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Disparity of Higher Education Attainment in India

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Abstract: ***This paper examines disparities in higher education attainment in India in the post- massification period, focusing on how economic status, social identity, gender, and spatial location jointly shape access. Using nationally representative data from the Comprehensive Annual Modular Survey (CAMS) of the National Sample Survey Office, the analysis covers individuals aged 18 and above. Inequality in attainment is assessed using descriptive evidence, predicted probabilities, and the Fairlie non-linear decomposition technique, which allows the observed gaps between groups to be decomposed into contributions from observable characteristics. The results reveal that economic status, proxied by household wealth quintiles, is the single most powerful determinant of disparity in higher education attainment. While caste, religion, gender, and rural–urban location remain significant axes of inequality, their effects are deeply intertwined with economic deprivation. Membership in the richest wealth quintile explains a substantial share of observed gaps across nearly all group comparisons, often outweighing the influence of other socioeconomic factors. Gender patterns indicate a modest female advantage in aggregate enrollment, but this conceals sharp internal stratification, with rural, poor, and marginalized-caste women remaining severely disadvantaged. Spatial divides further amplify inequality, with rural residence compounding caste- and religion-based exclusion.***

JEL Classification: I24; I28; J15; J16; R23

Keywords: Higher Education; Educational Inequality; Wealth Inequality; Caste; Religion; Gender; Urban–Rural Divide; India

1. Introduction

India's higher education system has undergone a profound structural shift following the Liberalization, Privatization, and Globalization (LPG) reforms initiated in 1991. These reforms reshaped labour market structures, intensified demand for skilled labour, and enabled greater private sector participation in education provision. The mid-1990s are widely recognised as the beginning of India's massification phase, marked by rapid growth in institutional capacity, enrollment, and access. The magnitude of this expansion has been considerable. By 2021–22, higher education enrollment had reached approximately 43.3 million students, rising from 34.2 million in 2014–15. In parallel, the higher education sector was valued at INR 5.75 trillion in 2024, with projections indicating growth to INR 11.60 trillion by 2033 at a compound annual growth rate of 8.1%. Institutional expansion has also been substantial: between 2014–15 and 2022–23, the number of higher education institutions (HEIs) increased by nearly 13.8%, from 51,534 to 58,643. Growth was particularly pronounced among universities, which expanded by approximately 59.6%, from 760 to 1,213. Private provision has been central to this transformation, with the number of private universities increasing from 87 in 2010–11 to nearly 510 in recent years—an expansion of close to 480%. Correspondingly, student enrollment rose from 3.42 crore in 2014–15 to about 4.33 crore in 2021–22.

Ensuring equitable access to higher education has long been a central—yet difficult—objective of welfare-oriented states (Holmegaard et al., 2017). Existing research on higher education inequality has largely examined disparities across caste, gender, region, and sector. However, age remains a critical criterion for distinguishing between traditional and non-traditional students (Wyatt, 2011). In a post-massification context, where aggregate access has expanded, recognising these distinctions alongside persistent socioeconomic barriers is essential for evalu- ating whether growth has translated into substantive equity gains. This phase of quantitative expansion therefore raises renewed questions about the evolution of the determinants of higher education participation. Have historically entrenched inequalities—linked to class, caste, gender, region, and other socioeconomic characteristics—shifted in response to rapid expansion, or have they re-emerged in altered forms? Situating these questions at its core, this paper examines both the desirability of higher education (the determinants shaping educational choice) and disparity in attainment within the contemporary context of India's post-massification higher education system. India's higher education system is experiencing a far-reaching structural transition, driven by processes of massification, increased global engagement, expanding gender participation, and rapid digitalisation. The scale of domestic expansion has been unprecedented. Between 2015 and 2022, the number of universities increased from 760 to 1,168, while the number of colleges rose from 38,498 to 45,473. This growth reflects a conscious policy strategy aimed at broadening access to higher education and strengthening institutional capacity. At the same time, the temporary slowdown in college expansion observed around 2018 suggests phases of consolidation or heightened regulatory oversight, indicating that the speed of growth may at times outpace the system's ability to sustain quality standards. Additional pressure on the higher education system is evident in Figure 1, which documents sustained increases in Gross Enrollment Ratios (GER), alongside linear, quadratic, and exponential projections for future periods. These forward-looking trends are broadly consistent with demographic dynamics and ambitious policy objectives seeking to align India more closely with international benchmarks of higher education participation. Nonetheless, the rapid pace of expansion raises important concerns regarding the capacity of labour markets to absorb an expanding cohort of degree holders.

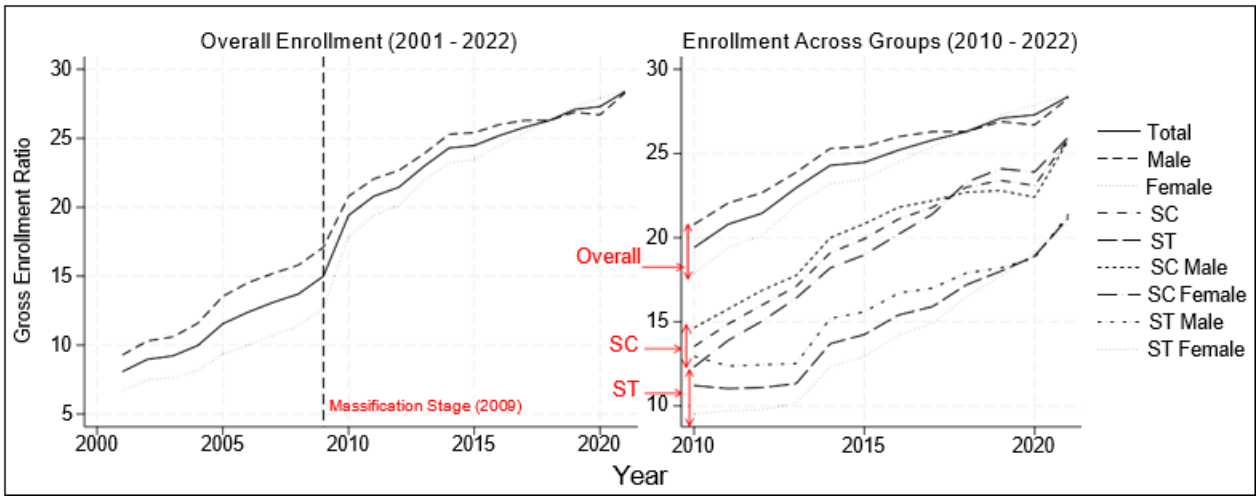

Figure 1: Gross Enrollment Ratio (GER) Trends and Forecasts for Higher Education in India (2016–2026)
Source: Author's Preparation Using AISHE Data

The overall evolution of higher education access in India over this period is illustrated in Figure 1, which documents a consistent and sustained rise in the Gross Enrolment Ratio (GER) across major demographic groups. The expansion is unambiguous, with one of the most salient developments being the narrowing—and in several cases reversal- of the gender gap, as female GER has equalled or exceeded male GER. Scheduled Caste (SC) and Scheduled Tribe (ST) students, although beginning from comparatively lower levels of participation, display clear upward convergence over the past two decades, signalling meaningful improvements in access for historically disadvantaged communities. Shifts in the social composition of the student population are further depicted in Figure 1. The stacked area representation indicates that students from the OBC and "Others" categories constitute the largest shares of overall enrollment. More notably, the growing representation of female students from OBC, SC, and ST backgrounds stands out, with their proportions in total enrollment increasing steadily over time. This compositional shift highlights the inclusive dimension of system-wide expansion and reinforces the gender-based convergence observed in earlier trends.

