

Class in Caste: Inequalities in Human Capital Investments in Children in India

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Role of Expenditure in Education

- Access to school
- Learning environment
- Learning stimulation; Motor and social development; Cognitive ability
- Learning outcomes
- Other educational achievements

Caste: An axis of inequality

- Wealth inequality
- Income inequality
- Educational attainment
- Occupational mobility
- Digital Divide
- Convergence

Data

- NSS' Household Social Consumption: Education from 2007-08 and 2017-18
- Outcome Variable: Per Child Annual Educational Expenditure (PCEE)
- Educational Expenditure: Course fee (tuition fee, exam fee, other Fee) and expenditure on Books; Stationery; Uniform; Transport; Private Coaching
- Group variable: Caste (Scheduled Tribe and Scheduled Caste (ST/SC); Other Backward Class (OBC); Other)
- Individual characteristics: Age; Sex; Level of education
- Household level characteristics: Monthly per capita expenditure; Education level of the head of the household; Sex of head of the household; Number of children in the household
- Location: Sector and State

Sample Restrictions

- Age: 5 to 29 years
- Currently enrolled children
- Level of education: Primary to Higher Secondary
- Type of institute: Government (Public) and Private
- Sample Size: 80,929 observations in 2007 and 95,177 observations in 2017.

Methods

- Inverse Hyperbolic Sine (IHS) transformation
- Oaxaca-Blinder decomposition using Recentered Influence Function (RIF)
- Propensity Score Matching (PSM)

Results: Descriptive Statistics

Variable	2007					2017				
	Others Mean/SD (1)	ST/SC Mean/SD (2)	OBC Mean/SD (3)	t-statistics (1)-(2)	t-statistics (1)-(3)	Others Mean/SD (4)	ST/SC Mean/SD (5)	OBC Mean/SD (6)	t-statistics (4)-(5)	t-statistics (4)-(6)
IHS of PCEE	9.023 [0.010]	7.74 [0.009]	8.071 [0.007]	1.283***	0.952***	9.524 [0.011]	8.098 [0.008]	8.573 [0.007]	1.426***	0.951***
IHS of income	8.202 [0.004]	7.717 [0.003]	7.845 [0.003]	0.485***	0.357***	8.433 [0.004]	7.973 [0.003]	8.104 [0.002]	0.460***	0.329***
Age	11.366 [0.027]	10.71 [0.021]	10.804 [0.019]	0.656***	0.562***	11.669 [0.026]	11.22 [0.019]	11.245 [0.017]	0.449***	0.424***
Primary	0.44 [0.004]	0.562 [0.003]	0.54 [0.003]	-0.122***	-0.100***	0.413 [0.004]	0.479 [0.003]	0.469 [0.002]	-0.066***	-0.056***
Middle	0.28 [0.003]	0.268 [0.003]	0.254 [0.002]	0.012***	0.027***	0.245 [0.003]	0.252 [0.002]	0.25 [0.002]	-0.007*	-0.005
Secondary	0.166 [0.003]	0.115 [0.002]	0.133 [0.002]	0.051***	0.033***	0.184 [0.003]	0.163 [0.002]	0.163 [0.002]	0.021***	0.020***
H. secondary	0.113 [0.002]	0.056 [0.001]	0.073 [0.001]	0.058***	0.040***	0.158 [0.003]	0.105 [0.002]	0.118 [0.002]	0.052***	0.040***
ToI: Private	0.477 [0.004]	0.182 [0.002]	0.305 [0.002]	0.295***	0.172***	0.556 [0.004]	0.234 [0.002]	0.389 [0.002]	0.323***	0.167***
MoI: English	0.262 [0.003]	0.065 [0.001]	0.099 [0.002]	0.197***	0.163***	0.411 [0.004]	0.143 [0.002]	0.216 [0.002]	0.268***	0.195***
Coaching	0.286 [0.003]	0.134 [0.002]	0.146 [0.002]	0.152***	0.140***	0.331 [0.003]	0.162 [0.002]	0.188 [0.002]	0.169***	0.143***
Household head										
Not literate	0.158 [0.003]	0.433 [0.003]	0.334 [0.003]	-0.275***	-0.176***	0.132 [0.002]	0.371 [0.003]	0.285 [0.002]	-0.240***	-0.154***
Primary	0.216 [0.003]	0.291 [0.003]	0.286 [0.002]	-0.075***	-0.069***	0.184 [0.003]	0.257 [0.002]	0.244 [0.002]	-0.074***	-0.060***

Results: Descriptive Statistics

Variable	2007					2017				
	Others Mean/SD (1)	ST/SC Mean/SD (2)	OBC Mean/SD (3)	t-statistics (1)-(2)	t-statistics (1)-(3)	Others Mean/SD (4)	ST/SC Mean/SD (5)	OBC Mean/SD (6)	t-statistics (4)-(5)	t-statistics (4)-(6)
HH:Middle	0.193 [0.003]	0.14 [0.002]	0.182 [0.002]	0.052***	0.011***	0.158 [0.003]	0.168 [0.002]	0.184 [0.002]	-0.009***	-0.026***
Secondary	0.188 [0.003]	0.072 [0.002]	0.108 [0.002]	0.116***	0.080***	0.205 [0.003]	0.106 [0.002]	0.149 [0.002]	0.099***	0.056***
H. secondary	0.209 [0.003]	0.058 [0.001]	0.082 [0.001]	0.151***	0.127***	0.136 [0.002]	0.056 [0.001]	0.071 [0.001]	0.080***	0.065***
Graduation	0.036 [0.001]	0.006 [0.000]	0.008 [0.000]	0.030***	0.028***	0.186 [0.003]	0.042 [0.001]	0.066 [0.001]	0.144***	0.119***
NoC	2.265 [0.009]	2.347 [0.007]	2.462 [0.007]	-0.082***	-0.197***	1.99 [0.007]	2.19 [0.006]	2.235 [0.005]	-0.200***	-0.245***
Urban	0.379 [0.003]	0.16 [0.002]	0.213 [0.002]	0.219***	0.166***	0.413 [0.004]	0.164 [0.002]	0.257 [0.002]	0.249***	0.156***
N	19,364	27,672	33,952			19,670	34,282	41,225		

