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ABSTRACT

Barriers or Catalysts? Traditional Institutions and Social Mobility in Rural India*

We examine how village level social group dominance affects the educational and occupational mobility of minority and other social groups in rural India across multiple generations. Theoretically, we distinguish between upper caste and own group dominance and examine the mechanisms underpinning inequality in mobility outcomes. We find inequality in upward educational mobility to have significantly narrowed over time with SCs doing better in upper caste and own-dominated villages, while STs and Muslims do worse in own-dominated villages. In contrast, for occupational mobility, we find no evidence of minority groups catching up with upper castes while SCs and STs are particularly disadvantaged, but SCs, again, do comparatively better in their own dominated villages. Exploring the mechanisms that explain the relationships between land dominance regimes and mobility, we find that a combination of agroecological and natural resource base and social cohesion of villages underpin the differences observed more than public goods provision. Our findings suggest a new pattern of inequality where historically disadvantaged groups appear less able to convert educational gains into labour market and occupational progress.

JEL Classification: J62, J71, O12

Keywords: educational mobility, occupational mobility, caste, village dominance regimes, India

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1 Introduction

Traditional institutions can play an important role in low-income countries, either by facilitating the transformation of economies and societies when markets function imperfectly, or by impeding economic and social progress. In the Indian context, the caste system is one such traditional institution that remains ubiquitous in contemporary settings (Bayly, 1999, Shah et al., 2017). A large literature has examined the beneficial role of caste networks in providing insurance, jobs, and credit for their members when markets are thin or fail (see Munshi, 2019). At the same time, individuals of lower caste (LC) background have faced significant disadvantage in accessing education and jobs, due to caste-based discrimination (Banerjee and Knight, 1985, Jodhka and Newman, 2007, Thorat and Attewell, 2007). Though the Government of India has enacted far-reaching affirmative action programmes for historically disadvantaged castes and tribes, and both educational and occupational mobility have improved for these groups over time (Asher et al., 2023, Hnatkovska et al., 2012, 2013), significant inequalities in their educational and occupational attainment remain (Kundu and Sen, 2023). Muslims, who have been behind ineconomic and educational status, have slipped further and experienced lower upward mobility due to residential segregation and other discrimination (Asher et al., 2023, Fazal et al., 2023, Jaffrelot and Gayer, 2012).

In this paper we examine the role of traditional village institutions in facilitating or impeding educational and occupational mobility.[1] In particular, we assess whether the mobility prospects of individuals belonging to minority and other social groups are affected by the dominance and relative economic and social power that upper castes (UCs) and their own social groups are able to wield within the villages and thus the neighbourhoods they reside.

Our paper contributes to the emerging literature on the effects of neighbourhoods, especially on their impact on social mobility (Ananat and Washington, 2009, Chetty and Hendren, 2018a,b, Cutler et al., 2008, Kling et al., 2007). While the influential Becker and Tomes (1979) model highlights the role of parental endowments for intergenerational mobility, neighbourhoods and communities also matter. Chetty et al.'s (2018a, 2018b, 2014) pioneering research on social mobility in the United States finds that the likelihood that a child born into a family in the lowest quintile of the national income distribution will make it into the top quintile, varies starkly by location. The maps displaying such

[1] We study educational and occupational mobility rather than income mobility because the survey questionnaire used in our data source—the Indian Human Development Survey (IHDS)—asks the head of the household about their father's educational and occupational attainment. This reflects that a question on paternal income would be highly problematic, both because of the recall challenge and because of the general difficulty in obtaining reliable income estimates in economies with large agrarian and informal sectors (Asher et al., 2023, Iversen et al., 2019).

geographical upward mobility contrasts have inspired similar, data-intensive efforts to identify 'lands' or 'pockets' of opportunity in India (Asher et al., 2023) and within and across African countries (Alesina et al., 2021): both studies find compelling spatial variation in educational mobility. With regard to explanations, Chetty et al. (2014) conclude that high-mobility areas 'tend to have less residential segregation, less income inequality, better primary schools, greater social capital, and more stable families'.

Notwithstanding the impressive facets of Chetty et al. (2014) and other recent work, little is known about how the lack of information, of necessary support, and less obvious enablers and plausibly powerful hurdles within village neighbourhoods affect intergenerational mobility.

In addition to the literature on neighbourhood effects, our paper also contributes to the rich sociological and economics literature on caste institutions in India (Anderson, 2011, Anderson et al., 2015, Borooah, 2012, Coffey et al., 2019, Deshpande, 2011, Munshi and Rosenzweig, 2006, 2016, Thorat and Neuman, 2012). Specifically, and following Srinivas (1959) and Iversen et al. (2014), we argue that in villages dominated by UCs, individuals from other caste, ethnic, or religious groups may face a positive 'proximity effect' (e.g. Sethi and Somanathan, 2010) as UC villages—by leveraging influential political networks (e.g. Banerjee and Somanathan, 2007)—may have been able to secure better access to schooling and other local public goods. At the same time, individuals of other caste, ethnic, or religious groups living in UC-dominated villages may face a negative 'oppression effect' through education or labour market discrimination that impedes their social mobility prospects. UC-dominated villages may also be less socially cohesive and have higher levels of village conflict and fragmentation, eroding trust and introducing inefficiencies in water (e.g. Anderson, 2011) and other local markets. Such frictions are likely to further reduce intergenerational mobility within the village, including among UCs.

At the same time, individuals from disadvantaged social groups who live in villages dominated by their own group (own-dominated villages) may benefit from a positive 'enclave effect' because greater social cohesion facilitates collective action and improves the capacity to politically organize to secure access to infrastructure such as paved roads and electricity, but also because they face less discrimination in schools or the labour market. 'Enclave effects' can also be negative if villages dominated by the social group in question are locationally disadvantaged, with more limited access to schools and village infrastructure. Group culture may also enter the frame: regressive gender norms may, for example, delay educational progress more strongly for Muslim women living in Muslim-dominated villages than for Muslim women resident in other village communities (Luke, 2021).

We study educational and occupational mobility for three generations of males residing in UC-dominated and own-dominated villages, relative to villages which are not dominated by UCs or by the social group the grandparent–father–son triad belongs to.[2] In addition to upward and downward educational and occupational mobility, we also examine the mechanisms through which proximity, oppression, and enclave effects may manifest themselves, including through the provision of schooling, other village public goods, village social cohesion and conflict, favourable agroecological conditions, and other locational factors.

We use a nationally representative dataset (the IHDS 2011–12) that asks heads of households about their fathers' main occupation and educational attainment. One important advantage is that this dataset is multi-generational, which enables us to study the long-term effects of village institutions on intergenerational mobility across three generations. The IHDS has both individual-level data, which allows us to construct mobility measures at that level, and village-level data, which contains detailed information on village social composition and land distribution, from which we obtain information about the economic and social dominance of different social groups. We work with over 17,928 grandfather–father–son triads spanning 1,326 villages, which enables us to follow three generations from 1913 to 2012, a period which saw dramatic social, economic, and political change in rural India.

Our findings may be summarized as follows: we observe considerable educational mobility and (much) greater educational than occupational mobility across the three generations. On educational mobility, we find a significant catch-up in the recent generation for Scheduled Castes (SCs) and Scheduled Tribes (STs), but less so for Muslims. This reinforces other findings of considerable educational progress (Asher et al., 2023, Hnatkovska et al., 2012) but also speaks to contemporary concerns about a failure to make the most of a more educated labour force. Further accentuating this concern, while downward educational mobility is rare, downward occupational mobility, mainly from farming to agricultural labour, is frequent. Further, as the maps in Figures A3 and A4 in the Appendix demonstrate, the extent to which educational mobility translates into occupational mobility varies notably not only across regions and states but also across social groups. Overall, these findings point to a new pattern of inequality where historically disadvantaged groups appear to be less able to convert educational mobility gains into corresponding occupational and labour market progress.

[2]We restrict our focus to male members from the IHDS data for two reasons. First, women in India typically relocate to their husband's household after marriage, so the household-level information on adult women will almost exclusively comprise unmarried daughters and wives; for the latter, information about their native household is not available. There is thus a selection bias and missing data problem here that cannot be easily resolved. Second, the question on the grandparent in the IHDS does not ask about the grandmother's education and occupation, only about the grandfather's.

On the role of village dominance in the educational mobility of SCs, we find that the importance of the village neighbourhood has reduced over time. While observing positive proximity and own-enclave effects for grandfather–father (G1–G2) pairs, enclave effects remain but are of a smaller order of magnitude for father–son (G2–G3) pairs. For Muslims, we find a strongly negative enclave effect that persists over time. For STs, a strongly negative enclave effect is more pronounced for G2–G3 pairs. For these two groups, we find no evidence of proximity effects. For Other Backward Classes (OBCs) there are no enclave effects, but a negative UC-dominance effect for some empirical specifications.

On downward mobility, which we interpret as capturing vulnerability, the main overall findings are that there are similarities across social groups for educational downward mobility, but stark contrasts for downward occupational mobility: for the latter, SCs and STs are at significantly higher risk, which largely persists across generations. On the effects of village dominance, the younger generation of SCs are less at risk in own-dominated villages, while STs and Muslims are more at risk in own-dominated villages. For G1–G2 pairs, SCs were more and OBCs less likely to experience downward educational mobility in UC-dominated villages.

On mechanisms, and starting with simple regressions (Tables A7–A10), we find that other than OBC-dominated villages, UC-dominated villages have better educational infrastructure, especially with regard to secondary Government Schools. The infrastructure advantages of UC-dominated villages are more pronounced for electricity and water, but are also observed for road-type infrastructure, compared to OBC-, Muslim- and ST-dominated villages. On locational factors and considering remoteness (distance to town or district headquarters), only ST-dominated villages are at a significant disadvantage compared to UC-dominated villages. UC-dominated villages are more likely to be located in favourable agroecological zones than are OBC- and ST-dominated villages. While consistent with the observed proximity advantages, these are simply correlations between village regimes and the availability of different types of infrastructure. We also find that living in separate hamlets is more likely in UC- and OBC-dominated villages.

When disentangling mechanisms for education and occupation mobility further, we provide a corrective to received wisdom by suggesting that a combination of village location in a favourable agroecological zone, social cohesion, and, to a lesser extent, other locational advantages—rather than infrastructure and other public goods—are the main determinants of enclave and proximity advantages. We find that location in a favourable agroecological zone underpins positive enclave and proximity effects for SCs, STs, and Muslims, but is negative for OBC enclaves. School and village infrastructure does not play a role except for Muslims.

The rest of the paper is organized as follows: Sections 2 and 3 elaborate on the con-

ceptual and theoretical anchoring and present and discuss the main data source. Section 4 covers interpretations of dominance and alternative mobility measures, and presents descriptive statistics. Sections 5 and 6 motivate and lay out the empirical specifications and present our results. Section 8 sums up and concludes the article's contributions.

2 Conceptual and theoretical anchoring

The following analysis is informed by concepts of caste dominance and fragmentation, expanding on theoretical arguments in, among others, Sethi and Somanathan (2010), Iversen et al. (2014), and Banerjee and Somanathan (2007). Drawing on the pioneering work of Srinivas (1966) and following Anderson (2011) Iversen et al. (2014), and Sethi and Somanathan (2010), our entry point is the concept of (upper) caste dominance where dominance may be either resource- or population-based.

For an individual of SC (Dalit) background, it is instructive to consider the net effect of living in a UC-dominated village as the sum of a positive proximity effect and a negative oppression effect. A proximity advantage may result from the political networks that Brahmins and other members of the UCs can mobilize, and the favourable access to village-level public goods that this may result in, echoing Banerjee and Somanathan (2007) and Sethi and Somanathan (2010). For the same individual, there are also potential negative oppression effects resulting from different forms of discrimination encountered when resident in a UC-dominated village.

At the outset, we hypothesize that the net effect on the social mobility prospects of a person of Dalit background may depend on the type of mobility considered, since proximity and oppression effects are likely to have different manifestations across institutional and activity domains. For educational mobility, a proximity advantage may result from access to and a positive quality of schools effect or from a Sanskritization or upper caste emulation-type educational aspiration effect, which could occur if the village has UC members in or with tertiary education or working in prestigious non-farm and other jobs. Unlike a private labour market, interaction and behaviour within schools is moderated by teachers—who are public servants—which could reduce discrimination and oppression effects. However, as work by Nambissan (2010) and others has shown, discrimination by teachers and insults and bullying by UC peers may be quite common. In addition, LC students may confront negative stereotypes when they interact with higher-caste students in the classroom (Hoff and Pandey, 2006).

For occupational mobility and non-farm jobs, a UC proximity advantage may be less straightforward: while political and other networks may help to stimulate local investments, proximity to trader and other business community castes could be a more

important determinant of occupational mobility prospects: in employment relations, the risk of adverse oppression effects—in hiring and in day-to-day interactions—may also be more pronounced. Further, as argued by Anderson (2011), social distance between LCs and UCs in UC-dominated villages may lead to a breakdown in trading opportunities in markets, including the market for irrigation water, resulting in lower agricultural incomes for LC groups, and hence fewer resources for them to move out of farming-related activities.

We also consider what Iversen et al. (2014) term own-enclave effects. For a village dominated by a minority group, the net own-enclave effect can be thought of as the sum of positive and negative enclave effects, which, again, could operate differently for educational and occupational mobility and for different social groups. For educational mobility, educational aspirations may be limited by the absence of suitable role models, while the access to and quality of education and schools may be limited by weak collective political leverage (Bailwal and Paul, 2021, Krishna, 2013, Mani and Riley, 2021). At the same time, the risk of caste-based humiliation in school should be filtered out. Here, culture may also enter the frame: regressive gender norms may, for example, delay educational progress more strongly for Muslim women living in Muslim-dominated villages than for Muslim women in other village communities (Luke, 2021).

For occupational mobility, the net enclave effect also remains uncertain. The economic and political power of the minority group in villages where they dominate should lead to less exploitation of these groups in rural labour markets and better access to more lucrative non-farm jobs (Dasgupta and Pal, 2021, Himanshu, 2020), thereby promoting occupational mobility. On the other hand, if these villages are locationally or infrastructurally disadvantaged—for example, situated far away or have poor road connections to urban growth centres or market towns, or are located in agroecologically disadvantaged areas, with few prospects for agricultural growth (Palmer-Jones and Sen, 2003)—occupational mobility prospects may be limited.

In Table 1 we outline the possible mechanisms by which proximity, oppression, and enclave effects may be manifested within UC- and own-dominated villages, separately for educational and occupational mobility. Proximity effects and oppression effects are likely to be present in UC-dominated villages, and are hypothesized to have positive and negative effects, respectively, though the precise mechanisms at play may be different for educational and occupational mobility. Enclave effects are likely to be present in own-dominated villages, and are hypothesized to comprise both positive and negative effects, making the net effect ambiguous.

We next discuss data, variable construction, and empirical methodology.

Table 1: Effects on mobility in different village types

Type of effect	Where present?	Effect on mobility	Educational mobility	Occupational mobility
Proximity effect	UC-dominated villages	Positive	• Presence of good-quality schools • Aspirational and role model effects	• Aspirational and role model effects • Better village infrastructure
Oppression effect	UC-dominated villages	Negative	• Discrimination by UC teachers • Negative stereotypes • More village conflict and less social cohesion	• Labour market discrimination • More village conflict and less social cohesion
Enclave effect	Own-dominated villages	Ambiguous	• Lack of role models (-ve) • Lack of good schools (-ve) • Less discrimination in schools (+ve)	• Less labour market discrimination (+ve) • More social cohesion and less conflict (+ve) • Locational and infrastructural disadvantage (-ve)

Note: own-dominated village is where the dominant group is SC, ST, OBC, or Muslim; +ve: positive effect on educational/occupational mobility; -ve: negative effect on educational/occupational mobility.
Source: authors' compilation.

3 Data

We take advantage of a well-known and unique household panel dataset for rural India collected by the National Council of Applied Economic Research (NCAER) on behalf of the University of Maryland. The Indian Human Development Survey (IHDS) is a nationally representative survey of households across India; the first two rounds covered 2004–05 (IHDS-1) and 2011–12 (IHDS-2). IHDS-1 covered 41,554 households and IHDS-2 covered 42,152 households, with 85 per cent of households in IHDS-1 resurveyed in IHDS-2. Households lost to attrition in urban and rural blocks of north-eastern states were verified by NCAER monitoring teams: replacement households were randomly selected in the same neighbourhood to refresh the sample, with 2,134 new households included in IHDS-2. IHDS-2 makes it possible to track inequality and social mobility over a more extensive time period and contains information not only about co-residents in a given household but also about non-resident (former) household members. We use IHDS-2 data in our analysis in this paper.

The IHDS data provide detailed information on education and occupation of the male head of household and his co-resident sons that is needed for any intergenerational mobility estimation. In addition, there is a separate module in the IHDS for household family members who have migrated, where information on the education and occupation of the non-resident family member, along with information on his relationship with the head of the household, is provided. This module facilitates a near-complete specification of all

grandfather–father–son triads, thus facilitating multi-generational mobility analysis.[3]

3.1 Data construction

We focus on intergenerational mobility among male household members in rural India. More specifically, we estimate intergenerational mobility for grandfather–father and father–son pairings, namely the household head's father (G1), household head (G2), and the household head's resident and non-resident sons (G3). From now onward, we describe these as the grandfather's and father's generation (G1–G2) and father's and son's generation (G2–G3). Figure 1 showcases the grandfather–father–son links that we investigate. The primary node represents the household head's father, or G1. G1 may have more than one son, the household head and the household head's resident and non-resident siblings, represented by the secondary nodes generation 2 head (G2 Head), generation 2 resident siblings (G2 RS), and generation 2 non-resident siblings (G2 NRS). The household head may have sons who are co-resident and/or who are non-resident. The tertiary nodes stemming from the household head represent the generation 3 resident sons (G3 RS) and generation 3 non-resident sons (G3 NRS).

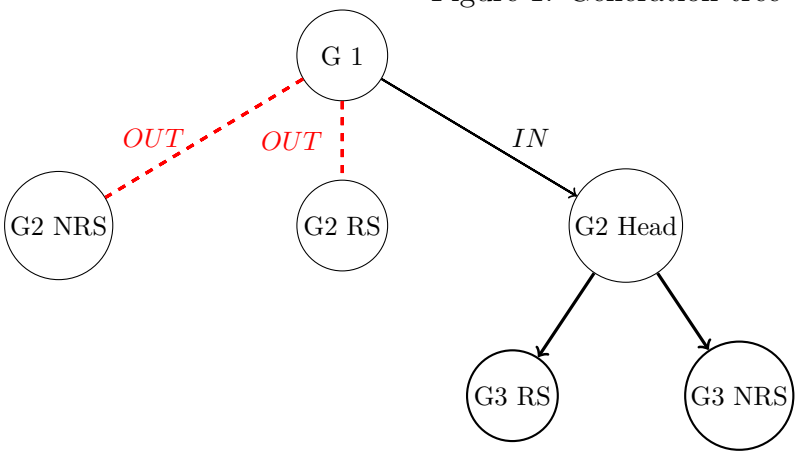
Our data provide us with 17,928 observations of grandfather–father–son triads, of which 3,663 observations are G1–G2 Head–G3 NRS triads in rural India. Our data include information about the resident household head as well as non-resident household heads or the household head's husband in the case of non-resident husbands of female heads. To identify the non-resident husbands with female heads, we use the non-resident family member roster. We used an age cutoff of 18 years for G3, as by then most sons have completed their schooling. For G2, we used an age cutoff of 36 years. We are interested in understanding the impact of local social group dominance on mobility. For this, we need information on the composition of the population by social groups or/and the distribution of land by social groups in the local area. Such information is collected by IHDS, but only for rural areas. We thus restrict our analysis to rural areas.

4 Interpreting dominance and measuring mobility

We investigate the relationship between village dominance by a particular social group and the intergenerational mobility of members of each group of interest. Srinivas (1966) interpreted a caste as dominant 'if it owns a sizeable amount of the arable land locally available'. This is slightly vague and as Srinivas duly recognizes, strength in numbers

[3]The only missing information would be for non-resident family members where education and occupation information is not available, and the information about the sons of G2 non-resident siblings if they are not residing in the primary household.

Figure 1: Generation tree



Note: we focus on the grandfather–father–son triads. In this generation tree, G1 is the father of the household head (the grandfather), G2 Head is the household head (the father). RS and NRS refer to resident and non-resident siblings, respectively. The black arrowed line highlights the relationships that we investigate, while the dashed red line highlights the family nodes we exclude from the study.
Source: reproduced from Kundu and Sen (2023), with permission.

could also account for or reinforce dominance: a caste group could thus be argued to be village-dominant if it owns most of the village land, owns more land than any other group, if their members form a majority, or it is the group with the largest share of the village population. As discussed by Anderson (2011), some, including Dumont (1970), argue that the economic power secured by dominant land ownership is the only credible measure of dominance. We thus, also following Anderson (2011) and Iversen et al. (2014), use land ownership as our main indicator of village dominance. At the same time, and as addressed in our descriptive statistics discussion later, we observe a high degree of correlation between different measures of village land and population dominance.

Following Alesina et al. (2021), we use a transparent and simple measure defining upward intergenerational mobility as a binary variable that takes the value 1 if the educational or occupational attainment of a son exceeds the attainment of his father. We consider mobility across three generations: between G1 and G2 and between G2 and G3. For education, if the years of education of the son (parent) exceeds that of the parent (grandparent), these individuals are interpreted to have experienced upward mobility. We choose years of education over categorical divisions as years of education provide more granular information on education than level of education.[4]

To categorize occupation, we draw on Iversen et al. (2019). The ordering of occu-

[4]Also, when years of education is used along with a continuous mobility measure, as we do in our robustness exercise, it helps quantify education differences more accurately as compared to education levels. In addition, we ran our analysis using education levels and the results are qualitatively similar (results available on request).

pations follows the hierarchical scale proposed by Armstrong (1972), with Category 6 (professionals) having the highest socio-economic status (SES) and Category 1 (agricultural and other manual labourers) having the lowest SES.[5] Occupational mobility is defined similarly to education mobility. If the individual is working in an occupation higher on the SES ladder than his father, he is classified as upwardly mobile.

A limitation of measuring mobility purely as a move up the educational/occupational ladder is that this fails to account for the regular downward mobility that occurs in low-income settings, which can be consequential for individuals who descend into poverty (Iversen et al., 2019). Therefore, we complement our measure of upward mobility with a measure of downward mobility, which we also define as a binary variable equal to 1 if the educational/occupational level of the father (son) is lower than that of the grandfather (father), and 0 otherwise.

4.1 Dominance and mobility patterns

We first present some descriptive statistics to provide context on village dominance and mobility across the country. Figure A1 presents maps showing the share of land held by social groups across districts in India. This is based on data from villages in each district that were included in the survey sample: these are not representative at the district level. As can be gauged from the first two maps, UCs and even more so OBCs, on average, own higher shares of land in most districts. SCs have higher land shares in only a few districts, which are scattered across the country. ST dominance in land holdings is concentrated in central and eastern Indian districts: STs own very little land in other parts of India.

