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A STUDY ON THE GROWTH OF PUBLIC EXPENDITURE ON HIGHER EDUCATION IN INDIAN ECONOMY

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Abstract

This study is an economic study that examines the impact of government expenditure on higher education in India. The concepts of learning and development are interrelated; Learning leads to growth and development provides a forum for better learning. Educational support is beneficial for everyone as it facilitates access to better jobs and employment. Therefore, it also offers opportunities for poor groups to improve their social economies and reduce poverty and income inequality. Higher education improves skills and job opportunities and reduces the risk of long-term unemployment. Education also contributes to society by providing social and economic opportunities, especially in a world where technology and digitalization drive innovation. Therefore, education has many features that require a multidimensional approach in analyzing data. From a microeconomic perspective, higher education will increase an individual's salary in the labour market, thus increasing the rate of return on education. Various important documents published by the Ministry of Human Resources and Development (MHRD), such as the Expenditure and Education Options Survey (SES) and the University Grants Commission Annual Report, provide data for this study.

Keywords: Budget Expenditure, Economic Growth, Human Capital, Higher Education, Plan Expenditure, Revenue Expenditure, Social Expenditure and Technical Education.

Introduction

Expenditure on education in general is regarded as an investment from an economic point of view. Individuals, and governments, on behalf of societies, allocate resources in return for immediate and long-term pecuniary and non- pecuniary benefits. Economists have compared the investment on education with that of physical projects and, therefore, have used similar methods and tools to identify and measure the rate of return of this investment. The concept of Education and development are interrelated. Education leads to development whereas development provides a forum for better education. Expansion of education provides benefits to all, as it helps in attaining the better positions and jobs. Thereby it also provides opportunities development for socio

economic for the weaker sections of the society and reduces poverty and income distribution. The human capital theory given by T. W. Schultz provides foundation for treating education as an investment in humans and considering it as an important source of economic growth. The education sector has come down significantly in past years. In addition, inflation has eroded the value of grants, thus causing a setback to both non-plan and plan activities of the institution and compelled them to reduce or defer essential expenditure. Under these situations, the researchers have encouraged the research to undertake an in depth study to understand the realistic situation. Hence, it is understood that an effort is necessary to identify the capital of expenditure for higher education.

Higher education and Human Development

In this context health and education has become the most important variables in the development process. According to Sen. Quality education and health facilities, at least at basic level must be available to all. In absence of these two, increase in per capita GDP will result into 'growth without development'. Sen.'s views and analysis influenced the construction of United Nations' Human Development Index that gives due importance to health and education along with income while measuring development.

Higher Education in India

India's higher education system will face unprecedented changes in the next decade. This shift is driven by economic and demographic changes: by 2020, India will be the world's third largest economy with a rapidly growing middle class. Currently, over 50 per cent of India's population is under 25 years old; by 2020 India will outpace China as the country with the largest tertiary-age population. India has a low rate of enrolment in higher education, at only 18 per cent, compared with 26 per cent in China and 36 per cent in Brazil. There is massive unmet require for higher education. By 2020, the Indian government aims to achieve 30 per cent gross enrolment, which will mean providing 40 million university places, an increase of 14 million in six years. Many schools in the system are plagued by negative problems: insufficient teachers, poor teaching, outdated and rigid curricula, lack of accountability and quality assurance, and the separation of research and teaching. India has too few Ph.D students and not enough good scientists; there are few interdisciplinary and multidisciplinary projects and no early research; weak innovation ecosystem and low market participation.

Statement of the Problem

Higher education increases skills and employability and reduces the risk of long-term unemployment. Education also contributes to society by providing social and economic opportunities, especially in a world where technology and digitalization drive innovation. In this case, strong economic growth can reduce economic conflict and increase prosperity. However, expansion into higher education will lead to higher risks for countries. Despite the rapid increase

in public expenditure on education in India, few have tried to analyze the needs of education, the impact of public expenditure on education, the distribution of costs and benefits, and the impact on income distribution. These public education issues have implications for public policy. Public spending on education has become a matter of distribution in three distinct but interrelated ways. The first classification is difference in education. The second aspect of the distribution problem is the importance of distributing costs and benefits among different classes in society. Because it is seen as a change in the number of purchases made by different groups of people, it affects the real income of families, represented by how much money they spend.

