Who Benefits from Affirmative Action? Sub-Caste Inequality in India

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Abstract

This paper examines whether the 2006 Affirmative Action policy of higher education quotas for the Other Backward Classes (OBC) reduced or reinforced inequality within the beneficiary group and links it to the labour market. Using two waves of the nationally representative India Human Development Survey and a Difference in Differences design, I estimate the causal effect of the reform on educational attainment across sub-caste (jati) groups. The policy increased years of education for OBCs by 4.8 percent relative to Forward Castes. The effect, however, was highly uneven within the beneficiary group; dominant Elite sub-castes gained 16.4 percent, while Non-Elite sub-castes gained only 4.1 percent, a difference that is large and statistically significant. This fourfold difference indicates substantial elite capture. These results show that affirmative action can reduce between-group gaps, yet the decline is driven primarily by Elite group, leading to a simultaneous rise in within-group inequality. The findings highlight the need to redesign quota policy to better reach the most disadvantaged sub-castes.

Keywords: Inequality, Affirmative Action, Education Policy, Caste, India

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1. Introduction

Global inequality has reached its highest level in a century. The G20 Extraordinary Committee of Independent Experts on Global Inequality (2025) reports that 83 percent of countries now exhibit high income inequality. India is one of them, where the top one percent earn 23 percent of national income, marking a sharp rise in concentration since the 1980s (Bharti et al., 2024). Historical evidence shows that societies which invest in broad-based human capital and equitable public institutions achieve both greater equality and higher productivity (Andreescu et al., 2025). Evaluating such redistributive policies which intends to decrease these inequalities is therefore important.

One such policy is India's Affirmative Action (AA) program, one of the world's largest quota systems aimed at improving access to education, public employment, and political representation for historically marginalised groups. Despite its scale, inequality remains deeply stratified. A growing body of research shows that inequality operates in a fractal manner, with disparities persisting not only *between* the major constitutional caste categories but also *within* them[2] (Joshi et al., 2018; Joshi et al., 2022; Ashraf et al., 2023). Decomposition analyses find that within-caste (i.e., sub-caste/jati[3]) variation explains a larger share of total inequality than differences across caste groups (Deshpande, 2000). This raises a central policy question: When affirmative action targets large administrative categories such as the Other Backward Classes (OBC), does it reach the least advantaged, or does it reproduce new hierarchies within the beneficiary group?

This paper is the first to address this question by examining *within-group* inequality in the OBC category, the most recent group to receive reservation benefits and the most heterogeneous in socio-economic status. Evidence from the Rohini Commission and related research (Gupta, 2020; Singh, 2025) shows that less than one percent of OBC jatis receive more than half of all reservation benefits, while almost one fifth receive none. Dominant agrarian jatis such as Yadavs and Kurmis occupy considerable economic and political influence, whereas service and artisanal jatis such as Dhobis, Nais, Gouds, Nishads, and Doms remain at the bottom of

[2] Government policy categorizes the population into four broad caste groups, Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), and General Castes, but social and economic life is organized around *jatis* (sub-castes).
[3] In this paper, I use the terms sub-caste and jati interchangeably.

the hierarchy. This uneven distribution reflects the "creamy layer" phenomenon, where a small elite subgroup captures a large share of redistributive benefits.

Labour market evidence reinforces this divide. Cassan et al. (2021) show that workers continue to be over-represented in hereditary caste occupations despite constitutional guarantees of occupational mobility. Deshpande and Ramachandran (2024) document that individuals from backward caste groups remain concentrated in the lowest-return occupations because of inherited labour market discrimination.

Against this background, the paper examines whether the 2006 expansion of OBC reservations in higher education reduced or reinforced inequality within the OBC bloc. Using a Difference in Differences (DiD) design, I estimate whether elite OBC sub-caste groups captured a disproportionate share of post-policy gains relative to their non-elite counterparts. The analysis tests whether a policy intended to reduce historical disadvantage produced new distributional asymmetries within the group it was designed to uplift.

To answer this question, I exploit the timing of the 2006 reform and compare educational outcomes for elite OBCs and non-elite OBCs relative to Forward Castes before and after the policy. This allows me to test whether the convergence between OBCs and Forward Castes was accompanied by a widening gap within the OBC group. The analysis covers both extensive margins such as enrolment and school participation, and intensive margins such as completed years of schooling. The analysis will extend to labour-market outcomes and intergenerational mobility using IHDS-3 once data become available. I provide causal evidence of elite capture in the wake of affirmative action by combining two waves of IHDS dataset, a nationally representative panel, jointly conducted by NCAER and the University of Maryland.

The results indicate that the reform increased completed education for OBCs by approximately 4.8 percent relative to Forward Castes. However, the jati-level estimates reveal a pronounced internal gradient. Relative to the Forward Caste baseline, Elite OBCs gained 16.4 percent, while non-elite OBCs gained only 4.1 percent. Elite jatis therefore benefit from AA policy nearly four times as large as those for non-elite jatis. Complementary triple-difference estimates show that these gains were concentrated among younger cohorts and in eastern states where affirmative action opportunities were newly expanding. The results indicates internal heterogeneity within the OBC category.

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The paper contributes to the literature in three ways. First, it moves beyond the standard focus on between-group disparities and provides the first causal evidence of sub-caste inequality within the OBC category. While earlier work documented the presence of elite capture descriptively (Deshpande, 2000; Joshi et al., 2022), this paper casually identifies whether affirmative action benefits dominant groups disproportionately. Second, I complement the causal analysis with a national jati-level mapping based on harmonized identifiers in IHDS to estimate inequality at the national level, moving beyond state-specific analyses such as by Joshi and others (2022). Third, by applying a consistent DiD framework across caste, jati, age cohort, and region, the paper distinguishes between *within-group* and *between-group* inequality, linking micro-level social hierarchies to macro-level policy outcomes.

In doing so, our study contributes to three distinct strands of scholarship: the literature on caste inequality and mobility in India (Munshi 2019; Ashraf et al. 2023), the political economy of affirmative action and elite capture (Gupta 2020; Singh 2025), and the broader development literature on identity-based redistribution in the Global South (Bagde et al., 2016; Basant & Sen, 2020; Deshpande & Ramachandran, 2017; Deshpande & Ramachandran, 2019; Deshpande & Ramachandran, 2024; Hnatkovska et al., 2021; Khanna, 2020).

The findings have direct implications for the design of affirmative action in India. The uneven distribution of gains across sub-castes within the OBC category suggests that current quota allocations do not adequately reach the most disadvantaged. A queuing-based system, in which eligibility and benefits are periodically reassessed, could ensure that disadvantaged sub-castes gain access to quota benefits at rates more comparable to their better-positioned counterparts. More broadly, the empirical framework offers a tool for policymakers in other multi-ethnic societies to design identity-based redistribution that addresses historical disadvantage without generating new hierarchies within beneficiary categories.

Future research will use IHDS-3 to evaluate long-run effects and intergenerational inequality. With two post-policy waves and a ten-year interval, the panel will permit analysis of mobility, occupation, and labour-market transitions within OBCs, including the role of social networks, local institutions, and hamlet-level spatial variation, conditional on access to the restricted IHDS dataset.