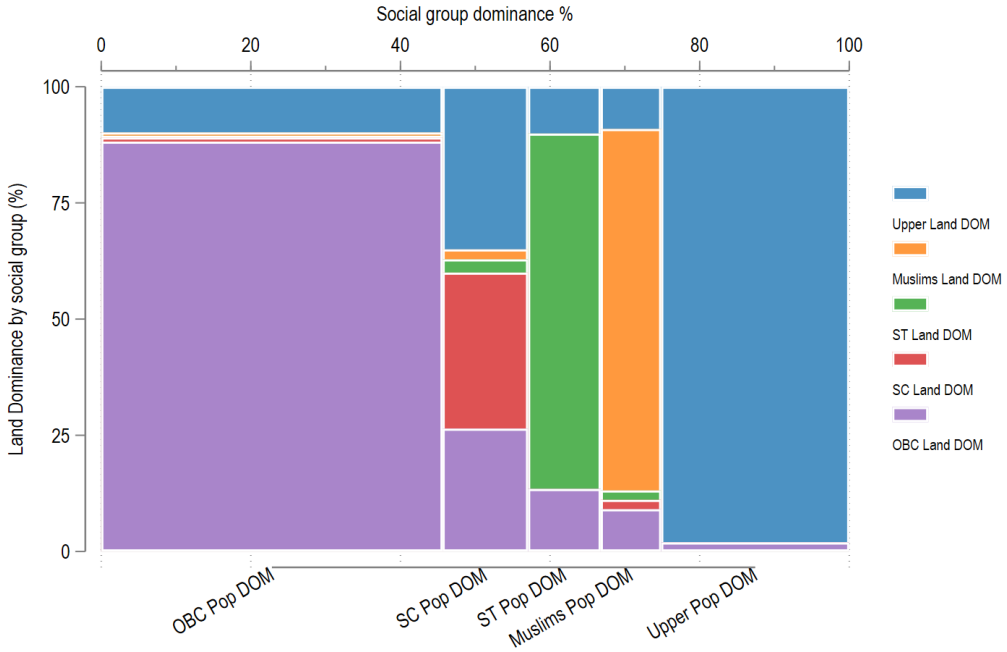
We find a high correlation between the social groups that land-dominate and population-dominate a village (Figure 2). When a village is population-dominated by OBCs and UCs, they are highly likely to also be land-dominated by the same social group. About 45 per cent of villages are population-dominated by OBCs, and among these more than 80 per cent of villages are also land-dominated by OBCs. For SCs, this relationship is weaker. Less than 30 per cent of the villages that are population-dominated by SCs (about 10 per cent of all villages) are also land-dominated by SCs. In ST and Muslim population-dominated villages, the population-dominant group tends to be land-dominant in about 80 percent of cases. There are not many villages where Muslim and ST households dominate with respect to population, but where they do, they are also significant landowners.

[5]The ordered list of categories for lowest to highest is: (1) agricultural and other manual labourers, including construction workers, (2) non-agricultural lower-status vocational occupations, (3) non-agricultural higher-status vocational occupations, (4) farmers, (5) clerical, and (6) professionals. For more details on the classification and its limitations, see section 3.2 in Kundu and Sen (2023). As part of the robustness exercise, we also test alternative orderings of occupation categories that also yield qualitatively similar results (results available on request).

Almost all villages population-dominated by UCs are also land-dominated by UCs.[6]

At an individual level, a majority of individuals belonging to a social group live in villages that are land-dominated by the same group, except for SCs (Figure 3). OBCs represent a little less than 40 per cent of the population, and about 70 per cent of them live in OBC land-dominated villages. This pattern is similar for other groups except SCs. About 25 per cent of the population in rural India are SCs, but only a little more than 10 per cent of them live in villages land-dominated by SCs.

Figure 2: Proportion of land- and population-dominated villages by social group



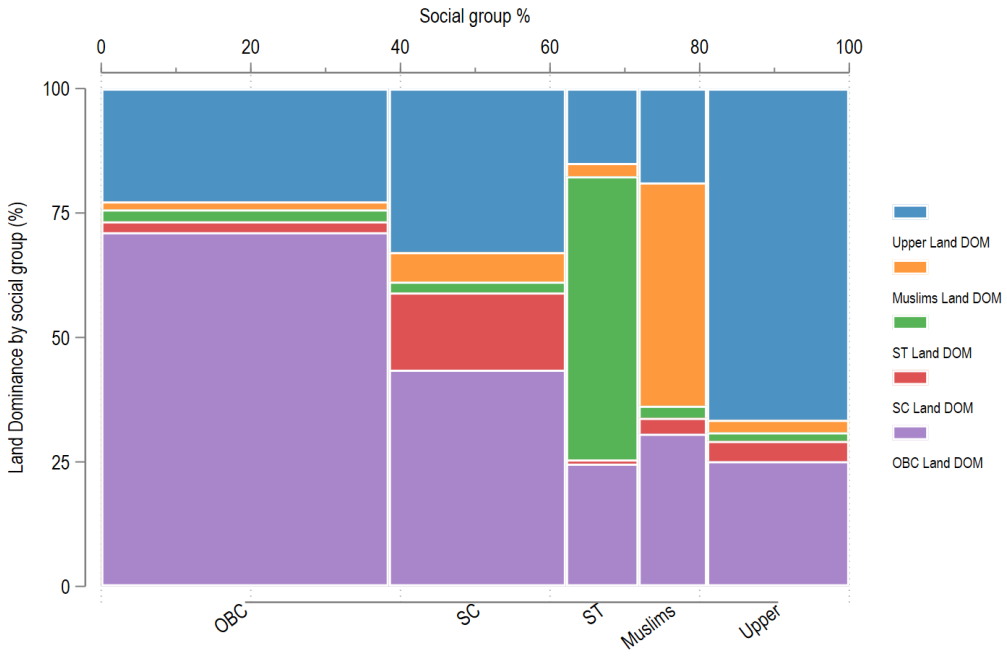
Note: this figure displays a spine plot illustrating the distribution of land dominance by social groups and population dominance at the village level. The y-axis represents the percentage of land dominance by each social group. The lower x-axis shows the population-dominant social groups, and the upper x-axis shows the percentage of each population-dominant social group.
Source: authors' compilation based on IHDS 2011–12 data.

We present Sankey graphs of educational and occupational mobility across the three generations in Figures 4 and 5.[7] We see considerably more educational mobility than occupational mobility across the three generations in India, echoing Asher et al. (2023)

[6]Figure A2 presents the land shares by social groups across states in India. We see that while OBCs and UCs dominate land shares in most states in India, there are exceptions. For example, in Jammu and Kashmir and West Bengal, Muslims own a considerable amount of land, and in Orissa, Jharkhand, and Chhattisgarh, STs own a large share of the land. In general, SCs do not have large land ownership in most states in India.

[7]Figures A3 and A4 present all-India maps of upward educational and occupational mobility, with individual-level data aggregated to the district level, and Figures B2.1 to B2.4 present bivariate maps of education/occupational mobility and land dominance regimes for generation pairs G1–G2 (grandfather–father) and G2–G3 (father–son).

Figure 3: Proportion of households by social group and village regime



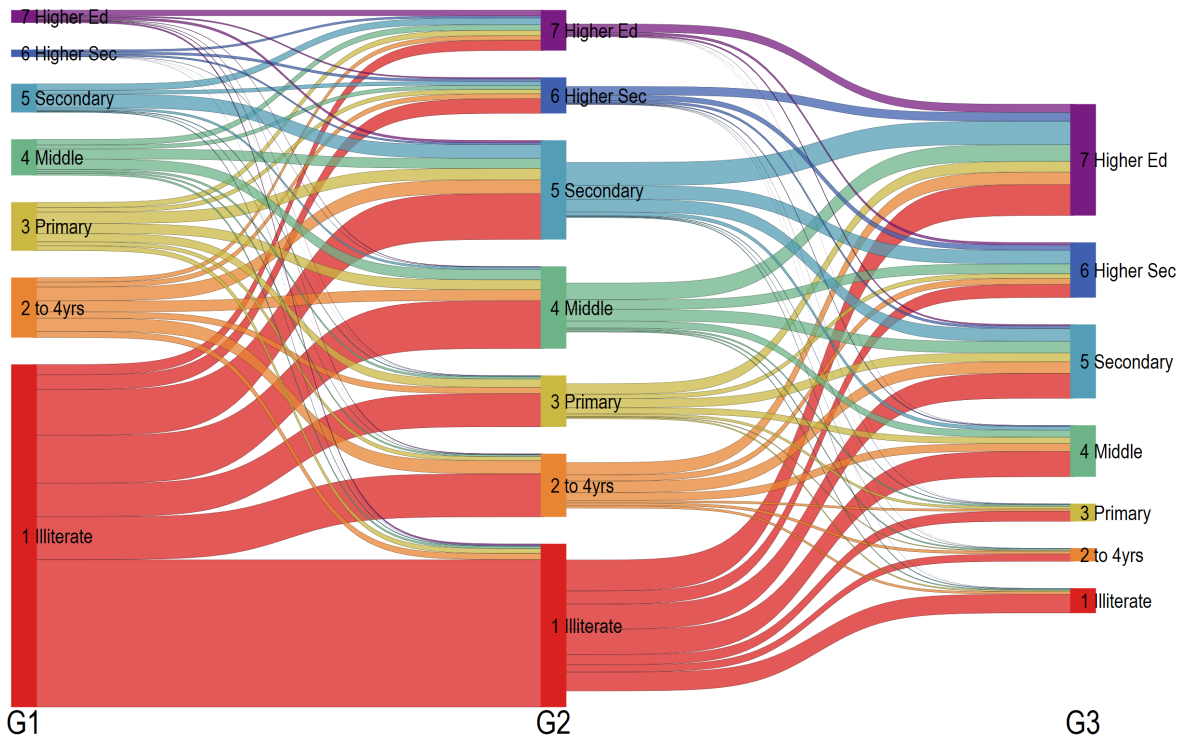
Note: this figure displays a spine plot illustrating the distribution of land dominance by social groups at the household level. The y-axis represents the percentage of land dominance by each social group. The lower x-axis shows the households that belong to various social groups, and the upper x-axis shows the percentage of each social group in the population.

Source: authors' compilation based on IHDS 2011–12 data.

and Kundu and Sen (2023). More strikingly, we find significant downward occupational mobility (driven in large part by a high movement from farmers to agricultural labour) compared to educational mobility, which is generally upward.

By land dominance regimes, we see more upward educational mobility for SCs and UCs in their own-dominated villages, but the reverse for OBCs, STs, and Muslims for the G1–G2 pairs. In G2–G3 pairs (second panel) for education upward mobility we do not see a discernible difference in mobility in own-dominated vs. other villages (Figure 6). For occupational mobility, there is more upward mobility for all groups in own-dominated villages in G1–G2 pairs, while in G2–G3 pairs this holds only for SCs and UCs. Overall, upward (downward) mobility in education is higher (lower) than occupation mobility in both generations. In G2–G3 pairs, upward education mobility is substantially higher for both own-dominated and other villages, while the increase in occupation upward mobility is small. Downward mobility also has generally decreased for both education and occupation over the generations.

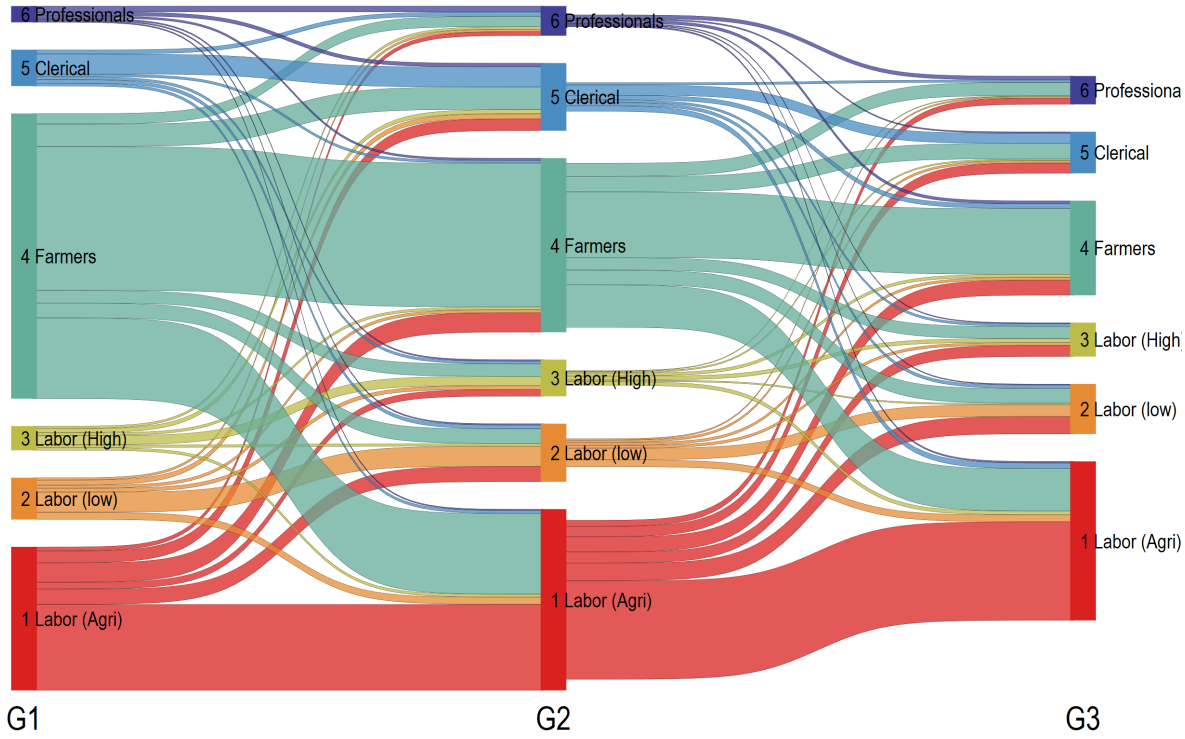
Figure 4: Sankey educational mobility patterns



Note: this Sankey diagram illustrates the transitions in education levels across grandfather, father, and son (G1–G2–G3).

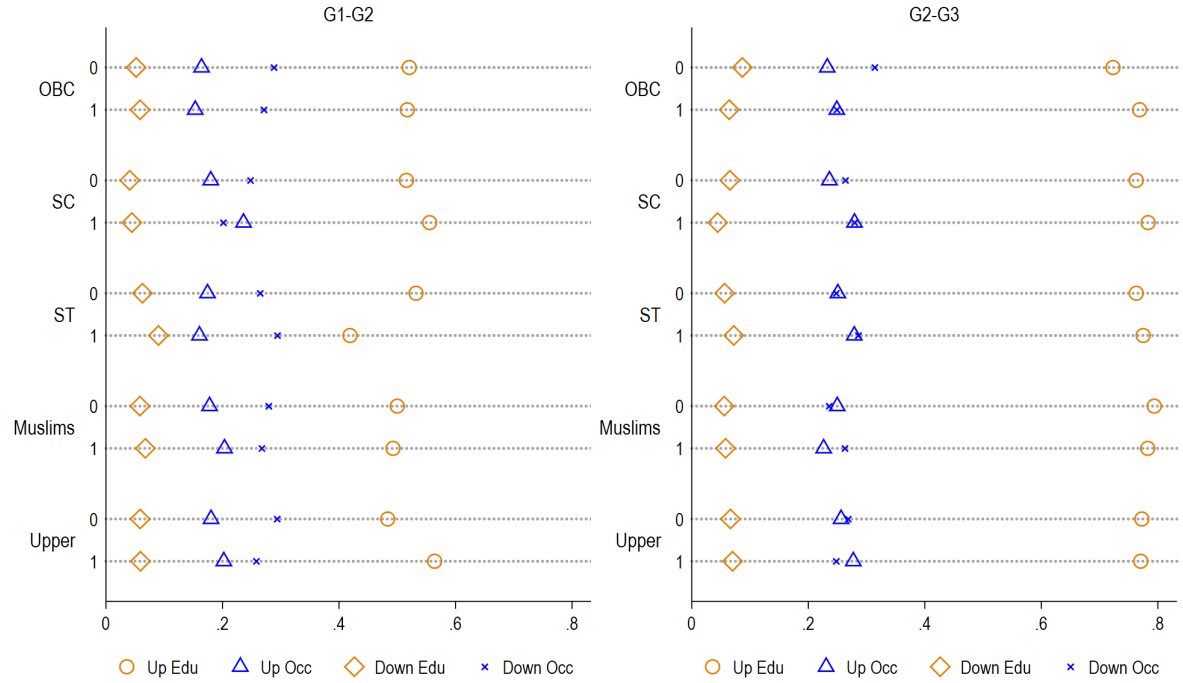
Source: authors' compilation based on IHDS 2011–12 data.

Figure 5: Sankey occupational mobility patterns



Note: this Sankey diagram illustrates the transitions in occupational categories between grandfather, father, and son (G1–G2–G3).
Source: authors' compilation based on IHDS 2011–12 data.

Figure 6: Educational and occupational mobility by land dominance (G1–G2 and G2–G3)



Note: we focus on the upward/downward educational and occupational mobility by land dominance among different social groups for grandfather–father (G1–G2) and father–son (G2–G3) pairs. 1 = the social group is land-dominant, otherwise 0. Higher values indicate higher upward/downward mobility.
Source: authors' compilation based on IHDS 2011–12 data.

5 Empirical specifications

To analyse the impact of village dominance on mobility, we estimate the equation below:

$$Y_{jsvl} = \alpha_0 + \alpha S_{jsvl} + \lambda G_{jsvl} + \theta(S_{svl} \times G_{jsvl}) + \beta_1(S_{svl} \times DS_v) + \beta_2(S_{svl} \times G_{jsvl} \times DS_v) + \gamma_1(S_{jsvl} \times DUC_v) + \gamma_2(S_{jsvl} \times G_{jsvl} \times DUC_v) + \mu X_{jsvl} + \phi_l + \varepsilon_{jsvl} \quad \forall \quad 0 < s \leqslant 4 \tag{1}$$

where j is the generation pair for which mobility is calculated ($j = 1$ for grandfather–father pair, $j = 2$ for father–son pair). Y_{jsvl} is the mobility measure for the generation pair j belonging to social group s from village v and state l.

S_{jvs} is the social group dummy (SC, ST, OBC, Muslim, UC) indicating the social identity of the household. G_{ij} is the generation pair dummy which takes the value 1 for generation pair $j = 2$ and 0 for generation pair $j = 1$. $S_{ijs} \times G_{ij}$ is the interaction term—indicating how the average impact of the social group identity of the household differs by the generation pair.

DS_v represents the land dominance by a social group in village v. Dominance is a binary measure that is 1 for the social group owning the largest share of land in the village, and 0 otherwise. As a robustness test, we also define dominance as the share of the land holding of the social group owning most land in the village, to account for the extent of dominance.

β_1 is the differential change in Y for social group s when they stay in their own-dominated villages (DS_v). β_2 represents how the impact of living in one's own group-dominated village changes in the father–son generation (G2–G3). These two terms give us the net enclave effect—the impact of staying in a village dominated by one's own group for the G2–G3 generation. Correspondingly, γ_1 indicates the impact of staying in UC-dominated villages (DUC_v) for social group s. γ_2 represents the change in this impact for the father–son generation (G2–G3).

X is a vector of individual and household controls. It includes the education and occupation of the older generation in each pair, household demographics,[8] and whether the household owns land or not. ϕ_l corresponds to the state fixed effects (FE) and ε_{jsvl} represents the error term.

To investigate the mechanisms behind the enclave and proximity effect, we modify this model in two ways:

$$\begin{aligned} Y_{jsvl} = \alpha_0 + \lambda G_{jsvl} + \beta_1 DS_v + \beta_2 (G_{jsvl} \times DS_v) \\ + \gamma_1 DUC_v + \gamma_2 (G_{jsvl} \times DUC_v) + \delta M_v + \theta_1 (M_v \times DS_v) \\ + \theta_2 (M_v \times DUC_v) + \mu X_{jsvl} + \phi_l + \varepsilon_{jsvl} \end{aligned} \tag{2}$$

We run separate regressions for each social group to allow the mechanisms to vary by social group. We also extend the basic model to include mechanisms that we have identified based on theoretical and descriptive analysis (M_v) and interactions of mechanisms with own and UC dominance ($M_v \times DS_v$ and $M_v \times DUC_v$). The coefficients on these independent variables will capture the overall impact of the mechanism and the impact of the mechanisms in own- and UC-dominated villages. The other controls are the same as used in Equation 1.

6 Results

In this section, we present our main results followed by discussions of robustness tests.

[8] The demographic variables include the size of the household, number of adults, elderly and children by gender, and number of married men and women. See note to regression results Tables for other controls.

6.1 Village dominance and mobility

We first discuss the results from estimating Equation 1 for upward mobility, before moving on to downward mobility. Our main results on upward educational and occupational mobility are presented in Table 2. UCs are the base group in Table 2, with columns (1)–(3) containing intergenerational educational and columns (3)–(6) intergenerational occupational mobility results with different sets of fixed and random effects and covariate controls. Column (1) presents the results for educational mobility, with base education included, no household controls, no state fixed effects, and no household random effects. Column (2) includes household controls and state fixed effects, and in column (3) we include household random effects. We follow the same sequence for occupational mobility in columns (4)–(6). In Figure 8, we present the coefplot estimates for upward educational mobility and occupational mobility (corresponding to Table 2, columns 3 and 6 respectively).

Upward education mobility

We discuss the results for educational mobility (columns (1)–(3) in Table 2). The first four rows show the overall mobility of OBC, SC, ST, and Muslim grandfather–father pairs relative to UCs. It is evident that educational mobility was significantly lower in all social groups compared to UCs. The sizes of the negative coefficients are about equal for SCs and STs (between –0.24 and –0.30), which is upwards of 2.5 times the size of the OBC coefficient (–0.08 to –0.11), with Muslims falling somewhere in between.