Scope of the study

Education therefore has a number of properties that call for a multi-dimensional approach in undertaking an examination of the literature. From a microeconomic perspective, higher level of educational attainment raises the individual's wage rate in the labour market, and higher of return on education. The Education system in India is a blend of growth and development in all the related sectors which contribute in the up-gradation of the educational level. Education acts upon the quality of human resource which is at once both the means and end of economic development. Among non- tangible inputs of economic growth the pivotal role of education can hardly be over stressed. Higher education is important to the country for many reasons. This is an important step for countries to achieve high levels of development. The quality and efficiency of higher education is necessary for the country's human resources to reach the highest level. Each country adopts a different model for obtaining higher education funding, with different success rates.

Objectives of the study

1. To examine the actual education expenditure as a proportion of GDP.
2. To analyze the trends in public expenditure on higher education during the 19 years i.e. from 2001-2002 to 2019-2020.
3. To suggest measures for economizing expenditure for improving the Effectiveness of Public Educational Expenditure in India

Methodology

The present study is based on secondary data. The data were collected from various government publications. Data were collected from various issues of Economic surveys of India, RBI reports, and annual reports of the Ministry of Human Resource Development of India. An Analysis of Budgeted Expenditure on Education and Selected Educational Statistics (SES) published by Ministry of Human Resource and Development (MHRD), and also various official sources such as Annual Reports of University Grants Commission.

Study Period

For the purpose of the study of India's trends of public education expenditure, the time period considered was from 2001-2002 to 2019-2020. Time periods taken for analysis are from 2001-2002 to 2019-2020, as most of the education and health indicator are available for these periods in Government Reports.

Techniques of Study

Research Methodology is a way of systematically solving the research problems by using scientific methods of statistics tools.

Percentage Change

$$\% \text{ change} = \frac{\text{new value - original value}}{\text{Original value}} \times 100$$

Growth Rate

$$\text{Simple Growth Rate} \quad \frac{\textbf{Ending Value}}{\textbf{Beginning Value}} - 1$$

Compound Annual Growth Rate

$$\text{CAGR} = \left(\left\{ \frac{\text{EV}}{\text{BV}} \right\}^{1/n} - 1 \right) \text{X } 100$$

Where

EV = End Value

BV = Begin Value

N = Number of years

Average Annual Growth Rate

$$= \frac{\mathbf{GR_A + GR_B + \ldots GR_n}}{\mathbf{N}}$$

AAGR

Where

GR_A = Growth rate in Period A

GR_B = Growth rate in Period B

GR_n = Growth rate in Period n

N = Number of years

Compound annual growth rate (CAGR)

Compound annual growth rate (CAGR) is a rate that measures the upsurges or declines over years. It can also be understood as an annual average rate of return for an investment during a period. Mostly investments' yearly returns fluctuate from year to year, the CAGR calculation averages the good years' and bad years' results into one return percentage that investors can use to take future monetary decisions.

Analysis of Data

Proper and judicious planning of government expenditure is very important in order to bring about the desired impact on the economy. The study is devoted to the impact of government expenditure on higher education in India. Public expenditure in a developing economy has certain notable trends and Indian public expenditure on higher education has been growing very rapidly after 2001-2002. This study is carried on in between 2001-2002 to 2019-2020 for a period of nineteen years. During the period under study, the other level of Education expenditure was Rs.53257 crore in 2001-2002 and it escalated to Rs.104775 crore in 2007-2008, it moved up to Rs.220597 crore in 2011-2012, and it enlarged to Rs.313607 crore in 2015-2016, and reached to Rs.497048 crore in 2019-2020 showing an increase of 933.30 per cent and which reveals an increase of about 9.33 times during the period under study.

