

## **Phase 2: Review, Data and Methods**

Group No.: 25

Mukul Nayak (1906323), Ajit Singh Yadav (180030001), Shivam Tiwari (180030029)

**Topic:** The Effect of Education on Poverty

### **Introduction & Motivation**

The importance of education is acknowledged as the great equalizer, as it can provide a family with the necessary skills and resources to succeed. Access to high-quality education is also known to reduce poverty. Various factors such as economic development, maternal and newborn mortality, and HIV/AIDS can also be linked to education.

People have long relied on education to get more excellent pay in the market. It allows us to expand our knowledge, develop new talents, progress as a person, and obtain helpful experience.

This study will use cross-sectional data to develop simple and multiple linear regression models to show the relationship between education and poverty.

### **Literature Review**

In the paper titled *The causal effect of education on poverty: evidence from Turkey*, researchers Citak and Duffy studied the effects of education on poverty in Turkey. They used a cross-sectional study to analyze the two-way causality between the household head's education level and poverty in Turkey. The researchers used an Instrumental Variable (IV) estimation technique, two-stage least squares (2SLS) regression to analyze the effects of education on poverty in Turkey. They then compared the effects of two education reforms in 1961 and 1997. They then identified the causal relationship between education and poverty. The researchers found that the educational reforms in 1961 and 1997 increased the number of years of schooling by about 20 percent and 9 percent, respectively. They also found that these reforms led to an increase in household income by about 7%. They concluded that the number of schooling years increased due to the reforms, which resulted in a higher household income.

In the paper titled *Secondary Education Attainment and its Role in Poverty Reduction: Views of Graduates Working in Informal Sector in Rural Tanzania*, the study's objective was to examine the contribution of knowledge and skills acquired from secondary education to self-employment among graduates in the Mvomero District of Tanzania. Through a quantitative method, 400 individuals were interviewed. The study was conducted through a systematic interviewing process. A self-administered questionnaire was then used to collect opinions on

the effects of knowledge and skills acquired from secondary education on poverty reduction. The results indicated that secondary education could contribute to reducing poverty.

In the paper titled *The Role of Education and Income in Poverty Alleviation: A Cross-Country Analysis*, researchers Pervez Zamurrad Janjua and Usman Ahmed Kamal analyzed the data collected from 40 developing countries from 1999 to 2007. It estimated the coefficients by applying the random effect generalized least squares (GLS) technique. It found that income growth is associated with a positive effect on reducing poverty but does not play a significant role in reducing poverty. The study led to three conclusions, i.e., during the observed period, per capita income growth played a moderate role in poverty reduction in the selected countries; only in nations with higher per capita incomes did income inequality have a more significant influence on poverty alleviation. Finally, secondary education has emerged as the most significant contribution to poverty reduction.

In the paper titled *The effects of educational attainment on poverty reduction in Cameroon*, the purpose of the research was to analyze the effects of different levels of education on employed individuals as determinants of poverty in Cameroon. The data for this research came from a 2001 household survey in Cameroon. A sample-selectivity adjusted logistic regression model was used to analyze the data. The results indicated that the probability of being poor was related to the employed individual's level of education and experience. The results show that improving experience and education reduces the probability of being poor of the employed individual. Regarding gender, the study concludes that men's education levels help reduce poverty more than women's.

The literature review leads us to various conclusions like education may increase an individual's income by increasing productivity hence significantly reducing poverty. Aside from being beneficial to the individual, education also has a wide range of externalities that can improve the lives of poor people. For instance, it can help lower infant mortality, improve parental education, reduce health risks, reduced stunting, and reduced violence at home and in society. The effects of education on poverty can vary depending on the region and the level of education. This suggests that studying the link between education and poverty is essential. There is also a need to study the various factors that affect education development in different regions. It is evident that we must first understand what causes it to reduce poverty effectively. This study plans to do the same.

**Research Question:** What is the Effect of Education on Poverty?

This paper will discuss the effect education has on poverty. As education increases, people acquire various skills that help them land a good job, and their income sources increase; hence poverty decreases. Hence there is a causal relationship between education and poverty.