Source: Social consumption: education (NSS) 2007 and 2017

OLS estimates

2007

Variable	All schools (1)	Private schools (2)	Public schools (3)	English-medium private schools (4)	English-medium public schools (5)
IHS income	0.464*** (0.017)	0.579*** (0.020)	0.394*** (0.020)	0.605*** (0.020)	0.434*** (0.053)
Caste [Others] STSC	-0.248*** (0.011)	-0.205*** (0.022)	-0.244*** (0.012)	-0.188*** (0.023)	-0.190* (0.091)
OBC	-0.150*** (0.011)	-0.138*** (0.011)	-0.158*** (0.012)	-0.149*** (0.020)	-0.249** (0.086)

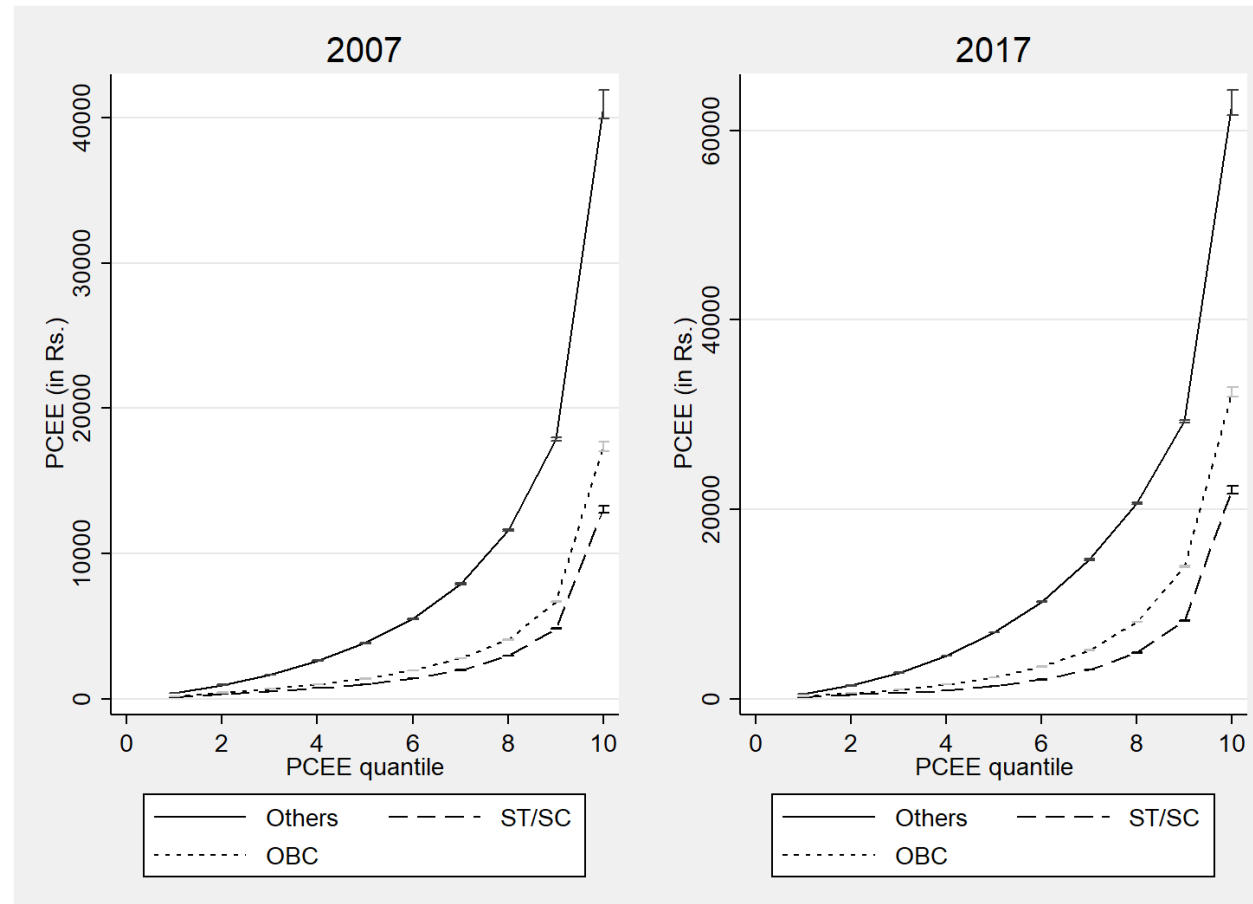
2017

Variable	All schools (1)	Private schools (2)	Public schools (3)	English-medium private schools (4)	English-medium public schools (5)
IHS income	0.403*** (0.0165)	0.447*** (0.0178)	0.344*** (0.0194)	0.441*** (0.0248)	0.328*** (0.0503)
Caste [Others] ST and SC	-0.240*** (0.0134)	-0.209*** (0.0295)	-0.205*** (0.0230)	-0.203*** (0.0256)	-0.259** (0.0794)
OBC	-0.129*** (0.0100)	-0.125*** (0.0142)	-0.122*** (0.0231)	-0.0863*** (0.0179)	-0.247*** (0.0611)

