International Journal of Social Economics

Who owns the firm? Ownership, structure, and productivity disparities in India's unincorporated enterprises

Pushpendra Singh
Department of Economics, K J Somaiya Institute of Management, Somaiya Vidyavihar University, Mumbai, India, and
Archana Singh
Centre of Demography of Gender, International Institute for Population Sciences, Mumbai, India

Received 1 February 2026
Revised 26 June 2026
17 August 2026
Accepted 23 August 2026

Abstract

Purpose – This study aims to examine how caste shapes enterprise ownership, structural conditions, and productivity in India's unincorporated sector. It asks whether the rapid expansion of informal enterprises over time has reduced or reproduced caste-based inequality.

Design/methodology/approach – The study draws on unit-level data from the National Sample Survey (67th round, 2010–11; 73rd round, 2015–16) and the Annual Survey of Unincorporated Sector Enterprises (ASUSE) 2022–23, 2023–24 and 2025. The methodology combines descriptive profiling of ownership and enterprise characteristics; a pooled multinomial logit to assess caste-linked sorting, pooled ordinary least squares (OLS) and Poisson pseudo-maximum likelihood (PPML) regression to estimate the productivity gap; and Blinder-Oaxaca decomposition to separate disparities.

Findings – The findings reveal a clear paradox: the informal sector enterprise expanded rapidly, but caste inequality in enterprise ownership and returns persisted. Establishments increased from 57.7 million in 2010–11 to 83.5 million in 2025, yet Scheduled Caste (SC) and Scheduled Tribe (ST) ownership remained below their population shares. SC and ST entrepreneurs remained more concentrated in precarious locations and low-capital activities, while upper-caste enterprises retained advantages in permanent premises and productivity. Across the pooled productivity models, the most robust disadvantage is borne by SC-owned enterprises. The decomposition shows that 69.8% of SC-"Others" productivity gap is explained by location, registration and digital adoption, while the remaining portion remains unexplained, pointing to discrimination and unequal social capital.

Originality/value – The study shifts attention from wages and employment to caste differences in enterprise ownership, structure, and productivity, showing that firm growth did not reduce caste gaps in ownership, business structure, or returns.

Keywords Caste inequality, Unincorporated enterprises, Enterprise productivity, Informal economy, Enterprise ownership

Paper type Research article

1. Introduction

India's informal economy is both enormous and deeply unequal. By 2025, the country's unincorporated non-agricultural sector, the world of small traders, repair workshops, home-based producers, and street vendors, had grown to more than 83 million establishments, providing livelihoods to hundreds of millions who could not secure stable wage employment in the formal economy (ASUSE, 2025). This expansion is frequently cited as evidence of entrepreneurial dynamism. Yet behind the aggregate growth lies a structure shaped as much by social hierarchy as by market forces. Caste, the hereditary system of stratification that has governed access to land, credit, and occupation for centuries, continues to determine who enters self-employment, what kind of enterprise they can sustain, where they operate, and how productive their work becomes Rakshit and Basole (2024), Rajesh (2024), Nashier and Vij (2024).

JEL Classification — D22, D63, J15, L26, O17

International Journal of Social Economics

e-ISSN: 1758-6712
p-ISSN: 0306-8293
DOI 10.1108/IJSE-02-2026-0113

The mechanism of caste in India is deeply rooted in the social sphere and influences access to and control over the natural resources. This plays a crucial role in the design of market infrastructure and enterprise ecosystem. The ascribed caste status provides privilege to certain groups of people while systematically excluding the others from access to resources. Furthermore, the uneven caste landscape restricts performance of firms owned by marginalized communities, due to limited access to capital, technology and markets. These inequalities are not accidental; rather this divide has persisted since the beginning of histories of exclusion that have restricted access to land, social networks, and institutional credit (Alha, 2018). Iyer *et al.* (2013) confirm that entrepreneurial outcomes diverge sharply across caste, even after controlling for observable firm characteristics. Historically, surplus labour belonging to marginalized communities in agriculture has transitioned to self-employment and small-scale entrepreneurship, yet such enterprises operate under conditions of low productivity, fragile credit access, and deep social segmentation (Mehrotra and Giri, 2019; Badola and Mukherjee, 2021).

This institutional gravity further accentuated when caste intersects with gender. Women entrepreneurs from Scheduled Caste (SC) and Scheduled Tribe (ST) backgrounds navigate a compounded set of restrictions, limited mobility, reduced collateral, and exclusion from the male dominated networks through which business information, credit, and market access typically flow (Kumar and Santhosh, 2025; Rajesh, 2024; Bal and Judge, 2010). Policy has not been indifferent to these disparities. Over the past decade, successive governments have scaled up financial inclusion schemes, credit guarantee programmes, and digital payment infrastructure explicitly targeting entrepreneurs. Yet the evidence consistently shows that these initiatives reach disadvantaged groups unevenly, and rarely address the structural conditions, discrimination in credit markets, spatial distance from economic hubs, exclusion from supply chains, that keep enterprise productivity low (Mawkhiew and Thangkhiew, 2023; Bera and Dubey, 2024; Sorenson and Thornton, 2025).

The existing studies have examined inequality in wages, employment, resource accessibility, consumption, and education, but the enterprise dimension of caste-based disparities remains underexplored. Accordingly, this study pursues four objectives: first, to trace the growth and sectoral composition of unincorporated establishments across rural and urban India from 2010–11 to 2025. Second, to map enterprise ownership across caste groups over time, assessing whether the expansion of informal enterprise has widened access for historically marginalized groups. Third, to examine how key enterprise characteristics differ by caste and whether these gaps have narrowed or widened over 15 years. Fourth, to estimate whether caste-based productivity gaps persist after conditioning on observed enterprise attributes.

2. Brief review of literature

The interlinkage between caste, enterprise ownership, and economic outcomes in India is rooted in historical processes. Unequal access to land, credit, education, and social networks has long shaped who owns businesses, how resources are mobilized, and how far enterprises can grow. Hence, the relationship between caste and economic outcomes is grounded in two complementary theoretical traditions: segmentation, and institutional exclusion.

The segmentation theory argues that business opportunities are not equally accessible to all (Reich *et al.*, 1973). Therefore, the markets are segmented into layers, where some markets show stability, profitability, and well-connectedness, while others show uncertainty, low-return, and fragility (Doeringer, 1986). In India's informal economy, caste has historically functioned as a key factor behind the segmentation. Mostly, privileged groups, primarily those belonging to business or high socio-economic class tend to move into formal, high-value activities with better access to credit, technology, and infrastructure; this leads to hegemonies over the labour market. Thereafter, marginalized groups, such as Dalits and Adivasis, remain confined to low-capital and subsistence enterprises with minimal prospects for expansion (Thorat and Newman, 2012; Rajesh, 2024).

The institutional exclusion framework complements this view by locating the source of group-based disparities in the rules and norms that govern market access, credit rationing,

spatial disadvantage, and exclusion from productive networks, rather than in individual attributes (North, 1990; Thorat and Newman, 2012). Iyer *et al.* (2013) confirm empirically that caste-based disparities in entrepreneurship persist even under comparable levels of education, sector, and location. These disparities stem from structural exclusion, where social, economic, and political systems prevent certain groups from full participation and access to opportunities, credit, and decision-making (Becker, 1985; North, 1990; Rouse and Jayawarna, 2011; Thorat and Newman, 2012; Raj *et al.*, 2024).

The transition of surplus agricultural labour from marginalized communities into non-farm self-employment has not produced equal enterprise outcomes. Mehrotra and Giri (2019) highlight that SC, and ST entrepreneurs enter self-employment predominantly out of necessity rather than opportunity, forming enterprises that are smaller, less capitalized, and isolated from value chains than those of higher-caste proprietors. Further, the lower-caste informal enterprise remains trapped in a low-productivity equilibrium, unable to invest in the technology or market linkages that could shift them to a higher growth path (Mawkhiew and Thangkhiew, 2023; Bera and Dubey, 2024). The credit market exclusion compounds this disadvantage, Hnatkovska *et al.* (2013) demonstrate that SC households face higher effective borrowing costs and are more frequently rationed out of formal credit than equivalent upper-caste borrowers, even after controlling for income and collateral.

Despite this evidence, the enterprise dimension of caste inequality remains underexplored in long-run, nationally representative data. Most studies focus on wages, consumption, or labour market outcomes rather than enterprise ownership and productivity. Although recent work on marginalized entrepreneurship remains fragmented across regions, social groups, and single survey rounds. Studies on marginalized entrepreneurship highlight persistent barriers in finance, markets, and business scaling (Nashier and Vij, 2024; Rakshit and Basole, 2024), while research on informal-firm productivity emphasizes enterprise heterogeneity without centering caste (Posti and Maiti, 2025). This study bridges that gap through a long-run pooled analysis of ownership patterns, enterprise characteristics, and productivity disparities.

3. Data and methods

3.1 Data source

This study utilises microdata from the National Sample Survey (NSS), administered by the Ministry of Statistics and Programme Implementation, Government of India. Since 1950, the NSS has run large scale surveys on India's socio-economic life. In the 1980 and 1990s, the enterprise and trade rounds began recording unincorporated non-agricultural units, own-account producers, small traders, and informal manufacturers, thereby helping to build a long-run enterprise database. The analysis uses five rounds of unit-level data, from the 67th round (2010–11) to ASUSE 2025, conducted by the NSS.

3.1.1 Sampling design, sample and coverage. The NSS 67th and NSS 73rd rounds followed a two-stage survey procedure. In the first stage, field teams prepared a listing of households and establishments. In the second stage, the enterprise schedule was administered to selected units. Both rounds used a stratified multi-stage sampling design. NSS 67th covered 334,474 enterprises in total, while NSS 73rd recorded 290,113 enterprises (NSSO, 2011, 2017). ASUSE marks a shift to an annual establishment frame with larger sample coverage and a refined classification system. ASUSE 2022–23 surveyed 458,938 establishments, whereas ASUSE 2023–24 covered 498,024 establishments (ASUSE, 2023, 2024). The latest ASUSE round, 2025, covered a considerably larger sample of 670,650 establishments (ASUSE, 2025).

3.2 Methods

The study's methodology proceeds in three linked stages, combining descriptive, multivariate and decomposition-based analysis. First, we estimate the number and distribution of establishments to document the scale and composition of informal enterprise growth. Second,

we use pooled multinomial logit and pooled productivity models to examine how caste is associated with enterprise sorting and performance after conditioning on observed characteristics. Third, we use Blinder-Oaxaca decomposition to separate the productivity gap into explained and unexplained components. And it has been calculated as

$$E_i = \frac{E_i}{\sum_j E_j} \times 100,$$

where E_i denotes the number of establishments in industry i and the denominator is the sector total.