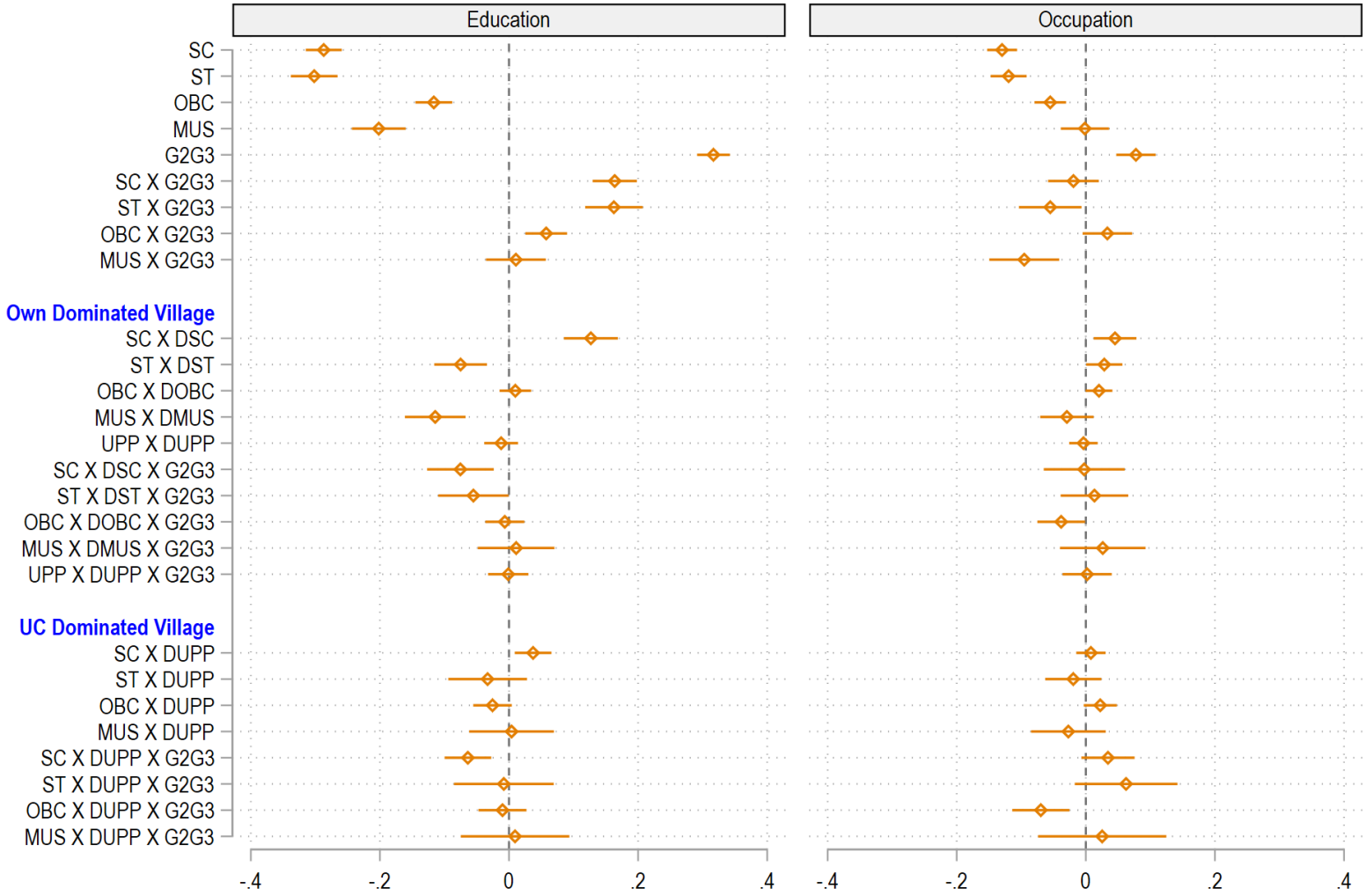
The next five rows show the results for educational mobility for the G2–G3 pair. This captures the change in educational mobility over the three generations. We also assess whether there has been a catch-up or divergence in educational mobility for SC, ST, OBC, and Muslim individuals over time relative to UCs by interacting the G2–G3 variable with each of the dummies for the four social groups in turn. We find a significant improvement in educational mobility in the father–son pair, as compared to the grandfather–father pair. This is not surprising in light of the large-scale expansion of schooling in India over the last decades. Notably, we see that SCs, STs, and OBCs show signs of catching up with UC individuals over time—the coefficients in the interaction term between the G2–G3 pair and the dummy variables for these three social groups are positive and significant. In contrast, we see no evidence of catch-up in educational mobility for Muslims over the generations.

We now consider the effects of village dominance, starting with social groups living in own-dominated villages. We find that SCs living in SC-dominated villages did much better (roughly halving the disadvantage), with the interaction term between whether

the individual belongs to the SC group and the dummy for SC land dominance positive and significant at the 1 per cent level. In contrast, STs and Muslims experienced lower upward educational mobility when living in own-dominated villages, with the relevant interaction terms negative and significant at the 1 per cent level. This indicates that the net enclave effect is positive for SCs but negative for Muslims and STs. There are no observable enclave effects for OBCs.

Looking at the effects of village dominance for individuals from different social groups in UC-dominated villages, it is noteworthy that SCs had significantly higher educational mobility, with the interaction term between the dummies for person belonging to an SC group and UC land dominance positive and significant. There is some evidence that OBCs living in UC-dominated villages do worse in educational mobility but these results are not consistent across columns (1)–(3). For other groups, there are no consistent, significant differences.

Figure 7: Coefplot for educational and occupational upward mobility - all generation pairs



Note: The coefplot displays the comprehensive educational and occupational mobility model, corresponding to columns (3) and (6) in Table 2, encompassing all generational pairs for upward mobility in education and occupation.

Source: authors' compilation based on IHDS 2011–12 data.

Table 2: Education and Occupation Upward Mobility Regression - All Generation Pairs

	Education years Upward mobility			Occupation Upward mobility		
	(1)	(2)	(3)	(4)	(5)	(6)
Social groups (Base:UPP)						
SC	-0.268***	-0.237***	-0.287***	-0.141***	-0.122***	-0.130***
	(0.016)	(0.016)	(0.017)	(0.014)	(0.014)	(0.014)
ST	-0.254***	-0.250***	-0.302***	-0.138***	-0.114***	-0.120***
	(0.021)	(0.022)	(0.022)	(0.017)	(0.017)	(0.017)
OBC	-0.081***	-0.075***	-0.116***	-0.064***	-0.054***	-0.055***
	(0.016)	(0.017)	(0.017)	(0.015)	(0.015)	(0.015)
MUS	-0.163***	-0.152***	-0.202***	0.007	0.004	-0.002
	(0.024)	(0.025)	(0.025)	(0.022)	(0.023)	(0.023)
G2G3	0.228***	0.246***	0.317***	0.069***	0.077***	0.078***
	(0.017)	(0.017)	(0.015)	(0.019)	(0.019)	(0.019)
SC X G2G3	0.171***	0.168***	0.164***	-0.015	-0.015	-0.019
	(0.023)	(0.023)	(0.021)	(0.024)	(0.024)	(0.024)
ST X G2G3	0.203***	0.181***	0.163***	-0.034	-0.045	-0.055*
	(0.029)	(0.029)	(0.027)	(0.030)	(0.030)	(0.030)
OBC X G2G3	0.047**	0.048**	0.058***	0.039	0.041*	0.033
	(0.021)	(0.021)	(0.020)	(0.024)	(0.023)	(0.023)
MUS X G2G3	0.037	0.032	0.011	-0.096***	-0.097***	-0.095***
	(0.031)	(0.030)	(0.028)	(0.033)	(0.033)	(0.033)
Living in own dominated villages						
SC X DSC	0.138***	0.121***	0.127***	0.053***	0.041**	0.045**
	(0.024)	(0.025)	(0.025)	(0.019)	(0.020)	(0.020)
ST X DST	-0.067***	-0.070***	-0.075***	0.027	0.026	0.029*
	(0.025)	(0.025)	(0.025)	(0.017)	(0.017)	(0.017)
OBC X DOBC	-0.015	0.004	0.010	0.008	0.021*	0.020
	(0.014)	(0.015)	(0.015)	(0.012)	(0.013)	(0.013)
MUS X DMUS	-0.113***	-0.119***	-0.114***	-0.016	-0.031	-0.029
	(0.027)	(0.028)	(0.029)	(0.024)	(0.025)	(0.025)
UPP X DUPP	0.031**	0.007	-0.012	-0.003	-0.004	-0.004
	(0.015)	(0.015)	(0.016)	(0.013)	(0.013)	(0.013)
SC X DSC X G2G3	-0.075**	-0.080**	-0.075**	0.006	-0.004	-0.003
	(0.034)	(0.034)	(0.031)	(0.039)	(0.039)	(0.038)
ST X DST X G2G3	-0.065*	-0.055	-0.055*	0.004	0.016	0.013
	(0.036)	(0.035)	(0.033)	(0.032)	(0.032)	(0.032)
OBC X DOBC X G2G3	-0.000	-0.004	-0.006	-0.037	-0.042*	-0.038*
	(0.020)	(0.020)	(0.018)	(0.023)	(0.023)	(0.022)
MUS X DMUS X G2G3	0.021	0.025	0.011	0.028	0.021	0.026
	(0.039)	(0.039)	(0.036)	(0.041)	(0.041)	(0.040)
UPP X DUPP X G2G3	-0.030	-0.027	-0.001	0.007	0.005	0.002
	(0.021)	(0.021)	(0.019)	(0.024)	(0.023)	(0.023)
Living in UC dominated villages						
SC X DUPP	0.078***	0.042**	0.037**	0.026**	0.009	0.008
	(0.017)	(0.017)	(0.017)	(0.013)	(0.014)	(0.014)
ST X DUPP	-0.030	-0.033	-0.033	-0.032	-0.018	-0.020
	(0.037)	(0.037)	(0.037)	(0.026)	(0.026)	(0.026)
OBC X DUPP	-0.040**	-0.031*	-0.026	0.018	0.025	0.022
	(0.017)	(0.018)	(0.018)	(0.015)	(0.016)	(0.016)
MUS X DUPP	-0.049	-0.006	0.004	-0.046	-0.027	-0.027
	(0.039)	(0.039)	(0.040)	(0.035)	(0.035)	(0.035)
SC X DUPP X G2G3	-0.061**	-0.066***	-0.064***	0.037	0.036	0.034
	(0.024)	(0.024)	(0.022)	(0.026)	(0.025)	(0.025)
ST X DUPP X G2G3	-0.013	0.002	-0.008	0.047	0.051	0.062
	(0.051)	(0.049)	(0.047)	(0.050)	(0.049)	(0.048)
OBC X DUPP X G2G3	-0.003	-0.005	-0.010	-0.069**	-0.071***	-0.070***
	(0.025)	(0.025)	(0.023)	(0.028)	(0.027)	(0.027)
MUS X DUPP X G2G3	0.028	0.007	0.009	0.018	0.023	0.025
	(0.056)	(0.055)	(0.051)	(0.060)	(0.061)	(0.060)
Base education	Yes	Yes	Yes	No	No	No
Base occupation	No	No	No	Yes	Yes	Yes
Household controls	No	Yes	Yes	No	Yes	Yes
State FE	No	Yes	Yes	No	Yes	Yes
Household RE	No	No	Yes	No	No	Yes
Observations	33699	33072	33072	25602	25021	25021

Note: Household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Source: authors' estimation based on IHDS 2011-12 data.

Are enclave, proximity, and oppression effects weakening over time? To examine this, we consider the interactions between dummies for social groups, own-/UC-dominance, and the G2–G3 pair. We find that the enclave effect is weakening for SCs and STs, with the interaction terms negative and statistically significant. This is an interesting finding as there has been a slow and steady catch-up in school infrastructure and road availability for SC- and ST-dominated villages compared to villages dominated by other groups over the period 1991–2011 (see Table B1.1, which is obtained from the Population Censuses). This suggests that factors other than school and village infrastructure may explain the weakening enclave effect for SCs and STs.

Upward occupational mobility

We now discuss the results on upward occupational mobility (columns (4)–(6) of Table 2). Starting with the first four rows, similar but smaller-scale disadvantages than for educational mobility are observed for SCs, STs, and OBCs across the three specifications. The negative coefficient sizes for SCs and STs are 2–2.5 times that of OBCs. Notice, also, that there is no initial occupational mobility disadvantage for Muslims relative to UCs. Further, in contrast to the educational mobility observations, there is no evidence of an occupational mobility catch-up for SCs, STs, and OBCs relative to UCs. Finally, for Muslims we find that an occupational mobility disadvantage relative to UCs has opened up over the three generations.

We next assess the effects of village dominance on occupational mobility. Similar to upward educational mobility, SCs living in SC-dominated villages had higher occupational mobility. For all other groups there is no consistent evidence of positive enclave effects. We also do not find any evidence of proximity/oppression effects for SCs, STs, OBCs, and Muslims. For occupational mobility we find no consistent and significant impact of living in UC-dominated villages. With respect to the changes in the effects of living in own- or UC-dominated villages over the three generations, we do not find evidence of any noticeable differences for the G2–G3 pair compared to the G1–G2 pair, except for OBCs, where enclave and proximity effects have both turned negative over time.

Downward mobility

Finally, we consider downward mobility to capture the vulnerability of individuals from different social groups (Table 3). Columns (1)–(6) of Table 3 follow the same structure as Table 2. Starting with downward educational mobility, we find that other social groups are more likely to experience downward educational mobility than are members of the UCs. Here, differences in downward educational mobility coefficients across OBCs, SCs, STs, and Muslims are much less pronounced, in the 0.032–0.040, 0.015–0.025, 0.029–

0.044, and 0.037–0.05 ranges, respectively. When considering changes over time, there is a notable general reduction in downward educational mobility (G2–G3 coefficient). This reduction is much less pronounced for SCs. In spite of this general reduction over time, the initial social group differences in vulnerability to downward educational mobility otherwise remain the same: for enclave and UC proximity and oppression effects, the only difference is the higher downward educational mobility among SCs and lower downward educational mobility among OBCs in UC-dominated villages; for G2–G3 there is a notable reduction in downward educational mobility for SCs in own enclaves; we also observe increases in downward educational mobility over time for STs and Muslims in their own enclaves.

Table 3: Education and Occupation Downward Mobility Regression - All Generation Pairs

	Education years Downward mobility			Occupation Downward mobility		
	(1)	(2)	(3)	(4)	(5)	(6)
Social groups (Base:UPP)						
SC	0.025***	0.014*	0.015*	0.200***	0.179***	0.212***
	(0.008)	(0.008)	(0.008)	(0.015)	(0.015)	(0.016)
ST	0.044***	0.029***	0.029***	0.217***	0.179***	0.204***
	(0.011)	(0.011)	(0.011)	(0.019)	(0.019)	(0.020)
OBC	0.040***	0.032***	0.032***	0.099***	0.079***	0.094***
	(0.009)	(0.009)	(0.009)	(0.017)	(0.016)	(0.017)
MUS	0.050***	0.037***	0.037***	0.088***	0.074***	0.099***
	(0.012)	(0.012)	(0.012)	(0.021)	(0.022)	(0.022)
G2G3	-0.065***	-0.075***	-0.076***	0.010	0.050***	0.068***
	(0.011)	(0.011)	(0.011)	(0.019)	(0.019)	(0.018)
SC X G2G3	0.041***	0.046***	0.046***	-0.036	-0.039*	-0.051**
	(0.014)	(0.014)	(0.014)	(0.023)	(0.023)	(0.023)
ST X G2G3	0.006	0.016	0.016	-0.039	-0.044	-0.046
	(0.017)	(0.017)	(0.017)	(0.031)	(0.031)	(0.031)
OBC X G2G3	-0.010	-0.008	-0.008	-0.029	-0.033	-0.042*
	(0.014)	(0.014)	(0.014)	(0.023)	(0.023)	(0.022)
MUS X G2G3	0.020	0.024	0.024	0.028	0.030	0.014
	(0.018)	(0.018)	(0.018)	(0.030)	(0.029)	(0.028)
Living in own dominated villages						
SC X DSC	0.007	0.009	0.009	-0.018	-0.021	-0.034*
	(0.010)	(0.011)	(0.011)	(0.020)	(0.021)	(0.021)
ST X DST	-0.009	-0.011	-0.011	0.005	-0.005	-0.016
	(0.011)	(0.011)	(0.011)	(0.021)	(0.021)	(0.021)
OBC X DOBC	-0.010	-0.010	-0.010	0.007	0.013	0.009
	(0.007)	(0.007)	(0.007)	(0.013)	(0.013)	(0.013)
MUS X DMUS	-0.020	-0.016	-0.016	0.020	0.001	-0.007
	(0.012)	(0.013)	(0.013)	(0.023)	(0.023)	(0.023)
UPP X DUPP	0.004	0.012	0.012	-0.024	-0.027*	-0.025
	(0.008)	(0.008)	(0.008)	(0.015)	(0.016)	(0.016)
SC X DSC X G2G3	-0.053***	-0.054***	-0.054***	-0.028	-0.035	-0.027
	(0.018)	(0.018)	(0.018)	(0.032)	(0.033)	(0.032)
ST X DST X G2G3	0.052***	0.049**	0.049***	-0.012	-0.016	0.001
	(0.019)	(0.019)	(0.019)	(0.036)	(0.036)	(0.035)
OBC X DOBC X G2G3	0.013	0.012	0.012	0.005	0.006	0.014
	(0.013)	(0.013)	(0.013)	(0.021)	(0.021)	(0.020)
MUS X DMUS X G2G3	0.046**	0.049**	0.049**	0.017	0.026	0.032
	(0.023)	(0.023)	(0.023)	(0.039)	(0.039)	(0.038)
UPP X DUPP X G2G3	-0.006	-0.006	-0.006	-0.019	-0.012	-0.015
	(0.013)	(0.013)	(0.013)	(0.024)	(0.023)	(0.022)
Living in UC dominated villages						
SC X DUPP	0.015**	0.026***	0.026***	0.004	0.013	0.014
	(0.007)	(0.007)	(0.007)	(0.012)	(0.013)	(0.013)
ST X DUPP	-0.010	0.001	0.001	-0.064**	-0.038	-0.034
	(0.015)	(0.016)	(0.016)	(0.030)	(0.029)	(0.029)
OBC X DUPP	-0.016*	-0.018**	-0.018**	0.006	0.024	0.027
	(0.008)	(0.009)	(0.009)	(0.016)	(0.016)	(0.016)
MUS X DUPP	0.009	-0.002	-0.002	0.002	-0.015	-0.018
	(0.018)	(0.018)	(0.018)	(0.032)	(0.033)	(0.033)
SC X DUPP X G2G3	-0.012	-0.010	-0.010	-0.024	-0.031	-0.033
	(0.013)	(0.013)	(0.013)	(0.021)	(0.022)	(0.021)
ST X DUPP X G2G3	0.024	0.011	0.012	0.071	0.062	0.048
	(0.026)	(0.026)	(0.026)	(0.051)	(0.052)	(0.052)
OBC X DUPP X G2G3	0.019	0.024	0.024	0.016	0.019	0.017
	(0.015)	(0.015)	(0.015)	(0.026)	(0.026)	(0.025)
MUS X DUPP X G2G3	0.007	0.010	0.010	0.033	0.023	0.022
	(0.033)	(0.033)	(0.033)	(0.054)	(0.055)	(0.053)
Base education	Yes	Yes	Yes	No	No	No
Base occupation	No	No	No	Yes	Yes	Yes
Household controls	No	Yes	Yes	No	Yes	Yes
State FE	No	Yes	Yes	No	Yes	Yes
Household RE	No	No	Yes	No	No	Yes
Observations	33699	33072	33072	25602	25021	25021

Note: Household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Source: authors' compilation based on IHDS 2011-12 data.

Turning to downward occupational mobility, a similar overall picture with one noteworthy difference emerges. This difference relates to the overall likelihood of downward occupational mobility being high in general and about twice as high for individuals of SC and ST background as for OBCs and Muslims; this resonates with suggestive findings from Iversen et al. (2019). When considering changes over time, we observe a general increase in downward occupational mobility vulnerability that is notably lower for SCs and possibly also for OBCs. There is also an indication of lower vulnerability among SCs living in own enclaves, but no effects of UC dominance. Unlike upward mobility—and somewhat counter-intuitively—with the exception of one weakly significant SC coefficient, we find no enclave advantage with regard to preventing such descents; this appears to indicate that the jati-based insurance networks which feature prominently in the development economics literature have not been effective in preventing occupational descent. Another interesting observation is that there is no additional vulnerability penalty from living in a UC-dominated village.

Summing up, we find inequality in upward educational mobility to have significantly narrowed over time, with SCs doing better in UC- and own-dominated villages, while STs and Muslims do worse in own-dominated villages. In contrast, for occupational mobility, we find no evidence of minority groups catching up with UCs, while SCs again do better in own-dominated villages. While minority groups were more vulnerable to downward educational mobility in the past, there has been an overall reduction in downward educational mobility with comparatively small differences persisting. However, minority groups, and especially SCs, continue to be much more likely to experience downward occupational mobility. Overall, these findings point to a new pattern of inequality where historically disadvantaged groups appear less able to convert educational gains into labour market and occupational progress.

6.2 Robustness tests

In this section we present a series of robustness tests of our main results on the relationship between village land dominance by social group and educational/occupational mobility. We first use a continuous mobility measure, where the measure is the difference between the grandparent–father/parent–son years of education and occupational ranks (using the ranks/categories described in Section 4). In contrast to the binary land dominance measure used in Tables 2 and 3, which does not quantify the extent of upward and downward mobility, this simple continuous measure allows for the mobility measure to vary from –14 to +14 for education and –5 to +5 for occupation. Thus, the mobility measure takes a higher value if the son's years of education are higher for the same level of

parental education. We present the results for upward mobility in Table A1.[9] We obtain broadly similar results with this continuous measure as with the binary measure, with SCs showing higher upward educational mobility in both own-dominated and UC-dominated villages (though the evidence on the latter is weaker than for the binary measure). STs and Muslims show lower educational mobility in own-dominated villages. For occupational mobility, we do not find clear evidence of enclave and proximity/oppression effects, as in the case of the binary measure.

Second, we replace the binary measure with continuous shares of land dominance. This means that the larger the proportion of land owned by a social group, the stronger is their land dominance.[10] We present the results for upward mobility in Table A2. There are some differences for the binary and continuous land dominance measures. SCs experience positive enclave effects in both educational and occupational mobility. STs and Muslims both face negative enclave effects in educational mobility (with no discernible effects for occupational mobility). We also see that Muslims—for the continuous land dominance measure—experience negative oppression effects in UC-dominated villages. All other results broadly remain the same across village regimes.

Third, we address the concern that individuals who left the village some years ago may not have experienced enclave/proximity/oppression effects in the same way as those who stayed behind. Therefore, we confine the sample only to resident siblings (in our case, 3.4 per cent of the G2 group are non-resident and 20.4 per cent of the G3 group are non-resident). The results for upward mobility are presented in Table A3. The results are very similar to those in Table 2.

Fourth, we address the concern that households that have moved into the village recently may not have experienced enclave/proximity/oppression effects to the same degree as a household that has lived in the village over three generations. We confine the sample only to households that have resided for at least 25 years.[11] The results are in Table A4 and are, again, very similar to those in Table 2.

Finally, we examine whether our results are sensitive to the truncation of the rural sample, where we drop G2 parents with an age younger than 36 years. We run Solon-type mobility regressions where we regress G2 education/occupation on G1 education/occupation for the rural sample with and without the age cutoffs (see Solon, 2018).

[9] We obtain qualitatively similar results for downward mobility using a continuous mobility measure as with the binary measure (results available on request).

[10] Figure A5 shows that the mean land shares of the dominant group range between around 50 per cent (SC-dominant villages) and 70 per cent (Muslim-dominant villages). Therefore, when a particular social group is dominant in a village, it usually holds a large proportion of the land in the village. This suggests that a binary measure of land dominance is a more suitable measure than continuous land dominance in our case.

[11] Note that only 2.4 per cent of our sample has resided in their present village for less than 25 years, suggesting very little in-migration to villages in India.