The remainder of the paper proceeds as follows. Section 2 situates the study in the broader literature on affirmative action in India. Section 3 describes the IHDS data; Section 4 outlines

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the empirical and identification strategy. Section 5 presents the main results, and Section 6 discusses mechanisms. Section 7 concludes by summarizing the findings and the future of AA in India.

2. Context

2.1 Caste System and Affirmative Action in India

Caste system India is one of the most enduring forms of social stratification, historically organising economic, social, and marital relations across more than three thousand jatis traced to at least 3500 years ago (Munshi, 2019). At its core, caste emerged as a system in which occupations were hereditary, group boundaries were maintained through strict endogamy, and jatis were placed in a well-defined hierarchy (Bidner and Eswaran, 2015). These features ensured that productive skills were transmitted within families, that occupational specialisation persisted across generations, and that marriage practices reinforced the social and economic insulation of each group.

The classical *varna* order, comprising Brahmins, Kshatriyas, Vaishyas, and Shudras, provided the earliest organising framework for this hierarchy. Communities outside this structure, particularly those performing stigmatized manual and sanitation work, occupied the lowest social position and later came to be classified as Scheduled Castes. Over time, the broad varna categories fragmented into thousands of jatis through processes of occupational change, migration, and endogamy, creating today's complex caste landscape in which administrative categories such as OBC, SC, and ST do not map neatly onto the ancient hierarchy.

Figure 2 is an attempt to represent the caste hierarchy and situate OBCs and other groups within it. The upper three varnas, Brahmins, Kshatriyas, and Vaishyas, together form the Forward Castes and have historically been associated with priestly, warrior, and trading occupations. The Shudras, located below them, correspond broadly to the OBCs. This category spans a wide range of social and economic positions and includes both dominant agrarian jatis such as Yadavs and Kurmis and marginalized service and artisanal jatis such as Dhobis, Nais, Gouds, and Nishads. Below the varna system are Dalits (SCs) and Adivasis (STs), groups that were historically excluded from the varna hierarchy. OBCs constitute the largest share of the population in national surveys, reflecting their demographic and political significance.

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Figure 1 traces the evolution of affirmative action policy in India since Independence. The first phase began in 1951 with reservations for SCs and STs in public employment and higher education. The second phase followed the implementation of the Mandal Commission recommendations in 1992, which extended 27 percent reservations to the OBCs in public sector jobs. The third phase, between 2006 and 2008, extended the same 27 percent quota to OBCs in central universities and elite institutions such as the Indian Institutes of Technology (IIT) and Indian Institutes of Management (IIM). While this expansion aimed to broaden access to professional and technical education, it raised questions about internal distributional patterns within the OBC bloc. Deshpande (2000) showed that within-group disparities were particularly pronounced for groups classified administratively as "Others", suggesting that elite capture, where relatively advantaged groups corner a disproportionate share of benefits, was visible in earlier phases of redistribution.

All factors point to the central question addressed in this paper. While affirmative action has expanded opportunities for historically disadvantaged groups, its benefits may not have been evenly distributed within the OBC bloc. In particular, emerging evidence suggests that dominant agrarian OBC jatis may have moved ahead more rapidly than marginalized service and artisanal OBC jatis in the post-policy period. Hence, the question I ask is whether affirmative action has advanced its redistributive objectives or whether it has inadvertently reinforced internal hierarchies.

2.2 Classification of OBCs into Elite and non-elite groups.

Administrative evidence from the Government of India's Commission to Examine Sub-Categorisation of Other Backward Classes indicates that reservation benefits are highly concentrated among a small subset of OBC communities (Government of India, 2023). While the Commission's publicly released materials do not enumerate every jati in the top 1%, dominant agrarian groups such as Yadavs and Kurmis are commonly highlighted in policy discussions on overrepresentation, consistent with political economy research on OBC stratification (Jaffrelot, 2003; Chandra, 2004; Jensenius, 2017). Following this, I classify dominant agrarian jatis such as Yadavs and Kurmis as elite OBCs, consistent with the approach used by Jaffrelot (2003) and Singh (2025). Political economy research documents that dominant agrarian OBC jatis such as Yadavs and Kurmis have consolidated economic and political power in North India, distinguishing them sharply from smaller service and artisanal

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OBC groups, characteristics that increase their ability to benefit from redistributive policies (Jaffrelot, 2003; Chandra, 2004; Jensenius, 2017).

Although Singh (2025) includes Jats in the elite OBC category, I exclude them because Jats were granted OBC status only in 2014 through a central government notification that was subsequently overturned by the Supreme Court in 2016 (Deshpande and Ramachandran, 2017). Robustness checks include the same specifications with Jats included in the elite OBCs.

The non-elite group includes the remaining OBC sub-castes. These consist largely of service and artisanal castes such as Dhobis, Nais, Gouds, Nishads, and Doms, along with numerous smaller sub-castes that share similar socio-economic characteristics. These groups tend to have limited land ownership and weaker political representation compared to elite OBC groups.

Focusing on this internal heterogeneity allows me to examine whether affirmative action has been disproportionately captured by elite sub-castes. This question is central to evaluating the effectiveness of OBC reservations. The creamy layer principle was introduced precisely to prevent the concentration of policy benefits among better-off sub-castes. Creamy layer refers to cases where a relatively privileged subset within a disadvantaged category appropriates a large share of the benefits. Although OBC reservations were designed to reduce caste inequality, existing evidence suggests that such policies may shift inequality to the sub-caste level. Using a DiD framework, I assess whether the gap between elite and non-elite OBCs widened after the 2006 expansion and whether affirmative action has achieved its redistributive intent or has instead reinforced intra-group inequality.

3. Data and Descriptives

3.1 Data

The analysis uses the India Human Development Survey (IHDS), a nationally representative panel that records sub-caste (jati) affiliation across India. The survey was jointly implemented by National Council of Applied Economic Research (NCAER) and the University of Maryland and provides detailed information on education, income, demography, and community characteristics (Desai et al., 2008; Desai et al., 2015). IHDS-I (2004–05) interviewed 41,554 households and 215,754 individuals (ICPSR Study 22626, Release 3, February 17, 2010), while IHDS-II (2011–12) successfully re-interviewed 85 percent of the original households, yielding a panel of 42,152 households (ICPSR Study 36151). The survey comprised multiple

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modules, including household, individual, education, health, village, and primary school questionnaires. I use the household and individual files in this study.

Individual and household files within each wave were merged and appended across waves to construct a two-period panel at the individual level. The resulting dataset permits comparisons of educational attainment before and after the 2006 expansion of OBC reservations while holding constant household and geographic characteristics. Table 11 reports summary statistics. The sample contains 274,639 individuals, of whom 38.1 percent are Forward Castes, 3.1 percent are elite OBC jatis, and 58.8 percent are non-elite OBC jatis.

3.2 Outcome Variables

Four education outcomes are examined. (1) Completed years of education is a continuous variable ranging from 0 to 16. (2) School enrolment is a binary indicator equal to one if the individual was enrolled at the time of survey. (3) College degree attained captures entry into tertiary education. (4) Literacy is a binary measure of the ability to read and write in any language. These outcomes span the education distribution from basic literacy to higher-education entry and allow assessment of policy effects on both access and progression.