Next, we map establishments across caste and describe their features. For each caste group (g) we compute the caste proportion as the share of establishments belonging to that group:

$$Proportion_g = \frac{N_g}{\sum_h N_h} \times 100,$$

where N_g is the number of establishments owned by caste group g. Additionally, we estimate the distribution of establishment characteristics by the social group of the owner (See in Appendix B for detailed formulas).

3.2.1 Multinomial logit with caste category outcome. To examine how enterprise characteristics are associated with caste-linked sorting across enterprises, we estimate a multinomial logit model on the pooled repeated cross-section sample covering 2010–11 to 2025. Let $C_{it} \in \{1, 2, 3, 4\}$ denote the caste category of enterprise *i*, where the four outcomes correspond to ST, SC, Other Backward Classes (OBC), and *"Others"*, respectively. The multinomial logit model is given by

$$P(C_{it} = j | X_{it}) = \frac{exp(X_{it'}\beta_j)}{1 + \sum_{k=1}^{3} exp(X_{it'}\beta_k)}, \quad j = 1, 2, 3$$

and for the base category:

$$P(C_{it} = 4 | X_{it}) = \frac{1}{1 + \sum_{k=1}^{3} exp(X_{it'}\beta_k)}$$

Equivalently, the estimating equation can be written as:

$$\begin{aligned} log\left(\frac{P(C_{it} = j | X_{it})}{P(C_{it} = 4 | X_{it})}\right) = {} & \alpha_j + \beta_{1j} Year_{it} + \beta_{2j} BAC_{it} + \beta_{3j} Sector_{it} + \beta_{4j} EstType_{it} \\ & + \beta_{5j} OwnerType_{it} + \beta_{6j} Location_{it} + \beta_{7j} NatureOps_{it} \\ & + \beta_{8j} Accounts_{it} + \beta_{9j} Registered_{it} + \beta_{10j} Computer_{it} + \beta_{11j} Internet_{it} \\ & + \beta_{12j} RegionFE_{it} \end{aligned}$$

Where, $C_{it} = 1$ for ST; $C_{it} = 2$ for SC; $C_{it} = 3$ for OBC; $C_{it} = 4$ for Others; for $j = 1, 2, 3$, where category 4 (Others) is the reference category.

3.2.2 Analytical framework for enterprise productivity gaps by caste. We estimate four models using pooled repeated cross-sections from 2010–11 to 2025. The four models serve

distinct purposes; Model 1 establishes the baseline caste-productivity gap; Model 2 examines how that gap changes over time; Model 3 tests robustness by excluding likely endogenous controls and Model 4 provides a poisson pseudo-maximum likelihood (PPML) robustness check for skewness and functional-form sensitivity. In Models 1–3, the dependent variable is log annual GVA, while Model 4 uses annual GVA in levels.

Let Y_{irt} denote enterprise performance for enterprise i in region r and year t. Let C_{irt} denote caste indicators; λ_t year fixed effects; BAC_{irt} broad activity category; S_{irt} sector; E_{irt} establishment type; O_{irt} ownership type; L_{irt} location; N_{irt} nature of operation; M_{irt} business controls; μ_r region fixed effects; and ε_{irt} the error term.

Model 1: Baseline Pooled OLS: This is the benchmark specification; it gives the baseline caste-productivity gap after controlling for enterprise characteristics and region.

$$ln(GVA_{irt}) = \alpha + \beta' C_{irt} + \lambda_t + \gamma' BAC_{irt} + \delta' S_{irt} + \theta' E_{irt} + \phi' O_{irt} + \psi' L_{irt} + \eta' N_{irt} + \kappa' M_{irt} + \mu_r + \varepsilon_{irt}$$

Model 2: Main Pooled OLS with Caste-Year Interactions:

$$ln(GVA_{irt}) = \alpha + \beta' C_{irt} + \lambda_t + \rho'(C_{irt} \times \lambda_t) + \gamma' BAC_{irt} + \delta' S_{irt} + \theta' E_{irt} + \phi' O_{irt} + \psi' L_{irt} + \eta' N_{irt} + \kappa' M_{irt} + \mu_r + \varepsilon_{irt}$$

Model 3: Restricted OLS Excluding Likely Endogenous Control:

$$ln(GVA_{irt}) = \alpha + \beta' C_{irt} + \lambda_t + \rho'(C_{irt} \times \lambda_t) + \gamma' BAC_{irt} + \delta' S_{irt} + \theta' E_{irt} + \phi' O_{irt} + \psi' L_{irt} + \eta' N_{irt} + \mu_r + \varepsilon_{irt}$$

Model 4: Poisson pseudo-maximum likelihood (PPML) Robustness Model

$$\mathbb{E}[GVA_{irt} | X_{irt}] = exp(\alpha + \beta' C_{irt} + \lambda_t + \rho'(C_{irt} \times \lambda_t) + \gamma' BAC_{irt} + \delta' S_{irt} + \theta' E_{irt} + \phi' O_{irt} + \psi' L_{irt} + \eta' N_{irt} + \kappa' M_{irt} + \mu_r)$$

This final model checks whether the main productivity results are robust to skewness in GVA and to the log transformation used in the OLS specifications.

3.2.3 Blinder-Oaxaca decomposition for pairwise caste comparisons. Further, to explain mean GVA differences between the different social groups, we applied Blinder (1973) – Oaxaca (1973) decomposition to the pooled repeated cross-section dataset covering 2010–11 to 2025, using log annual GVA as the outcome variable. The decomposition is estimated separately for pairwise comparisons between ST and Others, SC, and Others, and OBC and Others.

For any two caste groups A and B, the mean productivity gap is given by:

$$\Delta = \overline{Y}_A - \overline{Y}_B$$

where Y denotes log annual GVA. The pooled Blinder–Oaxaca decomposition expresses this gap as:

$$\overline{Y}_A - \overline{Y}_B = \left(\overline{X}_A - \overline{X}_B\right)\widehat{\beta}^* + \overline{X}_A(\widehat{\beta}_A - \widehat{\beta}^*) + \overline{X}_B(\widehat{\beta}^* - \widehat{\beta}_B)$$

This can be written more compactly as:

$$\Delta = \mathrm{E} + \mathrm{U}$$

where E is the explained component due to differences in observed characteristics, and U is the unexplained component due to differences in coefficients or unobserved factors. This decomposition is appropriate because the study is interested not only in whether a caste productivity gap exits, but also in whether that gap is driven by unequal business characteristics or by residual differences that remain after those characteristics are held constant.

4. Counting change: growth of establishments in India's informal economy

The study indicates that over one and half decades, the total number of establishments increased significantly from 57.7 million in 2010–11 to 83.5 million in 2025 (Figure 1). This means that tens of millions of new informal enterprises entered the economy, absorbing workers who could not find adequate opportunities in the formal sector.

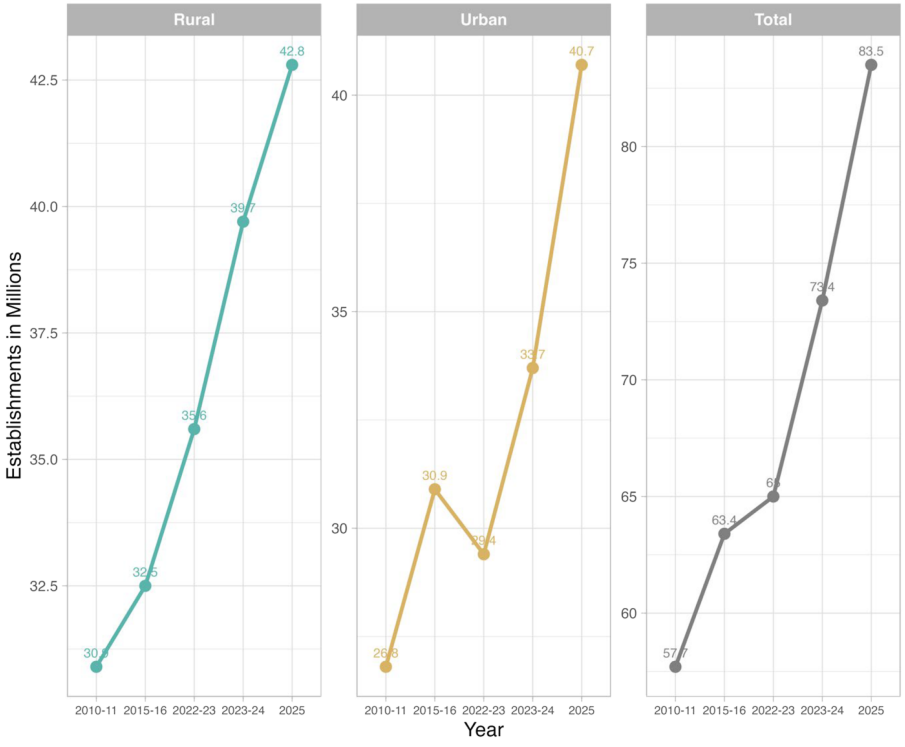

Figure 1. Trends in Establishments Across the Unincorporated Non-Agricultural Sector from 2010–11 to 2025. **Source:** Calculated by the author using unit-level data from the 67th round (2010–11) to ASUSE (2025), conducted by the NSSO; All estimated numbers refer to the number of enterprises and are reported in millions

This expansion is primarily driven by the rural establishments, which have increased from 30.8 million in 2010–11 to 42.8 million by 2025 (See Appendix Table A2). The uninterrupted upward trajectory of rural establishments suggests that agriculture-adjacent informal enterprise has become an important income source for rural households, particularly in the context of agricultural income volatility.

Similar trends are observed in urban areas, where the number of unincorporated establishments increased from 26.8 million in 2010–11 to 40.7 million by 2025. This pattern signals a gradual but persistent urbanization of economic activity, potentially driven by rural-to-urban migration, growing service demand, and the expansion of low-entry-barrier self-employment (Posti and Maiti, 2025).

Figure 2 presents the changing composition of unincorporated establishments in India, across manufacturing, trade and other services from 2010–11 to 2025. While the total number of establishments rose from 57.7 million to 83.5 million, this expansion was highly uneven across sectors. Manufacturing grew only modestly, from 17.2 million to 21.5 million, suggesting that small-scale producers are under pressure from rising competition, technological change, and formalization.

However, trade expanded steadily from 20.8 million in 2010–11 to 30.4 million in 2023–24 but then fell sharply to 24.2 million in 2025. This reversal may reflect growing consolidation in retail, with organized trade and digital commerce increasingly displacing small informal traders, especially in urban markets.