The results are presented in Table A5. The coefficients on G2 education/occupation (the intergenerational regression coefficients) are very similar for the two samples, suggesting that the age cutoff does not make a material difference to our results.

7 Mechanisms

Through what mechanisms may village dominance affect mobility? We first present descriptive statistics covering information on a variety of school, electricity, water, road, and other village infrastructure variables, on location, and on indicators of social cohesion. We estimate simple regressions of village dominance regime on each of these variables to investigate whether, as influential research on public goods access suggests (Banerjee and Somanathan, 2007), non-UC-dominated villages are disadvantaged relative to UC-dominated villages. While these results are suggestive and of interest in their own right, they do not provide evidence about the determinants of educational and occupational mobility. To make further progress, we present models of education and occupation mobility where candidate key mechanisms are interacted with the village regime variables.

7.1 Descriptive analysis

Table A6 presents descriptives on various measures of infrastructure, location, and social cohesion, and Tables A7–A10 present simple correlational regressions of public goods on village dominance regimes. To start with, SC-, ST-, and Muslim-dominated villages are less likely to have middle schools than are UC- and OBC-dominated villages. ST- and Muslim-dominated villages are also less likely to have a government secondary school. Overall, OBC-dominated villages are slightly advantaged in terms of school infrastructure (Table A7).

We next consider other infrastructure known to be crucial for development, such as electricity, piped water, and roads (Table A8). We observe significantly lower access to electricity among households in OBC-, SC-, ST-, and Muslim-dominated villages compared to villages dominated by UCs. There are also notable differences in the access to piped water as the main source of drinking water, where the disadvantage of ST- and Muslim-dominated villages is particularly pronounced; there is also a statistically weaker and smaller SC disadvantage. Turning to transport and road infrastructure, ST- and Muslim-dominated villages are less likely to have bus services and access to pucca (non-mud) roads.

On locational factors, ST-dominated villages, unsurprisingly, appear particularly disadvantaged as they are furthest away from pucca roads, towns, and district headquarters.

ST- and OBC-dominated villages are also significantly more likely to be located in unfavourable agroecological zones compared to UC-dominated villages: Muslim-dominated villages are likely to be located in favourable agroecological zones (Table A9).

We next consider indicators of the social fabric, cohesion, and frictions within village communities. We start by examining the prevalence of residential segregation—with social groups living in separate hamlets—across village regime types. We first note that villages dominated by SCs, STs, and Muslims are much less likely to have residential segregation than OBC- and UC-dominated villages. For the other social fabric indicators, which are discrimination of children in schools and village and jati conflicts self-reported by households, ST-dominated villages appear to be significantly worse affected in all three cases. For the two conflict indicators, households in Muslim-dominated villages report fewer village and jati conflicts (Table A10).

While the data for our analysis are from IHDS 2011–12, cleavages in public goods access existed even 40 years ago and were more prominent then. Using census data from 1971 and 1991, Banerjee and Somanathan (2007) document disadvantage in public goods for areas that were dominated by non-UCs. Bailwal and Paul (2021) use 2001 and 2011 census data to show that SC/ST population-dominated villages are less likely to have secondary schools than non-SC/ST-dominated villages. Taking this further and using census data from 1991, 2001, and 2011, we find that gaps in access to public goods exist throughout the period, but have narrowed over time (Table B1.1). Census data over time show that SC and ST population-dominated villages are less likely to have access to schools and roads than are villages dominated by other groups. Even in urban India there is evidence of residential segregation by social groups (Jamil, 2014, Mehta, 1969, Singh et al., 2019, Thorat et al., 2015) and that UC-dominated neighbourhoods have greater access to public services compared to Muslim and LC-dominated neighbourhoods (Adukia et al., 2022, Bharathi et al., 2022). As discussed, a favoured explanation for these gaps is that the political networks and leverage of UCs might be expected to affect the extent and quality of village infrastructure, including the access to different educational institutions (Banerjee and Somanathan, 2007).

7.2 Village dominance, mechanisms, and mobility

As our simple regressions show, there are considerable public goods advantages from residing in UC-dominated villages. While interesting, important, and supportive of influential hypotheses about the underpinnings of proximity advantages, these regressions do not answer questions about the mechanisms that affect intergenerational mobility. To disentangle these mechanisms, we expand the main specifications by interacting each of the possible mechanisms of interest with village regime, but now in separate regres-

sions for each social group: mechanisms of interest are gradually introduced in Tables A11–A18.

Mechanisms of educational mobility

Starting with educational mobility (Tables A11–A14), we first register the strongly significant G2–G3 coefficient for all social groups as well as the notably larger coefficient for SC and ST households. This points to considerable mobility progress especially for SC and ST groups. The results also confirm the effects of living in own enclaves and UC-dominated villages and changes in these over time. For SCs, for both, a weakening over time is observed. For STs, in notable contrast, the negative enclave effect becomes more pronounced over time.

To disentangle the mechanisms affecting intergenerational educational mobility, we consider how the own- and UC-dominance coefficients respond to the introduction of each of the mechanisms of interest and then the full model specification results in column (10). We find that positive own-enclave effects on educational mobility are associated with favourable agroecological conditions for SCs, and even more strongly for Muslims. For STs, a negative overall effect of favourable agroecological conditions is less pronounced in ST enclaves. For OBCs, we observe a negative enclave effect of favourable agroecological conditions. In UC-dominated villages there is a strong positive effect of favourable agroecological conditions for STs and Muslims, but no effect for SCs and OBCs. The public goods mechanism, which is favoured in the literature, is represented by school and other village infrastructure. For education infrastructure there are no consistent enclave or proximity effects, except for a negative enclave effect for Muslims. For other village infrastructure, there are no discernible effects for SCs, STs, and OBCs, but a positive own-enclave effect for Muslims.

For the social cohesion variables, there are notable correlations between separate hamlets, jati or village conflicts, and intergenerational educational mobility. For SCs, it is separate hamlets that matter: while the general effect is positive, educational mobility in SC enclaves with separate hamlets is much lower than in other SC enclaves. A similar but much smaller effect is observed for SCs in UC-dominated villages with separate hamlets. For STs, we observe a negative general effect of jati conflict that turns positive in UC-dominated villages. For OBCs, there are no relevant effects of the social cohesion variables. For Muslims, separate hamlets and jati conflict both matter. While the general effect of separate hamlets is negative, this turns positive for UC-dominated villages.

Mechanisms of occupational mobility

Turning to intergenerational occupational mobility, we first register the notable improvement over time (G2–G3 coefficient) for SCs and OBCs and the lack of similar progress for STs and Muslims. Another important observation is that none of the own- and UC-dominance coefficients are significant for any social group in the full model (Tables A15–A18)

For all groups, the mechanism results are weaker and indicative. For SCs, distance to town in UC-dominated villages has a negative effect on occupational mobility: similarly, while jati conflict has a counter-intuitive positive effect on SC mobility in general, the effect turns negative in UC-dominated villages (Table A15). For STs, none of the mechanisms considered make a significant difference (Table A16). For OBC households, there is a weak, counter-intuitive negative effect of living in favourable agroecological zones (Table A17). For OBC and Muslim households, there is also a negative effect of distance to town from residing in an own enclave. For Muslims, as for educational mobility, we observe a negative effect of jati conflict, which turns positive within own enclaves (Table A18).

These results provide an important corrective to received wisdom suggesting that a combination of village location in a favourable agroecological zone, social cohesion, and to a lesser extent other locational advantage—rather than infrastructure and other public goods—are the main determinants of enclave and proximity effects. We find that location in favourable agroecological zones underpins positive enclave and proximity effects for SCs, STs, and Muslims, but is negative for OBC enclaves. School and village infrastructure do not appear to affect mobility, except for Muslims.

8 Conclusion

We use a unique dataset to investigate how traditional institutions (caste and religious group dominance) affect intergenerational educational and occupational mobility in rural India and whether the effects of these institutions may have weakened over time. Agriculture is still the main occupation around which village life revolves and, as a sizeable economic and sociological literature attests, ownership of land is critical in determining who holds power in village communities. At the same time, discrimination and divisions exist in village societies along caste and religious identities. Drawing on early conceptual work by Srinivas (1966), more recent theoretical contributions (Sethi and Somanathan, 2010), and empirical research (Anderson, 2011, Banerjee and Somanathan, 2007, Iversen et al., 2014), we investigate whether and how land dominance by any particular social group within a village has affected individual prospects for better educational and occu-

pational attainment than their parents. This is crucial for understanding how traditional institutions at the community level impact a key long-term outcome like social mobility. We thus go beyond the standard analysis in the literature, which looks at how mobility differs by individual social identity to also investigate the impact of dominance of a social group on mobility.

Theoretically, we distinguish between UC and own-group dominance and examine the mechanisms underpinning inequality in mobility outcomes. We find inequality in upward educational mobility to have significantly narrowed over time, with SCs doing better in UC- and own-dominated villages, while STs and Muslims have done worse in own-dominated villages. In contrast, for occupational mobility we observe considerable progress for SCs and OBCs, but not for STs and Muslims, and no evidence of minority groups catching up with UCs; SCs, again, do better in own-dominated villages.

While received wisdom (e.g. Banerjee and Somanathan, 2007) suggests that UC-dominated villages are at a considerable advantage with regard to public goods, we find this to depend on the infrastructure in question: while differences in educational infrastructure access appear to have narrowed, notable differences in electricity, piped water, and transport and road infrastructure remain. At the same time, these do not appear to be the key drivers of the intergenerational mobility disparities observed: for educational mobility it is instead combinations of the agroecological and natural resource base, the social cohesion variables, and, to a lesser extent, location that underpin these differences. For occupational mobility, since the effects of UC and own dominance are already much weaker, the mechanism regressions provide few additional insights. Finally, we study vulnerability to downward educational and occupational mobility. We first register that minority groups were more vulnerable to downward educational and occupational mobility in the past, with disparities in downward occupational mobility being particularly pronounced and much higher for SCs and STs. While there has been an overall reduction in downward educational mobility, and even more so for SCs in own enclaves, downward occupational mobility has become more common for other groups. At the same time, minority groups, especially SCs and STs, continue to be much more likely to experience downward occupational mobility. Overall, these findings point to a new pattern of inequality where historically disadvantaged groups appear less able to convert educational gains into labour market and occupational progress.

References

Adukia, A., S. Asher, K. Jha, P. Novosad, and B. Tan (2022). 'Residential Segregation and Unequal Access to Local Public Services in India: Evidence from 1.5 m Neighborhoods'.

Mimeo.

Alesina, A., S. Hohmann, S. Michalopoulos, and E. Papaioannou (2021). 'Intergenerational Mobility in Africa'. *Econometrica*, 89(1): 1–35. https://doi.org/10.3982/ECTA17018

Ananat, E.O., and E. Washington (2009). 'Segregation and Black Political Efficacy'. *Journal of Public Economics*, 93(5–6): 807–22. https://doi.org/10.1016/j.jpubeco.2009.02.003

Anderson, S. (2011). 'Caste as an Impediment to Trade'. *American Economic Journal: Applied Economics*, 3(1): 239–63. https://doi.org/10.1257/app.3.1.239

Anderson, S., P. Francois, and A. Kotwal (2015). 'Clientelism in Indian Villages'. *American Economic Review*, 105(6): 1780–816. https://doi.org/10.1257/aer.20130623

Armstrong, W.A. (1972). 'The Use of Information about Occupation'. In E.A. Wrigley (ed.), *Nineteenth-Century Society: Essays in the Use of Quantitative Methods for the Study of Social Data*. Cambridge: Cambridge University Press.

Asher, S., T. Lunt, R. Matsuura, and P. Novosad (2021). 'Development Research at High Geographic Resolution: An Analysis of Night-Lights, Firms, and Poverty in India Using the Shrug Open Data Platform'. *The World Bank Economic Review*, 35(4): 845–71. https://doi.org/10.1093/wber/lhab003

Asher, S., P. Novosad, and C. Rafkin (2023). 'Intergenerational Mobility in India: Estimates from New Methods and Administrative Data'. *American Economic Journal: Applied Economics*.

Bailwal, N., and S. Paul (2021). 'Caste Discrimination in Provision of Public Schools in Rural India'. *Journal of Development Studies*, 57(11): 1830–51. https://doi.org/10.1080/00220388.2020.1862796

Banerjee, A., and R. Somanathan (2007). 'The Political Economy of Public Goods: Some Evidence from India'. *Journal of Development Economics*, 82(2): 287–314. https://doi.org/10.1016/j.jdeveco.2006.04.005

Banerjee, B., and J.B. Knight (1985). 'Caste Discrimination in the Indian Urban Labour Market'. *Journal of Development Economics*, 17(3): 277–307. https://doi.org/10.1016/0304-3878(85)90094-X

Bayly, S. (1999). *Caste, Society and Politics in India from the 18th Century to the Modern Age*.Cambridge: Cambridge University Press. https://doi.org/10.1017/CHOL9780521264341

Becker, G.S., and N. Tomes (1979). 'An Equilibrium Theory of the Distribution of Income and Intergenerational Mobility'. *Journal of Political Economy*, 87: 1153–89. https://doi.org/10.1086/260831

Bharathi, N., D. Malghan, S. Mishra, and A. Rahman (2022). 'Residential Segregation and Public Services in Urban India'. *Urban Studies*, 59(14): 2912–32. https://doi.org/10.1177/00420980211072855

Borooah, V.K. (2012). 'Social Identity and Educational Attainment: The Role of Caste and Religion in Explaining Differences Between Children in India'. *Journal of Development Studies*, 48(7): 887–903. https://doi.org/10.1080/00220388.2011.621945

Chetty, R. and N. Hendren (2018a). 'The Impacts of Neighborhoods on Intergenerational Mobility I: Childhood Exposure Effects'. *Quarterly Journal of Economics*, 133(3): 1107–62. https://doi.org/10.1093/qje/qjy007

Chetty, R., and N. Hendren (2018b). 'The Impacts of Neighborhoods on Intergenerational Mobility II: County-Level Estimates'. *Quarterly Journal of Economics*, 133(3): 1163–228. https://doi.org/10.1093/qje/qjy006

Chetty, R., N. Hendren, P. Kline, and E. Saez (2014). 'Where Is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States'. *Quarterly Journal of Economics*, 129(4): 1553–623. https://doi.org/10.1093/qje/qju022

Coffey, D., A. Deshpande, J. Hammer, and D. Spears (2019). 'Local Social Inequality, Economic Inequality, and Disparities in Child Height in India'. *Demography*, 56(4): 1427–52. https://doi.org/10.1007/s13524-019-00794-2

Cutler, D.M., E.L. Glaeser, and J.L. Vigdor (2008). 'When Are Ghettos Bad? Lessons from Immigrant Segregation in the United States'. *Journal of Urban Economics*, 63(3): 759–74. https://doi.org/10.1016/j.jue.2007.08.003

Dasgupta, I., and S. Pal (2021). 'Touch Thee Not: Group Conflict, Caste Power and Untouchability in Rural India'. *Journal of Comparative Economics*, 49(2): 442–66. https://doi.org/10.1016/j.jce.2020.12.003

Deshpande, A. (2011). *The Grammar of Caste: Economic Discrimination in Contemporary India*. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198072034.001.0001

Dumont, L. (1970). *Homo Hierarchicus: The Caste System and Its Implications*, trans. M. Sainsbury (London: Weidenfeld & Nicholson).

Fazal, T., D. Vaid, and S.S. Jodhka (2023). *Marginalities and Mobilities among India's Muslims: Elusive Citizenship*. London: Taylor & Francis. https://doi.org/10.4324/9781003280309

Himanshu, P.L. (2020). 'Income Mobility in the Developing World: Recent Approaches and Evidence'. In V. Iversen, A. Krishna, and K. Sen (eds), *Social Mobility in Developing Countries: Concepts, Methods, and Determinants*. Oxford: Oxford University Press. https://doi.org/10.1093/oso/9780192896858.003.0006

Hnatkovska, V., A. Lahiri, and S. Paul (2012). 'Castes and Labor Mobility'. *American Economic Journal: Applied Economics*, 4(2): 274–307. https://doi.org/10.1257/app.4.2.274

Hnatkovska, V., A. Lahiri, and S.B. Paul (2013). 'Breaking the Caste Barrier: Intergenerational Mobility in India'. *Journal of Human Resources*, 48(2): 435–73. https://doi.org/10.1353/jhr.2013.0012

Hoff, K., and P. Pandey (2006). 'Discrimination, Social Identity, and Durable Inequalities'. *American Economic Review*, 96(2): 206–11. https://doi.org/10.1257/000282806777212611

Iversen, V., A. Kalwij, A. Verschoor, and A. Dubey (2014). 'Caste Dominance and Economic Performance in Rural India'. *Economic Development and Cultural Change*, 62(3): 423–57. https://doi.org/10.1086/675388

Iversen, V., A. Krishna, and K. Sen (2019). 'Beyond Poverty Escapes: Social Mobility in Developing Countries-A Review Article'. *The World Bank Research Observer*, 34(2): 239–73. https://doi.org/10.1093/wbro/lkz003

Jaffrelot, C., and L. Gayer (2012). *Muslims in Indian Cities: Trajectories of Marginalisation*. New York: Columbia University Press.

Jamil, G. (2014). 'The Capitalist Logic of Spatial Segregation: A Study of Muslims in Delhi'. *Economic and Political Weekly*, 49(3): 52–58.

Jodhka, S.S., and K. Newman (2007). 'In the Name of Globalisation: Meritocracy, Productivity and the Hidden Language of Caste'. *Economic and Political Weekly*, 42(41): 4125–32.

Kling, J.R., J.B. Liebman, and L.F. Katz (2007). 'Experimental Analysis of Neighborhood Effects'. *Econometrica*, 75(1): 83–119. https://doi.org/10.1111/j.1468-0262.2007.00733.x

Krishna, A. (2013). 'Making It in India: Examining Social Mobility in Three Walks of Life'. *Economic and Political Weekly*, 48(9): 38–49.

Kundu, A., and K. Sen (2023). 'Multigenerational Mobility among Males in India'. *Review of Income and Wealth*, 69(2): 395–418. https://doi.org/10.1111/roiw.12568

Luke, N. (2021). 'Gender and Social Mobility: Gender Attitudes and Women's Labour Force Participation'. In V. Iversen, A. Krishna, and K. Sen (eds), *Social Mobility in Developing Countries*. Oxford: Oxford University Press. https://doi.org/10.1093/oso/9780192896858.003.0015

Mani, A., and E. Riley (2021). 'Social Networks as Levers of Mobility'. In V. Iversen, A. Krishna, and K. Sen (eds), *Social Mobility in Developing Countries*. Oxford: Oxford University Press. https://doi.org/10.1093/oso/9780192896858.003.0017

Mehta, S.K. (1969). 'Patterns of Residence in Poona, India, by Caste and Religion: 1822–1965'. *Demography*, 6: 473–91. https://doi.org/10.2307/2060091

Munshi, K. (2019). 'Caste and the Indian Economy'. *Journal of Economic Literature*, 57(4): 781–834. https://doi.org/10.1257/jel.20171307

Munshi, K., and M. Rosenzweig (2006). 'Traditional Institutions Meet the Modern World: Caste, Gender, and Schooling Choice in a Globalizing Economy'. *American Economic Review*, 96(4): 1225–52. https://doi.org/10.1257/aer.96.4.1225

Munshi, K., and M. Rosenzweig (2016). 'Networks and Misallocation: Insurance, Migration, and the Rural–Urban Wage Gap'. *American Economic Review*, 106(1): 46–98. https://doi.org/10.1257/aer.20131365

Nambissan, G.B. (2010). 'The Global Economic Crisis, Poverty and Education: A Perspective from India'. *Journal of Education Policy*, 25(6): 729–37. https://doi.org/10.1080/02680939.2010.508180

Palmer-Jones, R., and K. Sen (2003). 'What Has Luck Got to Do with It? A Regional Analysis of Poverty and Agricultural Growth in Rural India'. *Journal of Development Studies*, 40(1): 1–31. https://doi.org/10.1080/00220380412331293647

Population Census of India (2011). *Census of India*. Available at: https://censusindia.gov.in/census.website/data/census-tables (accessed 27 September 2023).

Sethi, R., and R. Somanathan (2010). 'Group Identity and Social Mobility in India'. Paper presented at the *Conference on Social Policy in India*, University of Warwick, July.

Shah, A., J. Lerche, R. Axelby, D. Benbabaali, B. Donegan, R. Jayaseelan, and T. Vikramditya (2017). *Ground Down by Growth: Tribe, Caste, Class and Inequality in 21st Century India*. London: Pluto Press.

Singh, G., T. Vithayathil, and K.C. Pradhan (2019). 'Recasting Inequality: Residential Segregation by Caste Over Time in Urban India'. *Environment and Urbanization*, 31(2): 615–34. https://doi.org/10.1177/0956247818812330

Solon, G. (2018). 'What Do We Know so Far about Multigenerational Mobility?'. *The Economic Journal*, 128(612): F340–52. https://doi.org/10.1111/ecoj.12495

Srinivas, M.N. (1959). 'The Dominant Caste in Rampura'. *American Anthropologist*, 61(1): 1–16. https://doi.org/10.1525/aa.1959.61.1.02a00030

Srinivas, M.N. (1966). *Caste in Modern India, and Other Essays*. Bombay: Asia Publishing House.