Source: Social consumption: education (NSS) 2007 and 2017

Distributional characteristics

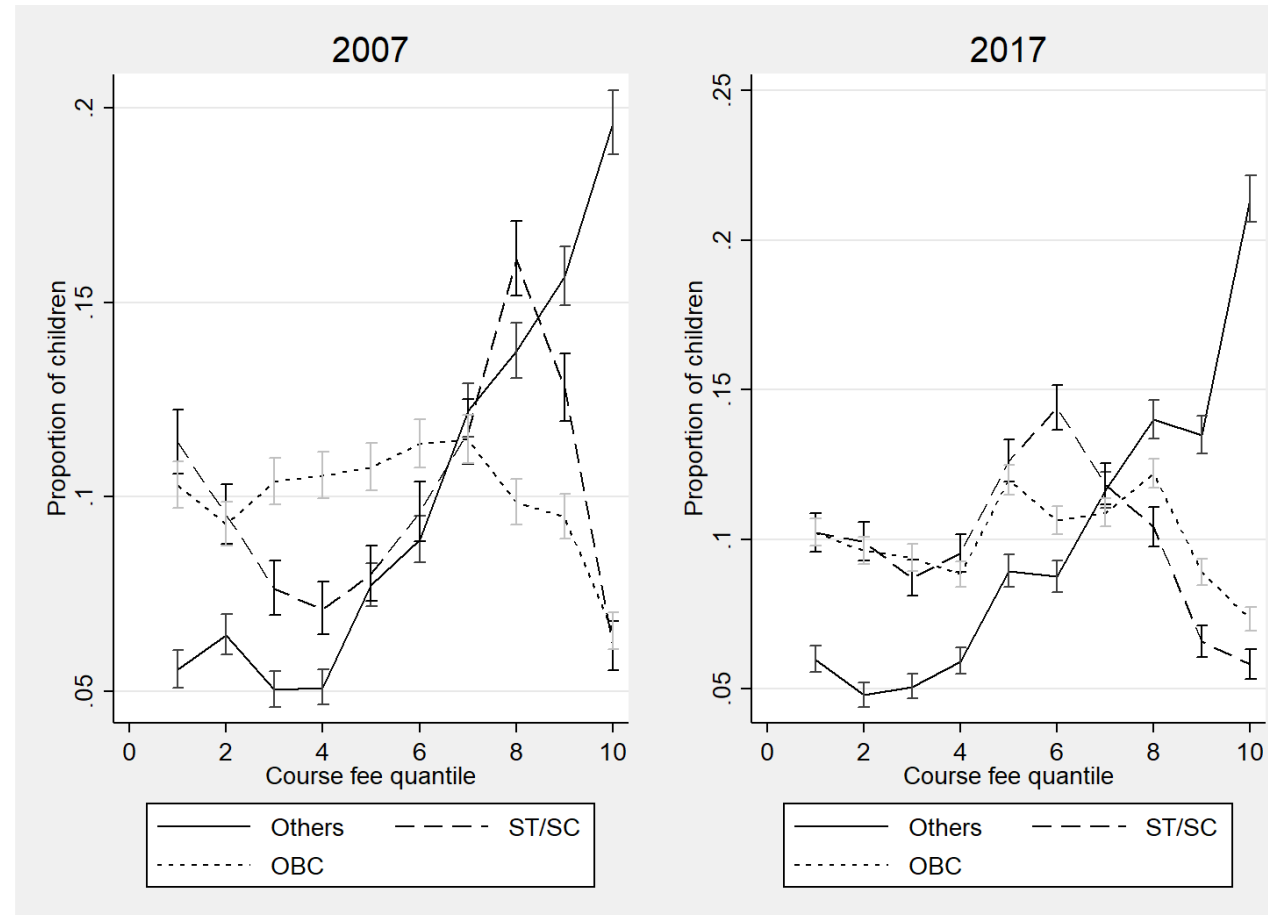
Figure: Distribution of per child educational expenditure by caste group in 2007 and 2017



