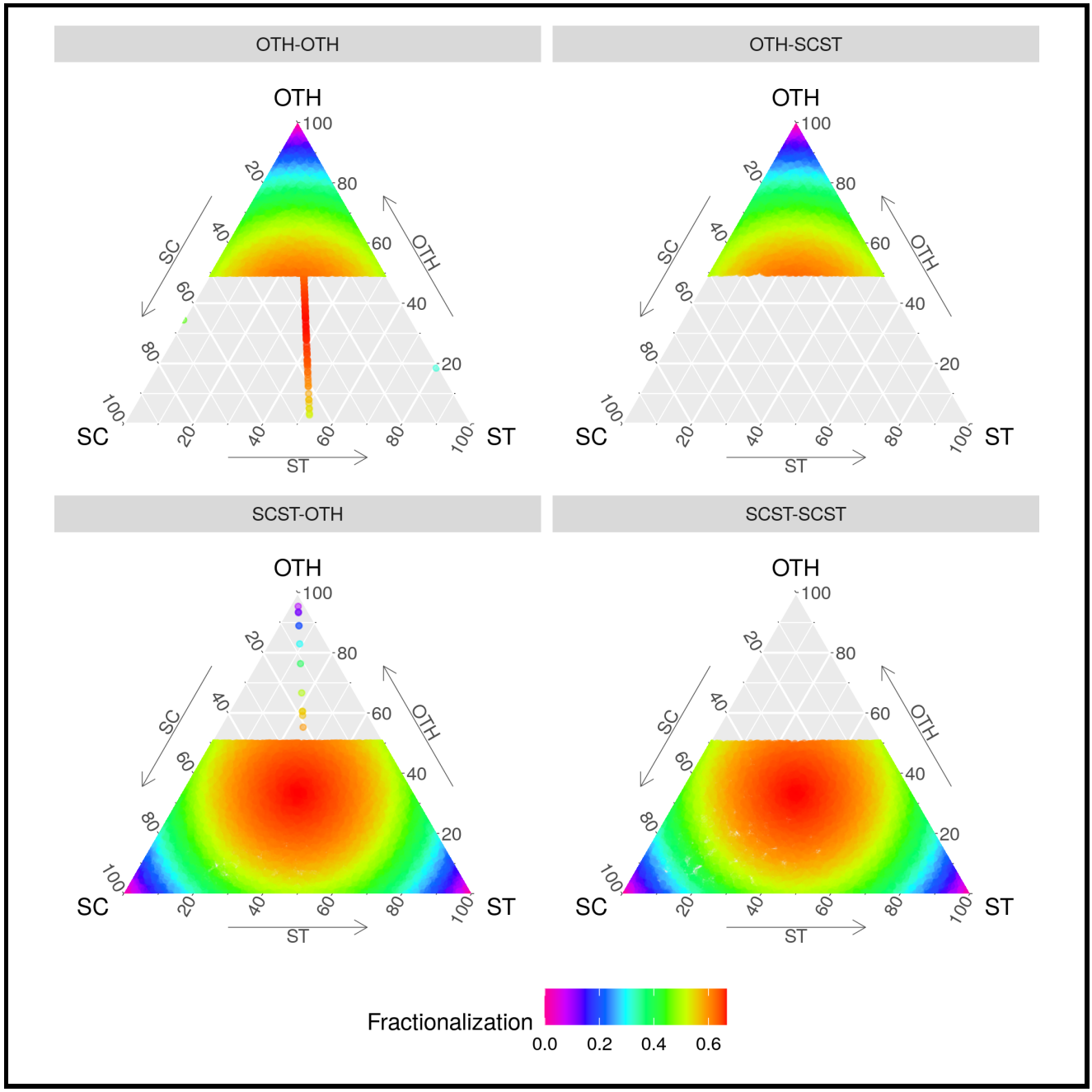

Figure B.5: *Village Fractionalization and Status Refraction*

C Landholding Pattern

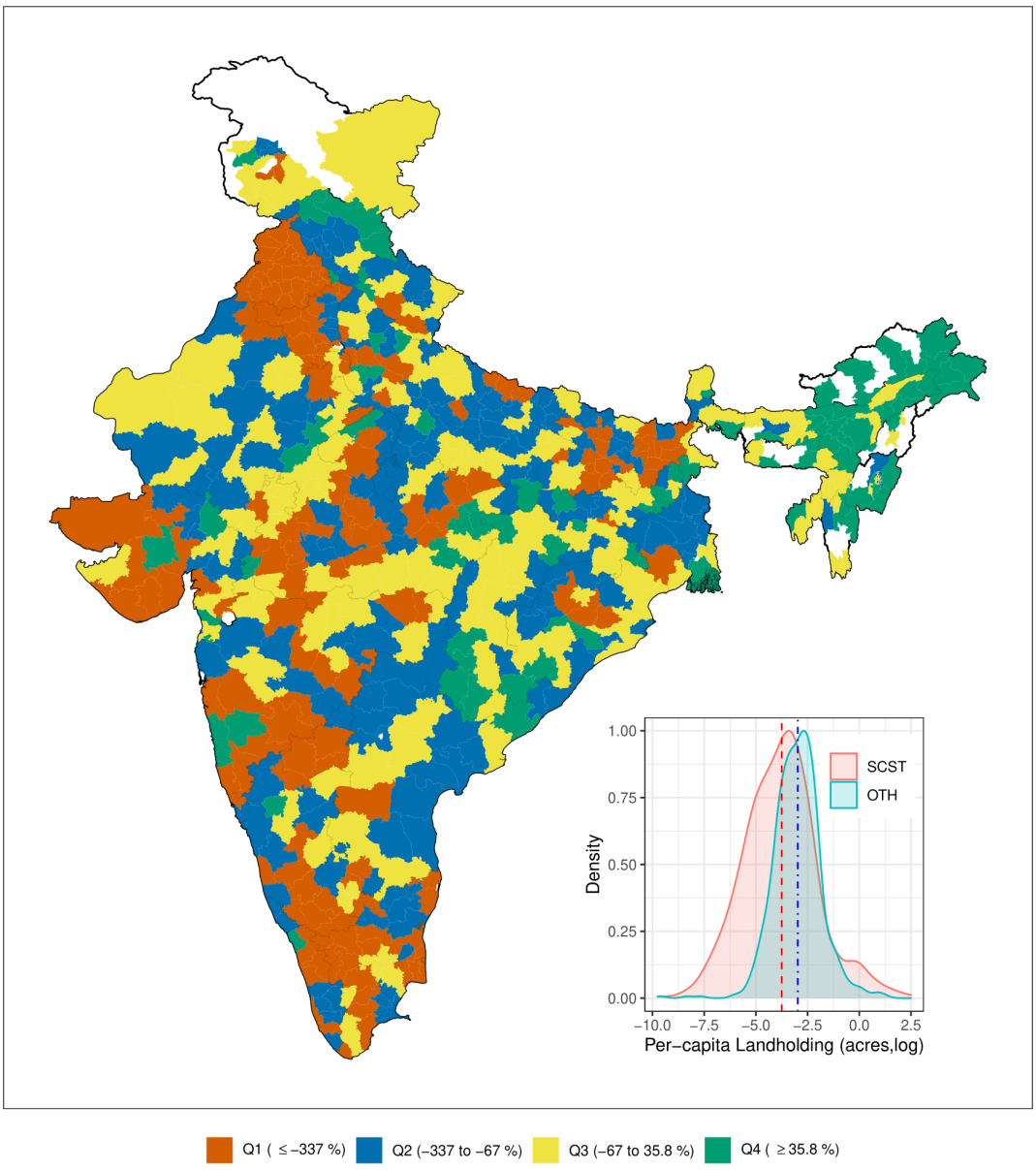

Figure C.1: *Landholding: SCST and Others. The map shows the difference between per-capita landholding of SCST and Others in 601 districts where such data is available in the 68th Round of National Sample Survey (NSS). Inset shows the k-density plots of per-capita landholding across India's districts. Respective group-medians are shown.*