Figure 2 highlights pronounced wealth-based inequalities in higher education access across caste and religious groups. The Lorenz curves for Scheduled Tribes (ST) and Muslims deviate sharply from the line of equality, indicating a strong concentration of higher education attainment among wealthier households. Inequality is highest among ST Hindus (Gini = 0.254), followed by Muslims (0.231) and Other Backward Classes (0.236), reflecting substantial economic stratification within these groups. In contrast, upper castes ("Other Caste") and Christians exhibit relatively lower levels of wealth-based inequality (Gini coefficients of 0.186 and 0.162, respectively), suggesting a more even distribution of higher education across the wealth spectrum. These patterns indicate that caste and religion interact closely with economic status to generate layered forms of educational disadvantage. In particular, the pronounced curvature of the ST and Muslim Lorenz curves at the lower end reflects severely constrained access among poorer households, while the steep rise at the upper tail underscores the concentration of higher education attainment among the wealthiest deciles.

Figure 3 illustrates pronounced gender differences in wealth-based inequality in access to higher education. The Lorenz curve for women departs more sharply from the line of equality than that for men, with a Gini coefficient of 0.266 compared to 0.206 for males. This pattern indicates that economic resources play a more decisive role in shaping higher education access for women. The steep curvature of the female Lorenz curve at the lower end reflects severe exclusion among women from poorer households, while the strong concentration of attainment in the upper wealth deciles highlights their disproportionate reliance on economic privilege. By contrast, the male distribution is relatively less skewed, suggesting broader- though still unequal- access across the wealth spectrum. The aggregate Lorenz curve (Gini = 0.231) lies between the two, reflecting an overall pattern driven largely by gendered economic disadvantage.

This study is significant as it provides one of the most comprehensive empirical assessments of post-massification higher education inequalities in India. It not only updates the evidence base but also informs policy directions by highlighting the multifactorial nature of exclusion, thus offering crucial insights for inclusive education reforms.

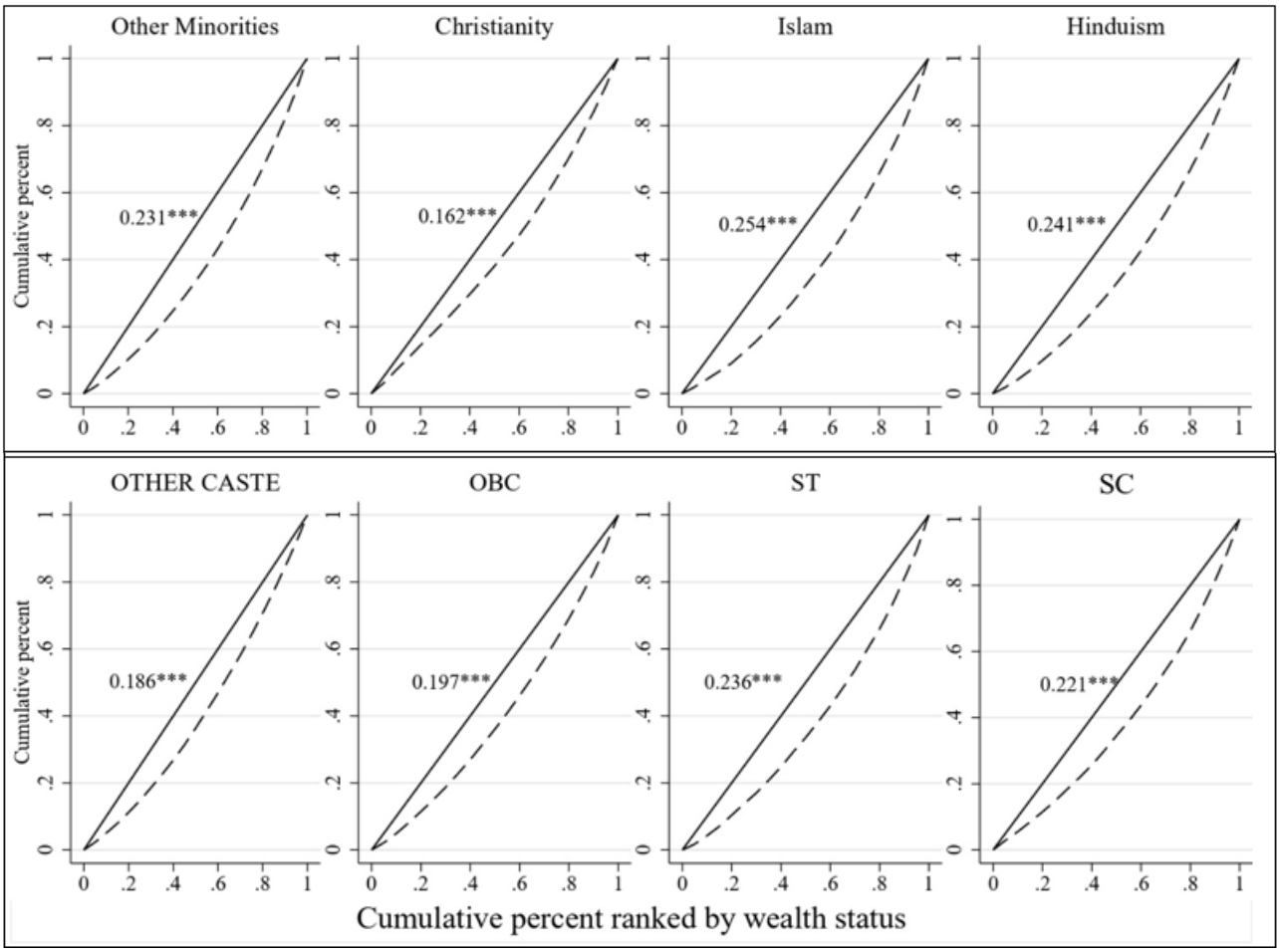

Figure 2: Caste Differences in Wealth-Based Inequality in Higher Education Access
Note: Caste-disaggregated Lorenz curves depicting the concentration of higher education attainment by wealth status

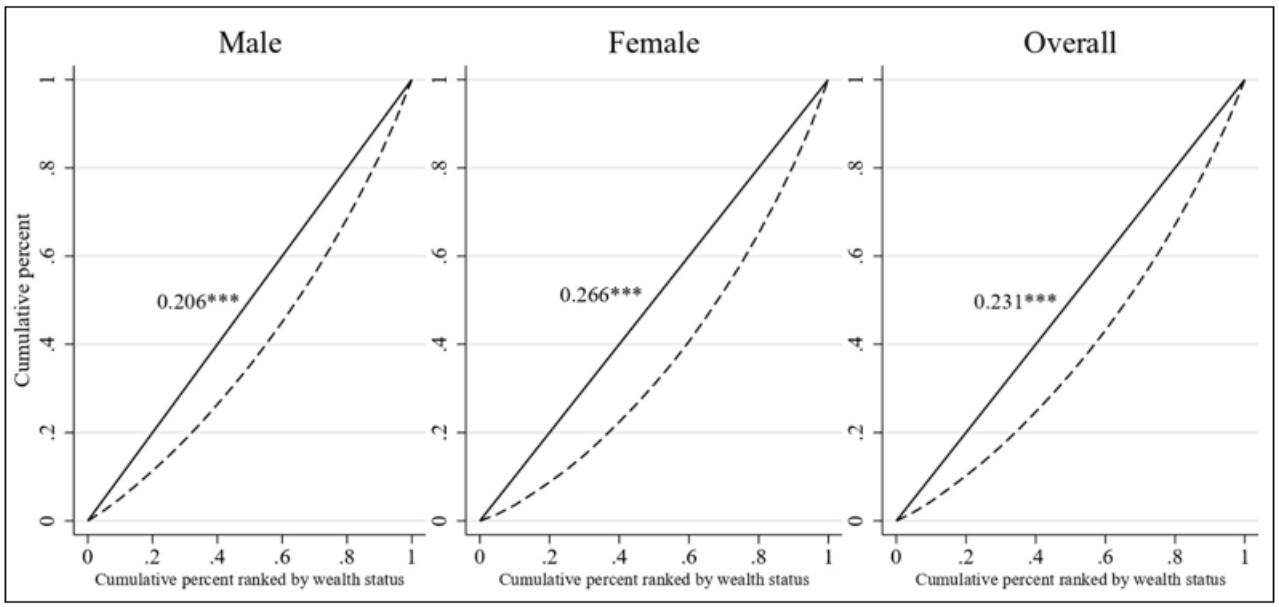

Figure 3: Gender Differences in Wealth-Based Inequality in Higher Education Access **Note:** Gender-disaggregated Lorenz curves depicting the concentration of higher education attainment by wealth status.