By contrast, other services emerged as the main driver of expansion. Their number increased from 19.7 million in 2010–11 to 24.6 million in 2022–23, before surging to 37.9 million in 2025, nearly double the 2010–11 level. This sharp rise points to a broader shift toward service-led informalization, driven by low-capital, labour intensive activities such as repair, personal care, transport, catering, and digital services (see Appendix Table A3).

4.1 Who owns the firm? Line of business, lines of caste

Figure 3 presents caste pattern in the ownership of informal establishments over the fifteen-year period. OBC owned enterprises dominate throughout, and their share has steadily

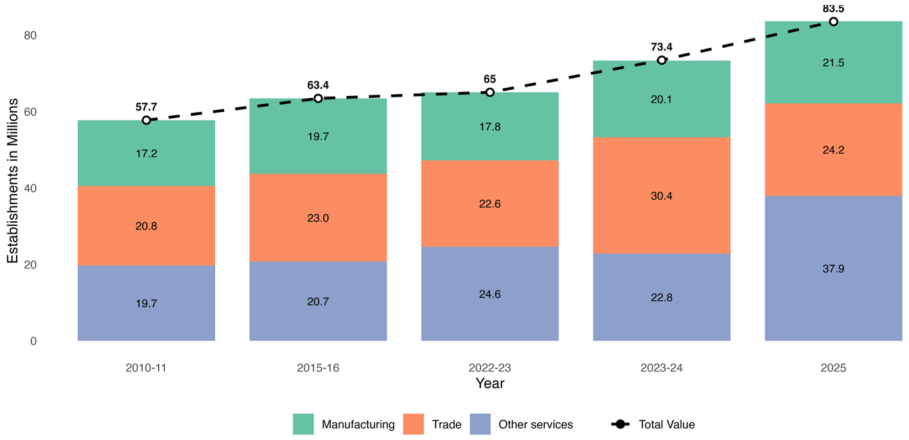

Figure 2. Estimated Number of Establishments in the Unincorporated Non-Agricultural Sector, by Industry From 2010–11 to 2025. **Source:** Calculated by the author using unit-level data from the 67th round (2010–11) to ASUSE (2025), conducted by the NSSO; All estimated numbers refer to the number of enterprises and are reported in millions. Where, manufacturing (units that transform inputs into goods by physical or chemical processes), trading (units whose main activity is buying and reselling goods without altering their physical form), and other services (units that supply services or benefits rather than tangible products)

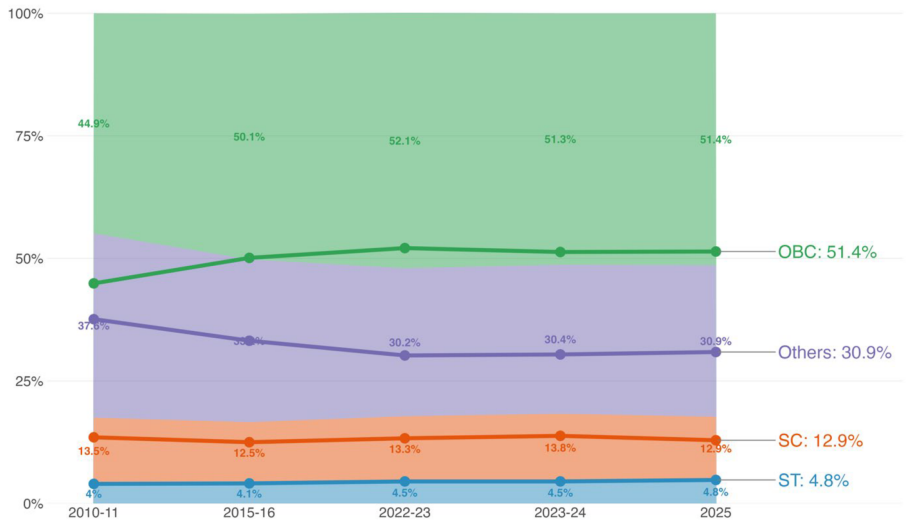

Figure 3. Caste-wise Distribution of Establishments in the Unincorporated Sector From 2010–11 to 2025.
Source: Calculated by the author using unit-level data from the 67th round (2010–11) to ASUSE (2025), conducted by the NSSO; The reported distribution is expressed in percentages

increased from 44.9% in 2010–11 to 51.4% in 2025, stabilizing above 50% in the later rounds. As formal employment opportunities remain limited for large sections of the population, informal enterprise has become a crucial livelihood strategy. This pattern is especially pronounced among OBC communities, many of which have long-standing occupational links to artisanal and trading activities that historically align with self-employment (Iyer *et al.*, 2013).

By contrast, the share of "Other" castes declined from 37.6% in 2010–11 to 30.9% in 2025. Yet their continued prominence in the entrepreneurial landscape suggests that they retain advantages in social capital, business networks, and market positioning that support their relative success in enterprise ownership (see Appendix Table A4).

The SC share has been surprisingly stable over the period, moving only between 12.5 and 13.8% before settling at 12.9% in 2025. This stability is not a sign of inclusion. SC communities constitute approximately 17–18% of India's population, yet their share of informal enterprise ownership has remained below 14% throughout the study period. Their persistent underrepresentation, even in a sector often seen as having low entry barriers, underscores the depth of the structural constraints they face (Thorat and Newman, 2007).

Further, ST share has grown modestly from 4% in 2010–11 to 4.8% in 2025. Although this marks some progress, it remains far below their population share of about 8%. This continuing underrepresentation reflects not only geographic isolation and weak market access, but also long-standing exclusion from commercial networks, which leaves many ST communities without the capital and connections typically needed to sustain a business (Deshpande and Sharma, 2013).

4.2 Where Businesses Operate: mapping caste and enterprise location

Appendix Table A1 presents spatial hierarchy in caste-based enterprise ownership between 2010–11 and 2025. In 2010–11, as many as 58.7% of ST-owned and 47.3% of SC-owned enterprises operated from within the household. By 2025, these shares had fallen to 44.9 and 40.1%, but they remained well above the 37.2% recorded for the "Others" group. This pattern

is not simply a matter of choice. Home-based operation often reflects capital constraints, restricted mobility, and exclusion from formal commercial spaces.

By contrast, enterprises owned by the "*Others*" group were more likely to operate from permanent structures outside the home. This difference matters because permanent premises signal greater stability, attract more customers, improve access to utilities and credit, and strengthen long-run business survival (Munshi and Rosenzweig, 2006).

Further, the street vending is common among SC and ST entrepreneurs then among OBC and "Others" groups. Among SC-owned enterprises, the share of street vendors rose from 16.6% in 2010–11 to 24.2% in 2025, while among ST-owned enterprises it increased from 13.5% to 19.8%. Street vending is one of the most precarious forms of enterprise: it offers low entry barriers, but it also exposes vendors to insecure tenure, harassment by local authorities, and highly irregular incomes. Its growth among SC and ST groups therefore points less to entrepreneurial mobility than to the persistence of survival-driven self-employment (Bhowmik, 2012).

4.3 Inside the firm: establishment features by social group

Table 1 reveals gradual but uneven change in enterprises across caste categories from 2010–11 to 2025. Men still dominate ownership across all caste categories, but female ownership has risen sharply, especially among marginalized communities. Among ST-owned enterprises, the female share increased from 18.5% in 2010–11 to 35.7% in 2025, and among SC-owned enterprises from 18.6% to 35.4%, pointing to a meaningful expansion of women's entrepreneurship and a growing recognition of business as a viable source of income.

Business practices have also become more organized. Record-keeping and registration have increased across caste categories, indicating a shift toward greater formalization. For instance, the registration of businesses owned by ST community has doubled from 2010–11 to 2025. The legitimacy of a business helps in accessing bank loans, government benefits, and value market opportunities. Yet enterprise owned by the "Others" caste category still records higher registration rates, reflecting stronger access to the information and resources needed to navigate formal systems.

At the same time, Table 1 shows that technology adoption remains uneven. Computer and internet use have increased across all caste categories, but ST and SC-owned enterprises still lag-behind. Even though internet use among ST and SC-owned businesses rose from almost zero to 32.2 and 29.1%, respectively, by 2025, the digital divide remains visible.

The broader picture is one of gradual but unequal progress. Fewer enterprises report operational difficulties, more firms are using bank accounts, and a growing share appear to survive long enough to become stable businesses. These shifts suggest improvement in enterprise resilience, financial inclusion, and business capability. But the gains remain uneven; marginalized caste entrepreneurs are moving forward, yet they continue to trail more privileged caste categories, underscoring the persistence of structural inequality in entrepreneurial development (La Porta and Shleifer, 2014).

4.4 Pooled multinomial logit estimates of enterprise characteristics associated with caste

Table 2 moves beyond description by examining how enterprise characteristics are associated with caste-linked ownership patterns in the pooled sample applying multinominal logit. Using the "*Others*" caste category as reference, the multinominal logit estimates show that, relative to 2010–11, enterprises in later rounds are more likely to be owned by ST, SC, or OBC proprietors. This does not imply that caste disadvantage has disappeared. Rather, it suggests a relative shift in the composition of informal enterprise ownership, partly reflecting the faster movement of "Others" group into formal employment, urban services, and higher-order businesses.