D Fully Interactive Models

Table D.1: *Robustness Check: Full Suite of Status Refractor Interactions*

	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	-0.03	-0.05	0.06	0.01
	(0.040)	(0.039)	(0.032)	(0.040)
$REF_{SO} \cdot FRA$	-0.18***	-0.05***	-0.07***	-0.03*
	(0.013)	(0.015)	(0.013)	(0.013)
$REF_{SS} \cdot FRA$	-0.13***	-0.05**	-0.04*	-0.03
	(0.016)	(0.017)	(0.016)	(0.017)
R-Squared	0.397	0.146	0.279	0.423
N		595906		

Notes: In addition to all covariates underlying models in Figure 2 of the main manuscript, these models include the full suite of status refractor interactions (*cf.* main text for details) and interactions between status refractor and all the controls including district dummies.

Robust standard errors clustered at the district level are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

E The Lasso Double Selection Method

Table E.1: *Robustness Check: Post-Lasso Regression*

	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	0.010	0.023***	0.042***	0.021***
	(0.006)	(0.007)	(0.006)	(0.005)
$REF_{SO} \cdot FRA$	-0.196***	-0.134***	-0.075***	-0.059***
	(0.006)	(0.008)	(0.007)	(0.006)
$REF_{SS} \cdot FRA$	-0.133***	-0.076***	-0.039***	-0.041***
	(0.006)	(0.007)	(0.007)	(0.006)
N	595906	595906	595906	595906

Notes: These models are based on Equation 3 and the results are comparable to Panel B of Table 3 of the paper.

Robust standard errors clustered at the district level are reported in parentheses.
$^{*}\ p < 0.05,\ ^{**}\ p < 0.01,\ ^{***}\ p < 0.001$.