2. Related Literature

The literature on higher education in India consistently documents persistent and multi- dimensional inequalities in both access and attainment. A seminal study by Tilak (2015), using data from 1983 to 2009, identifies a self-reinforcing cycle in which unequal educational access translates into asymmetric labour market information and employment outcomes, thereby perpetuating broader socioeconomic and political inequalities. The study highlights sharp divides across sector, gender, social group, and religion, and further

shows that these disparities have widened over time, with individuals at the upper end of the income distribution exhibiting a significantly higher likelihood of enrollment in private institutions. Subsequent research explores these entrenched disparities from multiple perspectives. S. Deshpande (2006) characterizes inequality in higher education as fundamentally "exclusive," arguing that the selective and elitist nature of tertiary education- unlike primary education, which is widely regarded as a basic entitlement—produces uneven distributions of economic and social rewards. Despite substantial public funding and its potential role as a pathway for upward mobility in a context of widespread poverty, the author contends that the notion of "merit" often operates as an ideological construct rather than a defensible moral claim. Robust empirical evidence supports these arguments. Using NSS data, Khan (2015) demonstrates that gross enrollment ratios are systematically skewed in favour of urban residents, males, and higher-income groups. These disparities intensify at higher levels of education: drawing on NSS 2014 data, Madan (2020) shows that caste-based inequalities are more pronounced among the more educated, suggesting that education may amplify rather than reduce social stratification. The interaction between social identity and educational outcomes is a recurring theme. Borooah & Iyer (2005) finds that religion and caste are closely linked to educational participation, with upper-caste boys enjoying significantly higher probabilities of enrollment. This is reinforced by Borooah (2012), who reports that even after controlling for socioeconomic characteristics, children from all marginalised social groups remain disadvantaged relative to their upper-caste counterparts. With a specific focus on higher education, Basant & Sen (2014) and Choudhury & Kumar (2024) emphasise the importance of social, religious, and economic characteristics in shaping participation, with the latter documenting a 12% gender gap favouring males in access to professional programmes such as engineering and medicine. Importantly, disparities emerge well before the tertiary level. Husain & Sarkar (2011) analyses gender inequalities up to the secondary stage, demonstrating that unequal access is rooted long before entry into higher education. The persistence of group-based disadvantage leads Varughese & Bairagya (2020), using data from 1994 to 2012 and multiple inequality indices, to conclude that policy interventions have had limited success in reducing disparities, underscoring the need for stronger focus on secondary and higher education. Finally, systemic features of higher education are also subject to critique. Using data from the 71st NSS round, Borooah (2017) largely confirms established patterns in the probability of progression into graduate education. In a broader comparative perspective, Marginson (2016) argues that countries characterised by high social mobility tend to sustain strong commitments to social equality and autonomous, merit-based systems of learning and assessment, offering insights for institutional reform aimed at breaking persistent cycles of inequality in India.

This paper makes *one* distinct contribution. It provides the most recent and comprehensive empirical evidence on disparities in higher education attainment in India, moving beyond studies limited to specific states, narrow time periods, or isolated institutional segments. By systematically examining inequality across caste, gender, income, religion, region, and sector, the paper assesses whether long-standing patterns of disadvantage have narrowed, persisted, or transformed in the context of rapid post-massification expansion.

3. Data and Methodology

This study utilises data from the 69th round of the National Sample Survey Office (NSSO), namely the Comprehensive Annual Modular Survey (CAMS). The analysis is restricted to individuals aged 18 years and above. The outcome variable is binary, indicating whether an individual has attained higher education. To capture variation across educational stages, higher education attainment is further disaggregated into graduation, post-graduation, and Ph.D. levels. The principal explanatory variables include disability status and a set of socioeconomic characteristics such as gender, caste, religion, household expenditure, and rural–urban location. Detailed descriptive statistics for all variables are reported in Table 1. To examine disparities in higher education attainment across groups, the empirical analysis employs the non-linear decomposition approach proposed by Fairlie (2005). This method is particularly suitable for binary outcome variables and allows the observed gap in mean attainment probabilities between groups to be decomposed into two components: one arising from differences in observable characteristics (the endowment effect) and the other from differences in estimated coefficients (the coefficient effect).

4. Results

4.1 Descriptive Statistics

Descriptive statistics reported in Tables 1 and 2 reveal substantial heterogeneity in higher education enrollment across social, demographic, and economic characteristics. Of the total sample of 1,315,772 individuals, only 16.6 percent are enrolled in higher education, while the remaining 83.4 percent are not. Sharp differences are evident across social groups. Individuals classified under the "Others" category account for 39.1 percent of total enrollments despite constituting only 25.8 percent of the non-enrolled population. In contrast, Scheduled Tribe (ST) and Scheduled Caste (SC) groups exhibit disproportionately lower participation, representing 10.4 percent and 11.0 percent of enrollments, respectively. Religious disparities mirror this pattern: Hindu individuals constitute over four-fifths of all enrollments (81.3 percent), exceeding their 75.5 percent share among the non-enrolled, whereas Muslims and Christians contribute relatively smaller proportions at 7.8 percent and 6.7 percent, respectively. Spatial inequality is also pronounced, with urban residents comprising nearly two-thirds of enrolled individuals (64.3 percent) despite accounting for less than half of the overall sample (46.2 percent), highlighting the persistence of the rural–urban divide in access to higher education.

Differences by gender, marital status, and household economic position further underscore entrenched inequalities. Men constitute a majority of enrolled students at 57.4 percent, while women- although nearly half of the total population- account for only 42.6 percent of enrollments. Marital status displays a strong gradient: never-married individuals are disproportionately represented among the enrolled (39.3 percent), compared to just 20.8 percent among the non-

enrolled, whereas currently married and widowed individuals exhibit markedly lower participation. Household economic status, proxied by consumption expenditure quintiles, reveals a steep gradient in access. Only 9.9 percent of enrolled individuals belong to the poorest quintile (Q1), while 35.6 percent are drawn from the richest quintile (Q5), underscoring the strong association between economic resources and higher education participation. Finally, intra-household position plays a significant role: unmarried children account for nearly one-third of enrollments (32.0 percent), compared to 16.9 percent among the non-enrolled, while household heads and spouses- who dominate the overall sample- contribute relatively smaller shares to higher education enrollment.

4.2 The Extent of Disparity in Higher Education Attainment in India

The Fairlie decomposition results presented in 4 and Figures 5 demonstrate that socioeconomic status, proxied by wealth quintiles, is the most influential determinant of access to higher education in India. The pronounced gradient from the poorest quintile (Q1: 8.4 percent) to the richest quintile (Q5: 26.8 percent) highlights the central role of economic capital as a gateway to tertiary education, outweighing other dimensions of social identity. Although caste- and religion-based disadvantages remain substantial, the findings indicate that these forms of exclusion are closely intertwined with, and often reinforced by, economic deprivation. The reversal observed in the upper wealth quintiles (Q4 and Q5), where the base group exhibits higher attainment probabilities than its complement, suggests that sufficient economic resources can partially offset disadvantages associated with marginalized social identities, though they do not eliminate them entirely. This pattern underscores that policy interventions focusing solely on caste, religion, or gender—without addressing underlying economic stratification—are likely to remain structurally incomplete.