Source: Social consumption: education (NSS) 2007 and 2017

Private schooling

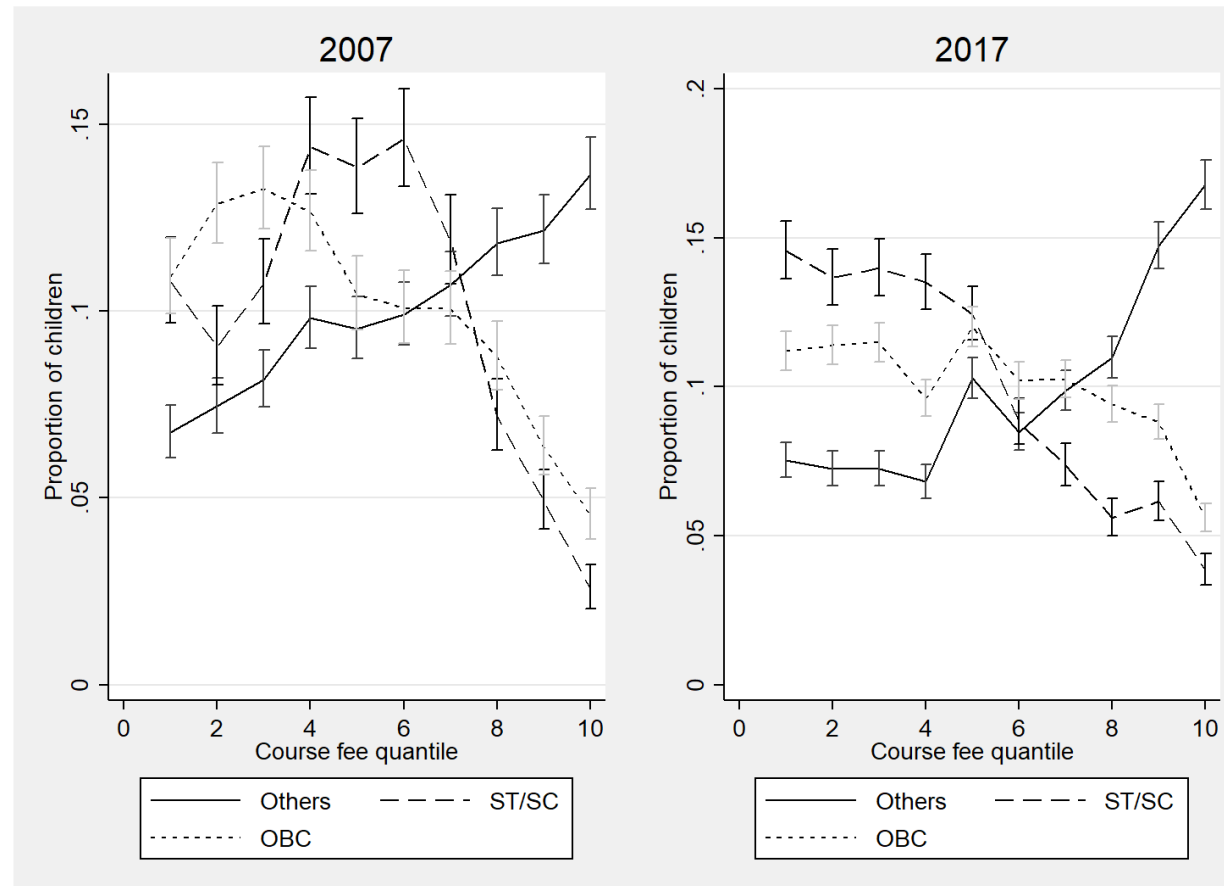
Figure: Distribution of students in private schools by course fee and caste group in 2007 and 2017



Source: Social consumption: education (NSS) 2007 and 2017

English-medium schools

Figure: Distribution of students in English-medium private schools by course fee in 2007 and 2017



Source: Social consumption: education (NSS) 2007 and 2017

UQR estimates

2007

	All schools			Private schools			Public schools		
	20	50	80	20	50	80	20	50	80
IHS Income	0.312*** (0.0555)	0.329*** (0.0309)	0.610*** (0.0413)	0.387*** (0.0411)	0.541*** (0.0231)	0.683*** (0.0323)	0.340*** (0.0627)	0.318*** (0.0347)	0.424*** (0.0446)
Caste [Others] ST/ SC	-0.211*** (0.0262)	-0.243*** (0.0198)	-0.247*** (0.0276)	-0.200*** (0.0201)	-0.198*** (0.0224)	-0.166*** (0.0282)	-0.201*** (0.0281)	-0.171*** (0.0137)	-0.276*** (0.0376)
OBC	-0.0330* (0.0145)	-0.151*** (0.0250)	-0.264*** (0.0232)	-0.0972*** (0.0186)	-0.149*** (0.0168)	-0.171*** (0.0205)	-0.0576** (0.0169)	-0.105*** (0.0152)	-0.305*** (0.0431)

2017

	All schools			Private schools			Public schools		
	20	50	80	20	50	80	20	50	80
IHS Income	0.308*** (0.046)	0.299*** (0.025)	0.518*** (0.030)	0.268*** (0.020)	0.384*** (0.027)	0.467*** (0.022)	0.311*** (0.057)	0.332*** (0.035)	0.318*** (0.036)
Caste [Others] ST and SC	-0.157*** (0.030)	-0.239*** (0.027)	-0.307*** (0.029)	-0.199*** (0.042)	-0.227*** (0.031)	-0.194*** (0.026)	-0.0805** (0.022)	-0.140*** (0.020)	-0.240*** (0.040)
OBC	0.0359 (0.022)	-0.162*** (0.023)	-0.289*** (0.032)	-0.114*** (0.016)	-0.130*** (0.026)	-0.122*** (0.024)	0.00517 (0.020)	-0.0244 (0.017)	-0.251*** (0.042)

Source: Social consumption: education (NSS) 2007 and 2017

OLS Decomposition (ST/SC vs Others)