F Comparing India and Indonesia

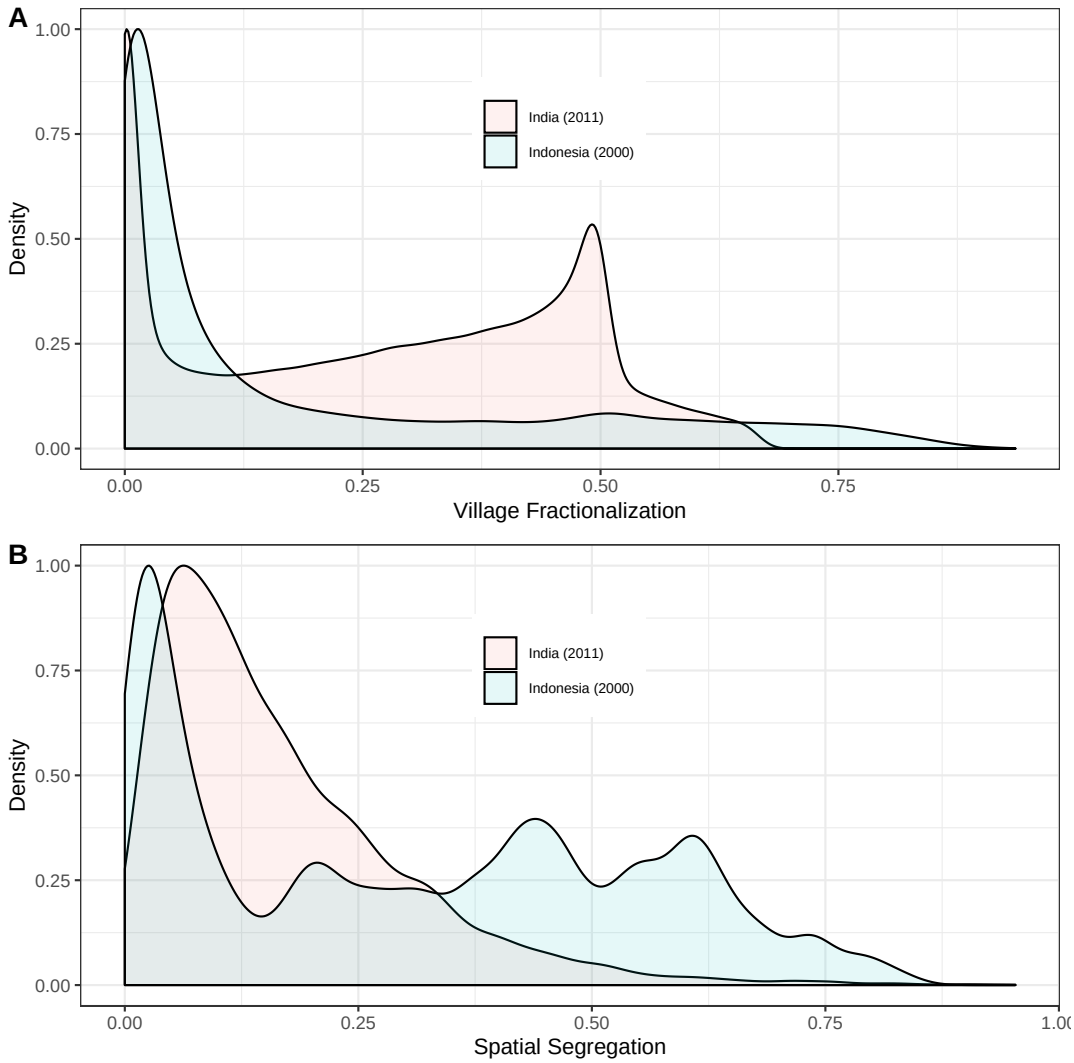

Figure F.1: *Comparing India and Indonesia, from Tajima et al. (2018)*

The bottom panel of Figure F.1 shows that the Indian distribution is comparable to the Indonesian one. The comparison of the distribution of village fractionalization (upper panel of the figure) clearly shows that Indian results are not driven by differences in the number of social groups that are enumerated in respective national census data. If anything, Figure F.1 shows that the Indian data better spans the theoretical range of values that the fractionalization metric can assume. The decentralized institutional contexts in India and Indonesia are comparable only at an apparent level. Elite influence in Indonesia is minimal (Berenschot, 2018). However, the three-tier partially decentralized structure in India is prone to elite capture (Bardhan, 2002). Such elite capture is largely driven by the spatial distribution of powerful caste groups so that the status refraction channel that we have developed here is relevant and salient.

G Additional Robustness Checks

The following tables in this section provide regression coefficients for robustness checks discussed in the main paper.

Table G.1: *Top 5% Segregated Sub-districts*

	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	0.016	0.159*	0.218**	0.121*
	(0.065)	(0.079)	(0.070)	(0.051)
$REF_{SO} \cdot FRA$	-0.255***	-0.090	0.018	-0.031
	(0.066)	(0.072)	(0.068)	(0.051)
$REF_{SS} \cdot FRA$	-0.216***	0.145*	0.135*	0.001
	(0.057)	(0.072)	(0.061)	(0.048)
R-Squared	0.372	0.177	0.294	0.307
N		29885		

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table G.2: *Controlling for within-village clusters or hamlets*

	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	0.070*	0.125**	0.058	0.018
	(0.033)	(0.039)	(0.034)	(0.031)
$REF_{SO} \cdot FRA$	-0.246***	-0.201***	-0.068**	-0.063**
	(0.019)	(0.022)	(0.021)	(0.020)
$REF_{SS} \cdot FRA$	-0.134***	-0.081***	-0.035	-0.063***
	(0.019)	(0.022)	(0.020)	(0.019)
R-Squared	0.398	0.153	0.274	0.414
N		110885		