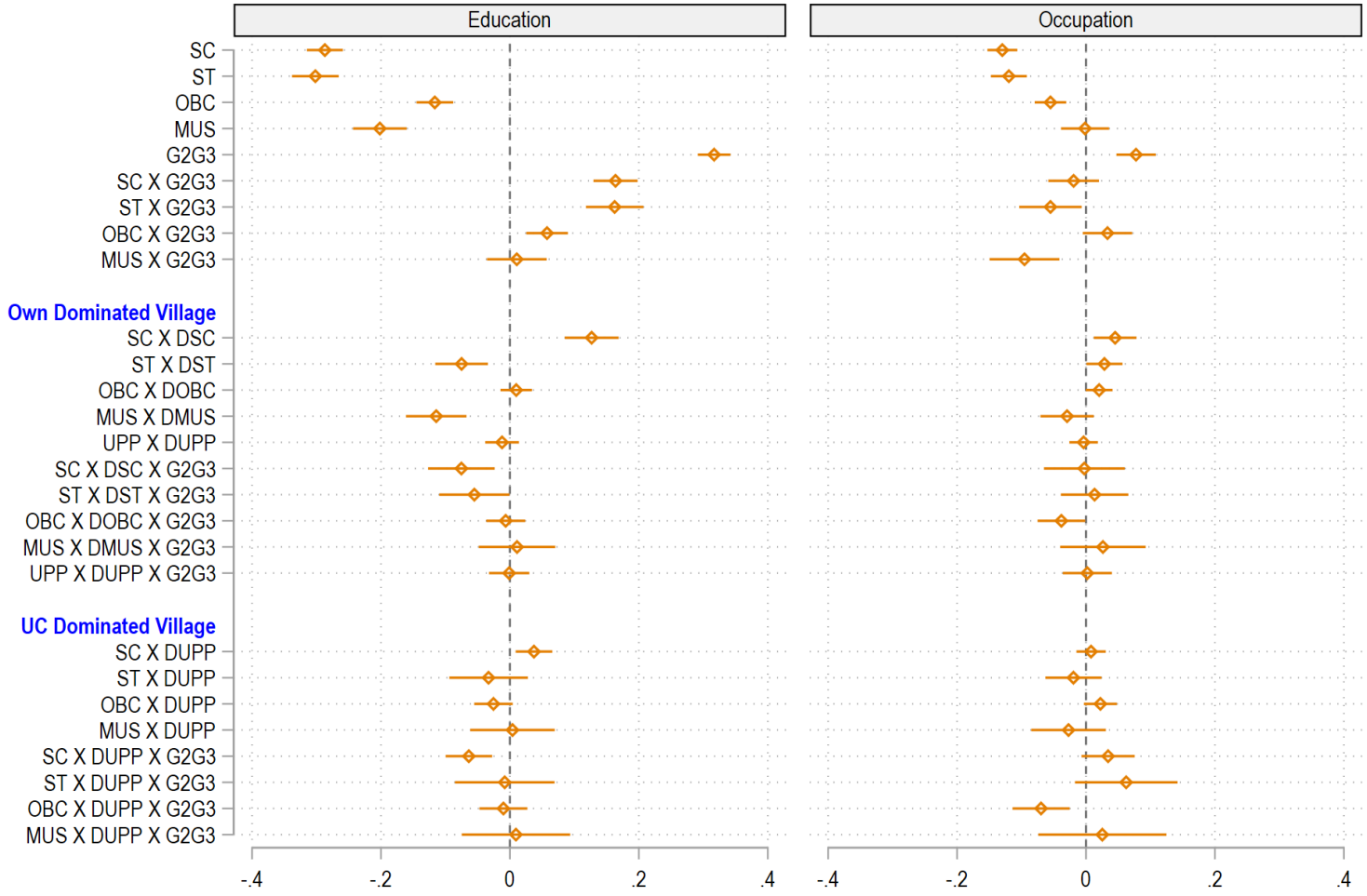
Srinivas, M.N. (1995). *Social Change in Modern India*. Hyderabad: Orient Blackswan.

Thorat, S., and P. Attewell (2007). 'The Legacy of Social Exclusion: A Correspondence Study of Job Discrimination in India'. *Economic and Political Weekly*, 42(41): 4141–45.

Thorat, S., and K.S. Neuman (2012). *Blocked by Caste: Economic Discrimination in Modern India*. Oxford: Oxford University Press.

Thorat, S., A. Banerjee, V.K. Mishra, and F. Rizvi (2015). 'Urban Rental Housing Market: Caste and Religion Matters in Access'. *Economic and Political Weekly*, 50(26/27): 47–53.

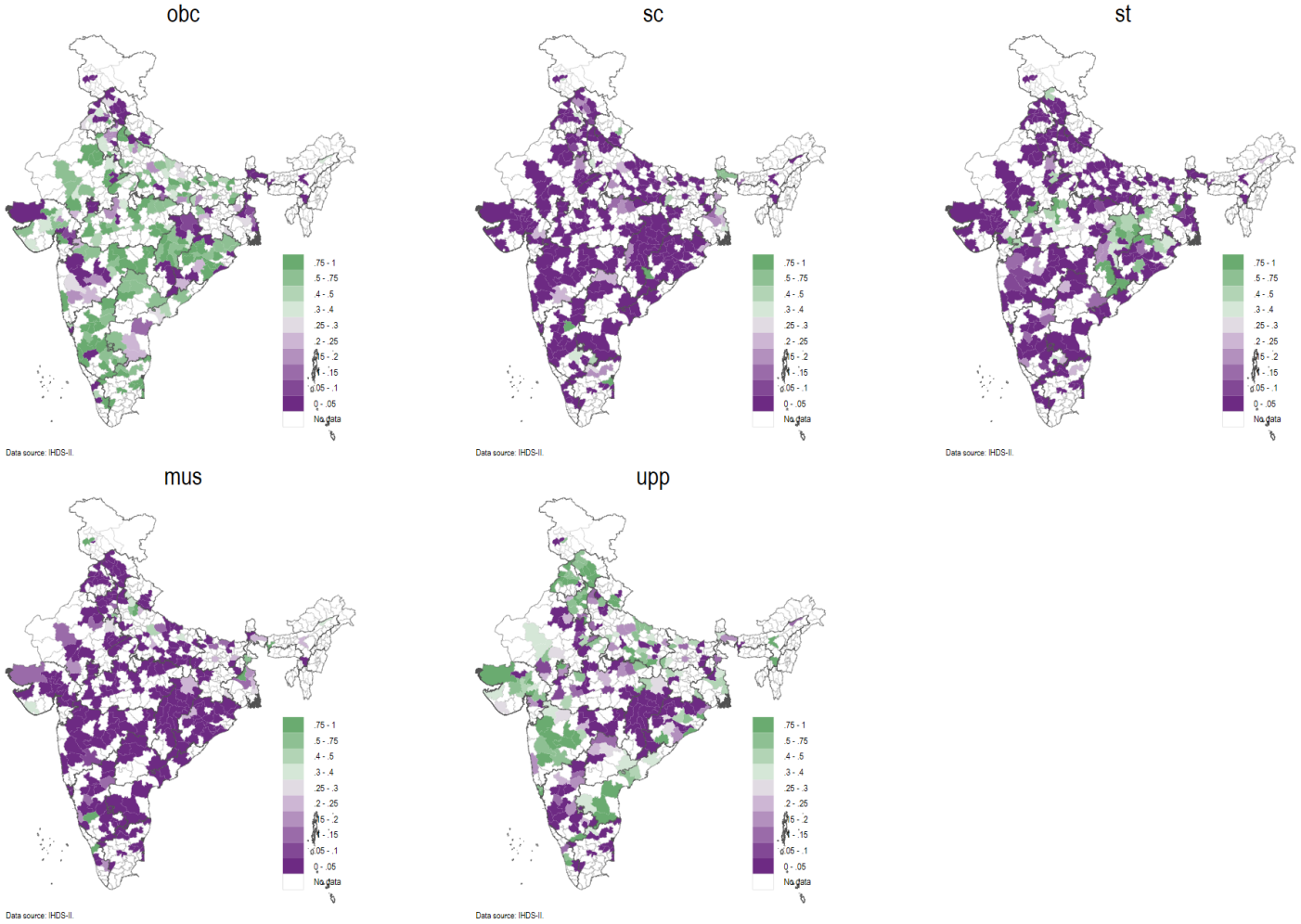
Figure 8: Coefplot for Education and Occupation levels by land dominance



Source: authors' compilation based on IHDS 2011-12 data.

Note: The coefplot displays the comprehensive educational and occupational mobility model, corresponding to columns (3) and (6) in Table 2, encompassing all generational pairs for upward mobility in education and occupation.

Figure A1: Share of land owned by social groups



Source: authors' compilation based on IHDS 2011-12 data.

Note: The figures show the fraction of land in the survey villages in the IHDS districts that are owned by each social group. These shares are not district representative.

Figure A2: Land share by social groups across states

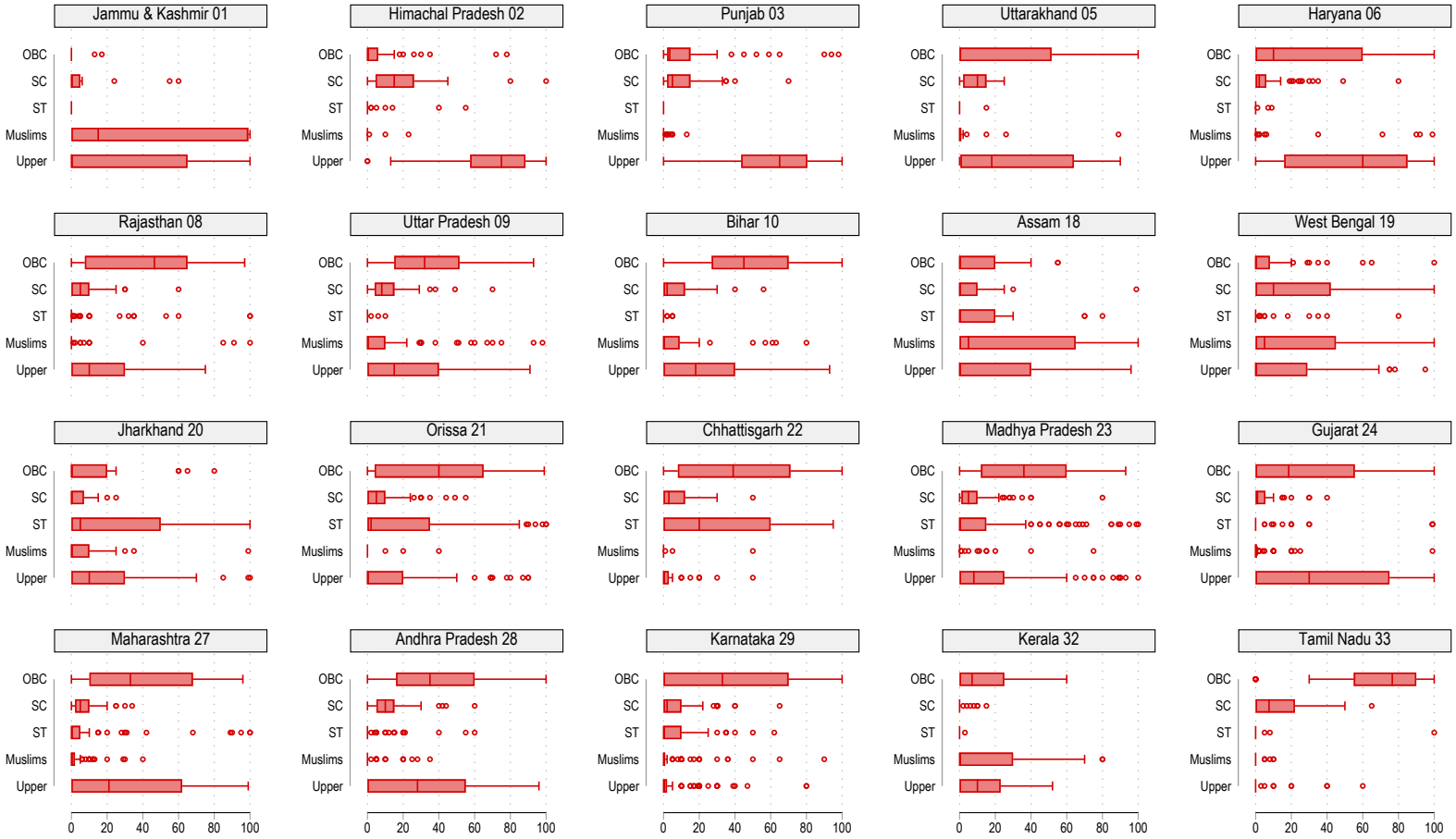
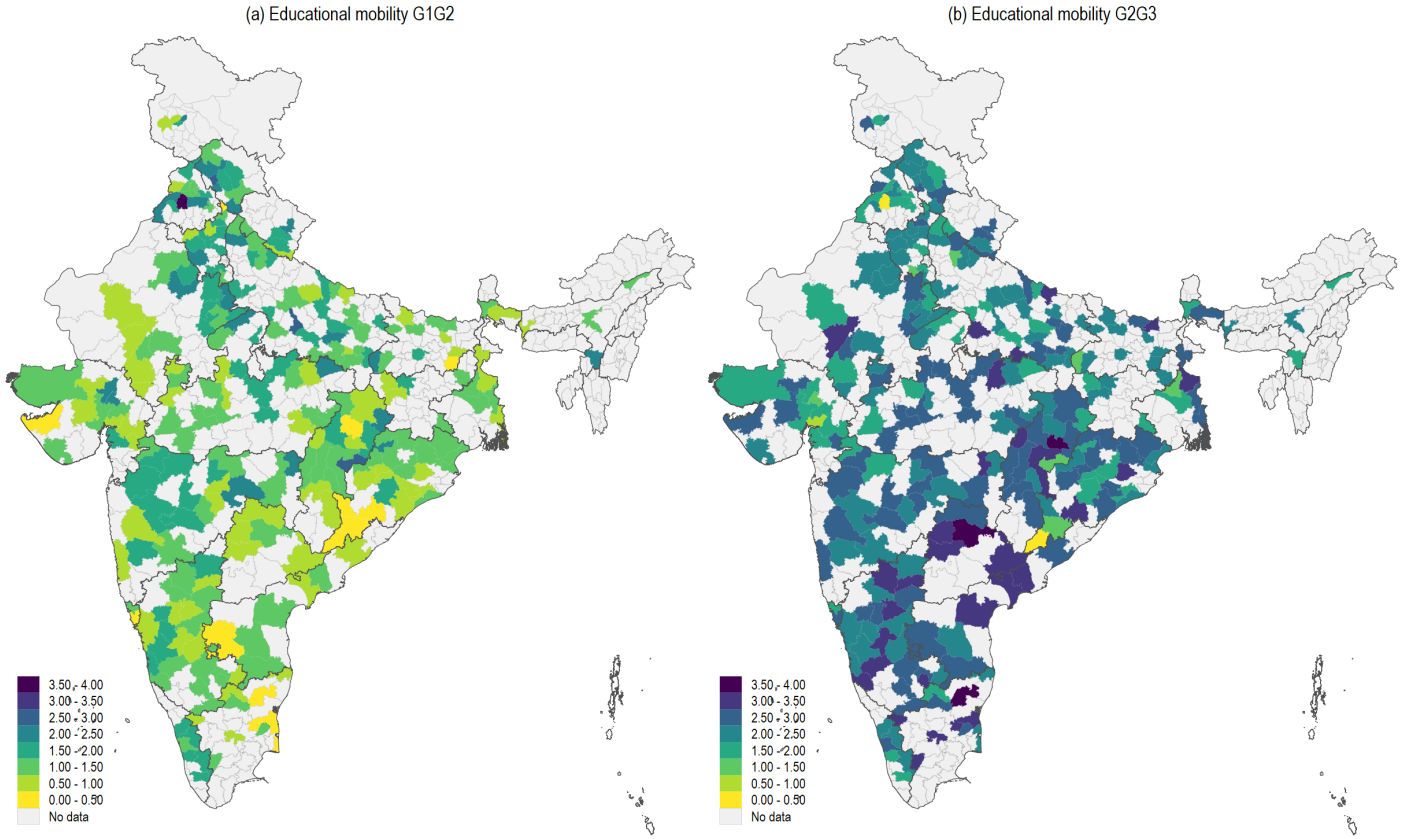


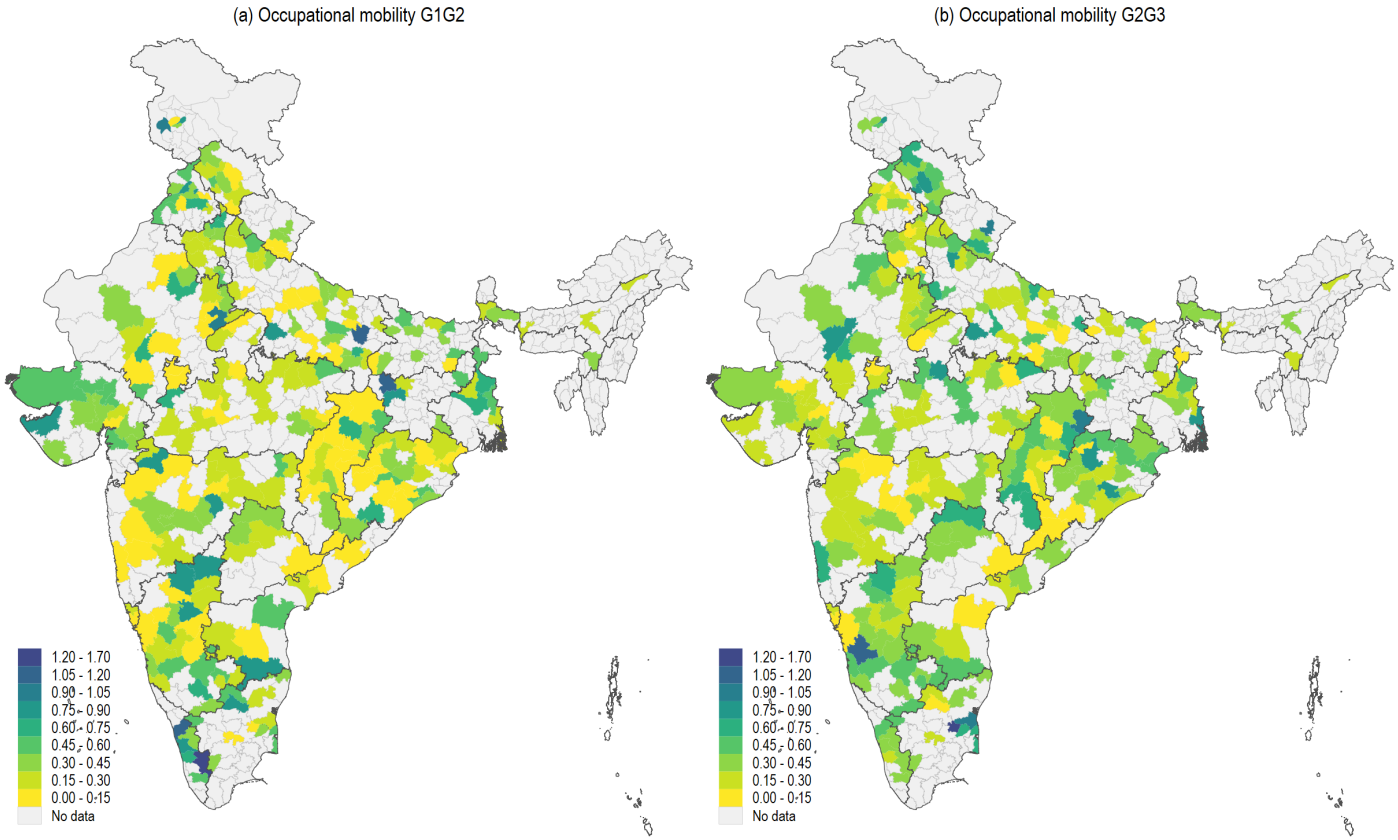
Figure A3: Upward Educational Mobility G1G2 and G2G3



Source: authors' compilation based on IHDS 2011-12 data.

Note: We focus on the educational mobility of the Grandfather-father (G1-G2) pair father and son (G2-G3) pairs.

Figure A4: Upward Occupational Mobility G1G2 and G2G3



Source: authors' compilation based on IHDS 2011-12 data.

Note: We focus on the occupational mobility of the Grandfather-father (G1-G2) pair father and son (G2-G3) pairs.

Figure A5: Land share of land dominant group

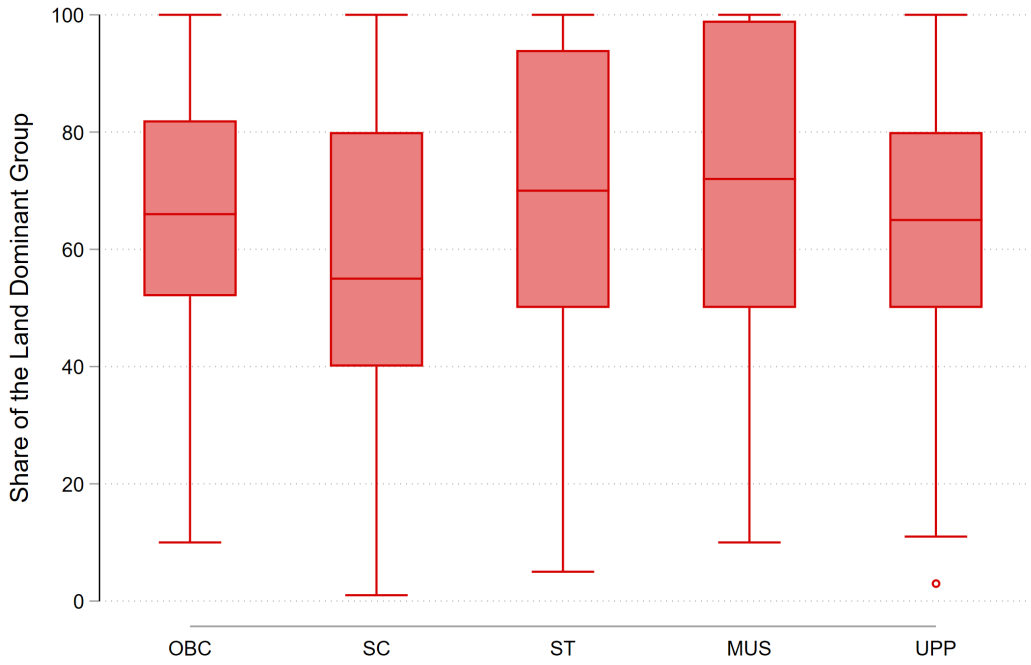


Table A1: Education and Occupation Mobility Regression - Continuous Mobility Measure for All Generation Pairs