Beyond economic divisions, the results reveal a notable shift in gender patterns. Contrary to the long-standing assumption of male advantage, women display a statistically significant lead in higher education attainment (18.0 percent compared to 14.8 percent for men). This finding challenges policy frameworks premised on closing a uniform gender gap. Instead, the contemporary landscape is characterised by uneven access among women, with rural women, those from poorer households, and those belonging to marginalized caste groups continuing to face substantial disadvantages despite aggregate female gains. Policy design must therefore move beyond broad-based female empowerment toward more finely targeted interventions that address these intersectional barriers.

Further decomposition results shown in Figure 7 reveal layered inequalities across religious, caste, and spatial dimensions. Jain, Sikh, and Hindu groups record the highest enrollment probabilities, while Muslims and Buddhists remain concentrated at the lower end of the distribution. Caste-based disparities are pronounced, with General category students exhibiting the highest probabilities of enrollment, followed by OBCs, while SC and ST groups continue to lag behind. These inequalities are further intensified by spatial location. Urban males record the highest probabilities of attainment, whereas rural females occupy the lowest position, illustrating how rural disadvantage compounds existing social hierarchies across caste and religion.

Table 1: Variable description and summary statistics of dependent and independent variables. Here B: Binary Variable, C: Continuous Variable and CAT: Categorical Variable

Variable Name	Variable Description	Type	Obs.	Mean	S.D.	Min	Max
Higher Education	Attained higher education	B	1,365,296	0.166	0.372	0	1
Household Size	Number of household members	C	1,365,296	5.035	2.262	0	1
Social Group:							
Others	Social group / caste category	CAT	1,365,296	0.280	0.449	0	1
ST		CAT	1,365,296	0.161	0.367	0	1
SC		CAT	1,365,296	0.153	0.360	0	1
OBC		CAT	1,365,296	0.406	0.491	0	1
Religion:							
Hinduism	Religion of the individual	CAT	1,365,296	0.765	0.424	0	1
Islam		CAT	1,365,296	0.112	0.316	0	1
Christianity		CAT	1,365,296	0.078	0.269	0	1
Others		CAT	1,365,296	0.044	0.206	0	1
Sector:							
Rural	Sector of residence	CAT	1,365,296	0.538	0.499	0	1
Urban		CAT	1,365,296	0.462	0.499	0	1
Gender:							
Male	Gender of the individual	CAT	1,365,296	0.522	0.500	0	1
Female		CAT	1,365,296	0.478	0.500	0	1
Transgender		CAT	1,365,296	0.000	0.005	0	1
Marital Status:							
Never Married	Marital status	CAT	1,365,296	0.238	0.426	0	1
Currently Married		CAT	1,365,296	0.693	0.461	0	1
Widowed		CAT	1,365,296	0.062	0.242	0	1
Divorced/Separated		CAT	1,365,296	0.006	0.078	0	1
Expenditure Quartile:							
Q1	Per capita expenditure quartile	CAT	1,365,296	0.196	0.397	0	1
Q2		CAT	1,365,296	0.188	0.391	0	1

Q3		CAT	1,365,296	0.193	0.395	0	1
Q4		CAT	1,365,296	0.205	0.403	0	1
Q5		CAT	1,365,296	0.218	0.413	0	1
Relationship to Head:							
Self	Relationship to household head	CAT	1,365,296	0.308	0.462	0	1
Spouse of Head		CAT	1,365,296	0.230	0.421	0	1
Married Child		CAT	1,365,296	0.101	0.301	0	1
Spouse of Married Child		CAT	1,365,296	0.094	0.292	0	1
Unmarried Child		CAT	1,365,296	0.194	0.395	0	1
Others		CAT	1,365,296	0.073	0.260	0	1

Table 2: Summary Statistics by Higher Education Enrollment Status across groups

	Not Enrolled (N=1,149,194)	Enrolled (N=216,102)	Overall Sample (N=1,365,296)
Social Group			
Scheduled Tribe (ST)	196,736 (17.1%)	22,543 (10.4%)	219,279 (16.1%)
Scheduled Caste (SC)	186,547 (16.2%)	23,896 (11.1%)	210,443 (15.4%)
Other Backward Class (OBC)	470,124 (40.9%)	85,517 (39.6%)	555,641 (40.7%)
Others	295,787 (25.7%)	84,146 (38.9%)	379,933 (27.8%)
Religion			
Hinduism	868,015 (75.5%)	175,996 (81.4%)	1,044,011 (76.5%)
Islam	137,416 (12.0%)	16,997 (7.9%)	154,413 (11.3%)
Christianity	92,141 (8.0%)	14,260 (6.6%)	106,401 (7.8%)
Others	51,622 (4.5%)	8,849 (4.1%)	60,471 (4.4%)
Sector			
Rural	659,337 (57.4%)	77,680 (35.9%)	737,017 (54.0%)
Urban	489,857 (42.6%)	138,422 (64.1%)	628,279 (46.0%)
Gender			
Male	590,568 (51.4%)	122,880 (56.9%)	713,448 (52.3%)
Female	558,591 (48.6%)	93,218 (43.1%)	651,809 (47.7%)
Transgender	35 (0.0%)	4 (0.0%)	39 (0.0%)
Marital Status			
Never married	273,043 (23.8%)	88,609 (41.0%)	361,652 (26.5%)
Currently married	790,457 (68.8%)	122,869 (56.9%)	913,326 (66.9%)
Widowed	78,583 (6.8%)	3,608 (1.7%)	82,191 (6.0%)
Divorced/Separated	7,111 (0.6%)	1,016 (0.5%)	8,127 (0.6%)
Expenditure Quartile			
Q1 (Poorest)	303,103 (26.4%)	27,967 (12.9%)	331,070 (24.2%)
Q2 (Lower-middle)	285,646 (24.9%)	40,241 (18.6%)	325,887 (23.9%)
Q3 (Upper-middle)	283,913 (24.7%)	56,881 (26.3%)	340,794 (25.0%)
Q4 (Richest)	276,532 (24.1%)	91,013 (42.1%)	367,545 (26.9%)
Relationship to Head			
Self	353,349 (30.7%)	53,818 (24.9%)	407,167 (29.8%)
Spouse of head	274,103 (23.8%)	28,175 (13.0%)	302,278 (22.1%)
Married child	107,296 (9.3%)	25,788 (11.9%)	133,084 (9.7%)
Spouse of married child	103,789 (9.0%)	21,414 (9.9%)	125,203 (9.2%)
Unmarried child	222,571 (19.4%)	72,357 (33.5%)	294,928 (21.6%)
Grandchild	18,281 (1.6%)	6,289 (2.9%)	24,570 (1.8%)
Father/Mother	34,891 (3.0%)	784 (0.4%)	35,675 (2.6%)
Brother/Sister	33,169 (2.9%)	7,237 (3.3%)	40,406 (3.0%)
Others	1,745 (0.2%)	240 (0.1%)	1,985 (0.1%)

Predicted probabilities displayed in Figure 6 further highlight the magnitude of spatial disparities. Within urban areas, upper-caste ("Others") individuals exhibit the highest probability of higher education attainment (0.235), followed by OBCs (0.198), STs (0.163), and SCs (0.152). In rural settings, attainment probabilities decline sharply across all social groups, with SC (0.109) and ST (0.097) populations positioned at the bottom of the distribution. The gap between upper-caste and marginalized groups remains more than twofold in both rural and urban contexts, demonstrating that location and caste jointly shape access. While urban residence increases attainment probabilities for all groups, it does not close social gaps, pointing to persistent structural stratification. Wealth emerges as the strongest single predictor of enrollment, but its effects are reinforced by caste, religion, gender, and place of residence. Economic resources can buffer social disadvantage, yet they do not fully neutralize it. Similarly, aggregate gender parity masks substantial internal stratification among women. The rural–urban divide continues to act as a powerful amplifier of existing social hierarchies, underscoring the need for multidimensional policy approaches that address intersecting economic, social, and spatial disadvantages.