States for which the hamlet data is available are the following: Andhra Pradesh, Chhattisgarh, Haryana, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, and Uttar Pradesh.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table G.3: *Per-capita Luminosity (Nightlights) Control*

	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	-0.005	0.009	0.037***	-0.013
	(0.010)	(0.012)	(0.011)	(0.010)
$REF_{SO} \cdot FRA$	-0.198***	-0.137***	-0.081***	-0.055***
	(0.007)	(0.009)	(0.008)	(0.007)
$REF_{SS} \cdot FRA$	-0.125***	-0.073***	-0.048***	-0.055***
	(0.007)	(0.008)	(0.008)	(0.007)
R-Squared	0.399	0.147	0.275	0.436
N		447785		

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table G.4: *Sub-District Fixed Effect with Kullback-Leibler Divergence*

	Education	**Health**	**Road**	**Sanitation**	**Nutrition**
$REF_{OS} \cdot FRA$	0.007	0.024***	0.032***	0.016**	0.030***
	(0.006)	(0.007)	(0.006)	(0.005)	(0.006)
$REF_{SO} \cdot FRA$	-0.220***	-0.153***	-0.078***	-0.055***	-0.006
	(0.007)	(0.009)	(0.008)	(0.007)	(0.007)
$REF_{SS} \cdot FRA$	-0.135***	-0.068***	-0.041***	-0.051***	0.008
	(0.007)	(0.008)	(0.007)	(0.006)	(0.007)
REF_{OS}	-0.160	0.025	-0.007	0.058	-0.168**
	(0.089)	(0.072)	(0.079)	(0.041)	(0.054)
REF_{SO}	0.240***	0.175***	0.104***	0.074***	-0.015
	(0.014)	(0.016)	(0.015)	(0.013)	(0.013)
REF_{SS}	0.077	0.172*	0.118	0.183***	-0.124*
	(0.090)	(0.074)	(0.081)	(0.043)	(0.055)
FRA	0.091***	0.028***	0.052***	0.025***	0.041***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
R-Squared	0.415	0.198	0.329	0.492	0.531
N			595889		

Table G.5: *Districts with low and high OBC shares*

	Education	**Health**	**Road**	**Sanitation**
		Panel A		
$REF_{OS} \cdot FRA$	0.012	0.062	0.059*	0.092***
	(0.027)	(0.043)	(0.027)	(0.023)
$REF_{SO} \cdot FRA$	-0.131***	-0.146***	-0.137***	-0.029
	(0.026)	(0.031)	(0.028)	(0.023)
$REF_{SS} \cdot FRA$	-0.047*	-0.026	-0.038	0.045*
	(0.022)	(0.023)	(0.023)	(0.019)
R-Squared	0.344	0.169	0.239	0.323
N		60274		
		Panel B		
$REF_{OS} \cdot FRA$	0.011	0.145**	0.193***	-0.034
	(0.056)	(0.054)	(0.053)	(0.089)
$REF_{SO} \cdot FRA$	-0.261***	-0.188***	-0.038	-0.034
	(0.025)	(0.028)	(0.029)	(0.031)
$REF_{SS} \cdot FRA$	-0.134***	-0.082*	0.015	-0.064
	(0.032)	(0.032)	(0.036)	(0.040)
R-Squared	0.394	0.181	0.296	0.387
N		59005		

Panel A: Villages within districts with low OBC population share (bottom decile).

