

Who Completes Secondary Education in India: Examining Role of Individual and Household Characteristics

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Introduction

- Secondary education is often considered as the key link between education and economic development, preparing young adolescents to learn life skills and participate in the growth process.
- ‘Universal secondary education is a precondition for equitable social development, widening participation in India’s democratic functioning, building up of an enlightened secular republic, and be globally competitive’ (CABE, 2005).
- Rashtriya Madhyamik Shiksha Abhiyan (RMSA) was launched in March 2009 with the goal of universal access to secondary education by 2017 and universal retention by 2020.

Some facts to reckon with

- GER at secondary level reached 78.5 per cent (2014-15), which is way below other BRIC countries.
- Access to secondary education in India is highly unequal, with a 40 percentage point gap in secondary enrolment rates between students from the highest and lowest expenditure quintile groups (70 per cent versus 30 per cent enrolment, respectively). [World Bank report, 2009]
- Around 35 per cent of the students enrolled in grade IX dropout before completing grade X and 38 per cent before completing grade XII (CSD, 2018)
- Financial constraint is most pressing reason for dropping out at secondary level (20.4 per cent).
- There is a huge chunk of students, spectrally in rural areas, who are over aged. 2014-15 data shows there were around 51% students who completed secondary education at the age of 20years.

Objective of the study

- To examine the determinants of successful completion of secondary education by considering socio-demographic, household and individual factors.

Database

- The study draws on the unit level data of National Sample Survey (NSS) 71st round on 'Social Consumption: Education', conducted in 2014.
- The sample has included only those who belong to the have completed at least elementary education but not studied beyond secondary education.
- Further it has focused on 15-20 year age cohort to include the over-age and under-age students.

Econometric Specification of the Model

Determinants of completion vis-à-vis non-completion of secondary grade would be estimated through a Probit model comprising a set of explanatory variables representing individual and household socio-economic characteristic .

Probit Model

$$e^* = x_j \beta_j + u_{1j}$$

$$s=0 \text{ if } e^* > 0 \text{ and } s=1 \text{ if } e^* \leq 0$$

$$\text{Probability } (s=1) = \Phi(x_j \beta_j)$$

Dependent variable is completion of secondary education: A dummy variable to control for those (in 15-20 years age cohort and completed elementary education) who have completed grade X vis-à-vis those who could not.

Explanatory variables

Explanatory Variables	Type of variables
<i>Individual Characteristics</i>	
Gender	sex_female (binary dummy)
<i>Household Social Characteristics</i>	
Social group/caste	'ST', 'SC', 'OBC' (binary dummies)
Location	rural (binary dummy)
Economic Status	InMPCE (continuous variable)
Household head's educational profile	head_illiterate_noformaleducation (binary dummy)
<i>Demographic Variable</i>	
Size of household	HH Size (continuous variable)
Distance of secondary school from home	Distance (continuous variable)

Completion of Secondary Education by Household Characteristics

explanatory variables	secondary education	
	not completed (n=38111629)	completed (n=35991426)
<i>Gender</i>		
male	51.8	48.2
female	51.0	49.0
<i>Location</i>		
rural	45.4	54.6
urban	53.7	46.3
<i>Social group</i>		
ST	59.9	40.1
SC	57.2	42.8
OBC	50.0	50.0
Others	46.2	53.8
<i>Distance of school</i>		
d<1km	48.23	51.77
1km d < 2 kms	48.99	51.01
2kms d < 3 kms	54.57	45.43
3kms d < 5 kms	59.48	40.52
d >=5 kms	62.22	37.78
<i>Household Head's education</i>		
head illiterate/no formal education	51.4	48.6

Probability of Completing Secondary Grade: Probit Estimate at All India Level

completed_secondary	Coef.	Std. Err.	P> z 	Marginal Effect
Sex_female	0.030	0.026	0.252	0.012
rural	0.067	0.030	0.124	0.027
ST	-0.147	0.046	0.001	-0.058
SC	-0.136	0.039	0.000	-0.054
OBC	-0.002	0.032	0.950	-0.001
lnMPCE	0.447	0.027	0.000	0.178
Hhsize	0.001	0.006	0.851	0.000
Distance	-0.058	0.011	0.000	-0.023
head_illiterate/no formal education	0.012	0.037	0.742	0.005
Constant	-3.181	0.229	0.000	
Number of obs = 24374				

Source: Authors' computation based on NSS 71st Round (Unit Level Records)

Probability of Completing Secondary Grade: Probit Estimate by Gender

	Male				Female			
completed_secondary	Coef.	Std. Err.	P> z	Marginal effect	Coef.	Std. Err.	P> z	Marginal effect
rural	0.081	0.040	0.143	0.032	0.055	0.044	0.206	0.022
ST	-0.112	0.062	0.073	-0.044	-0.186	0.067	0.006	-0.074
SC	-0.154	0.052	0.003	-0.061	-0.108	0.058	0.064	-0.043
OBC	-0.016	0.044	0.714	-0.006	0.014	0.047	0.767	0.006
lnMPCE	0.455	0.037	0.000	0.181	0.434	0.040	0.000	0.173
Hhsize	-0.005	0.009	0.566	-0.002	0.007	0.009	0.476	0.003
Distance	-0.049	0.014	0.000	-0.020	-0.068	0.016	0.000	-0.027
head_illiterate/no formal education	-0.091	0.057	0.112	-0.036	-0.085	0.049	0.085	0.034
Constant	-3.135	0.313	0.000		-3.123	0.333	0.000	
Number of obs = 13410					10971			

Probability of Completing Secondary Grade: Probit Estimate by Location (Rural and Urban)

	Rural					Urban			
completed_secondary	Coef.	Std. Err.	P> z	Marginal effect		Coef.	Std. Err.	P> z	Marginal effect
Sex_female	0.015	0.032	0.652	0.006		0.061	0.040	0.129	0.024
ST	-0.155	0.053	0.004	-0.061		-0.069	0.092	0.453	-0.028
SC	-0.110	0.048	0.022	-0.043		-0.220	0.064	0.001	-0.087
OBC	-0.005	0.041	0.897	-0.002		0.010	0.046	0.825	0.004
lnMPCE	0.440	0.036	0.000	0.175		0.458	0.039	0.000	0.181
Hhsize	0.002	0.008	0.766	0.001		-0.003	0.010	0.737	-0.001
Distance	-0.061	0.012	0.000	-0.024		-0.031	0.025	0.212	-0.012
head_illiterate/no formal education	-0.034	0.046	0.455	-0.014		0.125	0.061	0.142	0.050
Constant	-3.017	0.289	0.000			-3.375	0.340	0.000	
Number of obs =	14498					9883			

Key findings

- Economic status of household (measured in terms of lnMPCE) and caste/social group of individual are two most important factors which play critical role in determining the probability of secondary grade completion. This trend holds true across the board.
- Probability of completion of secondary grade for the girls is not statistically different than that of boys.
- The study further highlights that location of residence does not influence significantly the odds of completion, however, it is the distance of the school from the household which matters.
- In case of urban areas distance of school does not impact completion of secondary grade, significantly.
- Household head's education is significant only in case of females. If the head is illiterate then the girls of that household have poor chances to complete secondary grade.

Concluding remarks

- According to NSS 71st round data more than 54 per cent student dropped without completing secondary grade either due to financial constraints or they had to engage with other economic or domestic activities.
- Thus to retain the enrolled students within the system government has to reduce the out-of-pocket expenditure incurred by households by increasing the fund allocation to the sector.
- Affordability of higher levels of participation is really a state level issue since it is states that formally have responsibility for delivering most secondary schooling (Tilak, 2008).

Thank you