3.3 Control Variables

The control vector X_{ijdst} includes gender, age, education of the household head, number of children in the household, and per capita household consumption expenditure. These controls account for demographic structure and socioeconomic status that strongly influence educational outcomes.

4. Empirical Strategy

4.1 Specifications

First, to establish the context of caste-based disparities, equation (1) estimates educational inequalities across the four major caste groups, using Forward Castes as the reference category, and examines how these disparities evolved following the 2006 policy expansion.

$$Y_{ijdst} = \alpha_0 + \alpha_1 \left(caste_obc_{ijdst}.post_t\right) + \alpha_2 \left(caste_sc_{ijdst}.post_t\right) + \alpha_3 \left(caste_st_{ijdst}.post_t\right) + \alpha_4\, caste_obc_{ijdst} + \alpha_5\, caste_sc_{ijdst} + \alpha_6\, caste_st_{ijdst} + \alpha_7\, post_t + \alpha_8\, X_{ijdst} + \delta_d + \epsilon_{ijdst} \quad (1)$$

In this specification, Y_{ijdst} denotes the educational outcome of an individual i belonging to caste group j, in district d, state s, and survey round t. The variables $caste_obc_{ijdst}$, $caste_sc_{ijdst}$, and $caste_st_{ijdst}$ are indicator variables equal to one for individuals belonging to the OBC, SC, and ST categories respectively, and zero otherwise. The variable $post_t$ equals one for the post-policy period ($t \geq 2006$) and zero for the pre-policy period.

The coefficients α_4, α_5, and α_6 show pre-policy differences in educational outcomes between OBC, SC, and ST individuals relative to Forward Castes. The interaction term coefficients α_1, α_2 and α_3 identify the differential change in these outcomes for each caste group following the 2006 quota expansion, relative to the change observed for Forward Castes over the same period. The vector X_{ijdst} includes individual and household characteristics, and δ_d denotes district fixed effects that absorb all time-invariant district attributes, thereby comparing individuals within the same district. Standard errors are clustered at the PSU (Primary Sampling Unit) level, consistent with the two-stage sampling design of the IHDS, as recommended in Abadie (2017).

Secondly, to assess within-group inequalities among OBCs due to policy effect, we further classify OBCs into *elite* and *non-elite* subgroups and estimate:

$$Y_{ijdst} = \beta_0 + \beta_1 \left(elite_OBC_{ijdst}.post_t\right) + \beta_2\left(non_elite_OBC_{ijdst}.post_t\right) + \beta_3\, elite_OBC_{\ ijdst} + \beta_4\, non_elite_OBC_{\ ijdst} + \beta_5\, post_t + \beta_6 X_{ijdst} + \delta_d + \epsilon_{ijdst} \quad (2)$$

In this specification, Y_{ijdst} denotes the educational outcome of individual i, belonging to caste group j, in district d, state s, and survey round t. The analysis restricts the sample to Forward Castes and OBCs, so observations belonging to Scheduled Castes and Scheduled Tribes are excluded. The variables $elite_OBC_{ijdst}$ and $non_elite_OBC_{ijdst}$ are indicator variables that take the value one for members of elite and non-elite OBC sub-castes respectively, and zero for Forward Castes, which serves as the reference category in line with recent literature on caste hierarchies (Deshpande & Ramachandran, 2024). The variable $post_t$ equals one in the post-policy period, defined as 2006 and later, and zero in the pre-policy period.

The coefficients $\beta_3$and β_4 capture pre-policy differences in educational outcomes between elite and non-elite OBC sub-castes relative to Forward Castes. The interaction terms with $post_t$identify the differential change in outcomes for each OBC subgroup after 2006, relative to Forward Castes in the same period. The vector X_{ijdst} includes individual and household covariates, and δ_d denotes district fixed effects. Standard errors are clustered at the PSU level, consistent with the IHDS sampling design.

Basant and Sen (2020) emphasize that states differ markedly in their histories of affirmative action, and these differences shape both baseline educational inequalities and the extent to which OBC quotas were already saturated before the 2006 reform. The eastern states experienced a comparatively recent adoption of OBC reservations, so they retained greater headroom for new beneficiaries. In contrast, the southern states have a long history of extensive OBC quotas, often near full utilization, which implies a limited scope for additional gains. These differences motivate a triple difference specification that compares the post-policy change in the East, where the quota expansion was effectively new, with the South, where OBC reservations were already well established.

To exploit this variation, we extend the difference in differences (DiD) framework to a difference in difference in differences (DDD) specification that contrasts elite and non-elite OBCs across regions and cohorts with different policy histories in the equation (3) and (4) respectively:

$$
\begin{aligned}
Y_{ijdst} = {} & \gamma_0 + \gamma_1 \left(elite_OBC_{ijdst}.post_t.East_{ijdst}\right) + \\
& \gamma_2\left(non_elite_OBC_{ijdst}.post_t.East_{ijdst}\right) + \gamma_3\, elite_OBC_{ijdst} + \\
& \gamma_4\, non_elite_OBC_{ijdst} + \gamma_5\, post_t + \gamma_6\, East_{ijdst} + \gamma_7 \left(elite_OBC_{ijdst}.post_t\right) + \\
& \gamma_8\left(post_t.East_{ijdst}\right) + \gamma_9 \left(elite_OBC_{ijdst}.East_{ijdst}\right) + \\
& \gamma_{10} \left(non_elite_OBC_{ijdst}.post_t\right) + \gamma_{11} \left(non_elite_OBC_{ijdst}.East_{ijdst}\right) + \\
& \gamma_{12} X_{ijdst} + \delta_d + \epsilon_{ijdst}
\end{aligned}
\tag{3}
$$

All variables are defined as before. The variable $East_{ijdst}$equals one for individuals residing in eastern states and zero for those in southern states. The coefficient of interest is γ_1 and γ_2, which captures the post-policy change in educational outcomes for elite OBC and non-elite OBC groups in the East relative to the South. This parameter indicates whether the 2006 expansion generated larger gains in regions where OBC quotas were newly introduced

compared with regions where reservation provisions had a much longer history of implementation, consistent with Sen and Basant (2020).

$$
\begin{aligned}
Y_{ijdst} = {} & \theta_0 + \theta_1 \left(elite_OBC_{ijdst}.post_t.Young_{ijdst}\right) + \\
& \theta_2\left(non_elite_OBC_{ijdst}.post_t.Young_{ijdst}\right) + \theta_3\, elite_OBC_{ijdst} + \\
& \theta_4\, non_elite_OBC_{ijdst} + \theta_5\, post_t + \theta_6\, Young_{ijdst} + \theta_7 \left(elite_OBC_{ijdst}.post_t\right) + \\
& \theta_8\left(post_t.Young_{ijdst}\right) + \theta_9 \left(elite_OBC_{ijdst}.Young_{ijdst}\right) + \\
& \theta_{10} \left(non_elite_OBC_{ijdst}.post_t\right) + \theta_{11} \left(non_elite_OBC_{ijdst}.Young_{ijdst}\right) + \\
& \theta_{12} X_{ijdst} + \delta_d + \epsilon_{ijdst} \qquad (4)
\end{aligned}
$$

Equation (4) estimates a cohort-based DDD specification that compares individuals aged 18–23 in 2006 (who reached higher-education eligibility immediately after the AA policy) with those aged 24–29 (whose higher-education decisions were completed before the reform). The coefficients $\theta_1$and θ_2 identifies how the post-policy young–old gap for elite and non-elite OBCs differs from the corresponding young–old gap for Forward Castes.