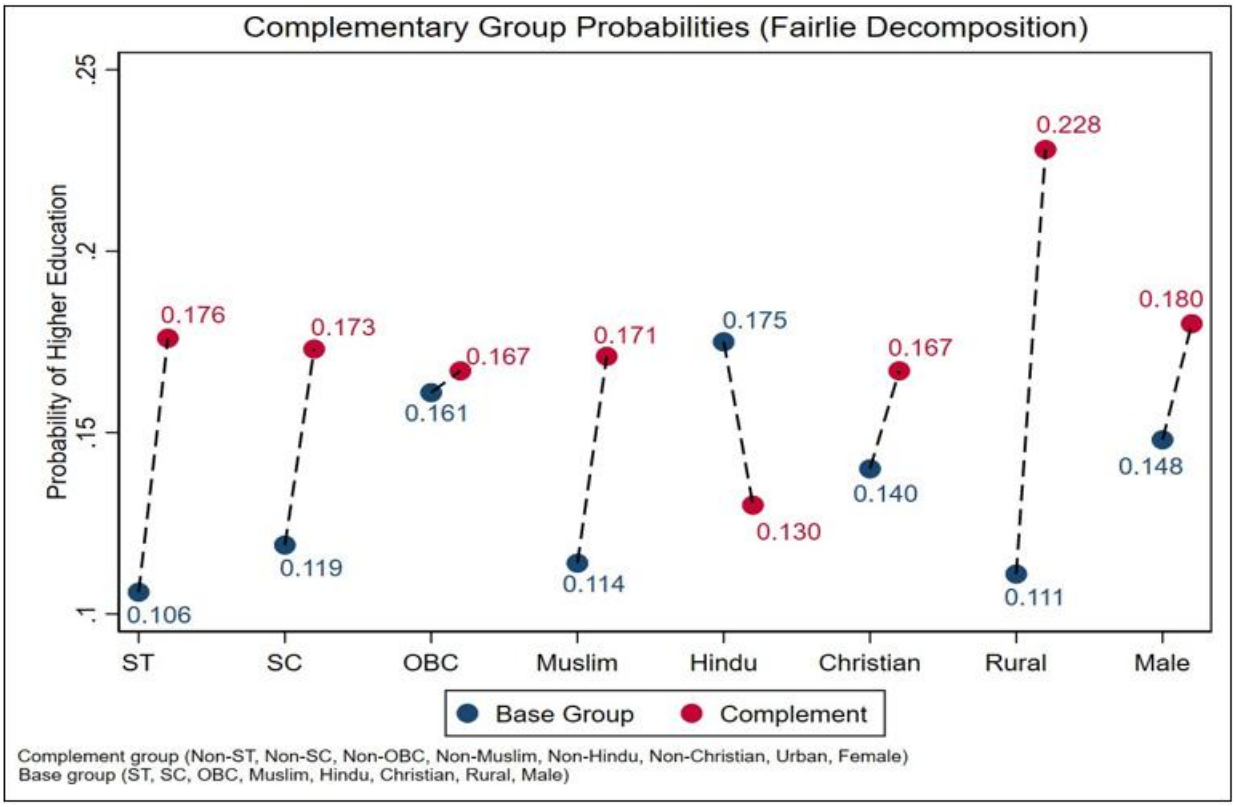

Figure 4: Group level mean probability of enrolment in higher education from Fairlie decom- position.

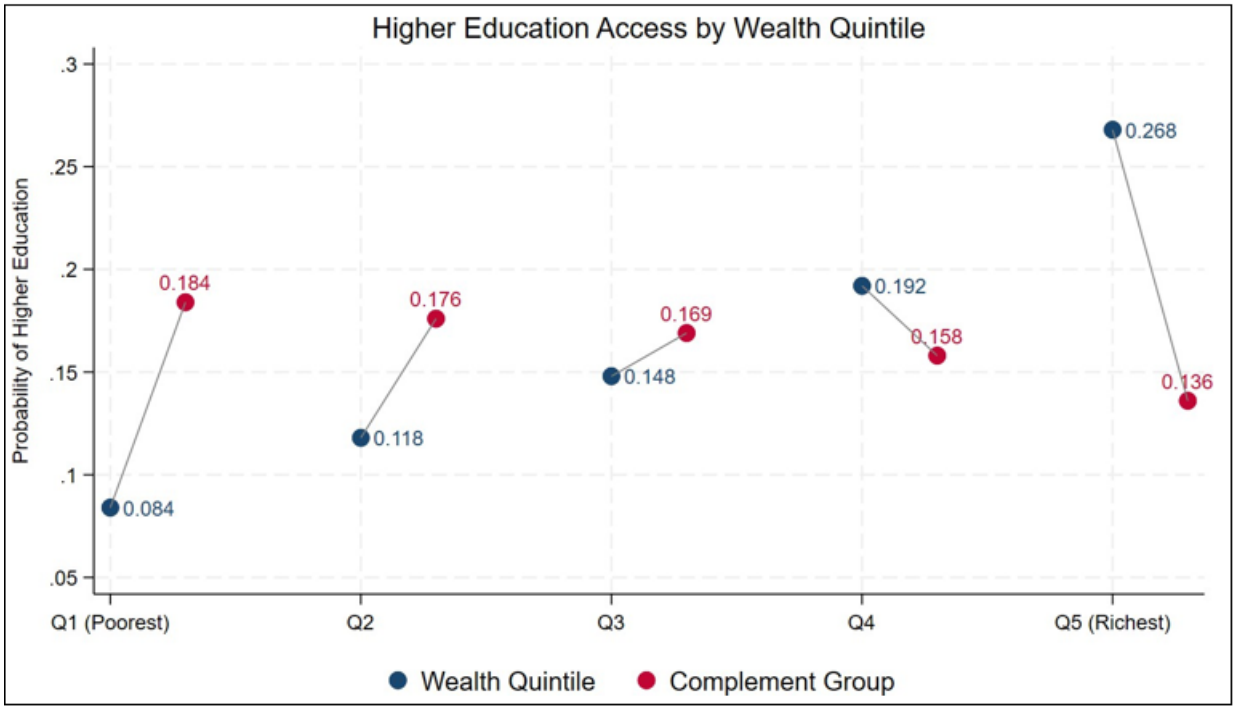

Figure 5: Group level of decomposition of probability of attainment to higher education.

4.3 The Predictors of Disparity

Tables 3, 4, and 5 report the Fairlie decomposition results, detailing the contribution of individual predictors to observed gaps in higher education attainment. The evidence indicates that disparities in higher education access in India arise from a complex interaction of socioeconomic, demographic, and spatial factors, with household wealth emerging as the most dominant and consistently influential determinant. The contribution of the highest wealth quintile (Q5) is particularly striking across almost all group-specific decompositions. For example, in the social group analysis (Table 9), Q5 alone accounts for 37.1 percent of the explained gap for Scheduled Tribes (ST), 65.4 percent for Scheduled Castes (SC), and an exceptionally large 482.7 percent for Other Backward Classes (OBC). In the case of OBCs, the economic advantage associated with belonging to the richest quintile is sufficiently strong to explain more than the total observed gap, more than offsetting the negative contributions arising from lower wealth categories and household size. This pattern reinforces

the central role of economic capital as the primary driver of inequality, capable of overpowering disadvantages linked to social identity.