	2007					2017				
	All schools (1)	Private Schools (2)	Public schools (3)	English-medium schools (4)	English-medium private schools (5)	All schools (6)	Private Schools (7)	Public schools (8)	English-medium schools (9)	English-medium private schools (10)
Others	9.024*** (0.123)	9.873*** (0.053)	8.250*** (0.181)	10.33*** (0.060)	10.42*** (0.069)	9.523*** (0.0821)	10.38*** (0.032)	8.446*** (0.180)	10.53*** (0.046)	10.70*** (0.053)
ST/SC	7.741*** (0.154)	9.087*** (0.055)	7.441*** (0.159)	9.573*** (0.035)	9.888*** (0.042)	8.097*** (0.137)	9.646*** (0.026)	7.625*** (0.156)	9.611*** (0.054)	10.19*** (0.056)
Difference	1.283*** (0.048)	0.786*** (0.034)	0.808*** (0.046)	0.755*** (0.046)	0.532*** (0.037)	1.426*** (0.066)	0.734*** (0.036)	0.821*** (0.046)	0.923*** (0.034)	0.513*** (0.031)
Explained	1.031*** (0.054) [80.35%]	0.586*** (0.031) [74.55%]	0.574*** (0.061) [71.04%]	0.575*** (0.050) [76.16%]	0.354*** (0.033) [66.54%]	1.180*** (0.055) [82.75%]	0.522*** (0.033) [71.11%]	0.626*** (0.051) [76.25%]	0.737*** (0.0446) [79.84%]	0.358*** (0.021) [69.79%]
Unexplained	0.252*** (0.061) [19.65%]	0.200*** (0.028) [25.44%]	0.234*** (0.030) [28.96%]	0.181*** (0.034) [23.97%]	0.178*** (0.021) [33.46%]	0.246*** (0.064) [17.25%]	0.212*** (0.030) [28.89%]	0.196*** (0.030) [23.87%]	0.186*** (0.041) [20.15%]	0.155*** (0.018) [30.21%]
Detailed decomposition										
IHS Income	0.251*** (0.010) [19.56%]	0.278*** (0.015) [35.37%]	0.143*** (0.010) [17.70%]	0.236*** (0.018) [31.26%]	0.226*** (0.020) [42.48%]	0.209*** (0.012) [14.66%]	0.224*** (0.015) [30.52%]	0.102*** (0.009) [12.42%]	0.210*** (0.017) [22.75%]	0.196*** (0.017) [38.21%]
Type of institution	0.289*** (0.023) [22.53%]			0.139*** (0.017) [18.41%]		0.497*** (0.048) [34.85%]			0.320*** (0.037) [34.67%]	
Medium of instruction	0.151*** (0.010) [11.77%]	0.162*** (0.009) [20.61%]	0.0239*** (0.005) [2.96%]			0.154*** (0.010) [10.8%]	0.144*** (0.014) [19.61%]	0.0152*** (0.004) [1.85%]		
Private coaching	0.132*** (0.009) [10.29%]	0.065*** (0.006) [8.27%]	0.168*** (0.014) [20.79%]	0.046*** (0.011) [6.11%]	0.030*** (0.008) [5.54%]	0.166*** (0.009) [11.64%]	0.060*** (0.008) [8.11%]	0.294*** (0.017) [35.81%]	0.062*** (0.008) [6.74%]	0.040*** (0.008) [7.76%]

Source: Social consumption: education (NSS) 2007 and 2017

OLS Decomposition (OBC vs Others)

	2007					2017				
	All schools (1)	Private Schools (2)	Public schools (3)	English-medium schools (4)	English-medium private schools (5)	All schools (6)	Private Schools (7)	Public schools (8)	English-medium schools (9)	English-medium private schools (10)
Others	9.024*** (0.123)	9.873*** (0.0524)	8.250*** (0.181)	10.33*** (0.0590)	10.42*** (0.069)	9.523*** (0.082)	10.38*** (0.031)	8.446*** (0.180)	10.53*** (0.044)	10.70*** (0.052)
OBC	8.071*** (0.142)	9.212*** (0.058)	7.571*** (0.161)	9.856*** (0.047)	9.956*** (0.061)	8.573*** (0.115)	9.805*** (0.037)	7.787*** (0.155)	10.13*** (0.038)	10.37*** (0.051)
Difference	0.952*** (0.031)	0.661*** (0.021)	0.679*** (0.039)	0.472*** (0.029)	0.463*** (0.029)	0.950*** (0.042)	0.576*** (0.020)	0.659*** (0.045)	0.401*** (0.027)	0.330*** (0.018)
Explained	0.789*** (0.037)	0.522*** (0.021)	0.513*** (0.045)	0.309*** (0.024)	0.315*** (0.023)	0.810*** (0.036)	0.460*** (0.016)	0.532*** (0.047)	0.292*** (0.020)	0.242*** (0.015)
	[82.88%]	[78.97%]	[75.52%]	[65.47%]	[68.03%]	[85.26%]	[79.85%]	[80.73%]	[72.82%]	[73.33%]
Unexplained	0.163*** (0.039)	0.139*** (0.021)	0.166*** (0.022)	0.163*** (0.022)	0.148*** (0.020)	0.139*** (0.035)	0.115*** (0.018)	0.127*** (0.023)	0.108*** (0.018)	0.088*** (0.016)
	[17.12%]	[21.03%]	[24.45%]	[34.53%]	[31.97%]	[14.63%]	[19.96%]	[19.27%]	[26.93%]	[26.57%]
Detailed decomposition										
IHS Income	0.164*** (0.006)	0.223*** (0.010)	0.0851*** (0.005)	0.182*** (0.013)	0.192*** (0.015)	0.127*** (0.008)	0.148*** (0.008)	0.0623*** (0.006)	0.0983*** (0.008)	0.107*** (0.008)
	[17.22%]	[33.74%]	[12.53%]	[38.56%]	[41.38%]	[13.37%]	[25.69%]	[9.45%]	[24.51%]	[32.42%]
Type of institution	0.174*** (0.015)			0.010 (0.010)		0.264*** (0.028)			0.045** (0.015)	
	[18.28%]					[27.79%]				
Medium of instruction	0.129*** (0.008)	0.150*** (0.009)	0.026*** (0.005)			0.120*** (0.008)	0.122*** (0.008)	0.015*** (0.003)		
	[13.55%]	[22.69%]	[3.78%]			[12.63%]	[21.18%]	[2.27%]		
Private coaching	0.111*** (0.007)	0.051*** (0.005)	0.159*** (0.011)	0.018*** (0.006)	0.020*** (0.006)	0.120*** (0.007)	0.047*** (0.005)	0.222*** (0.013)	0.044*** (0.007)	0.033*** (0.006)
	[11.66%]	[7.73%]	[23.42%]	[3.92%]	[6.32%]	[12.63%]	[8.17%]	[33.69%]	[10.85%]	[10.03%]

Source: Social consumption: education (NSS) 2007 and 2017

RIF Decomposition (ST/SC vs Others in 2007)