4.2 Identification Strategy

The identification strategy builds on the empirical framework developed by Basant and Sen, who evaluate the 2006 expansion of OBC reservations in higher education by exploiting policy variation across caste groups and across regions with different histories of affirmative action. They rely on DiD method that compares OBCs with Forward Castes before and after the reform, together with additional regional variation in the timing and intensity of quota implementation. I adapt this framework to examine multiple education and school-level outcomes, incorporate a sub-caste classification within the OBC category, and use two rounds of the IHDS rather than the repeated NSS waves used in their study.

The central premise is that, if the 2006 expansion increased access to education, outcomes for OBCs should improve more than outcomes for Forward Castes after the reform. Identification therefore comes from two sources of variation using DiD estimates. The first is the change across survey rounds (pre-2006 versus post-2006). The second is the difference across social groups, where the reference group is Forward Castes. Equation (1) compares OBC, SC, and ST individuals with Forward Castes, while equation (2) focuses on Elite and Non-Elite OBC jatis relative to Forward Castes. In both cases, the interaction of caste/sub-caste status with the post-

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policy captures the differential change in educational outcomes for newly eligible OBC group relative to those who were not affected by the reform.

The validity of the difference in differences framework relies on parallel pre-policy trends. Because IHDS provides only two survey waves, the standard two-period pre-trend test is infeasible. I therefore construct cohort-by-caste profiles following the approach in Duflo (2001). The identifying assumption is that, absent the reform, educational trajectories of younger and older cohorts would have evolved similarly across caste and sub-caste groups. Cohort trends plotted in Figure 3 and Figure 4 supports this assumption. Pre-1990 birth cohorts show parallel trajectories across Forward Castes and OBC/SC/ST in Figure 4, and between Forward Castes and the two OBC sub-groups in Figure 3, although levels differ. These descriptive patterns align with the empirical estimates from equations (1) and (2), where the interaction between sub-caste status and the post-policy period captures the differential impact of the reform.

The magnitude of the policy's effect may vary across regions due to differences in the history and intensity of OBC quota implementation. Southern states introduced OBC reservations much earlier and at higher quota levels than eastern states, which implies less available seats in higher education for new beneficiaries in the South when the 2006 reform was passed. It provides evidence on whether post-policy changes were systematically larger in regions where OBC quotas were newly expanded than in regions where quotas had been long established. This design captures differential treatment effects, not treatment dosage, unless one can directly measure the degree of saturation. Equation (3) therefore serves as an extension that isolates whether the east–south contrast reinforces the patterns observed in the baseline DiD estimates.

The Northeast is not included in regional DDD estimation based on previous literature (Basant & Sen, 2020). OBC population shares are almost negligible in this region, which is insufficient for jati-disaggregated analysis. Because district fixed effects absorb all time-invariant district characteristics, identification comes from within-district changes across caste and sub-caste groups over time. Dropping the Northeast therefore affects only sample composition, so the main estimates remain substantively unchanged. Robustness checks with the Northeast region included will be shown.

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I also estimate a complementary cohort-based specification. Since IHDS-II was fielded in 2011–12, the data only permit short-run enrolment responses to the 2006 expansion. Individuals aged 18–23 in 2011–12 form the treated cohort that was of higher education entry age in the years immediately following the reform. Individuals aged 24–29 form the control cohort that had largely completed their higher education decisions prior to the policy. Unlike Deshpande and Ramachandran (2024), who use 2019 data to examine medium-run impacts of the 2006 reform on completed educational attainment, our study leverages IHDS-II (2011–12) to capture the short-run enrolment response.

Finally, to improve precision, observed individual and household characteristics are included in all specifications. These covariates adjust for compositional differences that may influence enrolment and attainment.

5. Results

5.1 Double Difference Estimates

Table 1 reports the DiD estimates of the impact of the 2006 quota expansion on completed years of education for OBCs, SCs, and STs relative to Forward Castes. Columns 1 and 3 present the baseline specification and the preferred specification with controls and district fixed effects respectively. In Column 3, the pre-policy coefficients show significant initial deficits for all three groups. Relative to Forward Castes, OBCs had 0.553 fewer years of schooling before the reform, while the gaps for Scheduled Castes and Scheduled Tribes were 0.785 and 0.865 years.

The post-policy interaction terms are positive and statistically significant for all caste groups. OBCs gained 0.113 additional years of completed education relative to Forward Castes, an improvement of 4.8 percent when benchmarked against the Forward Caste endline mean. SCs and STs experienced gains of 7.4 percent and 7.0 percent. Although the quota expansion formally targeted only OBCs, the gains for SCs and STs may reflect other nationwide school-access policies, including the 2009 Right to Education Act, which will be further investigated and ruled out using cohorts not exposed to the 2009 Act in Robustness analysis.

The main results are shown in Table 5 disaggregating the OBC category into Elite and Non-Elite jatis to examine internal redistribution after the reform. Column 3 presents the preferred specification with the full set of controls and fixed effects. The pre-policy coefficients indicate

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that Elite OBCs had 0.859 fewer years of schooling than Forward Castes, while Non-Elites had a deficit of 0.475 years.

The post-policy interaction terms show sharp divergence within the OBC bloc. Elite groups experienced a 0.332-year increase in completed years of education after the reform, compared with 0.082 years for non-elite jatis. When expressed relative to the Forward Caste endline mean, these correspond to gains of 16.4 and 4.1 percent, respectively. An F-test rejects equality of these effects at the 1 percent level. The magnitude of the difference implies that elite OBCs captured benefits approximately four times larger than that of non-elite OBCs.

The results indicate that the 2006 expansion of OBC reservations narrowed average caste gaps in schooling but generated substantial heterogeneity within the OBC category. Dominant jatis experienced the bulk of the gains. These patterns are consistent with broader evidence on caste-linked structural advantage. Cassan et al. (2021) show that occupational sorting along jati lines persists even under conditions of legal equality, and Deshpande and Ramachandran (2024) document that individuals from backward-caste backgrounds remain concentrated in the lowest-return segments of the labor market. The results here suggest that the same structural forces shape who is able to translate affirmative action opportunities into actual educational outcomes.

I also test the same DiD model with school enrolment, highest degree attained and literacy in Table 2, Table 3 and Table 4 respectively. Before the reform, OBCs, SCs, and STs had significantly lower enrolment rates than Forward Castes. The post-policy interaction terms reveal that enrolment significantly increased for OBCs by about 1.2 percentage points relative to Forward Castes. The coefficients for SCs and STs are small and statistically insignificant. Similarly for literacy levels state that before the reform, disadvantaged groups lagged Forward Castes across these outcomes: literacy gaps were 14 percentage points for OBCs, 21 points for SCs, and 25 points for STs. Post-policy interaction terms show that literacy improved for all groups, by 2.7 percentage points for OBCs, 3.6 for SCs, and 3.2 for STs.