The hypothesis is that education has a negative impact on poverty rates; therefore, as education rates increase poverty decreases. In this study, we develop a regression model with education level as our independent variable and examine its causality upon poverty rate. This study is to research on the education-poverty relationship and try to check whether the hypothesis is correct or not.

## Methodology

### Data

Cross Section type data of 32 States and UTs of India is taken for the year 2011-12. The dependent variable used is the Poverty Rate (pov) in each state. The primary independent variable used is the Gross Enrolment Ratio (ger) for classes IX-XII. There are few other independent variables for multiple linear regression model to uncover the ceteris paribus effect education has on the poverty rate. The other independent variables are Literacy Rate, Labour Force Participation Rate, Unemployment Rate, Per Capita Net State Domestic Product and Percentage of Population in Urban Area.

<i>Sl No</i>	<i>Name</i>	<i>Description</i>	<i>Source</i>
1	pov	Poverty Rate (%) 2011-12 (Based on MRP Consumption)	Planning Commission, National Sample Survey Organization (NSSO), Government of India.
2	ger	Gross Enrolment Ratio (Classes IX-XII)	Statistics of School Education 2011-12
3	lit	Literacy Rate (%)	Census 2011
4	lfpr	Labour Force Participation Rate (per 1000)	Key Indicators of Employment and Unemployment in India, NSS 68 <sup>th</sup> Round (2011-12)
5	unemp	Unemployment Rate (per 1000)	Key Indicators of Employment and Unemployment in India, NSS 68 <sup>th</sup> Round (2011-12)
6	nsdp	Per Capita Net State Domestic Product in ₹ , 2011-12 (At Current Prices) (Base : 2011-12)	National Statistical Office (NSO)
7	urb	Percentage of Population in Urban Area (%)	Handbook of Statistics on Indian States, Reserve Bank of India

## Methodology

To begin, we'll build a simple regression model to estimate the ceteris paribus impact of education on poverty. We'll then use F-stats and t-stats to assess the significance of our explanatory variables in further multiple regression models.

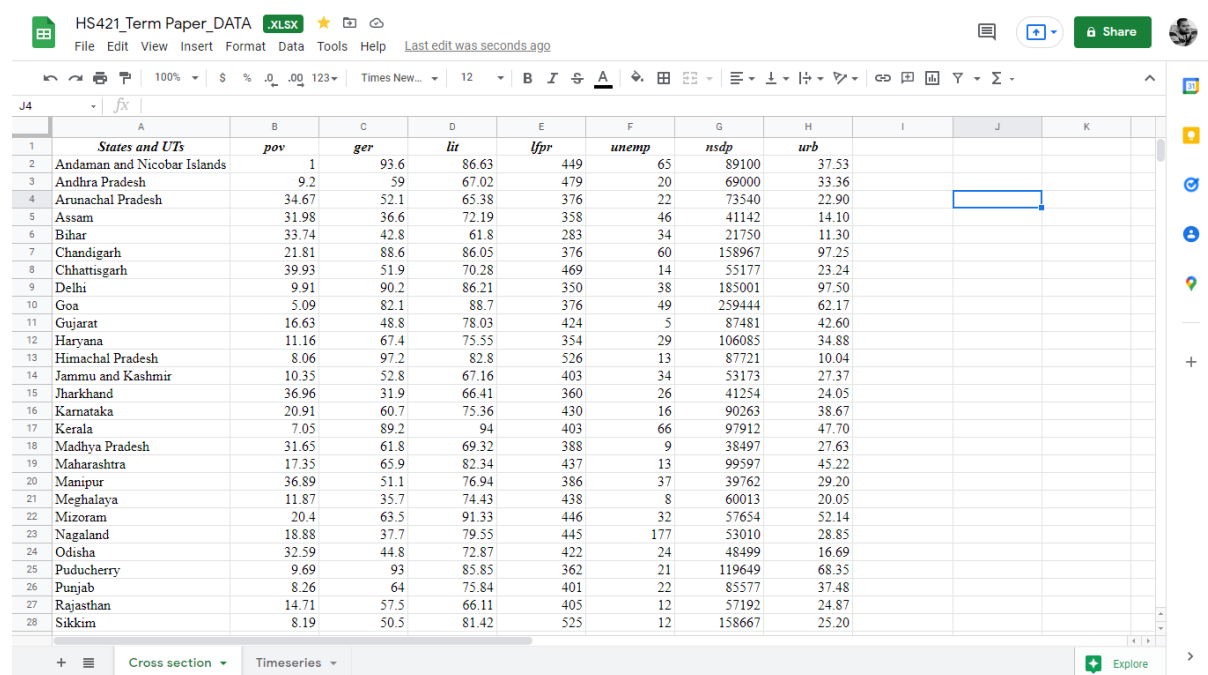
We will analyze the education-poverty relationship in this study and see if our hypothesis is valid or not.