At the same time, the influence of specific predictors varies considerably across groups, underscoring the importance of intersectionality in shaping educational outcomes. Among

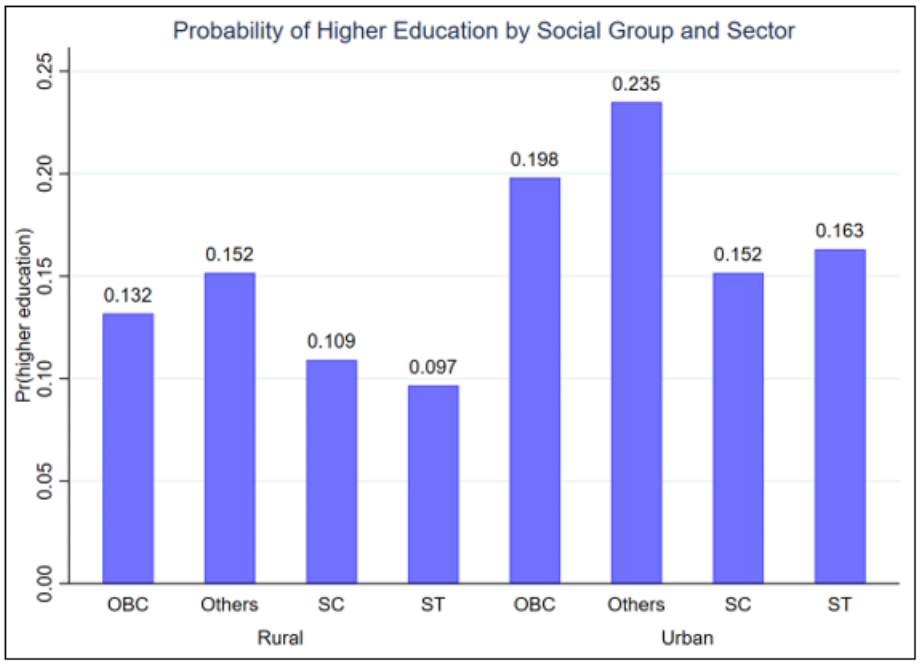

Figure 6: Predicted Probabilities of Higher Education by Social Group and Sector.

religious minorities (Table 8), urban residence contributes negatively to the explained gap for Muslims (accounting for –19.5 percent), while marital-status-related variables such as "Spouse of HH" and "Married Child" contribute positively. In contrast, for rural populations (Table 9, UR column), urban residence- by construction- emerges as a key differentiating factor, explaining –19.2 percent of the gap; however, this effect is dominated by the substantial disadvantage associated with lower wealth quintiles (Q2, Q3, and Q4).

Decomposition by wealth quintile itself (Table 10) further highlights these intersectional dynamics. The negative contribution of caste identities such as ST and SC is most pronounced in the middle wealth quintiles (Q3 and Q4), suggesting that caste-based disadvantages are most binding for households with some economic resources but insufficient means to fully overcome structural barriers. In the poorest quintile (Q1), the overwhelming effect of economic deprivation dominates the decomposition, with household size alone contributing –20.5 percent of the gap, whereas in the richest quintile (Q5), the explanatory power of most other variables diminishes. The analysis also reveals a nuanced role for household structure. Variables such as "Spouse of HH" and "Married Child" consistently make positive contributions across most decompositions, likely capturing life-cycle effects related to age, stability, and shared household resources allocated toward education. Similarly, the variable "Widowed" contributes positively in several specifications (for instance, 12.2 percent in Q1 in Table 10), plausibly reflecting older age and a higher likelihood of completed education. In contrast, the negative contribution of the "Currently Married" category for groups such as SCs, STs, and Christians suggests that marriage may be associated with earlier withdrawal from education for these populations.

Overall, the decomposition results reveal a clear hierarchy among the predictors of disparity. Wealth- particularly membership in the highest quintile- emerges as the single most powerful factor, with an influence large enough to eclipse other sources of disadvantage. Nevertheless, its effect is systematically mediated by caste, religion, and spatial location, each of which remains a significant and independent axis of inequality. Household composition adds a further layer of demographic complexity. These findings imply that policies aimed at reducing educational inequality must adopt a multi-dimensional approach. While broad-based economic empowerment is essential, targeted interventions- such as scholarships and support mechanisms focused on lower-wealth SC/ST households and rural populations- are critical for addressing the intersecting barriers of class, caste, and location that continue to sustain gaps in higher education attainment.

Table 3: Decomposition of Higher Education Attainment Gap: Contributions of Explanatory Variables (%)

Variables	Gender		Sector		Hindu		Muslim		Christian		Othe Minorities	
	Coef.	(%)	Coef.	(%)	Coef.	(%)	Coef.	(%)	Coef.	(%)	Coef.	(%)
Household Size	-0.002	-7.307	-0.011	-9.712	-0.013	-29.305	0.005	9.555	-0.004	-16.496	-0.006	-43.788
ST	-0.001	-3.645	-0.007	-5.673	-0.003	-6.154	-0.01	-17.752	0.034	126.189	0.005	37.132
SC	-0.001	-2.043	-0.003	-2.58	0.002	4.719	-0.01	-17.152	-0.005	-17.11	0.006	46.864
OBC	0.001	1.647	0	-0.16	0.002	5.397	0.003	5.177	-0.006	-23.695	-0.005	-37.956
Muslim	-0.001	-4.354	0	-0.222	—-	—-	—-	—-	—-	—-	—-	—-
Christian	0	-0.287	0	-0.068	—-	—-	—-	—-	—-	—-	—-	—-

Others	0	-0.174	-0.001	-0.468	—-	—-	—-	—-	—-	—-	—-	—-
Urban	-0.002	-5.09	—-	—-	-0.003	-6.809	-0.011	-19.488	-0.002	-6.583	0.003	18.499
Female	—-	—-	0	-0.391	0	-0.603	-0.001	-1.417	-0.001	-4.456	-0.001	-6.886
Currently Married	0.003	7.685	-0.012	-9.856	0	0.019	-0.003	-4.765	-0.011	-39.48	-0.006	-47.064
Widowed	0.011	33.774	0	-0.26	0.003	5.596	0	0.156	0.002	7.21	0.003	19.804
Divorced	0.001	1.714	0	0.321	0	-0.366	0	0.256	0.001	5.165	0	2.393
Q2	-0.002	-7.195	0.001	0.53	-0.002	-4.439	-0.003	-5.838	-0.002	-6.703	-0.001	-7.949
Q3	-0.003	-9.785	0.002	1.672	-0.003	-6.252	-0.004	-7.133	-0.001	-3.059	-0.001	-9.035
Q4	0.001	1.722	-0.003	-2.382	-0.001	-1.122	-0.002	-4.038	0.001	3.245	0	-3.208
Q5	0.011	34.825	-0.019	-16.497	0.017	37.499	0.015	26.596	0.001	4.54	-0.004	-27.65
Spouse of HH	0.009	26.781	0.005	4.278	0.004	9.067	0.004	7.067	0.004	13.427	0.003	22.043
Married Child	0.013	38.373	0.006	4.707	0.002	3.394	0.002	2.87	0.004	15.347	0.002	12.738
Spouse of Married Child	-0.006	-19.281	0.002	1.731	0	0.313	0	0.668	0.001	5.262	0	0.619
Unmarried Child	0	1.12	0	0.019	0	0.574	0	0.274	0	1.051	0	0.686
Grandchild & Others	0	0.253	0	-0.023	0	0.065	0	-0.123	0	0.578	0	1.791
Total Explained (%)		88.733		-35.034		11.593		-25.087		64.432		-20.968

Table 4: Decomposition of Higher Education Attainment Gap: Contributions across Social Groups (%)