Table 1 Components of Total Education Expenditure in India from 2001-2002 to 2019-2020 (Rs. in Crores)

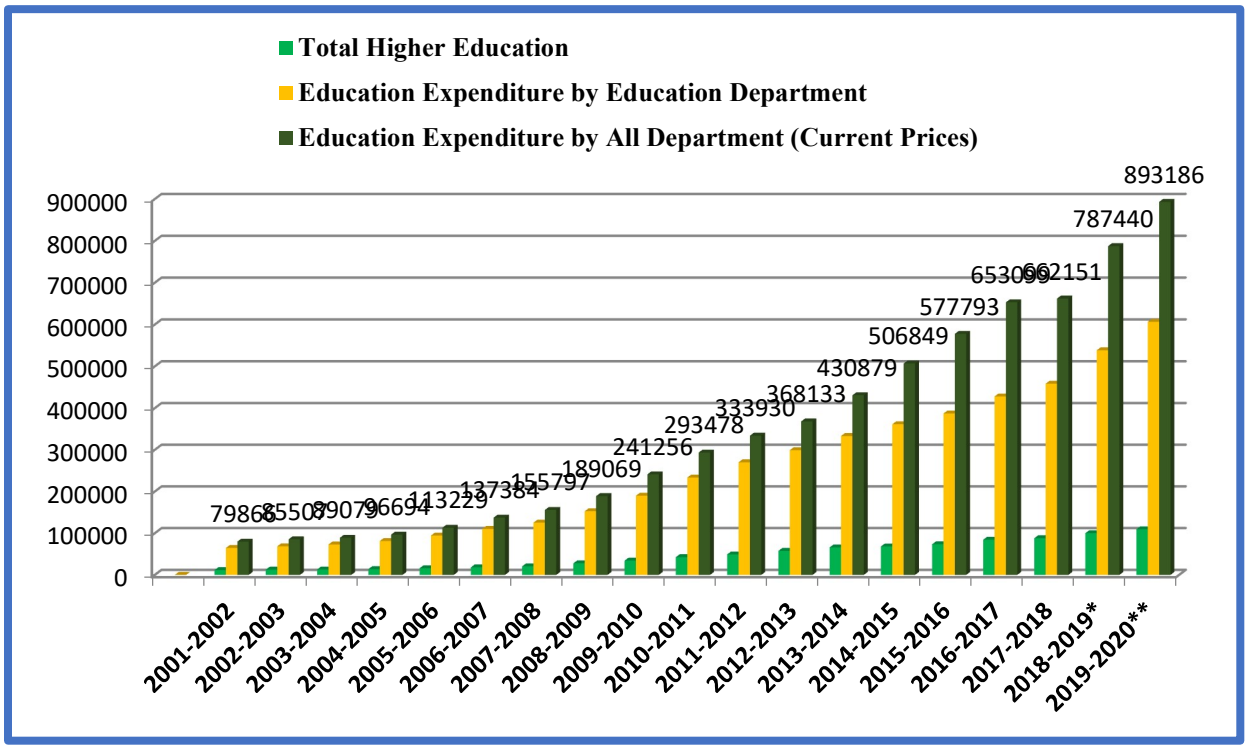
Year	Other level of Education Expenditure	Total Higher Education	Education Expenditure by Education Department (Current prices)	Total Other Education	Education Expenditure by All Department (Current Prices)
	(1)	(2)	(3)	(4)	(5)
2001-2002	53257	11590	64848	15018	79866
2002-2003	55896	12667	68562	16945	85507
2003-2004	60085	12959	73045	16034	89079
2004-2005	67386	13894	81281	15413	96694
2005-2006	78430	16053	94484	18745	113229
2006-2007	92168	18173	110340	27044	137384
2007-2008	104775	20604	125380	30417	155797
2008-2009	124935	27887	152822	36247	189069
2009-2010	155811	34326	190136	51120	241256

2010-2011	190865	42645	233510	59968	293478
2011-2012	220957	49136	270092	63838	333930
2012-2013	241589	57623	299213	68920	368133
2013-2014	267185	66047	333232	97647	430879
2014-2015	293028	68283	361311	145538	506849
2015-2016	313607	73549	387155	190638	577793
2016-2017	343602	84409	428011	225088	653099
2017-2018	370488	88047	458535	203616	662151
2018-2019*	438338	100079	538417	249023	787440
2019-2020**	497048	109446	606494	286692	893186
Average	**208918.42**	**47758.79**	**256677.26**	**95681.63**	**352358.89**