Table 6 , Table 7 and Table 8 repeat this analysis for Elite and Non-Elite OBC jatis. The pre-policy gaps in enrolment remain substantial for both groups. The post-policy interaction coefficient shows that enrolment rose by about 3.8 percentage points among Elite OBCs and by about 0.9 percentage points among Non-Elite OBCs relative to Forward Castes. The F-test rejects equality of effects between elite and non-elite groups. Elite OBCs experienced a 5.7-

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percentage-point rise in literacy and a 0.13-point increase in the probability of completing a college degree, while non-elite jatis saw gains of only 2.5 percentage points in literacy and negligible changes in college attainment. Consistent with the main results, the relative gains for Elites significantly exceed those for Non-Elites, reinforcing inequalities within the OBC bloc.

5.2 Triple Difference Estimates

The triple-difference (DDD) analysis uses regional and cohort-based variation in exposure to the 2006 AA reform.

Table 9 presents the regional DDD estimates comparing the East, where OBC participation in higher education expanded only recently, with the South, where affirmative action systems were already mature. In the pre-policy period, OBCs, particularly Non-Elite jatis, had substantially lower attainment than Forward Castes in both regions. The triple-interaction coefficients in Column 3 are positive and statistically significant. Elite OBCs in the East gained 1.884 years relative to elite OBCs in the South, which corresponds to an increase of about 76.9 percent when benchmarked against the Forward Caste endline mean of 2.451 years. Non-elite OBCs in the East gain an additional 0.481 years relative to non-elite OBCs in the South, amounting to an improvement of roughly 19.6 percent relative to the same benchmark. However, these two coefficients- γ_1 and γ_2 are not significantly different from each other.

Table 10 reports the cohort-based DDD estimates. Individuals aged 18 to 23 at the time of the reform form the treated cohort, while those aged 24 to 29 serve as controls who had already passed the higher-education entry window. The triple-interaction coefficient is positive and statistically significant for Elite OBCs, with an estimate of about 0.038. This indicates that the post-policy increase in secondary-school completion for younger Elite jatis was 3.8 percentage points larger than the corresponding young–old difference among Forward Castes. For Non-Elite OBCs, the change is significant at 1.8 percentage points compared to Forward Castes. However, these two coefficients- θ_1 and θ_2 are not significantly different from each other.

6. Mechanisms

Potential Mechanisms still to be investigated include labour market expectations. The evidence on school enrolment and educational attainment suggests that the reform shifted expectations

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about the returns to higher education, particularly among Elite groups who were better positioned. These anticipatory responses plausibly due to perceptions of improved future labour-market prospects likely underpin the observed gains in completed years of education, a channel that warrants further investigation.

7. Conclusion

The findings show that the 2006 expansion of higher education AA policy reduced gaps between OBCs and Forward Castes but increased inequality within the OBC category. Elite jatis experienced gains that were nearly four times larger than those of non-elite jatis, consistent with strong evidence of elite capture in the distribution of policy benefits. The triple-difference estimates indicate that these gains were concentrated among younger cohorts and in eastern states where higher-education access had expanded more slowly. Although these cohort and region-based heterogeneities are not significantly different for Elite and Non-Elite groups. The mechanism underlying these effects appears to operate through differential labour market expectations and channels like differences in networks, which remains to be examined.

Future work will exploit IHDS-III to study intergenerational inequality and long-run outcomes. With two post-policy waves and a ten-year interval between Waves II and III, the panel will allow analysis of labour-market trajectories, mobility, and the role of local networks using restricted hamlet-level IHDS data once access is secured (access pending)**.**

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Figure 1. Timeline of Affirmative Action (Bhattacharjee, 2018)