Variables	ST		SC		OBC		UR	
	Coef.	(%)	Coef.	(%)	Coef.	(%)	Coef.	(%)
Household Size	0	0.061	-0.005	-8.616	-0.005	-77.134	-0.011	-12.297
MUSLIM	-0.007	-10.103	-0.009	-17.27	0	-0.191	0.001	0.92
CHRISTIAN	0.003	4.765	-0.004	-7.415	-0.005	-88.752	-0.003	-2.999
OTHERS	0.002	2.594	0.001	2.234	-0.002	-25.711	0	-0.068
URBAN	0.01	13.953	0.006	11.148	-0.002	-37.75	-0.017	-19.214
FEMALE	-0.001	-1.608	0	-0.655	-0.001	-10.778	-0.001	-0.845
CURRENTLY MARRIED	-0.008	-11.937	-0.005	-8.57	-0.003	-53.036	-0.003	-3.553
WIDOWED	0.001	2.028	0.003	5.001	0.001	22.394	0.002	2.281
DIVORCED	0.001	1.242	0	0.506	0	0.244	0	0.1
Q2	-0.005	-6.836	-0.007	-12.338	-0.005	-81.318	0	0.508
Q3	-0.002	-3.384	-0.006	-11.386	-0.007	-117.524	0.001	0.621
Q4	0.007	10.468	0.003	5.405	-0.002	-38.802	-0.002	-2.657
Q5	0.026	37.08	0.035	65.36	0.029	482.677	-0.019	-21.793
SPOUSE OF HH	0.003	4.838	0.004	7.215	0.004	66.769	0.005	5.139
MARRIED CHILD	0.003	4.271	0.002	4.224	0.001	24.155	0.002	2.794
SPOUSE OF MARRIED CHILD	0.001	1.452	0.001	0.943	0	3.978	0	0.424
UNMARRIED CHILD	0	0.102	0	0.162	0	0.489	0	-0.133
GRANDCHILD & OTHERS	0	0.211	0	-0.155	0	0.643	0	0.317
Total Explained (%)		49.198		35.793		70.352		-50.457

Table 5: Decomposition of Higher Education Attainment Gap: Contributions across Expenditure Quartiles (%)

Variables	Q1		Q2		Q3		Q4		Q5	
	Coef.	(%)	Coef.	(%)	Coef.	(%)	Coef.	(%)	Coef.	(%)
Household Size	-0.021	-20.505	-0.004	-7.475	0	-2.343	0.001	3.45	0.008	5.732
ST	0.005	4.662	-0.004	-7.637	-0.007	-34.306	-0.01	-29.486	-0.008	-5.97
SC	0.004	3.815	0.002	3.484	-0.001	-3.887	-0.004	-10.953	-0.006	-4.831
OBC	0.003	2.93	0.005	8.608	0.005	25.374	0.003	9.396	-0.003	-1.942
Muslim	-0.002	-2.121	0	-0.243	0	-1.405	0	-1.033	-0.003	-2.05
Christian	0	-0.173	0	0.293	0	1.695	0	1.092	0	-0.014
Others	0	-0.241	0	-0.249	0	-0.161	0	0.011	0	0.07
Urban	0.015	14.687	0.009	16.182	0.003	16.365	-0.014	-40.238	-0.026	-20.122
Female	-0.001	-1.042	-0.001	-1.429	-0.001	-4.906	-0.001	-4.26	-0.002	-1.545
Currently Married	-0.001	-0.629	0.001	2.06	0.001	3.539	0.001	3.255	0.004	2.688
Widowed	0.012	12.161	0.004	6.57	0.003	15.765	0.003	7.426	0.002	1.231
Divorced	0.001	0.772	0	0.218	0	0.44	0	-0.034	0	0.035
Spouse of HH	0.008	8.112	0.006	9.705	0.004	19.434	0.003	10.135	0.003	2.358
Married Child	0.007	6.573	0.004	6.974	0.002	8.994	0.001	1.566	-0.002	-1.462
Spouse of Married Child	0.002	2.066	0.001	2.155	0	2.134	0	-0.666	-0.001	-0.935
Unmarried Child	0	0.418	0	-0.081	0	-1.865	0	-1.331	0	0.359
Grandchild & Others	0	-0.31	0	-0.06	0	-0.102	0	0.128	0	0.175
Total Explained (%)		31.175		39.076		44.763		-51.543		-26.221

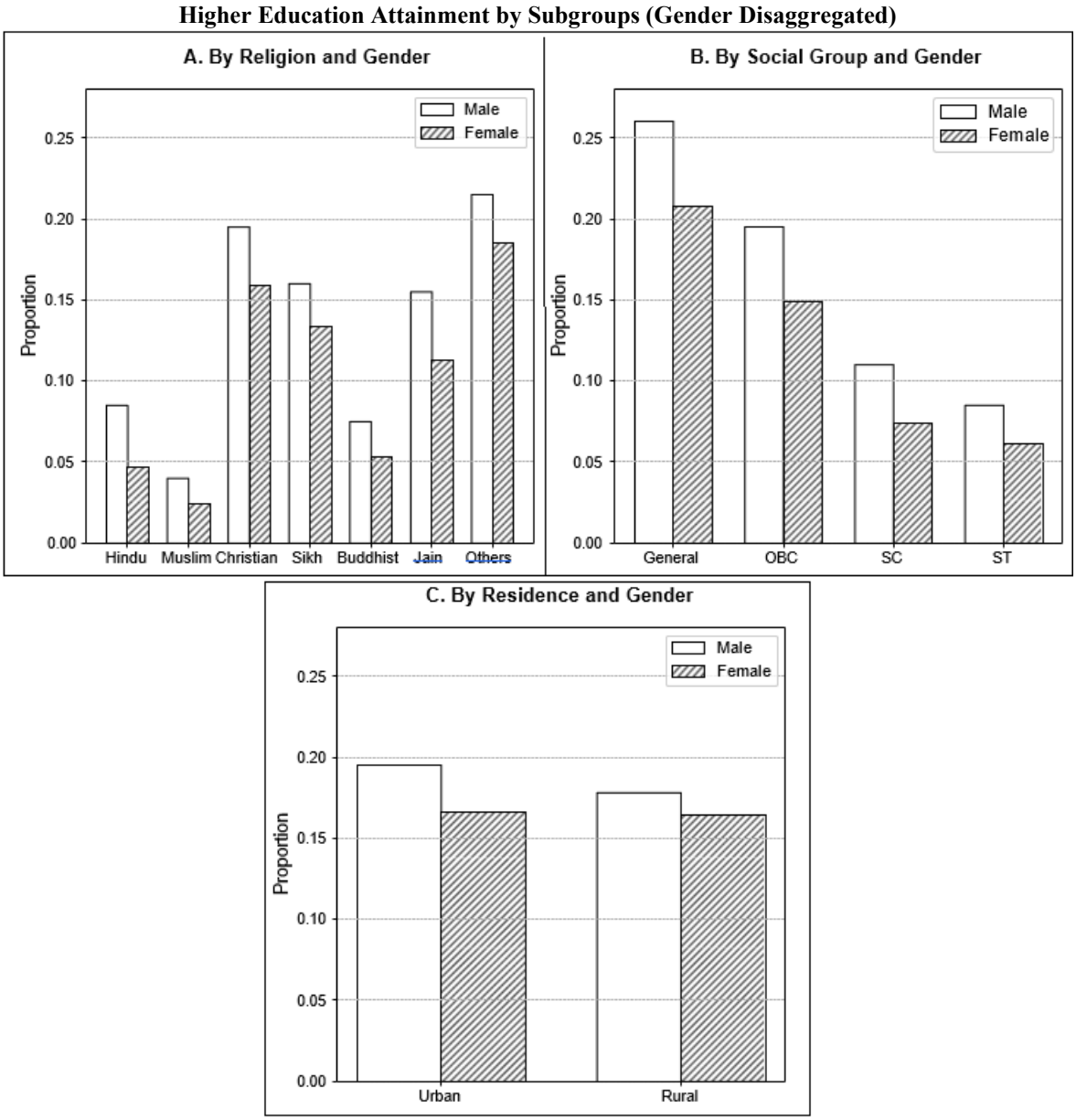

Figure 7: Group-Based Estimated Probabilities from Fairlie Decomposition.