The urban location is strongly and negatively associated with ST and SC ownership. This means ST and SC-owned enterprises are more concentrated in rural areas, where market access

Table 1. Distribution of establishment characteristics by social group of owner of entrepreneurs: Evidence from Indian proprietorships, 2010–2011–2025

Establishment characteristics	2010–11				2015–16				2022–23				2023–24				2025			
	ST	SC	OBC	Others	ST	SC	OBC	Others	ST	SC	OBC	Others	ST	SC	OBC	Others	ST	SC	OBC	Others
Type of Ownership																				
Proprietary Male	79.4	79.7	80.2	80.6	75.5	75.3	78.4	78.9	68.8	70.9	76.4	76.0	65.1	65.6	72.9	73.8	64.0	64.3	72.0	73.2
Proprietary Female	18.5	18.6	18.3	16.7	23.1	23.1	19.8	18.6	30.9	28.7	22.9	22.8	34.6	34.1	26.3	25.1	35.7	35.4	27.3	25.9
Proprietary/SHG/Trust/Others	2.1	1.7	1.6	2.6	1.4	1.6	1.8	2.6	0.3	0.4	0.7	1.2	0.3	0.3	0.8	1.1	0.3	0.3	0.7	0.9
Nature of operation																				
Perennial	95.6	98.2	98.7	98.9	91.5	97.7	98.6	98.8	96.7	98.8	99.1	99.1	93.6	99.3	99.3	99.3	92.6	99.0	99.4	99.5
Seasonal	3.6	1.4	1.0	0.9	7.6	1.7	1.0	0.9	3.1	1.1	0.8	0.8	6.4	0.6	0.7	0.7	7.4	1.0	0.6	0.5
Casual	0.8	0.4	0.3	0.3	0.9	0.6	0.4	0.3	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Maintaining A/C Book																				
Does not maintain A/C	2.8	3.0	6.3	13.9	4.7	5.2	7.9	16.5	1.9	1.9	4.4	8.3	0.1	0.1	0.6	1.5	0.1	0.1	0.6	1.2
Maintains account	97.2	97.0	93.7	86.1	95.3	94.8	92.1	83.5	98.2	98.1	95.6	91.7	99.9	99.9	99.4	98.5	99.9	99.9	99.4	98.8
Status of Registration																				
Registered	13.8	18.3	25.3	37.2	19.0	18.5	27.6	40.0	24.7	24.5	33.9	42.2	29.3	24.0	34.5	42.4	27.3	24.2	34.4	41.7
Unregistered	86.2	81.8	74.7	62.9	81.1	81.5	72.4	60.0	75.3	75.5	66.1	57.8	70.7	76.1	65.5	57.6	72.7	75.8	65.6	58.3
Use Computer (s)																				
Yes	0.4	1.1	2.3	5.3	1.2	1.6	3.7	8.5	2.2	2.9	5.1	9.7	2.1	2.2	4.9	9.2	2.4	2.1	5.0	8.3
No	99.6	98.9	97.7	94.8	98.9	98.4	96.3	91.5	97.8	97.2	94.9	90.3	97.9	97.8	95.1	90.8	97.6	97.9	95.0	91.7
Use internet																				
Yes	0.2	0.5	1.0	3.0	0.9	1.3	2.9	7.0	13.3	13.3	20.1	29.0	17.6	18.1	26.3	35.5	33.2	29.1	39.8	48.5
No	99.8	99.5	99.0	97.0	99.1	98.7	97.1	93.0	86.7	86.7	79.9	71.0	82.4	81.9	73.8	64.5	66.8	70.9	60.2	51.5
Any problem in its operation																				
Yes	34.0	40.7	33.1	33.6	38.3	43.0	37.7	41.7	37.3	42.4	38.8	34.1	25.7	29.2	27.5	23.6	21.9	20.6	19.5	17.8
No	66.0	59.3	66.9	66.4	61.8	57.0	62.3	58.3	62.7	57.6	61.2	65.9	74.3	70.8	72.5	76.4	78.1	79.5	80.5	82.2
Initial Operation From reference period																				
Three years and above	85.8	83.6	80.2	81.4	75.6	74.9	74.9	74.6	70.4	71.8	72.7	74.4	66.3	66.1	68.0	69.0	92.7	91.6	92.4	92.4

(*continued*)

Table 1. Continued

Establishment characteristics	2010–11 ST	SC	OBC	Others	2015–16 ST	SC	OBC	Others	2022–23 ST	SC	OBC	Others	2023–24 ST	SC	OBC	Others	2025 ST	SC	OBC	Others
Two Years	10.6	11.3	13.7	12.7	14.2	11.6	12.6	13.4	14.6	14.0	13.4	12.3	13.1	13.2	13.0	13.0	5.4	5.8	5.3	5.2
One Year	3.6	5.1	6.1	5.9	10.2	13.5	12.5	11.9	15.0	14.2	14.0	13.3	20.7	20.8	19.0	18.1	2.0	2.6	2.3	2.4
Maintain any bank A/C																				
Yes, both in owner's and enterprise	NA				1.9	1.6	3.0	8.3	1.2	1.7	4.1	9.5	1.5	1.4	3.9	9.3	1.7	1.4	4.1	8.7
Yes, in enterprise's name					44.9	46.2	52.5	56.7	58.3	58.2	66.6	64.9	63.2	65.1	71.5	70.7	71.2	72.5	77.8	77.8
No					53.2	52.2	44.5	35.0	40.5	40.1	29.2	25.6	35.3	33.5	24.5	20.0	27.1	26.1	18.0	13.5

Source(s): Calculated by the author using unit-level data from the 67th round (2010–11) to ASUSE (2025), conducted by the NSSO. NA: Data is not available for this year

Table 2. Pooled multinomial logit estimates of enterprise characteristics associated with caste category in India, 2010–11 to 2025

Establishment characteristics	ST vs other Coef (SE)	SC vs other Coef (SE)	OBC vs other Coef (SE)
Years			
2010–11®			
2015–16	0.824*** (0.158)	0.633*** (0.120)	0.722*** (0.160)
2022–23	0.826*** (0.145)	0.693*** (0.177)	0.948*** (0.152)
2023–24	0.795*** (0.143)	0.654*** (0.207)	0.914*** (0.136)
2025	0.858*** (0.147)	0.616*** (0.227)	0.932*** (0.112)
Broad Activity Categories (BACs)			
Manufacturing®			
Trade	0.176 (0.313)	−0.241 (0.187)	−0.236 (0.183)
Other Service	−0.046* (0.238)	−0.045 (0.141)	−0.227 (0.150)
Sector			
Rural®			
Urban	−1.707*** (0.128)	−0.627*** (0.070)	−0.467*** (0.116)
Establishment Type			
OAE®			
ESTT	0.234*** (0.064)	0.151*** (0.056)	0.014 (0.037)
Type of Ownership			
Proprietary Male®			
Proprietary Female	0.137 (0.182)	0.208* (0.125)	−0.287** (0.143)
Proprietary/SHG/Trust/Others	−0.271 (0.287)	−0.099 (0.075)	−0.180 (0.140)
Location of establishment			
Within household premises®			
Permanent structure	−0.480*** (0.109)	−0.243*** (0.040)	−0.054 (0.043)
Temporary structure/kiosk/stall/Without structure	0.313*** (0.087)	0.648*** (0.173)	0.432*** (0.120)
Mobile market	0.689*** (0.078)	0.935*** (0.101)	0.339*** (0.070)
Street vendor	0.220** (0.086)	0.709*** (0.154)	0.288* (0.165)
Nature of operation			
Perennial®			
Seasonal	1.745*** (0.481)	0.070 (0.186)	−0.036 (0.155)
Casual	0.533 (0.535)	0.206 (0.289)	0.170 (0.219)
Maintaining Accounts Book			
Does not maintain account®			
Maintains account	0.661*** (0.194)	0.550*** (0.148)	0.346*** (0.094)
Status of Registration			
Unregistered®			
Registered	0.194 (0.226)	0.530*** (0.115)	0.401*** (0.106)
Use Computer (s)			
No®			
Yes	0.395*** (0.083)	0.411*** (0.105)	0.199*** (0.068)
Use internet			
No®			
Yes	0.142 (0.156)	0.265*** (0.078)	0.223* (0.129)

(*continued*)

Table 2. Continued

Establishment characteristics	ST vs other Coef (SE)	SC vs other Coef (SE)	OBC vs other Coef (SE)
Region			
North-Centre®			
East-Northeast	0.266*** (0.036)	−0.404*** (0.054)	−0.671*** (0.046)
West	0.435*** (0.047)	−0.727*** (0.017)	−0.367*** (0.052)
South	0.576*** (0.067)	0.193*** (0.039)	1.147*** (0.061)
Cons	−3.891*** (0.309)	−2.666*** (0.311)	−0.884*** (0.148)
Pseudo R2	0.0796		

Note(s): Pooled multinomial logit coefficients with Others as the base outcome. The dependent variable is caste category of the owner/major partner. Survey weights are used; region fixed effects are included; clustered standard errors are in parentheses. BAC = broad activity category; OAE = own-account establishment; ESTT = establishment with hired workers. ***$p < 0.01$, **$p < 0.05$, *$p < 0.10$. Reference categories are denoted with ®

Source(s): Calculated by the author using unit-level data from the 67th round (2010–11) to ASUSE (2025), conducted by the NSSO

is weaker and returns are lower. Likewise, compared with home-based enterprises, ST and SC-owned firms are more likely to operate as mobile or street vendors, both of which are highly precarious forms of business. In contrast, operating from a permanent structure outside the home is less common among ST and SC-owned enterprises, pointing to structural barriers in access to fixed commercial premises.

Maintaining an account book is positively associated with ST, SC, and OBC ownership relative to the "*Others*" caste category. It only means that, among enterprises that keep records, lower-caste proprietors are more visible. Similarly, computer use is positively associated with marginalized-caste enterprise ownership, but this likely reflects sector composition rather than superior digital adoption. The marginalized-caste proprietors are more concentrated in small services activities where basic computer use is increasingly routine, even though broader technological capability remains uneven.

4.5 Who gains more? Caste and the returns to enterprise

Figure 4 shows persistent caste-based disparities in enterprise productivity, measured in terms of annual gross value added (GVA) per establishment between 2010–11 and 2025. Across all years, a consistent hierarchical pattern is evident, enterprise owned by the "Others" category reports the highest levels of GVA, followed by OBC-owned enterprises, while SC and ST-owned establishments remain at the lower end of the productivity distribution.

In 2010–11, annual GVA per establishment among "Others"-owned manufacturing enterprises was approximately INR 125,000; compared with about INR 35,000 for SC-owned and INR 25,000 for ST-owned enterprises. By 2022–23, this gap had widened substantially, as productivity gains were concentrated among "Others"-owned enterprises, whereas SC and ST-owned firms recorded only limited improvement, notwithstanding a decline in GVA for the "Others" category between 2023–24 and 2025 (See Appendix Table A5).