Source: Ministry of Human Resource Development, Govt. of India. (Various **Issues)**
Note: 1. * Budget Estimates, ** Revised Estimates **2. Colum 1:** Other level of Education Expenditure including Elementary, Secondary and Adult Education

The average other level of expenditure during the study period was estimated at Rs.208918.12 crores. There has been a striking increase in higher education expenditure from 2001-2002 to 2019-2020. Expenditure on higher education represents the second largest components of total education expenditure. During the period under review, it increased by 9.44 times that is from Rs.11590 crores in 2001-2002 to Rs.109446 crores in 2019-2020. The higher education expenditure has increased from Rs.11590 crore to Rs.190865 crore during the period 2001-2002 to 2010-2011 and further increased to Rs.220957 crore to 109446 crore from 2011-2012 to 2019-2020. The highest increase in expenditure was in the year 2018-2009 which was 100079 crores followed by 84409 crores in 2012-2013 and 84409 crores in 2016-2017 respectively. The average higher education expenditure during was estimated at 47758.79 crores. According to the table, the total amount of higher education expenditure in India has been ever increasing. The higher education increased by i) Rapid growth in Population, (ii) increase in student numbers and iii) rise in prices. As a result of growth of population, while total expenditure on higher education increased more than 944 per cent respective study period. This fact is indicated with reference to the data presented above table 1. The education expenditure has been a striking increase from 2001-2002 to 2019-2020. The education expenditure by education department had increased from Rs.64848 crore in the year 2001-2002, , further increase to Rs.233510 crores in 2010-2011, it intensified to Rs.428011 crores in 2016-2017 and finally increased to Rs.606494 crore in 2019-2020, which exhibits an increase of 9.35 times. On average Rs.256677.26 of education expenditure by education department is devoted to education in India in between 2001-2002 and 2019-2020.

Figure 1 Components of Total Education Expenditure in India from 2001-2002 to 2019-2020 (₹. in Crores)



The other education expenditure has increased from Rs.15018 crore to Rs.59968 crore during the period 2001-2002 to 2010-2011 and further increased to Rs.63838 crore in 2011-2012 to Rs.286692 crore in 2019-2020. The average other education expenditure during the study periods was estimated at Rs.95681.63 crores. During the study period the total education expenditure by all departments has increased from Rs.79866 crores in 2001-2002 to Rs.113229 crore in 2005-2006, further increased to Rs.241256 crores in 2009-2010 and finally stood at Rs.893186 crore in 2019-2020. During 2001-2002 to 2019-2020 total education expenditure increased by 11.18 times from Rs.79866 crore to Rs.893186 crores. Its average expenditure was Rs.352358.89 crore in whole study period. The data show a positive change in the education expenditure during the study period. Figure one shows the variations in the expenditure of different level on education during the study period.

Table 2

Compound Annual Growth Rate of Other level of Education Expenditure, Higher Education Expenditure, Education Expenditure by Education Department and Total Education Expenditure by all Department

Time period	First decade 2001-2002 to 2010-2011 (10 Years)	Second Decade 2011-2012 to 2019-2020 (9 years)	Total CAGR (Both Periods) 2001-2002 to 2019-2020 (19 Years)
Other level of Education Expenditure	13.61	9.43	12.47
Total Higher Education	13.91	9.31	12.54
Education Expenditure by Education Department (Current prices)	13.67	9.4	12.49
Total Other Education	14.85	18.16	16.79
Education Expenditure by All Department (Current Prices)	13.9	11.55	13.55