5. Discussion

A substantial body of research has established that higher education attainment in India is systematically shaped by social, economic, and demographic structures. Family composition and household size have long been recognised as important constraints, as larger households dilute per-capita educational investment through competition for resources and caregiving responsibilities (Rosenzweig & Wolpin, 1980; Kugler & Kumar, 2017). Caste-based inequalities remain deep-rooted and persistent: Scheduled Castes (SC) and Scheduled Tribes (ST) continue to experience lower participation and completion rates relative to the "Others" category, even after accounting for income and parental background (A. Deshpande, 2011; Thorat & Newman, 2010). Religious identity further differentiates access, with Muslims consistently facing lower enrollment and completion rates than Hindus or Christians, partly due to spatial segregation, uneven institutional distribution, and intersecting economic disadvantage (Basant & Sen, 2010; Committee, 2006; Bhattacharya & Banerjee, 2020).

Spatial inequality is equally central to understanding higher education access. Urban residents benefit from greater institutional density, superior infrastructure, and wider access to both public and private institutions, resulting in systematically higher participation rates (Tilak, 2007; Jeffrey et al., 2008). Gender patterns, however, have evolved over time. Earlier studies documented substantial female disadvantages in tertiary participation (Chanana, 2001; Kingdon, 2002), whereas more recent work points to narrowing gaps at the point of entry, particularly among younger cohorts (Choudhury, 2017; of Education, 2023). Economic position—proxied by household income or consumption expenditure- has persistently been a strong predictor of higher education access, with upper expenditure quintiles disproportionately represented in both enrollment and completion (Drèze & Kingdon, 2001; Tilak, 2007). Intra-household roles also matter: unmarried children typically face fewer constraints, while household heads and spouses often encounter role-based limitations on educational participation (Jeffrey et al., 2004).

The regression results closely mirror these structural patterns while also revealing important shifts. Household size continues to exert a negative influence on attainment (OR = 0.885), consistent with the resource dilution hypothesis, although the magnitude is smaller than in early-2000s evidence, likely reflecting declining fertility and expanded access. Caste-based gaps remain substantial, with ST and SC individuals exhibiting enrollment odds approximately 40– 45 percent lower than those in the "Others" category, reaffirming the persistence of structural barriers. Religious disadvantage is particularly pronounced for Muslims (OR = 0.541), a result consistent with the Committee (2006) and notable for its persistence nearly two decades later, suggesting limited structural transformation.

Urban advantage remains strong (OR = 1.709), reinforcing longstanding evidence on spatial inequality (Tilak, 2007). Gender coefficients indicate a notable reversal: women are now modestly more likely than men to be enrolled in higher education (OR = 1.176), marking a departure from historically male-dominated entry patterns (Choudhury, 2017). This advantage, however, is fragile. Marital status introduces a sharp reversal, with married, widowed, and divorced individuals facing substantially lower odds of enrollment (OR = 0.467, 0.129, and 0.304, respectively), reflecting the continued influence of gendered social roles and caregiving expectations. Economic gradients remain steep, with individuals in the richest quintile (Q5) exhibiting odds of enrollment more than 3.5 times those in the poorest quintile (Q1), indicating intensifying economic stratification. Intra-household position further conditions access: spouses of household heads are disadvantaged, while married children experience relative advantages, underscoring how opportunity is shaped by age and family hierarchy.

The heterogeneity analysis sharpens these findings. Gendered constraints are uneven: women face stronger penalties associated with marital status and household size but derive greater benefits from urban residence and economic resources. Spatial context also reshapes social disadvantage—Scheduled Tribes face the strongest penalties in rural areas, whereas Scheduled Castes experience more pronounced disadvantage in urban settings. Economic resources function as an equalising force, but unevenly across caste and religious groups, indicating differentiated returns to wealth.

Overall, the evidence points to both continuity and change in the structure of inequality. The effects of caste, religion, and economic class remain powerful and deeply embedded in the higher education system, reflecting persistent exclusion and unequal access to quality institutions (A. Deshpande, 2011; Thorat & Newman, 2010; Basant, 2021). Household position continues to shape educational trajectories, as caregiving burdens and role expectations remain unevenly distributed across family members.

The most notable shift concerns gender dynamics. While earlier studies documented persistent female disadvantage (Chanana, 2001; Kingdon, 2002), the current findings indicate a modest female advantage at the point of entry, likely reflecting targeted policy interventions, changing household aspirations, and demographic transition. This advantage, however, erodes sharply with marriage and family formation, underscoring the continued salience of gendered social norms. At the same time, the declining magnitude of household-size effects suggests that demographic change and public provisioning have softened some traditional constraints. By contrast, economic stratification has intensified, particularly at the upper end of the expenditure distribution, reflecting rising costs and the expanding role of private institutions. Spatial divides persist but have evolved in character, with urban advantage increasingly shaped by digital access and infrastructural connectivity alongside physical proximity. These patterns point to a dual reality: while some barriers—such as gender at entry and household size- have weakened, others—including caste, religion, and income—remain entrenched or have deepened. This has important policy implications, indicating that aggregate expansion alone is insufficient. Addressing persistent disparities requires targeted, intersectionally informed interventions aimed at dismantling social stratification and community-level exclusion in higher education.

6. Conclusion

This paper provides a comprehensive assessment of disparities in higher education attainment in India during the post-massification period. While the higher education system has expanded rapidly in terms of institutions and enrollment, access remains unevenly distributed across economic, social, and spatial dimensions. The analysis demonstrates that inequality in higher education is not driven by a single factor but by the interaction of wealth, caste, religion, gender, household structure, and place of residence.

The central finding is the dominant role of economic status. Household wealth emerges as the most powerful and consistent predictor of higher education attainment across all decompositions. Membership in the highest wealth quintile explains a substantial share of observed gaps across caste, religion, gender, and sectoral groups, often outweighing the contribution of other characteristics. Although caste- and religion-based disadvantages remain pronounced- particularly for Scheduled Castes, Scheduled Tribes, and Muslims—their effects are closely mediated by economic deprivation. Economic resources can partially cushion social disadvantage, but they do not fully eliminate structural barriers.

Gender patterns reveal an important shift. Women now exhibit a modest advantage in aggregate higher education enrollment, marking a departure from earlier evidence of persistent female disadvantage. However, this apparent progress is fragile and highly uneven. Marriage, household responsibilities, rural residence, and low economic status sharply constrain women's educational opportunities, indicating that gender parity at the aggregate level masks deep internal stratification. Spatial inequality further compounds these patterns, with rural populations- especially rural women from marginalized caste and religious groups- facing the lowest probabilities of attainment.

The decomposition results underscore the importance of intersectionality. Caste- and religion-based penalties are most severe in specific economic and spatial contexts, particularly among middle and lower wealth groups and in rural areas.

Household structure and life-cycle position add further nuance, shaping access in ways that vary across social groups. These findings suggest that expansion alone is insufficient to ensure equity in higher education.

From a policy perspective, the results imply that single-axis interventions are unlikely to substantially reduce inequality. While broad-based economic empowerment is essential, targeted measures- such as need-based scholarships, support for rural and first-generation students, and interventions focused on marginalized caste and religious groups- are critical for addressing the intersecting barriers that sustain disparities. Without such multidimensional approaches, the continued expansion of higher education risks reproducing existing social hierarchies rather than transforming them.

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