A similar pattern is observed in trade. By 2025, the GVA of *"Others"*-owned trade enterprises had nearly tripled, while OBC-owned enterprises also experienced notable growth. However, SC and ST-owned trade establishment continued to generate less than half the GVA of OBC-owned enterprises and less than one -third that of enterprises owned by the "Others" category. In "other services", enterprises show the sharpest absolute level of GVA for the "Others" group across time. However, SC-owned service enterprises saw a substantial increase in absolute terms, but the Others-SC gap widened over the same period. Similarly, the

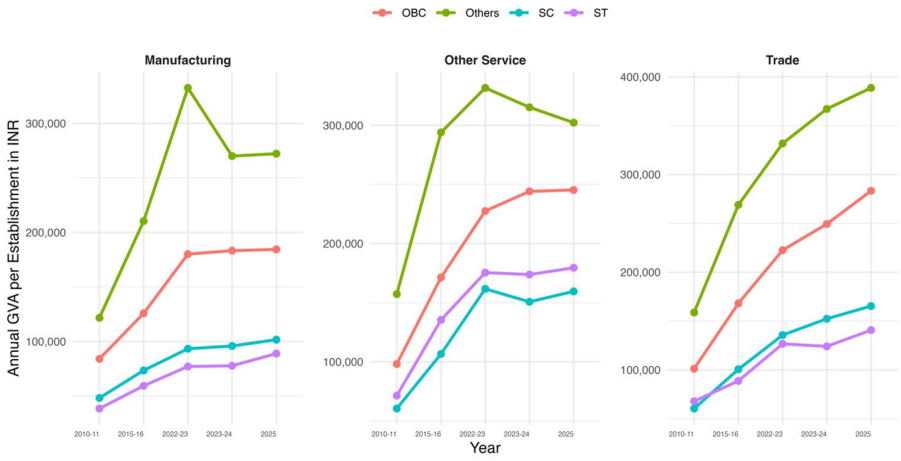

Figure 4. Caste-Based Productivity Disparities: Annual Gross Value Added (GVA) per Establishment (in INR) Across Services, Trade and Manufacturing Enterprises From 2010–11 to 2025. **Source:** Calculated by the author using unit-level data from the 67th round (2010–11) to ASUSE (2025), conducted by the NSSO; Gross Value Added (GVA) is reported in Indian National Rupees (INRs)

ST-owned shows similar trajectories. Although over the period productivity gaps marginally narrowed, probably owing to helpful government programs or better opportunities in those specific sectors. The crux of the problem extends beyond the initiation of enterprises, as the SC and ST owners face barriers that make expansion of business difficult and thereby limit higher earnings (Shekar and Nataraj, 2023). In other words, marginalized caste owners can start business, but struggle to grow them (Posti and Maiti, 2025).

4.6 Caste disparities in enterprise productivity – pooled OLS and PPML

Table 3 examines the relationship between enterprise productivity, measured by GVA, and the caste identity of the owner using four specifications: a baseline OLS model with full controls, a Main OLS with caste-year interaction terms, a restricted OLS model with a broader sample and limited controls, and a Poisson pseudo-maximum-likelihood (PPML) model that estimates GVA in levels. These models allow assessment of whether caste-based productivity differences persist across alternative specifications and functional forms.

The baseline OLS results show that SC-owned enterprises generate significantly lower GVA than enterprises owned by the "Others" category, even after controlling for year, activity, sector, region, and enterprise characteristics. By contrast, the coefficients for ST and OBC-owned enterprises are negative but statistically insignificant in the baseline model. The PPML estimate for SC-owned enterprise remains negative and significant, indicating that the productivity disadvantage associated with SC ownership is robust to the choice of estimator and to alternative treatments of the outcome variable.

The caste-year interaction terms in the main OLS reveal further insight into temporal change. Although the baseline SC coefficient is negative, the interaction terms for 2022, 2023, and 2025 are positive and statistically significant. This suggests that the productivity gap between SC-owned and "Others"-owned enterprises narrowed over time, even if it did not disappear. No comparable pattern is observed for ST-owned enterprises, for which the interaction terms are generally insignificant or negative, indicating limited evidence of convergence.

The enterprise-level controls reveal a consistent story. The urban location is positively associated with GVA, reflecting the advantages of stronger market access, denser demand, and

Table 3. Caste disparities in enterprise productivity in India: Pooled OLS and PPML estimates, 2010–11 to 2025

Establishment characteristics	Baseline OLS Coef. (SE) ln(GVA)	Main OLS Coef. (SE) In(GVA)	Restricted OLS Coef. (SE) In(GVA)	PPML Coef. (SE) Annual GVA
Caste Groups				
Others®				
ST	−0.018841	−0.091 (0.150)	−0.351 (0.155)	0.358 (0.236)
SC	−0.180** (0.054)	−0.324** (0.070)	−0.052394	−0.253*** (0.021)
OBC	−0.055 (0.062)	−0.072 (0.068)	−0.193 (0.143)	−0.001643
Years				
2010–11®				
2015–16	−0.034 (0.027)	0.008 (0.064)	0.553*** (0.049)	0.113** (0.049)
2022–23	0.549*** (0.042)	0.522*** (0.033)	1.032*** (0.037)	1.013*** (0.118)
2023–24	0.622*** (0.047)	0.591*** (0.026)	1.060*** (0.042)	1.428*** (0.078)
2025	0.622*** (0.054)	0.576*** (0.031)	1.081*** (0.033)	0.966*** (0.081)
Caste # Years				
Others#2010®				
ST#2015		−0.034155	−0.129 (0.078)	−0.705** (0.316)
ST#2022		−0.104 (0.137)	0.069 (0.085)	−0.1807
ST#2023		−0.109 (0.142)	0.120 (0.112)	−0.728*** (0.221)
ST#2025		−0.078 (0.127)	0.146 (0.097)	−0.399 (0.297)
SC#2015		−0.014 (0.044)	−0.045 (0.038)	−0.156*** (0.048)
SC#2022		0.185** (0.034)	0.147 (0.070)	−0.073 (0.137)
SC#2023		0.185*** (0.031)	0.181* (0.071)	−0.034816
SC#2025		0.218** (0.045)	0.206 (0.076)	0.191*** (0.058)
OBC#2015		−0.054 (0.075)	−0.048 (0.073)	−0.113*** (0.043)
OBC#2022		0.029 (0.061)	0.058 (0.093)	−0.212 (0.139)
OBC#2023		0.036 (0.058)	0.092 (0.108)	−0.112 (0.139)
OBC#2025		0.055 (0.056)	0.115 (0.094)	−0.007 (0.106)
Broad Activity Categories (BACs)				
Manufacturing®				
Trade	−0.004 (0.037)	−0.004 (0.037)	0.043 (0.041)	−0.354*** (0.076)
Other Service	−0.068** (0.015)	−0.067** (0.015)	0.015 (0.017)	−0.277*** (0.030)
Sector				
Rural®				
Urban	0.282*** (0.035)	0.281*** (0.035)	0.376*** (0.043)	0.158*** (0.016)
Establishment Type				
OAE®				
ESTT	−0.369*** (0.040)	−0.379*** (0.044)	−0.272*** (0.040)	−0.815*** (0.061)
Type of Ownership				
Proprietary Male®				
Proprietary Female	−0.758*** (0.050)	−0.759*** (0.050)	−0.907*** (0.039)	−0.505*** (0.055)
Proprietary/SHG/ Trust/Others	0.464*** (0.045)	0.464*** (0.045)	0.729*** (0.084)	1.004*** (0.053)
Location of establishment				
Within household premises®				
Permanent structure	0.498*** (0.045)	0.497*** (0.045)	0.736*** (0.078)	0.461*** (0.032)
Temporary structure/Without structure	0.275** (0.069)	0.274** (0.069)	0.210 (0.090)	0.364*** (0.050)

(*continued*)

Table 3. Continued

Establishment characteristics	Baseline OLS Coef. (SE) ln(GVA)	Main OLS Coef. (SE) In(GVA)	Restricted OLS Coef. (SE) In(GVA)	PPML Coef. (SE) Annual GVA
Mobile market	0.376*** (0.044)	0.374*** (0.044)	0.383*** (0.052)	0.455*** (0.038)
Street vendor	0.260** (0.065)	0.260** (0.064)	0.204* (0.068)	0.273*** (0.038)
Nature of operation				
Perennial®				
Seasonal	−0.09856	−0.099146	−0.082355	0.216*** (0.069)
Casual	−0.785** (0.144)	−0.773** (0.146)	−0.793*** (0.066)	−0.447*** (0.094)
Maintaining Accounts Book				
Does not maintain account®				
Maintains account	−0.754*** (0.011)	−0.746*** (0.009)		−1.667*** (0.103)
Status of Registration				
Unregistered®				
Registered	−0.427*** (0.018)	−0.425*** (0.018)		−0.361*** (0.040)
Use Computer (s)				
No®				
Yes	−0.398*** (0.031)	−0.395*** (0.031)		−0.778*** (0.051)
Use internet				
No®				
Yes	−0.309*** (0.021)	−0.313*** (0.020)		−0.249*** (0.027)
Region				
North-Centre®				
East-Northeast	−0.079*** (0.010)	−0.076*** (0.010)	−0.079*** (0.007)	−0.250*** (0.023)
West	−0.026 (0.017)	−0.024 (0.016)	0.141*** (0.021)	−0.349*** (0.043)
South	0.060*** (0.002)	0.061*** (0.002)	0.197*** (0.005)	(−0.047* (0.027))
Cons	12.920*** (0.051)	12.934*** (0.045)	10.593*** (0.077)	14.607*** (0.103)
Controls	Yes	Yes	Limited	Yes
Region FE	Yes	Yes	Yes	Yes
Observations	20,09,618	20,09,618	22,10,846	20,09,618
R2/McFadden pseudo R2	0.4887	0.4894	0.4311	0.5511

Note(s): The dependent variable is log annual GVA in Columns (1) to (3) and annual GVA in Column (4). Reference categories are marked with ®. Standard errors are clustered at the region level and shown in parentheses. *** Significant at 1%; ** at 5%; * at 10%

Source(s): Calculated by the author using unit-level data from the 67th round (2010–11) to ASUSE (2025), conducted by the NSSO

better infrastructure. Enterprises operating from permanent structure also perform significantly better than home-based firms, reinforcing the productivity premium associated with fixed commercial space. Female-owned enterprise record significantly lower GVA, a pattern widely documented in the small-enterprise literature. This should not be interpreted as a difference in entrepreneurial ability, but rather as the consequence of unequal access to capital, markets, and time, shaped by gendered constraints and unpaid care responsibilities (Chen, 2014).