	All schools			Private schools			Public schools			English-medium private schools		
	20th (1)	50th] (2)	80th (3)	20th (4)	50th] (5)	80th (6)	20th (7)	50th] (8)	80th (9)	20th (10)	50th] (11)	80th (12)
Others	7.854*** (0.0202)	9.127*** (0.0168)	10.260*** (0.0164)	9.047*** (0.0201)	9.905*** (0.0183)	10.710*** (0.0186)	7.260*** (0.0210)	8.252*** (0.0196)	9.309*** (0.0206)	9.768*** (0.0269)	10.420*** (0.0224)	11.050*** (0.0250)
ST/SC	6.696*** (0.0148)	7.767*** (0.0125)	8.899*** (0.0144)	8.339*** (0.0226)	9.118*** (0.0201)	9.950*** (0.0225)	6.520*** (0.0157)	7.514*** (0.0122)	8.457*** (0.0143)	9.296*** (0.0235)	9.899*** (0.0236)	10.51*** (0.0228)
Difference	1.157*** (0.0250)	1.360*** (0.0209)	1.360*** (0.0218)	0.707*** (0.0302)	0.786*** (0.0271)	0.757*** (0.0292)	0.739*** (0.0263)	0.738*** (0.0230)	0.853*** (0.0251)	0.473*** (0.0357)	0.525*** (0.0326)	0.544*** (0.0338)
Explained	0.993*** (0.0389)	1.324*** (0.0406)	1.387*** (0.0376)	0.568*** (0.0445)	0.725*** (0.0452)	0.648*** (0.0527)	0.468*** (0.0286)	0.647*** (0.0299)	0.871*** (0.0373)	0.260*** (0.0639)	0.413*** (0.0601)	0.422*** (0.0821)
Unexplained	[86.82%] 0.164*** (0.0446)	[97.35%] 0.0353 (0.0448)	[101.98%] -0.0277 (0.0408)	[80.34%] 0.139** (0.0506)	[92.24%] 0.061 (0.0505)	[85.60%] 0.109 (0.0562)	[63.33%] 0.271*** (0.0407)	[87.67%] 0.0904* (0.0397)	[102.11%] -0.0186 (0.0472)	[54.97%] 0.213** (0.0655)	[78.67%] 0.112 (0.0599)	[77.57%] 0.122 (0.0792)
	[14.17%]	[2.60%]	[2.04%]	[19.66%]	[7.76%]	[14.40%]	[36.67%]	[12.24%]	[2.18%]	[45.03%]	[21.33%]	[22.42%]
Detailed decomposition												
IHS Income	0.237*** (0.0226)	0.219*** (0.0162)	0.277*** (0.0192)	0.209*** (0.0178)	0.250*** (0.0161)	0.297*** (0.0189)	0.157*** (0.0205)	0.144*** (0.0142)	0.151*** (0.0156)	0.192*** (0.0174)	0.201*** (0.0173)	0.192*** (0.0180)
Type of institute	0.20484 (0.0110)	0.161029 (0.0141)	0.203676 (0.0207)	[29.56%]	[31.81%]	[39.10%]	[21.24%]	[19.51%]	[17.70%]	[40.59%]	[38.28%]	[35.29%]
Medium of instruction	0.0209* (0.00826)	0.0719*** (0.0107)	0.367*** (0.0228)	0.151*** (0.0103)	0.187*** (0.0118)	0.190*** (0.0140)	0.00537 (0.00304)	0.0137** (0.00513)	0.0521*** (0.0109)			
Private coaching	[1.80%] 0.159*** (0.010)	[5.28%] 0.219*** (0.012)	[26.98%] 0.257*** (0.015)	[21.36%] 0.0726*** (0.007)	[23.79%] 0.0975*** (0.009)	[25.10%] 0.126*** (0.012)	[7.26%] 0.144*** (0.010)	[9.51%] 0.188*** (0.011)	[6.11%] 0.287*** (0.017)	0.0467*** (0.008)	0.0530*** (0.009)	0.0534*** (0.010)
	[13.74%]	[15.10%]	[18.90%]	[10.27%]	[12.40%]	[16.64%]	[19.48%]	[25.47%]	[33.46%]	[9.87%]	[10.90%]	[9.81%]

Source: Social consumption: education (NSS) 2007 and 2017

RIF Decomposition (ST/SC vs Others in 2017)