Panel B: Villages within districts with hing OBC population share (top decile).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table G.6: *Reserved Constituency Control*

	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	0.004	0.020	0.037***	0.001
	(0.010)	(0.012)	(0.010)	(0.009)
$REF_{SO} \cdot FRA$	-0.198***	-0.132***	-0.083***	-0.048***
	(0.007)	(0.008)	(0.008)	(0.007)
$REF_{SS} \cdot FRA$	-0.123***	-0.072***	-0.049***	-0.044***
	(0.007)	(0.008)	(0.008)	(0.007)
R-Squared	0.393	0.138	0.272	0.432
N		513443		

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table G.7: *Sub-district Urbanization Control*

	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	0.008	0.010	0.030***	0.001
	(0.008)	(0.010)	(0.009)	(0.008)
$REF_{SO} \cdot FRA$	-0.208***	-0.142***	-0.080***	-0.053***
	(0.006)	(0.008)	(0.007)	(0.006)
$REF_{SS} \cdot FRA$	-0.127***	-0.076***	-0.034***	-0.039***
	(0.006)	(0.007)	(0.007)	(0.006)
R-Squared	0.397	0.146	0.279	0.423
N		**595906**		

$^{*}\ p < 0.05,\ ^{**}\ p < 0.01,\ ^{***}\ p < 0.001.$

Table G.8: *Religion Control*

	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	0.005	0.009	0.034***	-0.002
	(0.009)	(0.010)	(0.009)	(0.008)
$REF_{SO} \cdot FRA$	-0.206***	-0.141***	-0.079***	-0.052***
	(0.006)	(0.008)	(0.007)	(0.006)
$REF_{SS} \cdot FRA$	-0.125***	-0.074***	-0.033***	-0.039***
	(0.006)	(0.007)	(0.007)	(0.006)
R-Squared	0.398	0.146	0.278	0.423
N		591178		

$^{*}\ p < 0.05,\ ^{**}\ p < 0.01,\ ^{***}\ p < 0.001.$

Table G.9: *Potential Caste-conflict Control*

	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	0.008	0.010	0.030***	0.001
	(0.008)	(0.010)	(0.009)	(0.008)
$REF_{SO} \cdot FRA$	-0.208***	-0.141***	-0.081***	-0.053***
	(0.006)	(0.008)	(0.007)	(0.006)
$REF_{SS} \cdot FRA$	-0.126***	-0.075***	-0.035***	-0.040***
	(0.006)	(0.007)	(0.007)	(0.006)
R-Squared	0.397	0.146	0.279	0.423
N		595906		

$^{*}\ p < 0.05,\ ^{**}\ p < 0.01,\ ^{***}\ p < 0.001.$

Table G.10: *Forest Cover Control*

	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	0.014	0.015	0.027**	0.002
	(0.008)	(0.010)	(0.009)	(0.008)
$REF_{SO} \cdot FRA$	-0.195***	-0.130***	-0.081***	-0.050***
	(0.006)	(0.008)	(0.007)	(0.006)
$REF_{SS} \cdot FRA$	-0.113***	-0.064***	-0.035***	-0.037***
	(0.006)	(0.007)	(0.007)	(0.006)
R-Squared	0.400	0.149	0.278	0.422
N		592847		

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table G.11: *Geographic Elevation*

	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	0.002	0.019	0.043***	0.018
	(0.014)	(0.013)	(0.013)	(0.012)
$REF_{SO} \cdot FRA$	-0.201***	-0.133***	-0.078***	-0.058***
	(0.013)	(0.014)	(0.012)	(0.011)
$REF_{SS} \cdot FRA$	-0.134***	-0.068***	-0.050**	-0.047**
	(0.017)	(0.016)	(0.015)	(0.015)
R-Squared	0.394	0.144	0.269	0.430
N		558135		

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table G.12: *Terrain Ruggedness*

	Education	**Health**	**Road**	**Sanitation**
$REF_{OS} \cdot FRA$	0.002	0.017	0.042***	0.018
	(0.014)	(0.013)	(0.013)	(0.012)
$REF_{SO} \cdot FRA$	-0.200***	-0.134***	-0.078***	-0.059***
	(0.013)	(0.014)	(0.012)	(0.011)
$REF_{SS} \cdot FRA$	-0.134***	-0.070***	-0.051***	-0.048***
	(0.017)	(0.015)	(0.015)	(0.014)
R-Squared	0.394	0.143	0.269	0.429
N		559634		

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

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