	Education years mobility			Occupation mobility		
	(1)	(2)	(3)	(4)	(5)	(6)
Social groups (Base:UPP)						
SC	-2.329***	-2.104***	-2.607***	-0.927***	-0.819***	-1.000***
	(0.137)	(0.139)	(0.145)	(0.057)	(0.057)	(0.058)
ST	-2.477***	-2.276***	-2.803***	-0.996***	-0.822***	-0.956***
	(0.172)	(0.171)	(0.178)	(0.070)	(0.070)	(0.072)
OBC	-0.946***	-0.855***	-1.257***	-0.446***	-0.364***	-0.427***
	(0.141)	(0.142)	(0.151)	(0.061)	(0.061)	(0.063)
MUS	-1.762***	-1.697***	-2.206***	-0.269***	-0.223**	-0.353***
	(0.202)	(0.203)	(0.210)	(0.086)	(0.087)	(0.089)
G2G3	2.440***	2.646***	3.419***	0.216***	0.130*	0.076
	(0.156)	(0.153)	(0.138)	(0.075)	(0.075)	(0.072)
SC X G2G3	1.508***	1.488***	1.338***	-0.005	-0.003	-0.000
	(0.217)	(0.211)	(0.190)	(0.096)	(0.096)	(0.092)
ST X G2G3	1.856***	1.629***	1.401***	-0.021	-0.040	-0.097
	(0.272)	(0.266)	(0.249)	(0.122)	(0.121)	(0.118)
OBC X G2G3	0.455**	0.453**	0.552***	0.142	0.157*	0.108
	(0.198)	(0.194)	(0.178)	(0.094)	(0.093)	(0.090)
MUS X G2G3	0.247	0.190	-0.020	-0.324***	-0.350***	-0.284**
	(0.260)	(0.259)	(0.231)	(0.124)	(0.123)	(0.116)
Living in own dominated villages						
SC X DSC	0.901***	0.957***	1.010***	0.140*	0.117	0.194**
	(0.197)	(0.202)	(0.208)	(0.081)	(0.083)	(0.083)
ST X DST	-0.385**	-0.323*	-0.375**	0.033	0.051	0.109
	(0.185)	(0.184)	(0.188)	(0.078)	(0.077)	(0.077)
OBC X DOBC	-0.079	0.050	0.108	-0.007	0.017	0.025
	(0.122)	(0.123)	(0.127)	(0.051)	(0.052)	(0.052)
MUS X DMUS	-0.624***	-0.632***	-0.603***	-0.042	-0.079	-0.040
	(0.221)	(0.226)	(0.233)	(0.095)	(0.096)	(0.097)
UPP X DUPP	0.425***	0.176	-0.019	0.067	0.050	0.048
	(0.131)	(0.135)	(0.142)	(0.054)	(0.055)	(0.056)
SC X DSC X G2G3	-0.530*	-0.573*	-0.426	0.139	0.137	0.144
	(0.317)	(0.311)	(0.284)	(0.138)	(0.138)	(0.132)
ST X DST X G2G3	-0.750**	-0.626*	-0.734**	0.072	0.114	0.028
	(0.334)	(0.326)	(0.305)	(0.141)	(0.140)	(0.135)
OBC X DOBC X G2G3	-0.032	-0.032	-0.110	-0.102	-0.124	-0.110
	(0.186)	(0.184)	(0.165)	(0.087)	(0.087)	(0.082)
MUS X DMUS X G2G3	-0.203	-0.238	-0.381	-0.053	-0.051	-0.068
	(0.348)	(0.344)	(0.311)	(0.160)	(0.157)	(0.149)
UPP X DUPP X G2G3	-0.306	-0.259	-0.061	0.009	-0.007	-0.011
	(0.195)	(0.192)	(0.172)	(0.092)	(0.091)	(0.087)
Living in UC dominated villages						
SC X DUPP	0.528***	0.216	0.176	0.060	-0.026	-0.036
	(0.134)	(0.136)	(0.139)	(0.050)	(0.052)	(0.052)
ST X DUPP	-0.142	-0.296	-0.288	0.090	0.035	0.004
	(0.285)	(0.276)	(0.281)	(0.104)	(0.104)	(0.107)
OBC X DUPP	-0.019	-0.010	0.040	0.051	0.030	-0.004
	(0.149)	(0.151)	(0.156)	(0.062)	(0.063)	(0.064)
MUS X DUPP	-0.544*	-0.094	0.022	-0.103	-0.030	-0.019
	(0.322)	(0.321)	(0.328)	(0.130)	(0.132)	(0.135)
SC X DUPP X G2G3	-0.670***	-0.706***	-0.581***	0.150	0.170*	0.160*
	(0.229)	(0.224)	(0.203)	(0.094)	(0.094)	(0.089)
ST X DUPP X G2G3	-0.346	-0.053	-0.087	0.007	0.054	0.155
	(0.499)	(0.478)	(0.450)	(0.198)	(0.198)	(0.192)
OBC X DUPP X G2G3	-0.355	-0.334	-0.468**	-0.216**	-0.235**	-0.208**
	(0.224)	(0.221)	(0.199)	(0.104)	(0.104)	(0.098)
MUS X DUPP X G2G3	-0.369	-0.529	-0.549	-0.036	0.031	0.036
	(0.480)	(0.467)	(0.418)	(0.220)	(0.221)	(0.209)
Base education	Yes	Yes	Yes	No	No	No
Base occupation	No	No	No	Yes	Yes	Yes
Household controls	No	Yes	Yes	No	Yes	Yes
State FE	No	Yes	Yes	No	Yes	Yes
Household RE	No	No	Yes	No	No	Yes
Observations	33699	33072	33072	25602	25021	25021

Note: household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: authors' estimation based on IHDS 2011-12 data.

Table A2: Education and Occupation **Binary upward mobility - land share of the dominant group**

	Education years Upward Mobility			Occupation Upward mobility		
	(1)	(2)	(3)	(4)	(5)	(6)
Social groups (Base:UPP)						
SC	-0.238***	-0.225***	-0.277***	-0.131***	-0.122***	-0.130***
	(0.014)	(0.014)	(0.015)	(0.012)	(0.013)	(0.013)
ST	-0.256***	-0.256***	-0.308***	-0.143***	-0.117***	-0.123***
	(0.019)	(0.019)	(0.020)	(0.015)	(0.015)	(0.015)
OBC	-0.099***	-0.088***	-0.126***	-0.053***	-0.040***	-0.042***
	(0.014)	(0.014)	(0.015)	(0.012)	(0.013)	(0.012)
MUS	-0.188***	-0.164***	-0.210***	0.003	0.006	0.001
	(0.020)	(0.020)	(0.021)	(0.018)	(0.018)	(0.018)
G2G3	0.220***	0.238***	0.308***	0.049***	0.056***	0.057***
	(0.016)	(0.016)	(0.015)	(0.018)	(0.018)	(0.017)
SC X G2G3	0.157***	0.151***	0.147***	0.023	0.022	0.017
	(0.020)	(0.019)	(0.018)	(0.022)	(0.021)	(0.021)
ST X G2G3	0.196***	0.179***	0.160***	0.001	-0.010	-0.018
	(0.026)	(0.026)	(0.024)	(0.027)	(0.026)	(0.026)
OBC X G2G3	0.036**	0.036**	0.046***	0.026	0.026	0.019
	(0.018)	(0.018)	(0.017)	(0.020)	(0.020)	(0.020)
MUS X G2G3	0.045*	0.036	0.017	-0.092***	-0.091***	-0.088***
	(0.025)	(0.025)	(0.023)	(0.027)	(0.027)	(0.027)
Living in own dominated villages						
SC X DSC	0.002***	0.002***	0.002***	0.001**	0.001**	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ST X DST	-0.001***	-0.001***	-0.001***	0.000*	0.000*	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OBC X DOBC	-0.000	0.000	0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MUS X DMUS	-0.001***	-0.001***	-0.001***	-0.000	-0.000*	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
UPP X DUPP	0.000**	0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
SC X DSC X G2G3	-0.001**	-0.001**	-0.001**	-0.000	-0.001	-0.000
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
ST X DST X G2G3	-0.001	-0.000	-0.001	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OBC X DOBC X G2G3	0.000**	0.000*	0.000*	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MUS X DMUS X G2G3	0.000	0.000	0.000	0.001*	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
UPP X DUPP X G2G3	-0.000	-0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Living in UC dominated villages						
SC X DUPP	0.002	0.001	0.003	0.004	0.001	0.001
	(0.003)	(0.004)	(0.003)	(0.005)	(0.004)	(0.004)
ST X DUPP	-0.010***	-0.011***	-0.011***	-0.001***	-0.001**	-0.001
	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)
OBC X DUPP	0.003***	0.003**	0.003**	0.004***	0.002	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
MUS X DUPP	-0.014***	-0.015***	-0.016***	-0.008***	-0.007***	-0.007***
	(0.000)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)
SC X DUPP X G2G3	-0.007	-0.006	-0.006	0.001	0.003	0.004
	(0.006)	(0.006)	(0.005)	(0.008)	(0.008)	(0.008)
ST X DUPP X G2G3	0.015***	0.015***	0.014***	0.005	0.005	0.005
	(0.000)	(0.000)	(0.000)	(0.005)	(0.005)	(0.005)
OBC X DUPP X G2G3	-0.003	-0.004*	-0.003	-0.002	-0.001	-0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
MUS X DUPP X G2G3	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Base education	Yes	Yes	Yes	No	No	No
Base occupation	No	No	No	Yes	Yes	Yes
Household controls	No	Yes	Yes	No	Yes	Yes
State FE	No	Yes	Yes	No	Yes	Yes
Household RE	No	No	Yes	No	No	Yes
Observations	33699	33072	33072	25602	25021	25021

Note: household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: authors' compilation based on IHDS 2011-12 data.

Table A3: Education and Occupation Upward Mobility Regression **Only Residents**

	Education years Upward mobility			Occupation Upward mobility		
	(1)	(2)	(3)	(4)	(5)	(6)
Social groups (Base:UPP)						
SC	-0.266***	-0.235***	-0.284***	-0.135***	-0.122***	-0.133***
	(0.017)	(0.017)	(0.017)	(0.014)	(0.014)	(0.014)
ST	-0.249***	-0.250***	-0.301***	-0.127***	-0.110***	-0.119***
	(0.022)	(0.022)	(0.022)	(0.017)	(0.017)	(0.017)
OBC	-0.078***	-0.073***	-0.114***	-0.056***	-0.052***	-0.054***
	(0.017)	(0.017)	(0.018)	(0.015)	(0.015)	(0.015)
MUS	-0.162***	-0.151***	-0.200***	0.015	-0.001	-0.008
	(0.025)	(0.025)	(0.025)	(0.023)	(0.023)	(0.023)
G2G3	0.219***	0.236***	0.305***	0.033*	0.027	0.030
	(0.018)	(0.018)	(0.017)	(0.019)	(0.019)	(0.019)
SC X G2G3	0.173***	0.170***	0.168***	-0.004	-0.006	-0.008
	(0.025)	(0.024)	(0.023)	(0.025)	(0.025)	(0.025)
ST X G2G3	0.197***	0.180***	0.160***	-0.042	-0.044	-0.056*
	(0.032)	(0.031)	(0.030)	(0.031)	(0.030)	(0.030)
OBC X G2G3	0.029	0.034	0.051**	0.010	0.014	0.005
	(0.023)	(0.023)	(0.022)	(0.025)	(0.025)	(0.025)
MUS X G2G3	0.048	0.042	0.015	-0.078**	-0.078**	-0.076**
	(0.032)	(0.032)	(0.030)	(0.034)	(0.034)	(0.034)
Living in own dominated villages						
SC X DSC	0.136***	0.120***	0.125***	0.051***	0.039*	0.045**
	(0.025)	(0.025)	(0.025)	(0.019)	(0.020)	(0.020)
ST X DST	-0.069***	-0.072***	-0.077***	0.018	0.018	0.022
	(0.025)	(0.025)	(0.025)	(0.017)	(0.017)	(0.017)
OBC X DOBC	-0.016	0.002	0.009	0.003	0.017	0.017
	(0.015)	(0.015)	(0.015)	(0.013)	(0.013)	(0.013)
MUS X DMUS	-0.124***	-0.121***	-0.118***	-0.019	-0.037	-0.035
	(0.028)	(0.028)	(0.029)	(0.025)	(0.025)	(0.025)
UPP X DUPP	0.028*	0.006	-0.013	-0.003	-0.009	-0.008
	(0.015)	(0.015)	(0.016)	(0.013)	(0.014)	(0.014)
SC X DSC X G2G3	-0.096***	-0.100***	-0.100***	-0.003	-0.006	-0.008
	(0.037)	(0.037)	(0.035)	(0.039)	(0.039)	(0.039)
ST X DST X G2G3	-0.054	-0.049	-0.048	0.007	0.009	0.002
	(0.038)	(0.037)	(0.036)	(0.032)	(0.032)	(0.032)
OBC X DOBC X G2G3	0.019	0.012	-0.000	-0.011	-0.017	-0.012
	(0.022)	(0.022)	(0.020)	(0.024)	(0.023)	(0.023)
MUS X DMUS X G2G3	0.041	0.027	0.023	0.042	0.028	0.038
	(0.042)	(0.041)	(0.038)	(0.043)	(0.042)	(0.042)
UPP X DUPP X G2G3	-0.035	-0.033	-0.006	0.007	0.007	0.005
	(0.022)	(0.022)	(0.021)	(0.024)	(0.024)	(0.024)
Living in UC dominated villages						
SC X DUPP	0.075***	0.040**	0.036**	0.027**	0.007	0.006
	(0.017)	(0.017)	(0.017)	(0.013)	(0.014)	(0.014)
ST X DUPP	-0.032	-0.033	-0.034	-0.036	-0.023	-0.023
	(0.037)	(0.037)	(0.037)	(0.026)	(0.026)	(0.026)
OBC X DUPP	-0.045**	-0.034*	-0.028	0.011	0.019	0.016
	(0.018)	(0.018)	(0.018)	(0.015)	(0.016)	(0.016)
MUS X DUPP	-0.032	-0.007	0.001	-0.047	-0.025	-0.026
	(0.040)	(0.039)	(0.040)	(0.035)	(0.035)	(0.035)
SC X DUPP X G2G3	-0.065**	-0.074***	-0.072***	0.029	0.032	0.024
	(0.026)	(0.026)	(0.024)	(0.026)	(0.026)	(0.025)
ST X DUPP X G2G3	-0.012	0.002	-0.006	0.023	0.028	0.038
	(0.054)	(0.053)	(0.051)	(0.048)	(0.047)	(0.047)
OBC X DUPP X G2G3	0.021	0.013	-0.005	-0.037	-0.040	-0.039
	(0.026)	(0.026)	(0.024)	(0.028)	(0.028)	(0.028)
MUS X DUPP X G2G3	0.001	-0.010	0.005	0.028	0.028	0.033
	(0.059)	(0.058)	(0.054)	(0.063)	(0.063)	(0.062)
Base education	Yes	Yes	Yes	No	No	No
Base occupation	No	No	No	Yes	Yes	Yes
Household controls	No	Yes	Yes	No	Yes	Yes
State FE	No	Yes	Yes	No	Yes	Yes
Household RE	No	No	Yes	No	No	Yes
Observations	29961	29961	29961	23195	23195	23195

Note: household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: authors' compilation based on IHDS 2011-12 data.

Table A4: Education and Occupation Upward Mobility Regression - All Generation Pairs - **Only HH in villages more than 25 years**

	Education years Upward mobility			Occupation Upward mobility		
	(1)	(2)	(3)	(4)	(5)	(6)
Social groups (Base:UPP)						
SC	-0.264***	-0.236***	-0.286***	-0.137***	-0.121***	-0.128***
	(0.017)	(0.017)	(0.017)	(0.014)	(0.014)	(0.014)
ST	-0.251***	-0.250***	-0.301***	-0.133***	-0.111***	-0.117***
	(0.022)	(0.022)	(0.022)	(0.017)	(0.017)	(0.017)
OBC	-0.078***	-0.075***	-0.115***	-0.060***	-0.051***	-0.052***
	(0.017)	(0.017)	(0.018)	(0.015)	(0.015)	(0.015)
MUS	-0.167***	-0.154***	-0.202***	0.014	0.010	0.005
	(0.025)	(0.025)	(0.026)	(0.023)	(0.023)	(0.023)
G2G3	0.234***	0.250***	0.320***	0.076***	0.082***	0.083***
	(0.017)	(0.017)	(0.016)	(0.019)	(0.019)	(0.019)
SC X G2G3	0.167***	0.165***	0.162***	-0.020	-0.019	-0.023
	(0.023)	(0.023)	(0.021)	(0.025)	(0.024)	(0.024)
ST X G2G3	0.197***	0.177***	0.158***	-0.041	-0.050*	-0.059**
	(0.029)	(0.029)	(0.027)	(0.030)	(0.030)	(0.030)
OBC X G2G3	0.045**	0.049**	0.058***	0.036	0.038	0.031
	(0.022)	(0.022)	(0.020)	(0.024)	(0.024)	(0.024)
MUS X G2G3	0.036	0.027	0.006	-0.104***	-0.104***	-0.103***
	(0.031)	(0.031)	(0.029)	(0.034)	(0.033)	(0.033)
Living in own dominated villages						
SC X DSC	0.145***	0.126***	0.133***	0.058***	0.046**	0.050**
	(0.025)	(0.025)	(0.026)	(0.020)	(0.020)	(0.020)
ST X DST	-0.064**	-0.066***	-0.071***	0.027	0.027	0.029*
	(0.025)	(0.025)	(0.025)	(0.017)	(0.017)	(0.017)
OBC X DOBC	-0.015	0.005	0.011	0.008	0.021	0.020
	(0.015)	(0.015)	(0.015)	(0.013)	(0.013)	(0.013)
MUS X DMUS	-0.105***	-0.117***	-0.113***	-0.024	-0.042*	-0.040
	(0.028)	(0.028)	(0.029)	(0.025)	(0.025)	(0.025)
UPP X DUPP	0.040***	0.015	-0.004	0.001	-0.003	-0.003
	(0.015)	(0.016)	(0.016)	(0.013)	(0.014)	(0.014)
SC X DSC X G2G3	-0.083**	-0.087**	-0.082***	0.001	-0.008	-0.006
	(0.034)	(0.034)	(0.032)	(0.039)	(0.039)	(0.038)
ST X DST X G2G3	-0.067*	-0.056	-0.055*	0.006	0.017	0.014
	(0.036)	(0.036)	(0.033)	(0.032)	(0.032)	(0.032)
OBC X DOBC X G2G3	-0.002	-0.006	-0.009	-0.040*	-0.044*	-0.041*
	(0.020)	(0.020)	(0.019)	(0.023)	(0.023)	(0.023)
MUS X DMUS X G2G3	0.015	0.024	0.009	0.038	0.033	0.038
	(0.040)	(0.040)	(0.037)	(0.041)	(0.041)	(0.041)
UPP X DUPP X G2G3	-0.039*	-0.035*	-0.006	0.004	0.002	0.000
	(0.021)	(0.021)	(0.019)	(0.024)	(0.024)	(0.023)
Living in UC dominated villages						
SC X DUPP	0.080***	0.042**	0.039**	0.029**	0.011	0.010
	(0.017)	(0.017)	(0.017)	(0.013)	(0.014)	(0.014)
ST X DUPP	-0.035	-0.037	-0.039	-0.034	-0.021	-0.022
	(0.037)	(0.037)	(0.038)	(0.026)	(0.026)	(0.027)
OBC X DUPP	-0.040**	-0.030*	-0.026	0.017	0.025	0.022
	(0.018)	(0.018)	(0.019)	(0.015)	(0.016)	(0.016)
MUS X DUPP	-0.054	-0.013	-0.002	-0.044	-0.026	-0.026
	(0.040)	(0.040)	(0.041)	(0.035)	(0.036)	(0.036)
SC X DUPP X G2G3	-0.061**	-0.066***	-0.063***	0.035	0.035	0.033
	(0.024)	(0.024)	(0.022)	(0.026)	(0.025)	(0.025)
ST X DUPP X G2G3	-0.015	0.001	-0.005	0.054	0.058	0.068
	(0.052)	(0.051)	(0.048)	(0.051)	(0.049)	(0.049)
OBC X DUPP X G2G3	-0.007	-0.009	-0.014	-0.071**	-0.073***	-0.071***
	(0.025)	(0.025)	(0.023)	(0.028)	(0.027)	(0.027)
MUS X DUPP X G2G3	0.042	0.021	0.015	0.027	0.030	0.032
	(0.056)	(0.056)	(0.052)	(0.062)	(0.062)	(0.062)
Base education	Yes	Yes	Yes	No	No	No
Base occupation	No	No	No	Yes	Yes	Yes
Household controls	No	Yes	Yes	No	Yes	Yes
State FE	No	Yes	Yes	No	Yes	Yes
Household RE	No	No	Yes	No	No	Yes
Observations	32972	32368	32368	25093	24531	24531

Note: household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: authors' compilation based on IHDS 2011-12 data.

Table A5: Intergenerational Occupational & Educational Mobility

	Rural sample no age cut-off		Rural sample age cut off	
	(1) G2 occ	(2) G2 edu	(3) G2 occ	(4) G2 edu
Gen 1 occ.	0.370***		0.386***	
	(0.00703)		(0.00798)	
Gen 1 Edu.		0.543***		0.564***
		(0.00878)		(0.0103)
Constant	1.383***	2.124***	1.434***	2.019***
	(0.0218)	(0.0190)	(0.0256)	(0.0212)
N	21222	24271	16987	19857

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A6: Village characteristics by dominance groups (IHDS)

	SC	ST	OBC	Muslim	Upper-caste	Total
School Infrastructure						
Primary school in village	0.98	0.98	0.99	0.99	0.98	0.98
Middle school in village	0.61	0.65	0.78	0.63	0.74	0.74
Secondary school in village	0.33	0.27	0.37	0.23	0.37	0.35
Higher secondary school in village	0.18	0.12	0.14	0.11	0.17	0.15
PCA of education facilities	-0.13	-0.51	0.12	-0.18	0.07	0.02
Village Infrastructure						
Fraction of households with electricity	0.72	0.74	0.77	0.66	0.82	0.77
Most common source of drinking water: Piped	0.39	0.31	0.49	0.24	0.52	0.46
Bus stop in village	0.70	0.51	0.64	0.41	0.65	0.62
Village accessible by pucca road	0.86	0.78	0.89	0.79	0.90	0.88
Distance to pucca road (km)	0.51	1.98	0.34	0.91	0.45	0.58
Access to useable road in moonsoon	0.81	0.77	0.85	0.74	0.83	0.82
PCA of village Infrastructure	0.04	-1.14	-0.10	-0.72	0.45	-0.01
Location						
Distance to nearest town (km)	14.21	22.36	13.29	10.54	12.57	13.76
Distance to district headquarters (km)	43.81	57.39	45.11	37.89	43.90	45.31
Favorable Ag.Ecological Zone	0.75	0.25	0.47	0.92	0.81	0.61
Social Cohesion						
Separate hamlets	0.42	0.47	0.67	0.48	0.69	0.64
Teacher favoritism towards Jatis	0.11	0.12	0.11	0.10	0.06	0.09
Village conflict	0.37	0.57	0.45	0.39	0.45	0.45
Jati conflict	0.35	0.59	0.45	0.41	0.45	0.45

Source: authors' compilation based on IHDS 2011-12 data.
Notes: Social Cohesion descriptive uses IHDS household-level data. School infrastructure, village infrastructure, and location descriptive uses IHDS village-level data.

Table A7: Regression: Access to Educational Institutions

	Pri. Govt School (1)	Mid. Govt School (2)	Sec. Govt School (3)	PCA Education (4)
Land dominant group (base: UPP)				
SC	0.007	-0.124**	-0.037	-0.203
	(0.017)	(0.061)	(0.067)	(0.266)
ST	-0.000	-0.085*	-0.098**	-0.584***
	(0.013)	(0.045)	(0.049)	(0.197)
OBC	0.017**	0.046*	0.001	0.048
	(0.008)	(0.028)	(0.030)	(0.118)
MUS	0.012	-0.104**	-0.139**	-0.253
	(0.015)	(0.052)	(0.057)	(0.236)
Observations	1282	1281	1280	1170

Note: standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Source: authors' compilation based on IHDS 2011-12 data.

Table A8: Regression: Village Infrastructure

	Electricity (1)	Piped Water (2)	Bus Stop (3)	Pucca Road (4)	Dist. to Pucca Road (5)	Moonsoon Road (6)	PCA Infra (7)
Land dominant group (base: UPP)							
SC	-10.839***	-0.135*	0.057	-0.038	0.061	-0.022	-0.410
	(3.844)	(0.069)	(0.068)	(0.046)	(0.396)	(0.053)	(0.268)
ST	-8.504***	-0.207***	-0.133***	-0.121***	1.527***	-0.060	-1.597***
	(2.809)	(0.050)	(0.049)	(0.034)	(0.289)	(0.039)	(0.206)
OBC	-5.922***	-0.030	-0.005	-0.005	-0.110	0.017	-0.558***
	(1.726)	(0.031)	(0.030)	(0.021)	(0.178)	(0.024)	(0.117)
MUS	-16.641***	-0.277***	-0.231***	-0.105***	0.467	-0.085*	-1.169***
	(3.300)	(0.059)	(0.058)	(0.039)	(0.338)	(0.046)	(0.237)
Observations	1276	1281	1281	1281	1280	1280	1093

Note: standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Source: authors' compilation based on IHDS 2011-12 data.