	All schools			Private schools			Public schools			English-medium private schools		
	20th (1)	50th (2)	80th (3)	20th (1)	50th (2)	80th (3)	20th (1)	50th (2)	80th (3)	20th (1)	50th (2)	80th (3)
Others	8.302*** (0.034)	9.749*** (0.024)	10.780*** (0.018)	9.669*** (0.026)	10.460*** (0.018)	11.120*** (0.019)	7.400*** (0.036)	8.543*** (0.032)	9.549*** (0.033)	10.090*** (0.025)	10.720*** (0.018)	11.320*** (0.024)
ST/SC	6.958*** (0.017)	8.097*** (0.021)	9.428*** (0.021)	8.915*** (0.028)	9.692*** (0.024)	10.480*** (0.023)	6.729*** (0.018)	7.647*** (0.017)	8.703*** (0.019)	9.621*** (0.026)	10.270*** (0.024)	10.830*** (0.023)
Difference	1.344*** (0.038)	1.652*** (0.032)	1.357*** (0.028)	0.754*** (0.038)	0.770*** (0.030)	0.640*** (0.030)	0.671*** (0.040)	0.896*** (0.036)	0.846*** (0.038)	0.470*** (0.036)	0.452*** (0.030)	0.487*** (0.033)
Explained	1.203*** (0.057)	1.579*** (0.042)	1.283*** (0.042)	0.544*** (0.046)	0.607*** (0.046)	0.564*** (0.058)	0.490*** (0.030)	0.799*** (0.034)	0.838*** (0.034)	0.280*** (0.050)	0.340*** (0.044)	0.410*** (0.065)
Unexplained	0.140* (0.072)	0.072 (0.049)	0.074 (0.044)	0.210*** (0.054)	0.164** (0.051)	0.076 (0.061)	0.181** (0.066)	0.097 (0.060)	0.008 (0.062)	0.190*** (0.055)	0.113* (0.048)	0.077 (0.066)
	[10.42%]	[4.38%]	[5.46%]	[27.85%]	[21.30%]	[11.88%]	[2.69%]	[10.81%]	[0.90%]	[40.42%]	[25.00%]	[15.77%]
Detailed decomposition												
IHS Income	0.160*** (0.023)	0.232*** (0.022)	0.196*** (0.023)	0.167*** (0.022)	0.134*** (0.016)	0.210*** (0.018)	0.0954*** (0.020)	0.107*** (0.016)	0.114*** (0.016)	0.106*** (0.013)	0.162*** (0.013)	0.193*** (0.016)
	[11.90%]	[14.04%]	[14.44%]	[22.15%]	[17.40%]	[32.81%]	[14.21%]	[11.94%]	[13.48%]	[22.55%]	[35.84%]	[39.63%]
Type of institute	0.289*** (0.015)	0.744*** (0.025)	0.730*** (0.032)									
	[21.50%]	[45.04%]	[53.80%]									
Medium of instruction	0.012 (0.015)	0.083*** (0.019)	0.410*** (0.028)	0.160*** (0.013)	0.178*** (0.012)	0.178*** (0.013)	0.005 (0.005)	0.013* (0.006)	0.036*** (0.008)			
	[0.87%]	[5.04%]	[30.21%]	[21.75%]	[23.12%]	[27.81%]	[0.07%]	[1.40%]	[4.25%]			
Private coaching	0.162*** (0.012)	0.353*** (0.022)	0.251*** (0.019)	0.058*** (0.009)	0.088*** (0.010)	0.092*** (0.012)	0.165*** (0.014)	0.328*** (0.018)	0.474*** (0.026)	0.064*** (0.009)	0.069*** (0.010)	0.060*** (0.009)
	[12.05%]	[21.37%]	[18.50%]	[7.69%]	[11.36%]	[14.42%]	[24.59%]	[36.60%]	[56.02%]	[13.51%]	[15.24%]	[12.25%]

Source: Social consumption: education (NSS) 2007 and 2017

RIF Decomposition (OBC vs Others in 2007)

	All schools			Private schools			Public schools			English-medium private schools		
	20th (1)	50th (2)	80th (3)	20th (4)	50th (5)	80th (6)	20th (7)	50th (8)	80th (9)	20th (10)	50th (11)	80th (12)
Others	7.854*** (0.018)	9.127*** (0.016)	10.26*** (0.015)	9.047*** (0.018)	9.905*** (0.017)	10.71*** (0.017)	7.260*** (0.019)	8.252*** (0.018)	9.309*** (0.019)	9.768*** (0.022)	10.42*** (0.019)	11.05*** (0.021)
OBC	6.984*** (0.012)	8.092*** (0.012)	9.211*** (0.012)	8.497*** (0.015)	9.194*** (0.015)	10.04*** (0.018)	6.676*** (0.013)	7.619*** (0.011)	8.502*** (0.012)	9.309*** (0.026)	10.010*** (0.021)	10.600*** (0.022)
Difference	0.870*** (0.022)	1.034*** (0.020)	1.047*** (0.020)	0.549*** (0.024)	0.711*** (0.022)	0.671*** (0.024)	0.583*** (0.023)	0.633*** (0.021)	0.808*** (0.023)	0.459*** (0.034)	0.416*** (0.028)	0.454*** (0.031)
Explained	0.800*** (0.024)	0.989*** (0.025)	0.969*** (0.024)	0.473*** (0.028)	0.631*** (0.031)	0.554*** (0.033)	0.491*** (0.022)	0.582*** (0.023)	0.798*** (0.029)	0.296*** (0.039)	0.313*** (0.036)	0.298*** (0.038)
Unexplained	[91.95%] 0.070* (0.034) [8.06%]	[95.65%] 0.045 (0.032) [4.35%]	[92.55%] 0.079* (0.031) [7.45%]	[86.15%] 0.076* (0.035) [13.84%]	[88.75%] 0.080* (0.037) [11.24%]	[82.56%] 0.117** (0.039) [17.44%]	[84.22%] 0.093* (0.038) [15.92%]	[91.94%] 0.0507 (0.035) [8.00%]	[98.76] 0.009 (0.042) [1.14%]	[64.49%] 0.163*** (0.049) [35.51%]	[75.24%] 0.103* (0.042) [24.76%]	[65.64%] 0.157*** (0.046) [34.58%]
Detailed decomposition												
IHS Income	0.106*** (0.014) [12.18%]	0.117*** (0.011) [11.32%]	0.189*** (0.013) [18.05%]	0.154*** (0.015) [28.05%]	0.187*** (0.014) [27.87%]	0.259*** (0.019) [38.60%]	0.070*** (0.011) [11.92%]	0.071*** (0.008) [11.21%]	0.071*** (0.009) [8.77%]	0.147*** (0.016) [32.02%]	0.193*** (0.015) [46.39%]	0.185*** (0.016) [40.75%]
Type of institute	0.160*** (0.007) [18.39%]	0.274*** (0.010) [26.50%]	0.200*** (0.010) [19.10%]									
Medium of instruction	0.007 (0.008) [0.85%]	0.078*** (0.008) [7.51%]	0.312*** (0.017) [29.80%]	0.144*** (0.011) [26.23%]	0.179*** (0.012) [25.18%]	0.227*** (0.016) [33.83%]	-0.007 (0.007) [1.22%]	0.003 (0.005) [0.50%]	0.037*** (0.008) [4.55%]			
Private coaching	0.098*** (0.006) [11.23%]	0.148*** (0.008) [14.31%]	0.182*** (0.010) [17.38%]	0.055*** (0.006) [9.98%]	0.079*** (0.008) [11.15%]	0.068*** (0.009) [10.06%]	0.110*** (0.008) [18.87%]	0.162*** (0.009) [25.59%]	0.226*** (0.014) [27.97%]	0.024*** (0.006) [5.14%]	0.024*** (0.006) [5.81%]	0.023*** (0.006) [5.15%]