## Bibliography

- Citak, Ferhat & Duffy, Patricia. (2020). The Causal Effect of Education on Poverty: evidence from Turkey. *Eastern Journal of European Studies*, 11(2), 251–265.
- Lupeja, T.L., & Gubo, Q. (2017). Secondary Education Attainment and its Role in Poverty Reduction: Views of Graduates Working in Informal Sector in Rural Tanzania. *Journal of Education and Practice*, 8, 140-149.
- Janjua, P. and Kamal, U. (2011). The Role of Education and Income in Poverty Alleviation: A Cross-Country Analysis. *The Lahore Journal of Economics*. Vol. 16, No. 1, p. 143-172
- Njong, A.M. (2010). The effects of educational attainment on poverty reduction in Cameroon. *International Journal of Educational Administration and Policy Studies*, 2, 001-008.

## Appendix:

### Screenshot of Data Sheet



	A	B	C	D	E	F	G	H	I	J	K
	States and UTs	pov	ger	lit	lfr	unemp	nsdp	urb			
1	Andaman and Nicobar Islands	1	93.6	86.63	449	65	89100	37.53			
2	Andhra Pradesh	9.2	59	67.02	479	20	69000	33.36			
3	Arunachal Pradesh	34.67	52.1	65.38	376	22	73540	22.90			
4	Assam	31.98	36.6	72.19	358	46	41142	14.10			
5	Bihar	33.74	42.8	61.8	283	34	21750	11.30			
6	Chandigarh	21.81	88.6	86.05	376	60	158967	97.25			
7	Chhattisgarh	39.93	51.9	70.28	469	14	55177	23.24			
8	Delhi	9.91	90.2	86.21	350	38	185001	97.50			
9	Goa	5.09	82.1	88.7	376	49	259444	62.17			
10	Gujarat	16.63	48.8	78.03	424	5	87481	42.60			
11	Haryana	11.16	67.4	75.55	354	29	106085	34.88			
12	Himachal Pradesh	8.06	97.2	82.8	526	13	87721	10.04			
13	Jammu and Kashmir	10.35	52.8	67.16	403	34	53173	27.37			
14	Jharkhand	36.96	31.9	66.41	360	26	41254	24.05			
15	Karnataka	20.91	60.7	75.36	430	16	90263	38.67			
16	Kerala	7.05	89.2	94	403	66	97912	47.70			
17	Madhya Pradesh	31.65	61.8	69.32	388	9	38497	27.63			
18	Maharashtra	17.35	65.9	82.34	437	13	99597	45.22			
19	Manipur	36.89	51.1	76.94	386	37	39762	29.20			
20	Meghalaya	11.87	35.7	74.43	438	8	60013	20.05			
21	Mizoram	20.4	63.5	91.33	446	32	57654	52.14			
22	Nagaland	18.88	37.7	79.55	445	177	53010	28.85			
23	Odisha	32.59	44.8	72.87	422	24	48499	16.69			
24	Puducherry	9.69	93	85.85	362	21	119649	68.35			
25	Punjab	8.26	64	75.84	401	22	85577	37.48			
26	Rajasthan	14.71	57.5	66.11	405	12	57192	24.87			
27	Sikkim	8.19	50.5	81.42	525	12	158667	25.20			