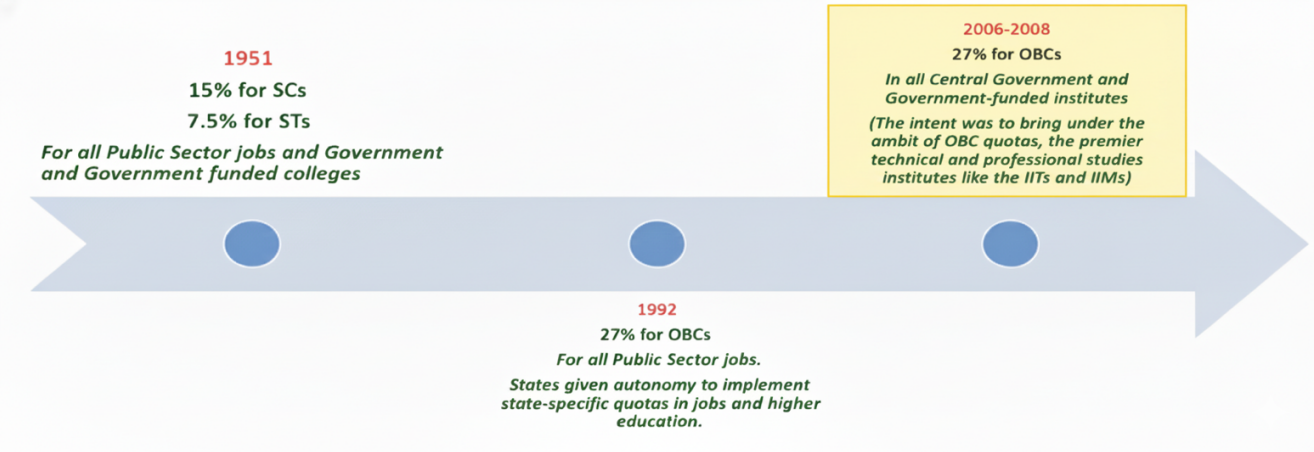


Figure 2. Caste Hierarchy

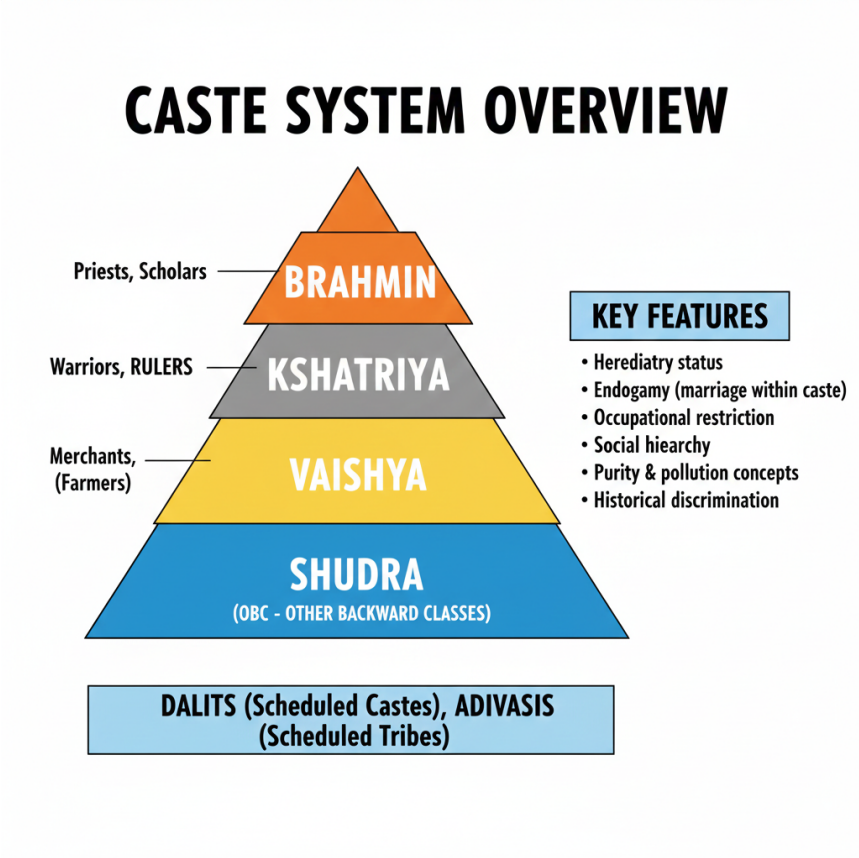
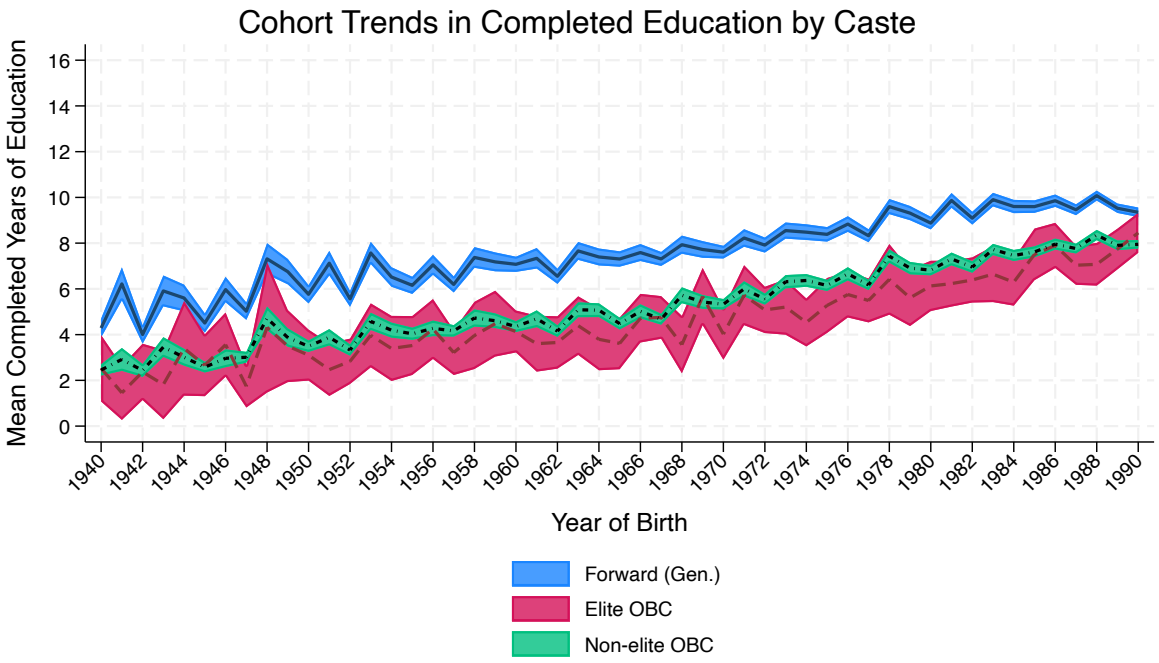
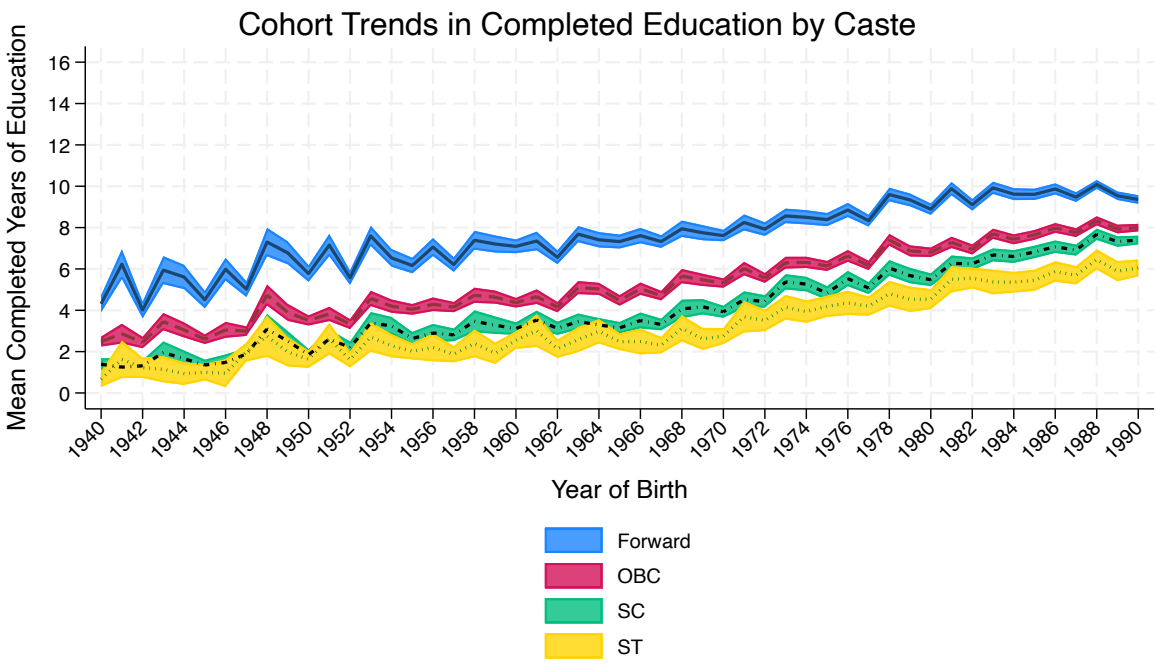


Figure 3. Parallel trends according to year of birth cohort



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Figure 4. Parallel trends according to year of birth cohort



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Table 1. Double difference (DD) estimates of impact of being exposed to the AA on completed years of education (0 to 16) for four broader caste groups

VARIABLES	(1) Completed years of education	(2) Completed years of education	(3) Completed years of education
OBC	-1.978***	-0.558***	-0.553***
	(0.079)	(0.036)	(0.035)
SC	-2.741***	-0.785***	-0.785***
	(0.080)	(0.037)	(0.037)
ST	-3.126***	-0.778***	-0.865***
	(0.136)	(0.059)	(0.054)
Post	0.238***	-0.239***	-0.230***
	(0.075)	(0.035)	(0.035)
OBC X Post	0.400***	0.101***	0.113***
	(0.084)	(0.038)	(0.037)
SC X Post	0.561***	0.170***	0.175***
	(0.083)	(0.041)	(0.040)
ST X Post	0.546***	0.144**	0.165***
	(0.140)	(0.065)	(0.062)
Constant	6.422***	2.356***	2.367***
	(0.073)	(0.051)	(0.050)
Observations	394,401	394,322	394,322
R-squared	0.048	0.317	0.318
Controls	No	Yes	Yes
District fixed effects	No	No	Yes

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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Table 2. Double difference (DD) estimates of impact of being exposed to the Act on school enrolment (No/Yes) for four broader caste groups