Table A9: Regression: Locational factors

	Distance to Town (1)	Distance to District HQ (2)	Fav. Agroecological zone (3)
Land dominant group (base: UPP)			
SC	1.642	-0.091	-0.059
	(1.532)	(4.557)	(0.068)
ST	9.783***	13.494***	-0.559***
	(1.108)	(3.330)	(0.053)
OBC	0.713	1.214	-0.340***
	(0.683)	(2.043)	(0.031)
MUS	-2.029	-6.008	0.108*
	(1.305)	(3.892)	(0.057)
Observations	1273	1280	1016

Note: standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Source: authors' compilation based on IHDS 2011-12 data.

Table A10: Regression: Social Cohesion

	Separate Hamlet (1)	Child Discrimination (2)	Village Conflict (3)	Jati conflict (4)
Social groups (Base: UPP)				
SC	-0.271***	0.019*	0.009	-0.000
	(0.067)	(0.011)	(0.010)	(0.010)
ST	-0.219***	0.075***	0.052***	0.056***
	(0.050)	(0.014)	(0.012)	(0.012)
OBC	-0.020	0.031***	0.011	-0.004
	(0.030)	(0.010)	(0.009)	(0.009)
MUS	-0.213***	0.040***	-0.023*	-0.039***
	(0.060)	(0.013)	(0.012)	(0.012)
Observations	1255	7036	25306	25299

Note: standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: authors' compilation based on IHDS 2011-12 data.

Table A11: Mechanisms of Education Upward Mobility - SC households

	Education years Upward mobility									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
G2G3	0.399***	0.426***	0.500***	0.495***	0.507***	0.520***	0.502***	0.501***	0.501***	0.508***
	(0.016)	(0.016)	(0.015)	(0.017)	(0.016)	(0.015)	(0.015)	(0.015)	(0.015)	(0.018)
Living in own dominated villages										
SC X DSC	0.138***	0.111***	0.120***	0.034	0.138***	0.122***	0.113***	0.178***	0.133***	0.152*
	(0.024)	(0.026)	(0.027)	(0.038)	(0.031)	(0.030)	(0.035)	(0.032)	(0.032)	(0.089)
SC X DSC X G2G3	-0.079**	-0.081**	-0.071**	-0.078**	-0.085**	-0.085**	-0.067**	-0.072**	-0.070**	-0.097**
	(0.034)	(0.034)	(0.031)	(0.033)	(0.034)	(0.033)	(0.031)	(0.031)	(0.031)	(0.040)
Living in UC dominated villages										
SC X DUPP	0.080***	0.026	0.017	0.004	0.014	0.031	0.019	0.050*	0.013	0.047
	(0.017)	(0.018)	(0.019)	(0.034)	(0.020)	(0.020)	(0.026)	(0.027)	(0.022)	(0.052)
SC X DUPP X G2G3	-0.065***	-0.073***	-0.065***	-0.060**	-0.061***	-0.077***	-0.065***	-0.065***	-0.063***	-0.062**
	(0.024)	(0.024)	(0.022)	(0.024)	(0.023)	(0.022)	(0.022)	(0.022)	(0.022)	(0.026)
Favorable Ag-Eco Zone				0.055**						0.030
				(0.027)						(0.032)
SC X DSC X FavAgEconZone				0.141***						0.153**
				(0.045)						(0.065)
SC X DUPP X FavAgEconZone				0.019						0.048
				(0.038)						(0.043)
PCA Village Infrastructure					0.020***					0.014*
					(0.007)					(0.008)
SC X DSC X PCA Village Infra					0.013					0.004
					(0.017)					(0.028)
SC X DUPP X PCA Village Infra					0.016*					0.011
					(0.009)					(0.011)
PCA Education						0.007				0.006
						(0.006)				(0.007)
SC X DSC X PCA Education						0.005				0.023
						(0.015)				(0.021)
SC X DUPP X PCA Education						0.007				0.009
						(0.008)				(0.009)
Distance to Town							-0.001			-0.001
							(0.001)			(0.001)
SC X DSC X Distance to Town							0.000			0.000
							(0.002)			(0.003)
SC X DUPP X Distance to Town							-0.000			-0.001
							(0.001)			(0.002)
Separate Hamlet for Groups/Jatis								0.055***		0.059**
								(0.019)		(0.025)
SC X DSC X Separate Hamlets								-0.122***		-0.170**
								(0.042)		(0.068)
SC X DUPP X Separate Hamlets								-0.050*		-0.074**
								(0.029)		(0.036)
Jati Conflict									-0.016	-0.029
									(0.018)	(0.024)
SC X DSC X Jati Conflict									-0.043	-0.102
									(0.041)	(0.064)
SC X DUPP X Jati Conflict									0.005	0.003
									(0.027)	(0.034)
Base education	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Base occupation	No	No	No	No	No	No	No	No	No	No
Household controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household RE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7303	7161	7161	6176	6097	6490	7093	7145	7148	4840

Note: household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: authors' compilation based on IHDS 2011-12 data.

Table A12: Mechanisms of Education Upward Mobility - ST households

	Education years Upward mobility									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
G2G3	0.419***	0.419***	0.499***	0.496***	0.508***	0.522***	0.501***	0.512***	0.499***	0.514***
	(0.025)	(0.026)	(0.024)	(0.027)	(0.027)	(0.026)	(0.024)	(0.024)	(0.024)	(0.034)
ST X DST	-0.065***	-0.049*	-0.057**	-0.068**	-0.029	-0.070*	-0.104***	-0.018	-0.088**	-0.100
	(0.025)	(0.026)	(0.027)	(0.034)	(0.037)	(0.038)	(0.039)	(0.038)	(0.036)	(0.082)
ST X DST X G2G3	-0.065*	-0.056	-0.059*	-0.070*	-0.066*	-0.085**	-0.059*	-0.080**	-0.058*	-0.125***
	(0.037)	(0.036)	(0.033)	(0.036)	(0.038)	(0.036)	(0.033)	(0.034)	(0.033)	(0.045)
ST X DUPP	-0.037	-0.009	0.001	-0.146**	-0.031	-0.025	0.050	0.107*	-0.028	-0.283*
	(0.037)	(0.039)	(0.040)	(0.064)	(0.044)	(0.042)	(0.059)	(0.059)	(0.050)	(0.148)
ST X DUPP X G2G3	0.006	0.014	-0.006	0.012	-0.023	-0.029	-0.001	-0.022	-0.006	-0.024
	(0.052)	(0.051)	(0.047)	(0.057)	(0.052)	(0.049)	(0.047)	(0.047)	(0.047)	(0.067)
Favorable Ag-Eco Zone				-0.167***						-0.291***
				(0.059)						(0.072)
ST X DST X FavAgEconZone				0.067						0.196***
				(0.053)						(0.068)
ST X DUPP X FavAgEconZone				0.252***						0.431***
				(0.079)						(0.105)
PCA Village Infrastructure					0.040***					0.021
					(0.011)					(0.014)
ST X DST X PCA Village Infra					-0.001					0.031
					(0.017)					(0.022)
ST X DUPP X PCA Village Infra					-0.045*					0.010
					(0.024)					(0.036)
PCA Education						0.031***				0.015
						(0.011)				(0.013)
ST X DST X PCA Education						-0.026				-0.016
						(0.029)				(0.034)
ST X DUPP X PCA Education						-0.078***				-0.012
						(0.029)				(0.047)
Distance to Town							-0.002			-0.001
							(0.001)			(0.002)
ST X DST X Distance to Town							0.003			0.002
							(0.002)			(0.003)
ST X DUPP X Distance to Town							-0.004			-0.001
							(0.004)			(0.006)
Separate Hamlet for Groups/Jatis								0.021		0.007
								(0.031)		(0.044)
ST X DST X Separate Hamlets								-0.037		-0.026
								(0.045)		(0.062)
ST X DUPP X Separate Hamlets								-0.150**		-0.166*
								(0.065)		(0.099)
Jati Conflict									-0.006	-0.068*
									(0.031)	(0.041)
ST X DST X Jati Conflict									0.056	0.072
									(0.043)	(0.062)
ST X DUPP X Jati Conflict									0.059	0.312***
									(0.063)	(0.092)
Base education	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Base occupation	No	No	No	No	No	No	No	No	No	No
Household controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household RE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3042	3016	3016	2520	2313	2579	3001	2840	3014	1652

Note: household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Source: authors' compilation based on IHDS 2011-12 data.

Table A13: Mechanisms of Education Upward Mobility Regression - OBC households

	Education years Upward mobility									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
G2G3	0.298***	0.317***	0.387***	0.397***	0.387***	0.383***	0.388***	0.383***	0.387***	0.405***
	(0.021)	(0.021)	(0.019)	(0.022)	(0.021)	(0.021)	(0.019)	(0.019)	(0.019)	(0.025)
OBC X DOBC	-0.002	0.007	0.007	0.060**	0.006	0.000	0.029	-0.019	0.002	0.052
	(0.017)	(0.017)	(0.017)	(0.024)	(0.019)	(0.019)	(0.024)	(0.023)	(0.021)	(0.049)
OBC X DOBC X G2G3	-0.018	-0.021	-0.014	-0.024	-0.015	-0.011	-0.014	-0.010	-0.014	-0.029
	(0.023)	(0.023)	(0.021)	(0.024)	(0.023)	(0.022)	(0.021)	(0.021)	(0.021)	(0.027)
OBC X DUPP	-0.026	-0.028	-0.028	0.015	-0.022	-0.037*	0.020	-0.057*	-0.023	-0.013
	(0.019)	(0.020)	(0.020)	(0.034)	(0.022)	(0.022)	(0.029)	(0.030)	(0.024)	(0.062)
OBC X DUPP X G2G3	-0.019	-0.024	-0.018	-0.033	-0.014	-0.005	-0.017	-0.015	-0.018	-0.030
	(0.027)	(0.027)	(0.024)	(0.027)	(0.027)	(0.026)	(0.024)	(0.025)	(0.024)	(0.031)
Favorable Ag-Eco Zone				0.117***						0.074*
				(0.032)						(0.040)
OBC X DOBC X FavAgEconZone				-0.115***						-0.097**
				(0.032)						(0.039)
OBC X DUPP X FavAgEconZone				-0.093**						-0.024
				(0.039)						(0.047)
PCA Village Infrastructure					0.011					0.013
					(0.008)					(0.011)
OBC X DOBC X PCA Village Infra					0.023***					0.018
					(0.009)					(0.012)
OBC X DUPP X PCA Village Infra					0.012					0.006
					(0.009)					(0.013)
PCA Education						0.002				-0.003
						(0.010)				(0.015)
OBC X DOBC X PCA Education						0.010				0.010
						(0.010)				(0.015)
OBC X DUPP X PCA Education						0.001				0.002
						(0.011)				(0.015)
Distance to Town							0.001			0.002
							(0.001)			(0.001)
OBC X DOBC X Distance to Town							-0.002			-0.002
							(0.001)			(0.002)
OBC X DUPP X Distance to Town							-0.004**			-0.003
							(0.002)			(0.002)
Separate Hamlet for Groups/Jatis								-0.035		-0.049
								(0.024)		(0.037)
OBC X DOBC X Separate Hamlets								0.045*		0.041
								(0.027)		(0.039)
OBC X DUPP X Separate Hamlets								0.048		0.077*
								(0.034)		(0.045)
Jati Conflict									-0.027	-0.010
									(0.025)	(0.034)
OBC X DOBC X Jati Conflict									0.007	-0.000
									(0.027)	(0.037)
OBC X DUPP X Jati Conflict									-0.012	-0.052
									(0.031)	(0.041)
Base education	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Base occupation	No	No	No	No	No	No	No	No	No	No
Household controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household RE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12464	12245	12245	9950	10464	11147	12217	12156	12232	7810

Note: household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: authors' compilation based on IHDS 2011-12 data.

Table A14: Mechanisms of Education Upward Mobility - Muslim households

	Education years Upward mobility									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
G2G3	0.272***	0.282***	0.335***	0.308***	0.331***	0.325***	0.336***	0.337***	0.332***	0.289***
	(0.030)	(0.030)	(0.029)	(0.035)	(0.032)	(0.030)	(0.029)	(0.029)	(0.029)	(0.041)
MUS X DMUS	-0.108***	-0.063**	-0.049	-0.213***	0.002	-0.053*	-0.051	-0.051	-0.086**	-0.783***
	(0.026)	(0.029)	(0.030)	(0.070)	(0.036)	(0.032)	(0.041)	(0.038)	(0.034)	(0.170)
MUS X DMUS X G2G3	0.015	0.020	0.003	0.022	-0.016	0.043	0.003	-0.017	0.006	0.002
	(0.039)	(0.039)	(0.037)	(0.043)	(0.042)	(0.039)	(0.037)	(0.039)	(0.037)	(0.054)
MUS X DUPP	-0.047	0.015	0.020	-0.005	0.017	0.018	-0.028	-0.006	0.017	-0.400***
	(0.038)	(0.039)	(0.040)	(0.080)	(0.046)	(0.041)	(0.054)	(0.055)	(0.048)	(0.131)
MUS X DUPP X G2G3	0.010	-0.005	0.001	0.020	0.017	0.010	-0.001	0.001	0.004	0.062
	(0.056)	(0.055)	(0.051)	(0.058)	(0.057)	(0.053)	(0.051)	(0.051)	(0.051)	(0.066)
Favorable Ag-Eco Zone				-0.053						-0.139
				(0.075)						(0.104)
MUS X DMUS X FavAgEconZone				0.164**						0.601***
				(0.073)						(0.153)
MUS X DUPP X FavAgEconZone				0.040						0.252**
				(0.084)						(0.111)
PCA Village Infrastructure					0.012					0.001
					(0.012)					(0.020)
MUS X DMUS X PCA Village Infra					0.027*					0.092***
					(0.014)					(0.029)
MUS X DUPP X PCA Village Infra					0.009					0.017
					(0.023)					(0.034)
PCA Education						0.014				0.009
						(0.009)				(0.011)
MUS X DMUS X PCA Education						-0.010				-0.086***
						(0.015)				(0.030)
MUS X DUPP X PCA Education						-0.011				-0.013
						(0.014)				(0.018)
Distance to Town							-0.003**			-0.007***
							(0.002)			(0.002)
MUS X DMUS X Distance to Town							-0.001			0.011***
							(0.002)			(0.004)
MUS X DUPP X Distance to Town							0.004			0.008**
							(0.003)			(0.004)
Separate Hamlet for Groups/Jatis								-0.054		-0.124***
								(0.035)		(0.047)
MUS X DMUS X Separate Hamlets								0.014		0.101
								(0.047)		(0.064)
MUS X DUPP X Separate Hamlets								0.046		0.209**
								(0.062)		(0.084)
Jati Conflict									-0.081**	-0.185***
									(0.034)	(0.047)
MUS X DMUS X Jati Conflict									0.096**	0.208***
									(0.045)	(0.062)
MUS X DUPP X Jati Conflict									-0.004	0.016
									(0.060)	(0.080)
Base education	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Base occupation	No	No	No	No	No	No	No	No	No	No
Household controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household RE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3332	3248	3248	2744	2489	2868	3237	2857	3245	1639

Note: household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Source: authors' compilation based on IHDS 2011-12 data.

Table A15: Mechanisms of Occupation Upward Mobility - SC households

	Occupation Upward mobility									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
G2G3	0.060***	0.062***	0.060***	0.050***	0.059***	0.061***	0.060***	0.059***	0.059***	0.050**
	(0.016)	(0.017)	(0.017)	(0.018)	(0.019)	(0.018)	(0.017)	(0.017)	(0.017)	(0.021)
Living in own dominated villages										
SC X DSC	0.042**	0.025	0.027	-0.009	0.024	0.029	0.028	0.047*	0.062**	0.032
	(0.019)	(0.021)	(0.021)	(0.033)	(0.023)	(0.024)	(0.029)	(0.026)	(0.024)	(0.078)
SC X DSC X G2G3	0.013	0.005	0.006	0.022	0.028	0.012	0.012	-0.002	0.009	0.052
	(0.040)	(0.039)	(0.039)	(0.041)	(0.045)	(0.042)	(0.039)	(0.039)	(0.039)	(0.052)
Living in UC dominated villages										
SC X DUPP	0.027**	0.006	0.006	-0.026	-0.002	0.002	0.029	0.023	0.033*	0.063
	(0.013)	(0.015)	(0.015)	(0.028)	(0.016)	(0.016)	(0.022)	(0.022)	(0.019)	(0.044)
SC X DUPP X G2G3	0.035	0.034	0.033	0.038	0.043	0.038	0.032	0.032	0.033	0.041
	(0.026)	(0.026)	(0.026)	(0.028)	(0.028)	(0.027)	(0.026)	(0.026)	(0.026)	(0.031)
Favorable Ag-Eco Zone				0.012						0.002
				(0.023)						(0.027)
SC X DSC X FavAgEconZone				0.066*						0.080
				(0.040)						(0.060)
SC X DUPP X FavAgEconZone				0.050						0.043
				(0.031)						(0.036)
PCA Village Infrastructure					0.011**					0.004
					(0.005)					(0.007)
SC X DSC X PCA Village Infra					0.008					0.007
					(0.014)					(0.021)
SC X DUPP X PCA Village Infra					0.007					0.004
					(0.008)					(0.009)
PCA Education						0.004				0.001
						(0.005)				(0.006)
SC X DSC X PCA Education						0.007				0.018
						(0.013)				(0.016)
SC X DUPP X PCA Education						0.009				0.016*
						(0.008)				(0.009)
Distance to Town							-0.000			0.000
							(0.001)			(0.001)
SC X DSC X Distance to Town							-0.000			0.001
							(0.001)			(0.002)
SC X DUPP X Distance to Town							-0.002			-0.003**
							(0.001)			(0.002)
Separate Hamlet for Groups/Jatis								0.005		0.011
								(0.016)		(0.020)
SC X DSC X Separate Hamlets								-0.045		-0.068
								(0.035)		(0.057)
SC X DUPP X Separate Hamlets								-0.024		-0.028
								(0.025)		(0.032)
Jati Conflict									0.037**	0.033*
									(0.015)	(0.020)
SC X DSC X Jati Conflict									-0.089**	-0.067
									(0.037)	(0.060)
SC X DUPP X Jati Conflict									-0.061**	-0.058*
									(0.024)	(0.030)
Base education	No	No	No	No	No	No	No	No	No	No
Base occupation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household RE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5725	5593	5593	4881	4709	5028	5541	5582	5585	3763

Note: household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: authors' compilation based on IHDS 2011-12 data.

Table A16: Mechanisms of Occupation Upward Mobility - ST households

	Occupation Upward mobility									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
G2G3	0.039	0.033	0.033	0.024	0.024	0.020	0.029	0.032	0.034	0.000
	(0.024)	(0.025)	(0.025)	(0.027)	(0.030)	(0.028)	(0.025)	(0.026)	(0.025)	(0.034)
ST X DST	0.018	0.024	0.024	0.029	0.035	0.041	0.033	0.044*	0.041	0.060
	(0.017)	(0.018)	(0.018)	(0.023)	(0.027)	(0.026)	(0.027)	(0.026)	(0.026)	(0.062)
ST X DST X G2G3	0.013	0.024	0.024	0.026	0.033	0.048	0.027	0.035	0.022	0.063
	(0.033)	(0.033)	(0.033)	(0.035)	(0.039)	(0.036)	(0.033)	(0.034)	(0.033)	(0.045)
ST X DUPP	-0.025	-0.004	-0.004	-0.034	-0.029	-0.000	0.041	0.063	0.035	-0.024
	(0.027)	(0.028)	(0.028)	(0.041)	(0.032)	(0.031)	(0.041)	(0.050)	(0.036)	(0.096)
ST X DUPP X G2G3	0.043	0.054	0.054	0.084	0.065	0.072	0.065	0.051	0.052	0.119*
	(0.051)	(0.050)	(0.050)	(0.062)	(0.055)	(0.051)	(0.051)	(0.050)	(0.050)	(0.070)
Favorable Ag-Eco Zone				0.051						0.053
				(0.041)						(0.051)
ST X DST X FavAgEconZone				-0.011						-0.050
				(0.038)						(0.051)
ST X DUPP X FavAgEconZone				0.027						0.112
				(0.057)						(0.080)
PCA Village Infrastructure					0.020**					0.022
					(0.009)					(0.014)
ST X DST X PCA Village Infra					-0.005					-0.000
					(0.012)					(0.016)
ST X DUPP X PCA Village Infra					-0.012					0.003
					(0.017)					(0.029)
PCA Education						0.013				0.000
						(0.009)				(0.013)
ST X DST X PCA Education						0.014				0.020
						(0.019)				(0.021)
ST X DUPP X PCA Education						0.007				0.039
						(0.024)				(0.041)
Distance to Town							0.000			-0.000
							(0.001)			(0.002)
ST X DST X Distance to Town							-0.001			0.002
							(0.001)			(0.002)
ST X DUPP X Distance to Town							-0.003			-0.003
							(0.002)			(0.004)
Separate Hamlet for Groups/Jatis								0.015		-0.015
								(0.024)		(0.037)
ST X DST X Separate Hamlets								-0.039		0.013
								(0.031)		(0.046)
ST X DUPP X Separate Hamlets								-0.102*		-0.030
								(0.057)		(0.075)
Jati Conflict									0.012	0.057
									(0.024)	(0.035)
ST X DST X Jati Conflict									-0.029	-0.077
									(0.031)	(0.048)
ST X DUPP X Jati Conflict									-0.083*	-0.008
									(0.048)	(0.068)
Base education	No	No	No	No	No	No	No	No	No	No
Base occupation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household RE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2495	2469	2469	2076	1894	2117	2454	2341	2467	1374

Note: household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: authors' compilation based on IHDS 2011-12 data.