4.7 Explaining caste gaps in productivity: a Blinder-Oaxaca approach

Table 4 uses the Blinder-Oaxaca decomposition to identify the source of productivity gaps between enterprises owned by ST and "Others", SC and "Others". The total gap is separated

Table 4. What explains caste-based enterprise productivity gaps? Blinder-oaxaca decomposition of log annual GVA, pooled ASUSE/NSS, 2010–11 to 2025

Establishment characteristics	ST vs others % contribution in explained difference [95% CI]	SC vs others % contribution in explained difference [95% CI]	OBC vs others % contribution in explained difference [95% CI]
Years			
2010–11®			
2015–16	−0.01 (−0.06 to −0.04)	0.01(−0.05 to −0.07)	−0.12** (−0.21 to −0.03)
2022–23	−1.55*** (−1.74 to −1.37)	−1.97** (−2.18 to −1.76)	−5.37** (−5.77 to −4.97)
2023–24	−1.50*** (−1.71 to −1.28)	−2.76** (−3.02 to −2.50	−4.79*** (−5.24 to −4.34)
2025	−2.33*** (−2.57 to −2.10)	−1.35** (−1.59 to −1.11)	−4.29** (−4.75 to −3.83)
Broad Activity Categories (BACs)			
Manufacturing®			
Trade	−0.12*** (−0.18 to −0.06)	−0.26(−0.56 to −0.03)	−0.52* (−0.82 to −0.22)
Other Service	−0.59*** (−0.71 to −0.46)	0.54*** (0.43–0.65)	−0.39** (−0.48 to −0.31)
Sector			
Rural®			
Urban	20.02*** (19.32–20.73)	11.92*** (11.51–12.33)	16.59*** (16.10–17.09)
Establishment Type			
OAE®			
ESTT	4.58*** (4.33–4.83)	5.03*** (4.76–5.29)	8.43*** (8.02–8.84)
Type of Ownership			
Proprietary Male®			
Proprietary Female	9.52*** (9.17–9.88)	11.44*** (11.07–11.82)	7.34*** (6.82–7.86)
Proprietary/SHG/Trust/ Others	0.77*** (0.69–0.86)	0.87*** (0.77–0.96)	1.47** (1.34–1.61)
Location of establishment			
Within household premises®			
Permanent structure	18.53*** (17.96–19.09	21.03*** (20.44–21.61)	22.01*** (21.42–22.59)
Temporary structure, without structure	−0.46*** (−0.53 to −0.39)	−6.53*** (−6.03 to −5.44)	−1.11* (−1.23 to −1)
Mobile market	−1.10*** (−1.20 to −0.99)	−1.29*** (−1.41 to −1.18)	−4.28* (−4.58 to −1.18)
Street vendor	−3.34*** (−4.03 to −2.64)	−0.96*** (−1.10 to −0.82)	−0.33** (−0.40 to −0.26)
Nature of operation			
Perennial®			
Seasonal	5.36*** (4.46–6.26)	0.24*** (0.17–0.31)	0.10** (0.06–0.14)
Casual	0.15*** (0.10–0.19)	0.15*** (0.11–0.20)	0.10* (0.05–0.14)
Maintaining Account Book			
Does not maintain account®			
Maintains account	6.94*** (6.66–7.23)	8.69*** (8.33–9.05)	17.96*** (17.37–18.55)

(*continued*)

Table 4. Continued

Establishment characteristics	ST vs others % contribution in explained difference [95% CI]	SC vs others % contribution in explained difference [95% CI]	OBC vs others % contribution in explained difference [95% CI]
Status of Registration			
Unregistered®			
Registered	9.13*** (8.83–9.42)	13.22** (12.85–13.58)	15.60*** (15.13–16.08)
Use Computer (s)			
No®			
Yes	4.59*** (4.36–4.82)	5.73* (5.46–6.01)	8.68*** (8.30–9.06)
Use internet			
No®			
Yes	4.76*** (4.53–4.99)	6.69** (6.41–6.97)	9.35*** (8.98–9.72)
Region			
North-Centre®			
East-Northeast	2.98*** (2.74–3.23)	0.32* (0.25–0.39)	−6.56* (−7.27 to −5.86)
West	−0.34*** (0.44 to −0.24)	−0.86** (−1.19 to −0.54)	−2.03** (−2.61 to −1.46)
South	−0.01*** (−0.02 to 0.00)	−0.30** (−0.38 to −0.21)	−4.52** (−5.70 to −3.34)
Total Difference Explained	*76.01 (70.37–81.64)*	*69.81(64.41–75.22)*	*72.81(64.02–81.60)*
Difference Unexplained	*23.99 (14.8–36.81)*	*30.19 (23.11–34.32)*	*27.19 (23.21–30.43)*

Note(s): Reference categories are marked with ®; *** Significant at 1%; ** at 5%; * at 10%

Source(s): Calculated by the author using unit-level data from the 67th round (2010–11) to ASUSE (2025), conducted by the NSSO

into two components: an explained component, which reflects group differences in observable enterprise characteristics, and an unexplained component, which captures the residual gap not accounted for by measured factors and is consistent with structural disadvantage or unobserved barriers.

The results show that most of the productivity gap is explained by observable differences in enterprise conditions. For ST-owned enterprises, 76.0% of the total productivity gap relative to "Others" group is explained, leaving 24.0% unexplained. The corresponding shares are 69.8% is explained and 30.2% is unexplained for SC-owned enterprises, and 72.8% explained and 27.2% unexplained for OBC-owned enterprises. The persistence of a substantial unexplained component is consistent with the institutional exclusion framework, which emphasizes that unequal outcomes are reproduced not only through visible resource differences but also through deeper structural constraints.

Within the explained component, establishment location emerges as the single largest contributor to the productivity gap across all three groups. The underrepresentation of SC, ST, and OBC-owned enterprises in permanent commercial premises accounts for more than one-fifth of the explained gap in each case. This highlights the central importance of spatial access in shaping caste-based economic inequality. If marginalized-caste entrepreneurs operated from the same types of premises as "Others"-caste group at comparable rates, a substantial portion of the productivity gap would narrow.

Further, registration status is the second most contributor, accounting for 9.1%, 13.2%, and 15.6% of the ST, SC, and OBC gaps respectively. This suggests that unequal formalization has direct consequences for productivity, as registered enterprise are better positioned to access

legal protection, bank credit, and government-linked opportunities. Technology-related factors, especially computer and internet use, also make a meaningful contribution, jointly explaining between 9 and 18% of the observed gap across caste groups. Urban location explains 20% of the ST gap, 11.9% of the SC gap and 16.6% of the OBC gaps, reinforcing the importance of market access and infrastructure in shaping enterprise performance. These channels that run through the gap prove the segmentation theory (Reich *et al.*, 1973).

Moreover, female ownership also contribution meaningfully to the explained component of the gap, accounting 9.5%, 11.4%, and 7.3% of the ST, SC and OBC differences, respectively. This should not be interpreted as evidence of lower productivity among women *per se*; rather, it reflects the concentration of female-owned enterprise among disadvantaged caste-groups and the gender-specific constraints they face in access to markets, capital, and productive resources. Seasonal operation is also relevant for ST-owned enterprises, accounting for 5.4% of the explained gap, and indicating the gender dependence of these businesses on cyclical and low-return economic activities.

The findings support both segmentation and the institutional exclusion theory. SC and ST-owned enterprises are concentrated in low-return insecure segments of the informal economy, while also facing weaker access to premises, registration, and digital resources. These patterns show that caste disparities are shaped both by market positing and by institutional barriers.

5. Conclusion

The study examined ownership patterns, enterprise structure, and productivity differentials in India's unincorporated sector over a fifteen-year period. The number of establishments increased from 57.7 million in 2010–11 to 83.5 million by 2025, an expansion of nearly 45%, driven by steady rural growth and a sharp post-pandemic recovery in urban areas. Within this expansion, "Other Services" emerged as the dominant segment, accounting for 37.9 million establishments in 2025, followed by trade (24.2 million) and manufacturing (21.5 million).

This expansion, however, did not produce equitable outcomes. The share of OBC-owned enterprises rose from 44.9% to 51.4%, while SC and ST shares remained limited at 12.9 and 4.8% respectively, well below their population shares. SC entrepreneurs became increasingly concentrated in street vending, with their share rising from 16.6% in 2010–11 to 24.2% in 2025. Similarly, only 24.2% of SC-owned enterprises were registered by 2025, compared with 41.7% among enterprises owned by "*Others*" group. These patterns suggest that while entry into informal has expanded, access to more secure and productive forms of business remains unequally distributed.

A persistent caste hierarchy is also evident in enterprise productivity. Across all three sectors, enterprises owned by "*Others*" category consistently generated the highest GVA per establishment, followed by OBC-owned enterprises, while SC and ST-owned enterprises remained at the bottom. The regression results further confirm that SC-owned enterprises generate significantly lower GVA than otherwise comparable enterprises owned by the *"Others"* group. The Blinder-Oaxaca decomposition shows that 69.8% of SC- *"Others"* productivity gap is explained by observable differences, especially establishment location, registration, and digital adoption, while 30.2% remains unexplained. The corresponding explained shares are 76.0% for ST-owned enterprises and 72.8% for OBC-owned enterprises. The persistence of this residual gap suggests that measurable enterprise characteristics alone cannot fully account for caste-based inequality, and points to deeper structural barriers, including discrimination, exclusion for credit, and unequal access to social capital.

These findings suggest that improving productivity and inclusion in the informal sector requires more than expanding enterprise numbers. Targeted financial inclusion, improved digital capability, and stronger institutional support are essential to reduce structural disparities and broaden access to more productive forms of enterprise. Such measures are essential not only for raising productivity, but also for making informal-sector growth more inclusive and aligned with the broader objectives of equitable development and Sustainable Development Goal 8.

5.1 Policy recommendations

By 2025, 24.2% of SC-owned enterprises were operating as street vendors, up from 16.6% in 2010–11, while decomposition results show that establishment location is the single largest contributor to the explained productivity gap, accounting for more than one-fifth of the disparity. This suggests that policy must move beyond generic enterprise promotion and address the unequal geography of business opportunity. Hence, urban local bodies should therefore expand access to permanent market stalls/places for SC and ST proprietors.

Further, the unexplained productivity gap remains substantial, at 30.2% for SC-owned enterprises and 24.0% for ST-owned enterprises, consistent with continuing barriers in credit and market access. In response, the MUDRA scheme could provide stronger guarantee coverage for SC and ST borrowers, while the Reserve Bank of India could require priority sector lending data to be reported by social group. In 2025, internet use stood at 48% among enterprises owned by the "Others" category, compared with 29.1% for SC-owned and 33.2% for ST-owned enterprises. Target support from the Ministry of Micro, Small and Medium Enterprises and the Ministry of Electronics and Information Technology including UPI devices, local-language digital literacy training, and ONDC onboarding support, could help reduce these structural disadvantages and improve enterprise capability.

5.2 Limitation of study

Despite its contribution, the study has some limitations. First, it uses pooled cross-section data and therefore identifies associations, not causal effects, between caste and enterprise outcomes. Second, the multinominal logit estimates show caste-linked ownership patterns but should not be read causally in the absence of exogenous variation. Third, GVA is self-reported from enterprise schedules and may contain measurement error, particularly for the smallest micro-enterprise that maintain no formal accounts.