	(1)	(2)	(3)
VARIABLES	School enrolment	School enrolment	School enrolment
OBC	0.037***	-0.039***	-0.040***
	(0.005)	(0.003)	(0.003)
SC	0.084***	-0.047***	-0.047***
	(0.005)	(0.004)	(0.004)
ST	0.084***	-0.042***	-0.046***
	(0.010)	(0.007)	(0.007)
Post	-0.004	0.016***	0.016***
	(0.004)	(0.003)	(0.003)
OBC X Post	0.007	0.012***	0.012***
	(0.005)	(0.004)	(0.004)
SC X Post	-0.006	0.003	0.003
	(0.006)	(0.004)	(0.004)
ST X Post	-0.011	-0.009	-0.008
	(0.012)	(0.008)	(0.008)
Constant	0.351***	0.892***	0.894***
	(0.004)	(0.005)	(0.005)
Observations	271,654	271,601	271,601
R-squared	0.004	0.497	0.498
Controls	No	Yes	Yes
District fixed effects	No	No	Yes

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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Tabel 3. Double difference (DD) estimates of impact of being exposed to the Act on highest degree (None/Incomplete and Bachelors) for four broader caste groups

VARIABLES	(1) Undergrad College degree attained	(2) Undergrad College degree attained	(3) Undergrad College degree attained
OBC	-0.094***	-0.024*	-0.031**
	(0.020)	(0.014)	(0.013)
SC	-0.216***	-0.031*	-0.037**
	(0.025)	(0.019)	(0.018)
ST	-0.133***	0.020	0.007
	(0.040)	(0.027)	(0.027)
Post	0.098***	0.030**	0.020
	(0.019)	(0.014)	(0.012)
OBC X Post	0.006	0.015	0.017
	(0.022)	(0.017)	(0.016)
SC X Post	0.057**	-0.007	-0.006
	(0.028)	(0.022)	(0.021)
ST X Post	0.004	-0.077**	-0.069**
	(0.047)	(0.032)	(0.031)
Constant	0.544***	-0.594***	-0.562***
	(0.018)	(0.023)	(0.023)
Observations	26,041	26,033	26,033
R-squared	0.030	0.280	0.293
Controls	No	Yes	Yes
District fixed effects	No	No	Yes

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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Table 4. Double difference (DD) estimates of impact of being exposed to the Act on literacy (No/yes) for four broader caste groups

VARIABLES	(1) Literacy	(2) Literacy	(3) Literacy
OBC	-0.142***	-0.051***	-0.050***
	(0.007)	(0.004)	(0.004)
SC	-0.214***	-0.088***	-0.089***
	(0.007)	(0.005)	(0.005)
ST	-0.247***	-0.095***	-0.110***
	(0.014)	(0.009)	(0.008)
Post	0.019***	0.001	0.002
	(0.006)	(0.004)	(0.004)
OBC X Post	0.046***	0.025***	0.027***
	(0.007)	(0.005)	(0.005)
SC X Post	0.066***	0.035***	0.036***
	(0.007)	(0.006)	(0.006)
ST X Post	0.060***	0.029***	0.032***
	(0.014)	(0.010)	(0.009)
Constant	0.752***	0.525***	0.528***
	(0.005)	(0.006)	(0.006)
Observations	395,640	395,552	395,552
R-squared	0.025	0.167	0.170
Controls	No	Yes	Yes
District fixed effects	No	No	Yes

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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Table 5. Double difference (DD) estimates of impact of being exposed to the Act on completed years of education (0 to 16) for OBCs Jati

VARIABLES	(1) Completed years of education	(2) Completed years of education	(3) Completed years of education
Elite OBC	-3.117***	-0.860***	-0.859***
	(0.205)	(0.103)	(0.101)
Non-Elite OBC	-1.940***	-0.482***	-0.475***
	(0.079)	(0.035)	(0.035)
Post	0.238***	-0.220***	-0.211***
	(0.075)	(0.035)	(0.034)
Elite OBC X Post	0.989***	0.296***	0.332***
	(0.174)	(0.104)	(0.101)
Non-Elite OBC X Post	0.401***	0.077**	0.082**
	(0.084)	(0.037)	(0.037)
Constant	6.422***	2.018***	2.018***
	(0.073)	(0.056)	(0.056)
Observations	273,711	273,660	273,660
R-squared	0.035	0.313	0.314
Controls	No	Yes	Yes
District fixed effects	No	No	Yes
Elite OBC=Non-elite OBC (F)	13.02	4.656	6.340
p-value	0.000314	0.0311	0.0119

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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Table 6. Double difference (DD) estimates of impact of being exposed to the Act on school enrolment (No/Yes) for OBCs Jati

VARIABLES	(1) School enrolment	(2) School enrolment	(3) School enrolment
Elite OBC	0.078***	-0.040***	-0.039***
	(0.017)	(0.013)	(0.013)
Non-Elite OBC	0.036***	-0.036***	-0.036***
	(0.005)	(0.003)	(0.003)
Post	-0.004	0.018***	0.017***
	(0.004)	(0.003)	(0.003)
Elite OBC X Post	0.056***	0.046***	0.038***
	(0.017)	(0.014)	(0.014)
Non-Elite OBC X Post	0.002	0.008**	0.009**
	(0.005)	(0.004)	(0.004)
Constant	0.351***	0.876***	0.879***
	(0.004)	(0.005)	(0.005)
Observations	197,782	197,747	197,747
R-squared	0.002	0.500	0.501
Controls	No	Yes	Yes
District fixed effects	No	No	Yes
Elite OBC=Non-elite OBC (F)	10.27	7.980	4.765
p-value	0.00137	0.00477	0.0291

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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Table 7. Double difference (DD) estimates of impact of being exposed to the Act on highest degree (None/Incomplete and Bachelors) for OBCs Jati

VARIABLES	(1) Undergrad College degree attained	(2) Undergrad College degree attained	(3) Undergrad College degree attained
Elite OBC	-0.089	-0.098*	-0.129**
	(0.059)	(0.057)	(0.060)
Non-Elite OBC	-0.094***	-0.016	-0.023*
	(0.020)	(0.014)	(0.013)
Post	0.098***	0.024*	0.017
	(0.019)	(0.013)	(0.012)
Elite OBC X Post	0.061	0.123**	0.137**
	(0.065)	(0.062)	(0.066)
Non-Elite OBC X Post	0.002	0.011	0.012
	(0.022)	(0.017)	(0.016)
Constant	0.544***	-0.704***	-0.673***
	(0.018)	(0.026)	(0.025)
Observations	21,025	21,020	21,020
R-squared	0.019	0.282	0.295
Controls	No	Yes	Yes
District fixed effects	No	No	Yes
Elite OBC=Non-elite OBC (F)	0.840	3.243	3.566
p-value	0.360	0.0719	0.0591

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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Table 8. Double difference (DD) estimates of impact of being exposed to the Act on literacy (No/yes) for OBCs Jati