Table A17: Mechanisms of Occupation Upward Mobility - OBC households

	Occupation Upward mobility									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
G2G3	0.093***	0.105***	0.100***	0.057**	0.102***	0.082***	0.099***	0.099***	0.100***	0.078**
	(0.024)	(0.024)	(0.024)	(0.026)	(0.027)	(0.025)	(0.024)	(0.024)	(0.024)	(0.031)
OBC X DOBC	-0.008	0.008	0.009	-0.015	0.014	0.003	0.032	0.002	0.006	0.043
	(0.014)	(0.014)	(0.014)	(0.019)	(0.016)	(0.016)	(0.021)	(0.020)	(0.018)	(0.039)
OBC X DOBC X G2G3	-0.026	-0.032	-0.030	0.008	-0.026	-0.015	-0.030	-0.029	-0.030	-0.010
	(0.026)	(0.026)	(0.026)	(0.028)	(0.029)	(0.027)	(0.026)	(0.026)	(0.026)	(0.033)
OBC X DUPP	0.001	0.004	0.004	-0.023	0.007	0.003	0.015	0.016	-0.004	0.041
	(0.017)	(0.017)	(0.017)	(0.029)	(0.019)	(0.019)	(0.025)	(0.028)	(0.022)	(0.053)
OBC X DUPP X G2G3	-0.053*	-0.059**	-0.059**	-0.020	-0.072**	-0.046	-0.059**	-0.058*	-0.058**	-0.046
	(0.030)	(0.030)	(0.030)	(0.033)	(0.033)	(0.031)	(0.030)	(0.030)	(0.030)	(0.038)
Favorable Ag-Eco Zone				-0.039						-0.057*
				(0.028)						(0.034)
OBC X DOBC X FavAgEconZone				0.026						0.040
				(0.028)						(0.033)
OBC X DUPP X FavAgEconZone				0.019						0.015
				(0.035)						(0.042)
PCA Village Infrastructure					0.013					0.013
					(0.008)					(0.010)
OBC X DOBC X PCA Village Infra					0.006					-0.004
					(0.008)					(0.011)
OBC X DUPP X PCA Village Infra					-0.004					-0.015
					(0.009)					(0.012)
PCA Education						0.001				0.006
						(0.010)				(0.013)
OBC X DOBC X PCA Education						0.011				0.006
						(0.010)				(0.014)
OBC X DUPP X PCA Education						0.011				0.011
						(0.011)				(0.014)
Distance to Town							0.001			0.002
							(0.001)			(0.001)
OBC X DOBC X Distance to Town							-0.002			-0.003*
							(0.001)			(0.001)
OBC X DUPP X Distance to Town							-0.001			-0.002
							(0.001)			(0.002)
Separate Hamlet for Groups/Jatis								-0.007		0.026
								(0.022)		(0.032)
OBC X DOBC X Separate Hamlets								0.009		-0.033
								(0.024)		(0.034)
OBC X DUPP X Separate Hamlets								-0.015		-0.039
								(0.032)		(0.040)
Jati Conflict									-0.010	-0.014
									(0.022)	(0.029)
OBC X DOBC X Jati Conflict									0.005	-0.006
									(0.023)	(0.032)
OBC X DUPP X Jati Conflict									0.016	0.030
									(0.028)	(0.036)
Base education	No	No	No	No	No	No	No	No	No	No
Base occupation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household RE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9524	9326	9326	7697	7953	8492	9306	9261	9317	6034

Note: household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: authors' compilation based on IHDS 2011-12 data.

Table A18: Mechanisms of Occupation Upward Mobility - Muslim households

	Occupation Upward mobility									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
G2G3	-0.018	-0.008	-0.012	-0.022	-0.004	-0.007	-0.012	-0.011	-0.018	-0.007
	(0.032)	(0.032)	(0.032)	(0.038)	(0.035)	(0.033)	(0.032)	(0.032)	(0.031)	(0.044)
MUS X DMUS	-0.021	-0.006	-0.002	-0.033	-0.003	0.001	0.038	0.011	-0.041	0.197
	(0.024)	(0.027)	(0.027)	(0.069)	(0.035)	(0.030)	(0.038)	(0.034)	(0.031)	(0.179)
MUS X DMUS X G2G3	0.035	0.018	0.031	0.033	-0.004	0.025	0.031	0.021	0.038	-0.029
	(0.041)	(0.040)	(0.040)	(0.045)	(0.045)	(0.042)	(0.040)	(0.042)	(0.039)	(0.055)
MUS X DUPP	-0.042	0.001	-0.003	0.100	0.005	-0.000	0.003	-0.014	0.011	0.120
	(0.034)	(0.037)	(0.037)	(0.109)	(0.043)	(0.038)	(0.053)	(0.049)	(0.045)	(0.153)
MUS X DUPP X G2G3	-0.001	0.016	0.014	-0.003	0.005	0.006	0.014	0.013	0.030	-0.000
	(0.059)	(0.059)	(0.059)	(0.067)	(0.065)	(0.061)	(0.059)	(0.059)	(0.058)	(0.075)
Favorable Ag-Eco Zone				-0.069						0.056
				(0.078)						(0.111)
MUS X DMUS X FavAgEconZone				0.039						-0.145
				(0.071)						(0.158)
MUS X DUPP X FavAgEconZone				-0.106						-0.120
				(0.114)						(0.141)
PCA Village Infrastructure					0.020*					0.032
					(0.012)					(0.020)
MUS X DMUS X PCA Village Infra					-0.010					-0.034
					(0.014)					(0.026)
MUS X DUPP X PCA Village Infra					0.021					-0.015
					(0.024)					(0.033)
PCA Education						0.024**				0.016
						(0.010)				(0.011)
MUS X DMUS X PCA Education						-0.012				0.004
						(0.016)				(0.026)
MUS X DUPP X PCA Education						0.001				0.002
						(0.015)				(0.017)
Distance to Town							0.002			0.002
							(0.002)			(0.002)
MUS X DMUS X Distance to Town							-0.004			-0.008**
							(0.002)			(0.004)
MUS X DUPP X Distance to Town							-0.001			-0.002
							(0.003)			(0.003)
Separate Hamlet for Groups/Jatis								-0.015		-0.018
								(0.033)		(0.045)
MUS X DMUS X Separate Hamlets								0.006		-0.031
								(0.044)		(0.059)
MUS X DUPP X Separate Hamlets								0.025		0.014
								(0.061)		(0.078)
Jati Conflict									-0.090***	-0.096**
									(0.032)	(0.045)
MUS X DMUS X Jati Conflict									0.101**	0.121**
									(0.041)	(0.058)
MUS X DUPP X Jati Conflict									-0.054	-0.079
									(0.059)	(0.074)
Base education	No	No	No	No	No	No	No	No	No	No
Base occupation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household RE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2456	2373	2373	2023	1813	2085	2366	2107	2370	1216

Note: household controls include household demographic variables, household income quantile, size of land owned by household and highest education level completed within the household. Robust standard errors in parentheses clustered at the household level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: authors' compilation based on IHDS 2011-12 data.

Appendix B1

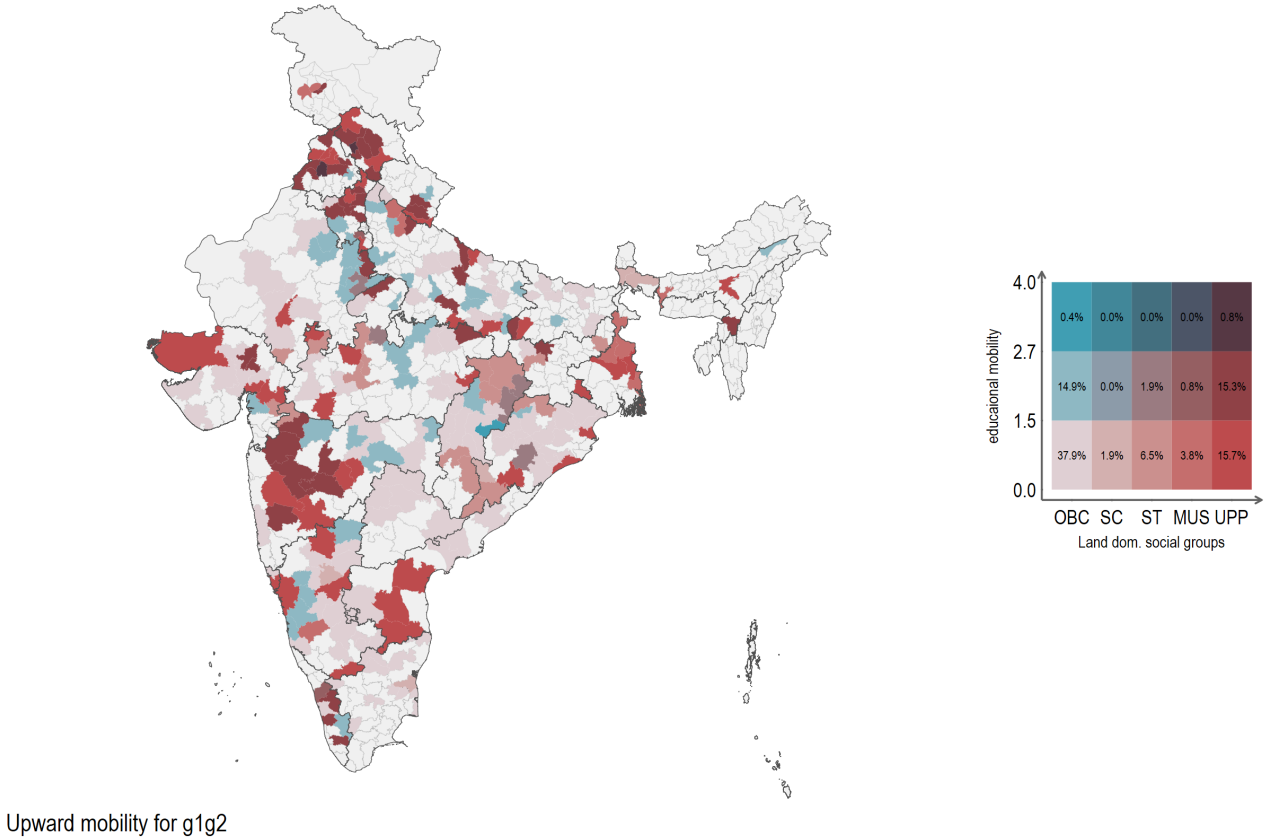
Table B1.1: Village characteristics by population dominance regime from Census

	SC	ST	Others	Total
Census 1991				
Proportion of literate	0.30	0.21	0.35	0.32
Primary school	0.61	0.73	0.78	0.76
Middle school	0.10	0.17	0.28	0.25
Secondary school	0.04	0.05	0.12	0.10
Senior secondary school	0.01	0.01	0.02	0.02
College	0.00	0.00	0.00	0.00
Tar Road	0.37	0.24	0.47	0.43
Census 2001				
Proportion of literate	0.46	0.35	0.49	0.46
Primary school	0.70	0.76	0.80	0.79
Middle school	0.16	0.17	0.31	0.27
Secondary school	0.05	0.05	0.13	0.11
Senior secondary school	0.01	0.01	0.04	0.03
College	0.00	0.00	0.01	0.01
Tar Road	0.52	0.35	0.58	0.53
Census 2011				
Proportion of literate	0.57	0.47	0.60	0.57
Primary school	0.76	0.83	0.84	0.83
Middle school	0.31	0.33	0.49	0.44
Secondary school	0.11	0.10	0.21	0.18
Senior secondary school	0.05	0.03	0.09	0.07
College	0.01	0.00	0.02	0.01
Tar Road	0.58	0.50	0.66	0.62

Source: authors' compilation based on SHRUG Data (Asher et al., 2021, Population Census of India, 2011).

Appendix B2: Educational/occupational mobility and land dominance: bivariate maps

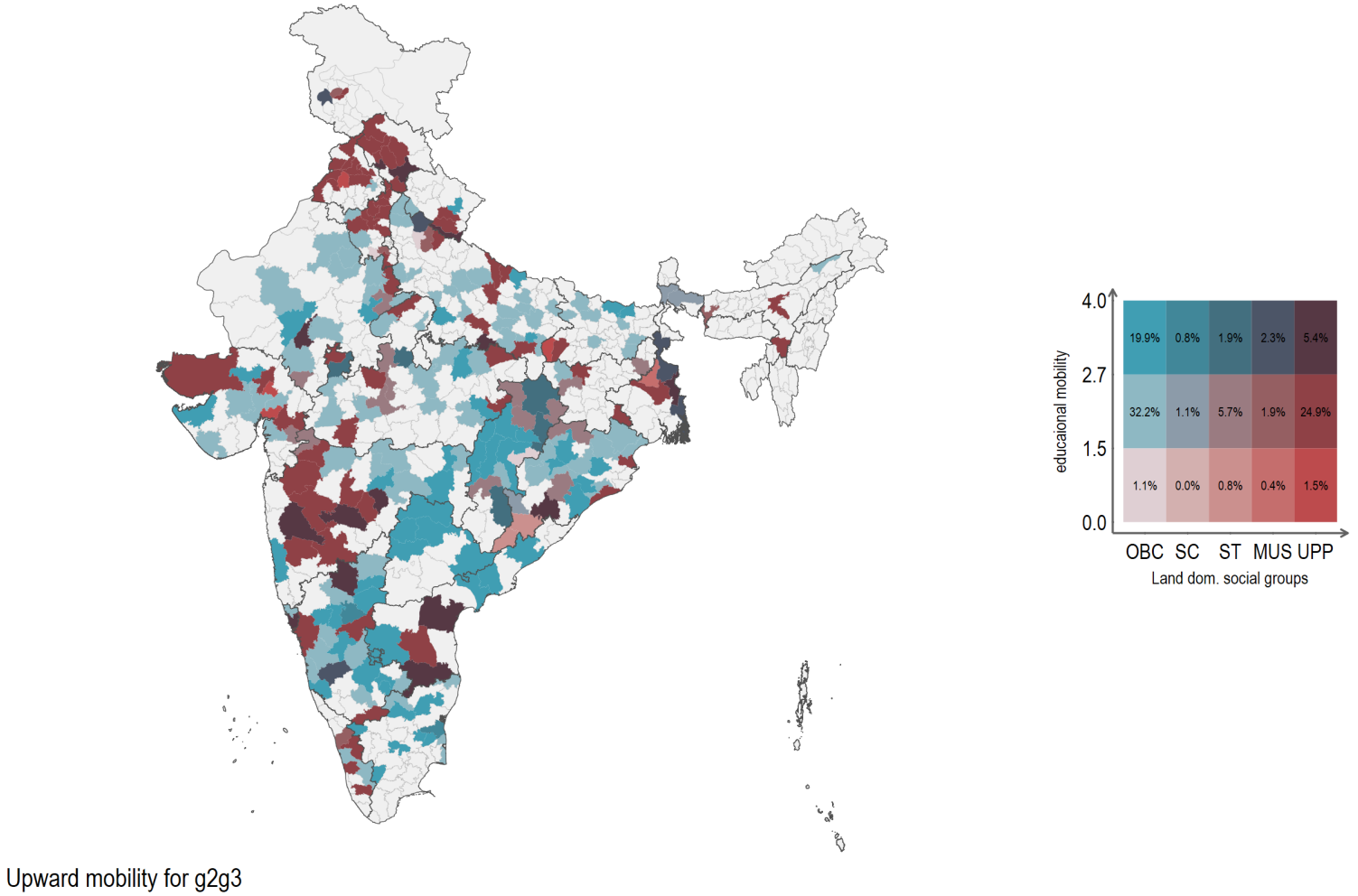
Figure B2.1: Education and land dominance bivariate map



Source: authors' compilation based on IHDS 2011-12 data.

Note: We focus on the educational mobility and land dominance of the grandfather (G1) father (G2) pairs.

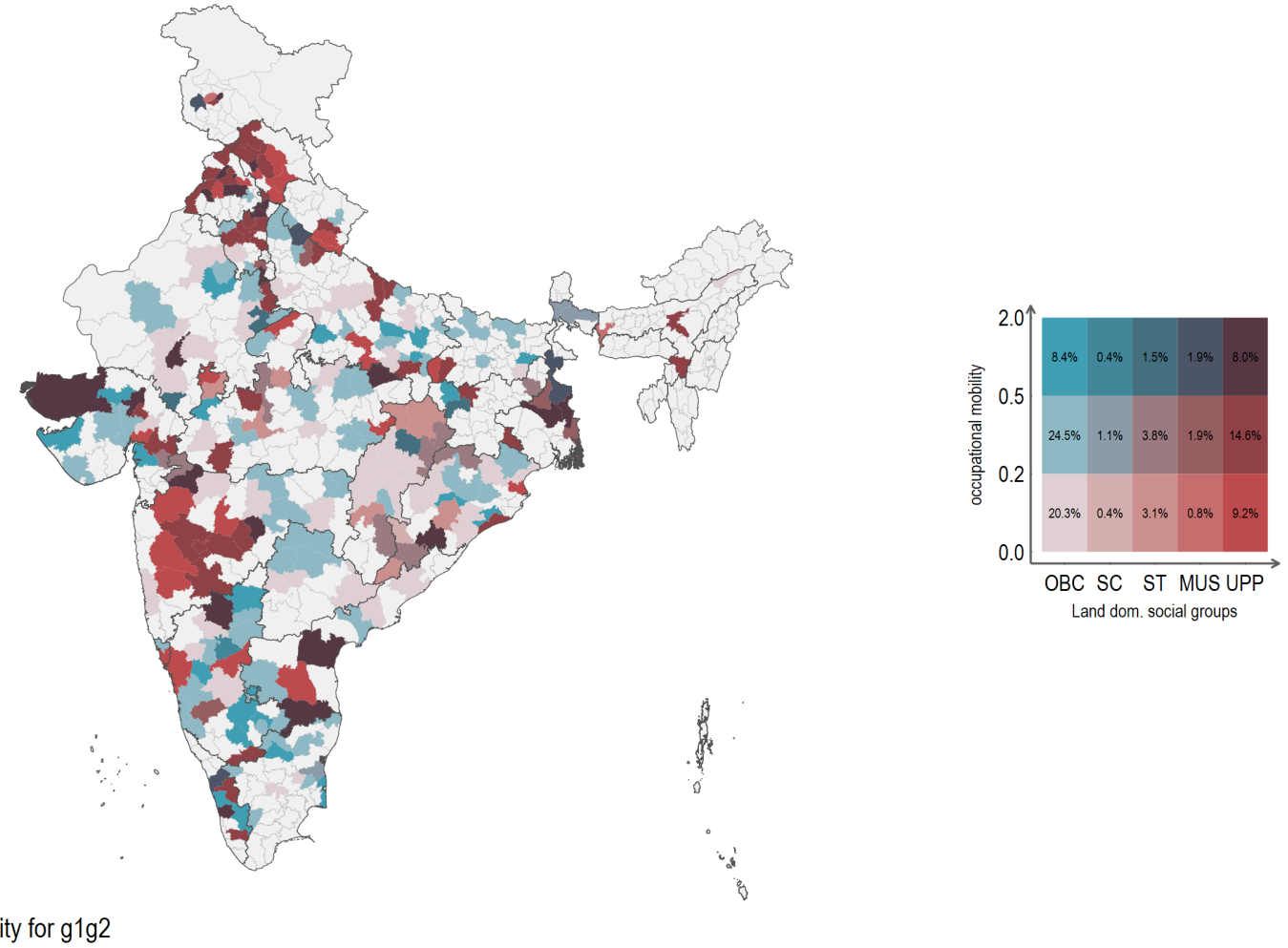
Figure B2.2: Education and land dominance bivariate map



Source: authors' compilation based on IHDS 2011-12 data.

Note: We focus on the educational mobility and land dominance of the father (G2) and son (G3) pairs.

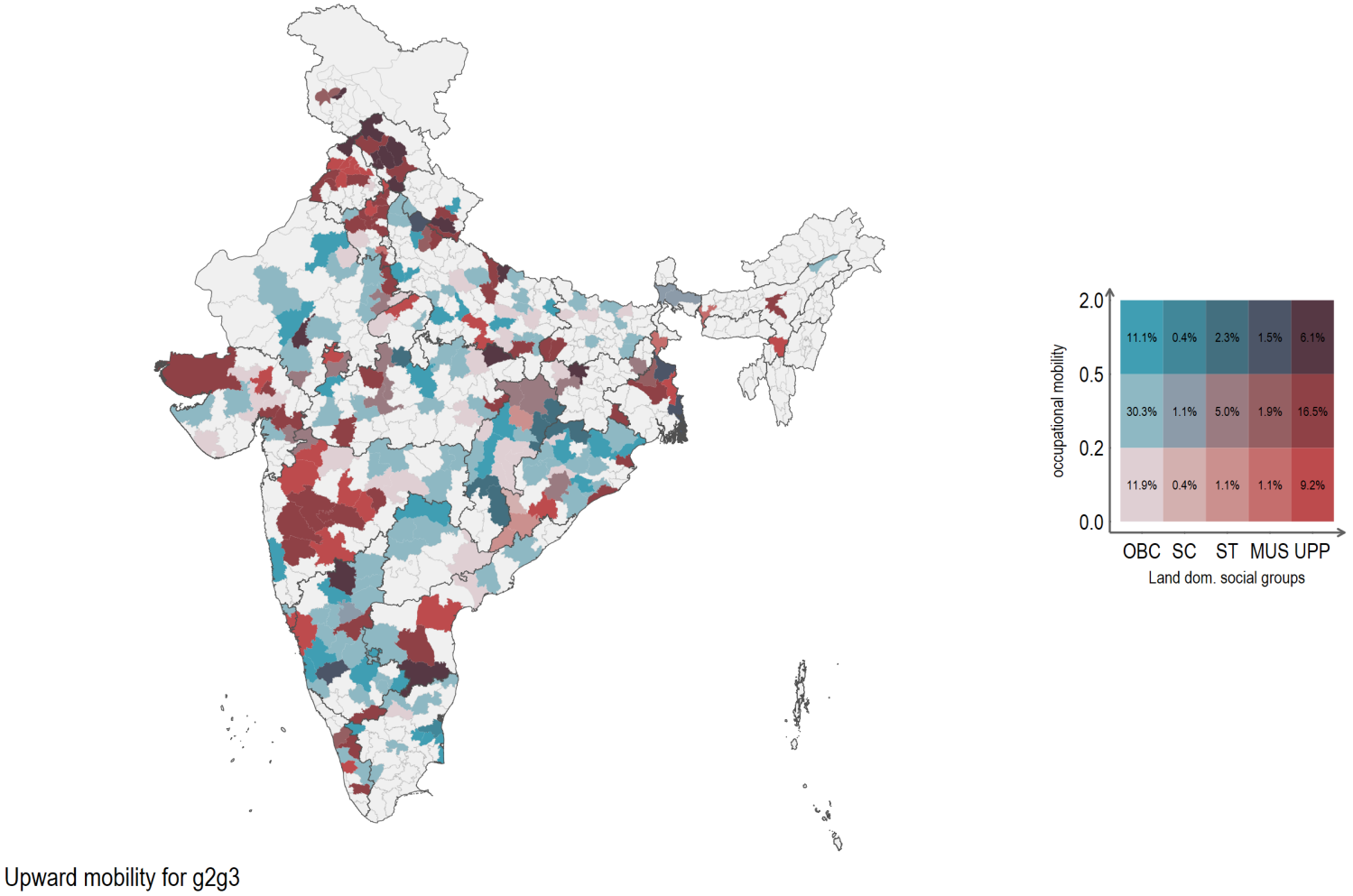
Figure B2.3: Upward occupational mobility and land dominance bivariate map



Source: authors' compilation based on IHDS 2011-12 data.

Note: We focus on the upward occupational mobility and land dominance of the grandfather (G1) father (G2) pairs.

Figure B2.4: Occupational and land dominance bivariate map



Source: authors' compilation based on IHDS 2011-12 data.

Note: We focus on the occupational mobility and land dominance of the father (G2) and son (G3) pairs.