Table A1. Where Businesses Operate (%): Comparative Analysis of Establishment Locations by Owner's Caste from 2010–11 to 2025

Location of establishment		2010–11				2015–16				2022–23				2023–24				2025			
		ST	SC	OBC	Others	ST	SC	OBC	Others	ST	SC	OBC	Others	ST	SC	OBC	Others	ST	SC	OBC	Others
Within household premises		58.7	47.3	43.9	38.6	56.7	48.8	43.9	39.1	54.0	45.7	39.8	35.3	46.3	41.1	38.0	33.3	44.9	40.1	39.9	37.2
Outside household premises with fixed premise	Permanent structure	15.0	23.2	36.3	45.8	21.1	23.6	37.8	47.2	21.4	24.2	40.5	48.3	22.6	24.3	39.6	47.4	25.8	25.2	37.4	44.5
	Temporary structure/ kiosk/stall/Without structure	6.1	6.2	5.4	3.6	5.4	6.4	4.7	3.1	5.4	6.0	4.4	3.2	7.8	5.6	4.8	3.4	6.5	7.2	5.0	3.6
Outside household premises without Fixed premise	Mobile market	6.8	6.7	3.3	3.5	4.6	8.0	4.0	3.9	3.3	3.1	2.5	1.6	3.8	4.1	2.1	2.0	3.0	3.4	2.0	1.7
	Street vendor	13.5	16.6	11.2	8.5	12.2	13.1	9.6	6.7	15.8	21.0	12.9	11.6	19.6	24.9	15.5	13.9	19.8	24.2	15.7	13.0

Source(s): Calculated by the author using unit-level data from the 67th round (2010–11) to ASUSE (2025), conducted by the NSSO; The given data is in %

Table A2. Growth and Distribution of Unincorporated Non-Agricultural Establishments (2010–11 to 2025) by Type and Sector (Rural/Urban)

Type	Sector	2010–11 No. (Mn)	%	2015–16 No. (Mn)	%	2022–23 No. (Mn)	%	2023–24 No. (Mn)	%	2025 No. (Mn)	%
OAE	Rural	28.25	57.88	29.7	55.66	32.79	59.26	36.96	58.32	39.94	54.56
	Urban	20.56	42.12	23.66	44.34	22.55	40.74	26.43	41.68	33.27	45.44
	Total	48.81	100	53.36	100	55.33	100	63.38	100	73.21	100
ESTT	Rural	2.65	29.91	2.79	27.82	2.86	29.42	2.79	27.84	2.90	28.07
	Urban	6.22	70.09	7.24	72.18	6.86	70.58	7.23	72.16	7.43	71.93
	Total	8.86	100	10.03	100	9.72	100	10.02	100	10.33	100
Total	Rural	30.89	53.56	32.49	51.25	35.64	54.79	39.75	54.16	42.84	51.28
	Urban	26.78	46.44	30.9	48.75	29.41	45.21	33.65	45.84	40.70	48.72
	Total	57.67	100	63.39	100	65.05	100	73.4	100	83.54	100

Source(s): Author's calculations based on unit-level data from the 67th Round (2010–11) of the National Sample Survey Office (NSSO) and the Annual Survey of Unincorporated Sector Enterprises (ASUSE), 2025. No. (Mn) denotes the number of enterprises in millions

Table A3. Estimated Number of Establishments (Millions) in the Unincorporated Non-Agricultural Sector (2010–11 to 2025) by Broad Industrial Activity

Broad industrial activity	2010–11			2015–16			2022–23			2023–24			2025		
	OAE	ESTT	All	OAE	ESTT	All	OAE	ESTT	All	OAE	ESTT	All	OAE	ESTT	All
Manufacturing	14.43	2.78	17.21	16.81	2.85	19.66	2.27	15.56	17.83	17.78	2.36	20.15	19.09	2.36	21.45
Trade	17.82	2.93	20.75	19.47	3.57	23.04	3.64	18.93	22.58	26.43	4.02	30.44	20.23	3.99	24.22
Other services	16.56	3.16	19.71	17.08	3.62	20.69	3.81	20.84	24.64	19.17	3.64	22.81	33.89	3.98	37.88
Total	48.81	8.86	57.67	53.36	10.03	63.39	9.72	55.33	65.05	63.38	10.02	73.4	73.21	10.33	83.54

Source(s): Author's calculations based on unit-level data from the 67th Round (2010–11) of the National Sample Survey Office (NSSO) and the Annual Survey of Unincorporated Sector Enterprises (ASUSE), 2025. All estimated numbers refer to the number of enterprises and are reported in millions

Table A4. Caste-wise Percentage Distribution of Unincorporated Sector Establishments by Broad Activity, and Type (2010–11 to 2025)

Caste	Year	Manufacturing			Trade			Other services		
		HWE	OAE	All	HWE	OAE	All	HWE	OAE	All
ST	2010–11	5.3	2.0	4.7	4.8	1.1	4.2	3.3	2.3	3.1
	2015–16	4.9	2.1	4.5	5.2	1.2	4.5	3.4	2.8	3.3
	2022–23	1.2	5.7	5.1	1.0	5.2	4.5	2.4	4.1	3.8
	2023–24	1.2	5.2	4.8	1.2	5.3	4.6	2.5	4.5	4.3
	2025	1.5	5.5	5.1	1.4	5.7	5.0	3.0	4.0	3.9
SC	2010–11	14.9	6.6	13.6	13.2	4.0	11.9	16.8	6.6	15.1
	2015–16	14.4	6.7	13.3	12.1	3.3	10.7	15.4	6.8	13.9
	2022–23	5.7	16.1	14.8	3.5	12.5	11.1	7.5	15.5	14.3
	2023–24	6.3	15.8	14.7	3.5	12.3	10.9	6.0	17.0	15.6
	2025	5.8	14.7	13.7	3.3	11.6	10.2	6.4	15.3	14.3
OBC	2010–11	49.3	45.1	48.6	44.1	33.6	42.6	44.9	40.2	44.2
	2015–16	54.4	49.1	53.6	48.2	39.5	46.9	51.1	47.2	50.4
	2022–23	54.8	53.7	53.9	47.5	52.9	52.1	49.8	51.0	50.8
	2023–24	54.7	54.6	54.6	45.2	51.8	50.7	50.6	49.1	49.3
	2025	52.7	54.0	53.9	46.5	51.5	50.7	50.9	49.9	50.0
Others	2010–11	30.6	46.3	33.1	38.0	61.3	41.3	35.0	50.9	37.6
	2015–16	26.3	42.2	28.6	34.6	56.0	37.9	30.1	43.2	32.4
	2022–23	38.3	24.4	26.2	48.0	29.4	32.3	40.4	29.5	31.2
	2023–24	37.8	24.4	26.0	50.2	30.6	33.7	40.9	29.5	30.9
	2025	39.7	25.5	27.1	48.5	30.9	33.8	39.2	30.4	31.4

Source(s): Author's calculations based on unit-level data from the 67th Round (2010–11) of the National Sample Survey Office (NSSO) and the Annual Survey of Unincorporated Sector Enterprises (ASUSE), 2025. The reported distribution is expressed in percentages

Table A5. Caste-Based Productivity Disparities: Annual Gross Value Added (GVA) per Establishment (in INR) Across Services, Trade and Manufacturing Enterprises (2010–11 to 2025)

Caste	Year	Manufacturing HWE	OAE	All	Trade HWE	OAE	All	Other services HWE	OAE	All
ST	2011–12	27,881	1,96,697	38,488	45,817	6,07,619	67,846	49,366	2,31,133	71,386
	2015–16	43,905	2,71,241	59,341	71,432	4,85,893	88,706	93,159	3,65,040	1,35,409
	2022–23	6,93,270	58,933	77,065	11,08,949	89,670	1,26,607	6,17,201	1,28,083	1,75,443
	2023–24	6,16,696	60,813	77,679	5,37,154	1,06,133	1,24,033	6,78,763	1,32,168	1,73,772
	2025	6,84,820	69,485	88,907	6,53,038	1,15,608	1,40,668	6,08,170	1,37,228	1,75,616
SC	2011–12	31,840	2,45,935	48,160	52,717	2,13,628	60,403	50,177	1,95,333	60,461
	2015–16	48,828	3,78,737	73,444	86,917	3,66,365	1,00,550	86,113	3,17,393	1,06,637
	2022–23	5,84,430	67,973	93,333	5,67,305	1,12,635	1,35,612	5,59,376	1,26,782	1,61,664
	2023–24	6,60,510	66,223	95,846	5,48,640	1,31,418	1,52,288	5,45,482	1,29,752	1,50,726
	2025	7,29,602	71,362	1,01,650	5,61,825	1,43,029	1,65,339	6,16,079	1,32,085	1,55,029
OBC	2011–12	43,205	3,22,278	84,052	67,118	3,73,002	1,01,212	62,974	2,96,877	98,092
	2015–16	67,694	5,06,245	1,25,820	1,16,085	5,15,013	1,68,067	1,07,060	4,88,039	1,71,348
	2022–23	8,08,771	87,193	1,80,100	6,57,812	1,48,057	2,22,533	6,86,148	1,46,017	2,27,529
	2023–24	8,86,121	89,940	1,83,284	7,60,423	1,65,544	2,49,329	8,12,278	1,56,415	2,44,146
	2025	9,29,997	94,667	1,84,415	8,70,425	1,79,894	2,83,251	8,01,492	1,55,326	2,25,112
Others	2011–12	39,714	4,11,392	1,21,706	91,916	4,11,294	1,58,738	68,024	4,69,040	1,57,249
	2015–16	64,379	7,43,850	2,10,400	1,49,163	6,73,711	2,68,951	1,20,260	8,47,810	2,94,000
	2022–23	12,34,710	1,28,013	3,32,593	8,19,138	1,79,948	3,31,759	10,54,070	1,53,018	3,31,683
	2023–24	11,75,741	84,221	2,70,056	9,17,865	1,97,580	3,67,148	10,92,552	1,54,220	3,15,273
	2025	12,47,734	85,071	2,72,201	9,58,149	2,14,682	3,88,693	10,72,848	1,49,340	2,71,852

Source(s): Author's calculations based on unit-level data from the 67th Round (2010–11) of the National Sample Survey Office (NSSO) and the Annual Survey of Unincorporated Sector Enterprises (ASUSE), 2025. Gross Value Added (GVA) is reported in Indian National Rupees (INR)

Appendix B

Reproducibility of Key Estimates

This appendix briefly sets out the main formulas used to generate the core estimates reported in the paper. The calculations follow the estimation logic used in the ASUSE, where aggregate estimates are obtained as weighted totals and ratio estimates are obtained as weighted ratios.

Let w_i denote the survey multiplier or final sampling weight for establishment i.

B1: Estimated Number of Establishments

For any domain d such as all-India, rural, urban, sector, broad activity category, or State/UT, the estimated number of establishments is calculated as:

$$\widehat{N}_d = \sum_{i \in d} w_i$$

Thus, the estimated total number of establishments in a particular domain is the weighted sum of all sampled establishments belonging to that domain.