Source: Social consumption: education (NSS) 2007 and 2017

RIF Decomposition (OBC vs Others in 2017)

	All schools			Private schools			Public schools			English-medium private schools		
	20th (1)	50th (2)	80th (3)	20th (4)	50th (5)	80th (6)	20th (7)	50th (8)	80th (9)	20th (10)	50th (11)	80th (12)
Others	8.302*** (0.031)	9.749*** (0.023)	10.78*** (0.016)	9.669*** (0.023)	10.46*** (0.017)	11.12*** (0.017)	7.400*** (0.031)	8.543*** (0.029)	9.549*** (0.029)	10.09*** (0.021)	10.72*** (0.016)	11.32*** (0.020)
OBC	7.280*** (0.019)	8.621*** (0.018)	9.939*** (0.019)	9.017*** (0.022)	9.874*** (0.019)	10.65*** (0.017)	6.814*** (0.019)	7.832*** (0.017)	8.801*** (0.017)	9.790*** (0.024)	10.44*** (0.017)	10.95*** (0.022)
Difference	1.022*** (0.036)	1.127*** (0.029)	0.846*** (0.025)	0.652*** (0.032)	0.588*** (0.025)	0.469*** (0.024)	0.586*** (0.034)	0.711*** (0.034)	0.747*** (0.034)	0.301*** (0.031)	0.276*** (0.023)	0.372*** (0.030)
Explained	0.893*** (0.0321)	0.980*** (0.0285)	0.796*** (0.0262)	0.479*** (0.0275)	0.490*** (0.0245)	0.410*** (0.0262)	0.511*** (0.0293)	0.604*** (0.0288)	0.620*** (0.0280)	0.157*** (0.026)	0.194*** (0.022)	0.288*** (0.032)
Unexplained	0.129* (0.055)	0.147*** (0.041)	0.050 (0.034)	0.172*** (0.038)	0.098** (0.032)	0.059 (0.035)	0.075 (0.066)	0.107 (0.055)	0.127* (0.059)	0.144*** (0.036)	0.082** (0.029)	0.084 (0.043)
	[12.62%]	[13.04%]	[5.96%]	[26.38%]	[16.60%]	[12.54%]	[12.80%]	[15.05%]	[17.00%]	[47.80%]	[29.78%]	[22.63%]
Detailed decomposition												
IHS Income	0.101*** (0.018)	0.084*** (0.014)	0.144*** (0.017)	0.095*** (0.018)	0.118*** (0.014)	0.135*** (0.015)	0.062*** (0.014)	0.060*** (0.011)	0.054*** (0.011)	0.072*** (0.013)	0.074*** (0.011)	0.076*** (0.013)
Type of institute	0.298*** (0.013)	0.411*** (0.016)	0.250*** (0.013)									
Medium of instruction	-0.029** (0.011)	0.122*** (0.011)	0.384*** (0.021)	0.155*** (0.011)	0.168*** (0.011)	0.107*** (0.008)	-0.005 (0.005)	0.005 (0.005)	0.033*** (0.007)			
Private coaching	0.142*** (0.010)	0.198*** (0.012)	0.094*** (0.009)	0.062*** (0.007)	0.056*** (0.007)	0.044*** (0.007)	0.123*** (0.011)	0.266*** (0.016)	0.294*** (0.019)	0.037*** (0.007)	0.031*** (0.006)	0.041*** (0.008)
	[13.89%]	[17.56%]	[11.09%]	[9.49%]	[9.56%]	[9.48%]	[20.99%]	[37.41%]	[39.35%]	[12.16%]	[11.12%]	[10.91%]

Source: Social consumption: education (NSS) 2007 and 2017

Robustness Check

Average Treatment Effect (ATE) estimates from PSM

Year	Comparison group	All schools (1)	Private schools (2)	Public schools (3)	English-medium schools (4)	English-medium private schools (5)
2007	Others vs ST/SC	0.241*** (0.017)	0.145*** (0.022)	0.228*** (0.020)	0.105*** (0.031)	0.090*** (0.026)
2017	Others vs ST/SC	0.218*** (0.017)	0.195*** (0.017)	0.202*** (0.019)	0.133*** (0.028)	0.183*** (0.020)
2007	Others vs OBC	0.179*** (0.015)	0.131*** (0.016)	0.173*** (0.018)	0.086*** (0.023)	0.097*** (0.021)
2017	Others vs OBC	0.169*** (0.016)	0.110*** (0.014)	0.157*** (0.020)	0.107*** (0.019)	0.114*** (0.014)

Source: Social consumption: education (NSS) 2007 and 2017

Conclusion

- There is huge gap between Others and disadvantageous caste groups in educational expenditure.
- Majority of the gap can be explained by the differences in observable attributes, specifically income.
- Vast differences in income levels of different caste groups.
- Investment inequality can create perpetuating inequalities.
- Greater emphasis on accountability of public schools is required.
- Deliberate efforts required to reduce the caste-class gaps.

Thank you