VARIABLES	(1) Literacy	(2) Literacy	(3) Literacy
Elite OBC	-0.246***	-0.116***	-0.117***
	(0.020)	(0.013)	(0.013)
Non-Elite OBC	-0.138***	-0.051***	-0.049***
	(0.007)	(0.004)	(0.004)
Post	0.019***	0.003	0.004
	(0.006)	(0.004)	(0.004)
Elite OBC X Post	0.097***	0.052***	0.057***
	(0.016)	(0.014)	(0.013)
Non-Elite OBC X Post	0.046***	0.025***	0.025***
	(0.007)	(0.005)	(0.005)
Constant	0.752***	0.516***	0.516***
	(0.005)	(0.006)	(0.006)
Observations	274,505	274,445	274,445
R-squared	0.018	0.152	0.154
Controls	No	Yes	Yes
District fixed effects	No	No	Yes
Elite OBC=Non-elite OBC (F)	10.38	4.041	5.566
p-value	0.00129	0.0445	0.0184

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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Table 9. DDD Region-level

VARIABLES	(1) Completed years of education	(2) Completed years of education	(3) Completed years of education
Elite OBC	-2.446**	-0.301	-0.277
	(0.950)	(0.492)	(0.521)
Non-Elite OBC	-1.462***	-0.363***	-0.317***
	(0.163)	(0.073)	(0.073)
East	0.509*	0.374***	0.334***
	(0.293)	(0.109)	(0.110)
Elite OBC X East	-0.276	-1.083*	-1.109
	(1.215)	(0.654)	(0.681)
Non- Elite OBC X East	-0.512*	-0.188	-0.150
	(0.310)	(0.123)	(0.120)
Post	0.516***	-0.148	-0.113
	(0.172)	(0.090)	(0.085)
Elite OBC X Post	0.413	-0.462	-0.553
	(0.584)	(0.615)	(0.618)
Non- Elite OBC X Post	0.127	-0.125	-0.155*
	(0.188)	(0.095)	(0.089)
East X Post	-1.560***	-0.307***	-0.319***
	(0.307)	(0.113)	(0.108)
Elite OBC X East X Post	2.038	1.718*	1.884**
	(1.894)	(0.907)	(0.908)
Non- Elite OBC X East X Post	1.333***	0.447***	0.481***
	(0.360)	(0.138)	(0.135)
Constant	6.754***	2.443***	2.451***
	(0.172)	(0.108)	(0.109)
Observations	88,180	88,151	88,151
R-squared	0.019	0.302	0.305
Controls	No	Yes	Yes

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District fixed effects	No	No	Yes

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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Table 10. DDD cohort-level Results

VARIABLES	(1) Completed higher secondary	(2) Completed higher secondary	(3) Completed higher secondary
Elite OBC	-0.012**	0.007	0.008
	(0.006)	(0.006)	(0.006)
Non-Elite OBC	-0.006**	0.005*	0.006**
	(0.003)	(0.003)	(0.003)
Young	0.049***	0.051***	0.051***
	(0.005)	(0.006)	(0.006)
Elite OBC X Young	-0.044***	-0.047***	-0.049***
	(0.012)	(0.012)	(0.012)
Non- Elite OBC X Young	-0.027***	-0.027***	-0.027***
	(0.005)	(0.005)	(0.005)
Post	0.001	0.002	0.003
	(0.003)	(0.004)	(0.004)
Elite OBC X Post	-0.004	-0.010	-0.009
	(0.006)	(0.007)	(0.007)
Non - Elite OBC X Post	0.000	-0.001	-0.001
	(0.003)	(0.003)	(0.003)
Young X Post	-0.032***	-0.039***	-0.039***
	(0.006)	(0.006)	(0.006)
Elite OBC X Young X Post	0.035***	0.037***	0.038***
	(0.013)	(0.013)	(0.013)
Non - Elite OBC X Young X Post	0.019***	0.018***	0.018***
	(0.007)	(0.007)	(0.007)
Constant	0.017***	-0.029***	-0.028***

	(0.002)	(0.010)	(0.010)
Observations	46,937	46,930	46,930
R-squared	0.010	0.027	0.031
Controls	No	Yes	Yes
District fixed effects	No	No	Yes
DDD diff (F)	1.783	2.503	2.674
p-value	0.182	0.114	0.102

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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Table 11. Descriptives

	Frequency	Percent	Cumulative (%)
Forward Caste	104,756	38.14	38.14
Elite OBC	8,413	3.06	41.21
Non-Elite OBC	161,470	58.79	100.00
Total	274,639	100.00	

Variable	**Obs**	**Mean**	**Std. dev.**	**Min**	**Max**
Completed years of education	2,14,399	4.673716	4.680277	0	15
School enrolment	1,43,347	0.3906186	0.4878907	0	1
Literacy	2,15,751	0.6220226	0.5368175	-3	1
Undergrad College degree attained	14,301	0.4652122	0.4988058	0	1
male	2,15,754	0.5089361	0.4999213	0	1
Age	2,15,754	27.34663	19.34841	0	116
HH Edu	2,15,754	7.80735	5.012765	-4	15
N0. of CHILDREN	2,15,754	2.19595	1.860615	0	17
COPC	2,15,754	10252.82	10332.57	0	471276

Variable	**Obs**	**Mean**	**Std. dev.**	**Min**	**Max**
Completed years of education	2,04,336	5.31989	4.883409	0	16
School enrolment	1,45,326	0.3850653	0.4866124	0	1
Literacy	2,04,376	0.684278	0.4648039	0	1
Undergrad College degree attained	13,588	0.5819105	0.4932632	0	1
male	2,04,569	0.4989123	0.5	0	1
Age	2,04,565	29.82206	20.36268	0	99
HH Edu	2,04,538	8.70427	4.957438	0	16
N0. of CHILDREN	2,04,568	1.838846	1.664096	0	18
COPC	2,04,478	24323.12	26187.57	180	1461484

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Table 12. Cohort based Heterogeneity for Completed years of education

	(1) Completed years of education	(2) Completed years of education	(3) Completed years of education
Elite OBC	-3.474***	-1.764***	-1.769***
	(0.276)	(0.152)	(0.151)
Non-Elite OBC	-2.576***	-1.355***	-1.348***
	(0.107)	(0.065)	(0.064)
Post	0.050	-0.234***	-0.226***
	(0.084)	(0.056)	(0.055)
Elite OBC X Age (15-18) X Post	1.129***	0.827**	0.845**
	(0.380)	(0.349)	(0.348)
Elite OBC X Age (19-23) X Post	1.212***	0.961***	0.996***
	(0.466)	(0.334)	(0.336)
Elite OBC X Age (24-29) X Post	0.920*	0.638*	0.621*
	(0.500)	(0.341)	(0.340)
Non-Elite OBC X Age (15-18) X Post	0.546***	0.451***	0.462***
	(0.118)	(0.111)	(0.111)
Non-Elite OBC X Age (19-23) X Post	0.527***	0.413***	0.411***
	(0.143)	(0.107)	(0.107)
Non-Elite OBC X Age (24-29) X Post	0.198	0.163	0.164
	(0.148)	(0.103)	(0.103)
Constant	6.940***	6.602***	6.581***
	(0.103)	(0.081)	(0.080)
Observations	273,711	273,660	273,660
R-squared	0.316	0.572	0.573
Controls	No	Yes	Yes
DistrictFE	No	No	Yes
Elite=Non-elite in 15-18 (post) F	4.751	8.373	7.392
p-value	0.0294	0.00384	0.00660
Gap (post) 19-23			-0.224
Gap (post) 24-29			-0.225

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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