B2: Caste-wise Estimated Number of Establishments

For caste group c, the estimated number of establishments is computed as:

$$\widehat{N}_c = \sum_i w_i \cdot 1(C_i = c)$$

where $1(C_i = c)$ is an indicator function taking the value 1 if establishment i belongs to caste group c, and 0 otherwise.

B2: Caste-wise Percentage Distribution

The estimated percentage share of caste group c is given by:

$$\widehat{P}_c = \frac{\sum_i w_i \cdot 1(C_i = c)}{\sum_i w_i} \times 100$$

where the denominator is restricted to the relevant universe of establishments, for example proprietary and partnership establishments when caste of owner or major partner is analysed. In tables reporting per-thousand distribution, the same expression is multiplied by 1,000 instead of 100.

B3: Gross Value Added (GVA)

At the establishment level, annual gross value added is defined as output minus input:

$$GVA_i = Output_i - Input_i$$

The estimated aggregate GVA for any domain d is then obtained as:

$$\widehat{GVA}_d = \sum_{i \in d} w_i \cdot GVA_i$$

B4: GVA per Establishment

Annual GVA per establishment is estimated as a weighted ratio:

$$\widehat{GVAPE}_d = \frac{\sum_{i \in d} w_i \cdot GVA_i}{\sum_{i \in d} w_i}$$

This is the weighted mean of annual GVA across establishments in domain d.

B5: Percentage Share of GVA by Broad Activity Category

The contribution of a broad activity category b to total GVA is calculated as:

$$\widehat{ShareGVA}_b = \frac{\sum_{i \in b} w_i \cdot GVA_i}{\sum_{i} w_i \cdot GVA_i} \times 100$$

B6: Illustrative Example

As an illustration, the estimated share of Scheduled Caste (SC) proprietary and partnership establishments is calculated as:

$$\widehat{P}_{SC} = \frac{\sum_{i} w_i \cdot SC_i}{\sum_{i} w_i} \times 100$$

where $SC_i = 1$ if the owner or major partner of establishment i belongs to the Scheduled Caste group, and $SC_i = 0$ otherwise. The denominator is restricted to proprietary and partnership establishments in the relevant domain. The same procedure is used to estimate the corresponding shares for Scheduled Tribe (ST), Other Backward Classes (OBC), and Others.

Similarly, annual GVA per establishment for manufacturing market establishments is estimated as:

$$\widehat{GVAPE}_{mfg} = \frac{\sum_{i \in mfg} w_i \cdot GVA_i}{\sum_{i \in mfg} w_i}$$

where the summation is restricted to manufacturing establishments classified as market establishments.

All aggregate estimates in the paper are obtained as weighted sums using ASUSE survey multipliers.

References

Alha, A. (2018), "The other side of caste as social capital", *Social Change*, Vol. 48 No. 4, pp. 575-588, doi: 10.1177/0049085718801490.

ASUSE (2023), *Operational and Economic Characteristics: Annual Survey of Unincorporated Sector Enterprises (ASUSE), 2022–23, National Statistical Office, Ministry of Statistics and Programme Implementation*, Government of India, New Delhi, available at: https://www.mospi.gov.in/sites/default/files/publication_reports/ASUSE_2022_23_Report_FinalN.pdf (accessed 5 September 2026).

ASUSE (2024), *Operational and Economic Characteristics: Annual Survey of Unincorporated Sector Enterprises (ASUSE), 2023–24, National Statistical Office, Ministry of Statistics and Programme Implementation*, Government of India, New Delhi, available at: https://www.mospi.gov.in/sites/default/files/publication_reports/ASUSE_2023_24_Full_Report-L.pdf (accessed 5 September 2026).

ASUSE (2025), *Operational and Economic Characteristics: Annual Survey of Unincorporated Sector Enterprises (ASUSE), 2024–25, National Statistical Office, Ministry of Statistics and*

Programme Implementation, Government of India, New Delhi, available at: https://www.mospi.gov.in/uploads/publications_reports/publications_reports1778063953577_942565ce-f832-4fc4-aa99-90b0b2a5a6e1_ASUSE_2025_Full_Report.pdf (accessed 5 September 2026).

Badola, S. and Mukherjee, S. (2021), "Factors influencing access to formal credit of unincorporated enterprises in India", *Prajnan*, Vol. 49 No. 4, pp. 353-385, doi: 10.1177/0970844820200401.

Bal, G. and Judge, P.S. (2010), "Innovations, entrepreneurship and development: a study of the scheduled castes in Punjab", *Journal of Entrepreneurship*, Vol. 19 No. 1, pp. 43-62.

Becker, G.S. (1985), "Human capital, effort, and the sexual division of labor", *Journal of Labor Economics*, Vol. 3 No. 1, pp. S33-S58, doi: 10.1086/298075.

Bera, M. and Dubey, A. (2024), "Does caste matter in business earnings in India?: comparing states from three regions with different socio-economic and political settings", in *Revisiting Inequality*, Routledge India, pp. 118-139.

Bhowmik, S.K. (2012), "Survey of research", in Bhowmik, S.K. (Ed.), *Street Vendors in the Global Urban Economy*, Routledge, pp. 20-45.

Blinder, A.S. (1973), "Wage discrimination: reduced form and structural estimates", *Journal of Human Resources*, Vol. 8 No. 4, pp. 436-455, doi: 10.2307/144855.

Chen, M.A. (2014), "Informal employment and development: patterns of inclusion and exclusion", *European Journal of Development Research*, Vol. 26 No. 4, pp. 397-420, doi: 10.1057/ejdr.2014.31.

Deshpande, A. and Sharma, S. (2013), "Entrepreneurship or survival? Caste and gender of small business in India", *Economic and Political Weekly*, Vol. 48 No. 28, pp. 38-49.

Doeringer, P.B. (1986), "Internal labor markets and noncompeting groups", *The American Economic Review*, Vol. 76 No. 2, pp. 48-52.

Hnatkovska, V., Lahiri, A. and Paul, S. (2013), "Breaking the caste barrier: intergenerational mobility in India", *Journal of Human Resources*, Vol. 48 No. 2, pp. 435-473, doi: 10.3368/jhr.48.2.435.

Iyer, L., Khanna, T. and Varshney, A. (2013), "Caste and entrepreneurship in India", *Economic and Political Weekly*, Vol. 48 No. 6, pp. 52-60.

Kumar, D.K. and Santhosh, R. (2025), "Caste, neoliberalism and entrepreneurship in India: a sociological mapping", *Sociological Bulletin*, Vol. 74 No. 1, pp. 79-97, doi: 10.1177/00380229241306088.

La Porta, R. and Shleifer, A. (2014), "Informality and development", *The Journal of Economic Perspectives*, Vol. 28 No. 3, pp. 109-126, doi: 10.1257/jep.28.3.109.

Mawkhiew, B. and Thangkhiew, D.W. (2023), "Characteristics of enterprises more likely to face constraints in the unorganised manufacturing sector in India", *SEDME (Small Enterprises Development, Management and Extension Journal)*, Vol. 50 No. 1, pp. 13-22, doi: 10.1177/09708464221130910.

Mehrotra, S. and Giri, T. (2019), *The Size Structure of India's Enterprises: Not Just the Middle is Missing*, Centre for Sustainable Employment, Azim Premji University, Bangalore.

Munshi, K. and Rosenzweig, M. (2006), "Traditional institutions meet the modern world: caste, gender, and schooling choice in a globalizing economy", *American Economic Review*, Vol. 96 No. 4, pp. 1225-1252, doi: 10.1257/aer.96.4.1225.

Nashier, S. and Vij, S. (2024), "Dalit entrepreneurship hard nut to crack: empirical evidence", *Contemporary Voice of Dalit*, Vol. 16 No. 3, pp. 374-385, doi: 10.1177/2455328x221094367.

North, D.C. (1990), *Institutions, Institutional Change and Economic Performance*, Cambridge University Press, United States of America.

NSSO (2011), *Informal Sector and Conditions of Employment in India, 2009–10 and 2010–11 (NSS 67th Round, Report No. 546), National Sample Survey Office, Ministry of Statistics and Programme Implementation*, Government of India, New Delhi, available at: https://microdata.gov.in/NADA/index.php/catalog/125/related-materials (accessed 20 May 2026).

NSSO (2017), *Operational Characteristics of Unincorporated Non-Agricultural Enterprises in India (NSS 73rd Round, Report No. 581), National Sample Survey Office, Ministry of Statistics and Programme Implementation*, Government of India, New Delhi, available at: https://www.mospi.gov.in/sites/default/files/publication_reports/NSS_581.pdf (accessed 5 September 2026).

Oaxaca, R. (1973), "Male-female wage differentials in urban labor markets", *International Economic Review*, Vol. 14 No. 3, pp. 693-709, doi: 10.2307/2525981.

Posti, L. and Maiti, A. (2025), "Firm size and productivity in the informal sector: evidence from India", *Indian Economic Journal*, Vol. 73 No. 3, pp. 379-396, doi: 10.1177/00194662231202088.

Raj, P., Roulet, T.J. and Bapuji, H. (2024), "It's not who you know, but who you are: explaining income gaps of stigmatized-caste business owners in India", *PLoS One*, Vol. 19 No. 8, e0307660, doi: 10.1371/journal.pone.0307660.

Rajesh, I.D. (2024), "Enterprises among scheduled castes in India: an emerging scenario", *SEDME (Small Enterprises Development, Management and Extension Journal)*, Vol. 51 No. 3, pp. 221-235, doi: 10.1177/09708464241254162.

Rakshit, A. and Basole, A. (2024), "Entrepreneurship and marginalised social identities in India", *Economic and Political Weekly*, Vol. 59 No. 13, pp. 40-48.

Reich, M., Gordon, D.M. and Edwards, R.C. (1973), "A theory of labor market segmentation", *The American Economic Review*, Vol. 63 No. 2, pp. 359-365, available at: https://www.jstor.org/stable/1817097.

Rouse, J. and Jayawarna, D. (2011), "Structures of exclusion from enterprise finance", *Environment and Planning C: Government and Policy*, Vol. 29 No. 4, pp. 659-676, doi: 10.1068/c0761b.

Shekar, K.C. and Nataraj, M. (2023), "Subcontracting and enterprise development in India's informal manufacturing sector", *Journal of Small Business and Enterprise Development*, Vol. 30 No. 3, pp. 448-474, doi: 10.1108/JSBED-02-2022-0106.

Sorenson, O. and Thornton, P.H. (2025), *De Gruyter Handbook of Sociology of Innovation and Entrepreneurship*, De Gruyter Brill, The Hague.

Thorat, S. and Newman, K.S. (2007), *Blocked by Caste: Economic Discrimination in Modern India*, Oxford University Press.

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

Corresponding author
Pushpendra Singh can be contacted at: psingh@hs.iitr.ac.in