Source: Calculated by Researcher from Table No.5.1

Table 2 comprises Compound Annual Growth Rate of Educational Expenditure at current prices. The Compound Annual Growth Rate value showed positive growth trend for all variables. The total other education expenditure has shown a steep upward trend from the last one and half decade. This is clearly shows a decreasing trend in the first decade when compared to second decade. Figure 2 portrays the CAGR of different level of education in India. The growth rate of education expenditure, however, is not uniform in the two sub-periods. The total expenditure by all department increased at the average compound growth rate 13.9 per cent per annum during the first decade while it increased at a lower rate of 11.55 per cent during second decade. The total other education expenditure is a dominant component of total expenditure which records a higher rate growth which is 16.79 per cent per annum during the period under study. During the first decade it increased at the compound rate of growth of 14.85 per cent per annum while it increased to 18.16 per cent during the second decade. The compound annual growth rate of higher education expenditure for the period 2001-2002 to 2010-2011 and 2011-2012 to 2019-2020) were13.91 per cent and 9.31 per cent per annum respectively. It had been growing at the rate of 12.14 per cent per annum during the entire study period of study (2001-2002 to 2019-2020). The total education expenditure by education department, increases at the compound rate of 13.67 per cent per annum during the first decade from 2001-2002 to 2010-2011 while it increased at the lower rate of 9.4 per cent during second decade from 2011-2012 to 2019-2020.

Table No: 1.3 The Projected Trend of Total Public Educational Expenditure on University and Higher Education in India by States (Rs. In Crores)

Sl. No	YEAR	EXPECTED PUBLIC EDUCATIONAL EXPENDITURE IN INDIA BY STATES
1	2020-2021	56845
2	2021-2022	62042
3	2022-2023	67489
4	2023-2024	73188
5	2024-2025	79137
6	2025-2026	85337
7	2026-2027	91787
8	2027-2028	98489
9	2028-2029	105441
10	2029-2030	112644

Source: Projection based on Ministry of Human Resource Development, Government of India (various years)

Table no.1.3 presents the projected Total Public Educational Expenditure on University and Higher Education in India by States for a period of 10 years ranging from 2020-2021 to 2029-2030. Compared to 2019-2020 the projected Total Public Educational Expenditure on University and Higher Education in India by States in 2029-2030 will have a 2.21 fold increase. That is the projected Total Public Educational Expenditure on University and Higher Education in India in 2029-2030 will be Rs.112644 Crores.

Figure No1.3 Growth Trend of Public Educational Expenditure on University and Higher Education in India By States

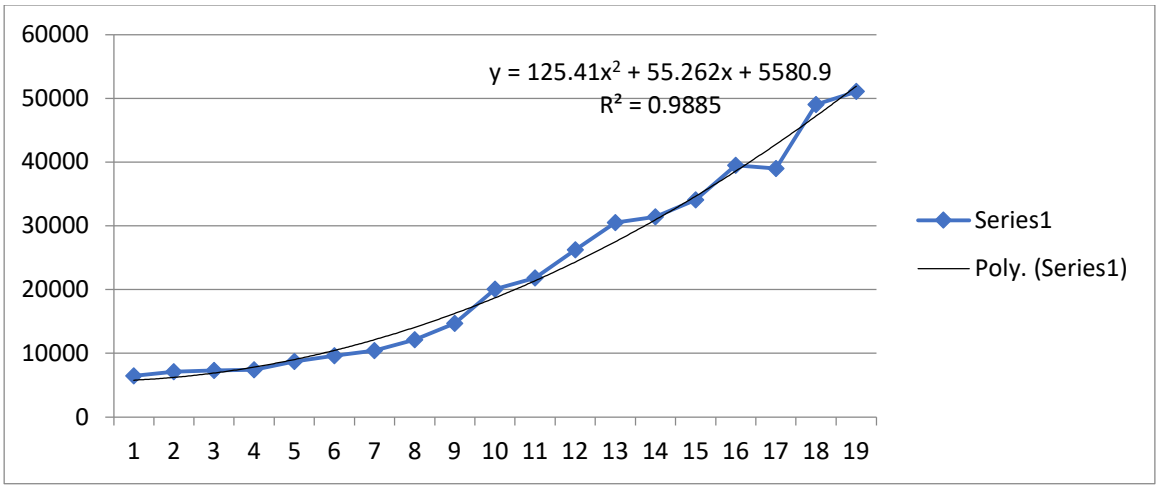
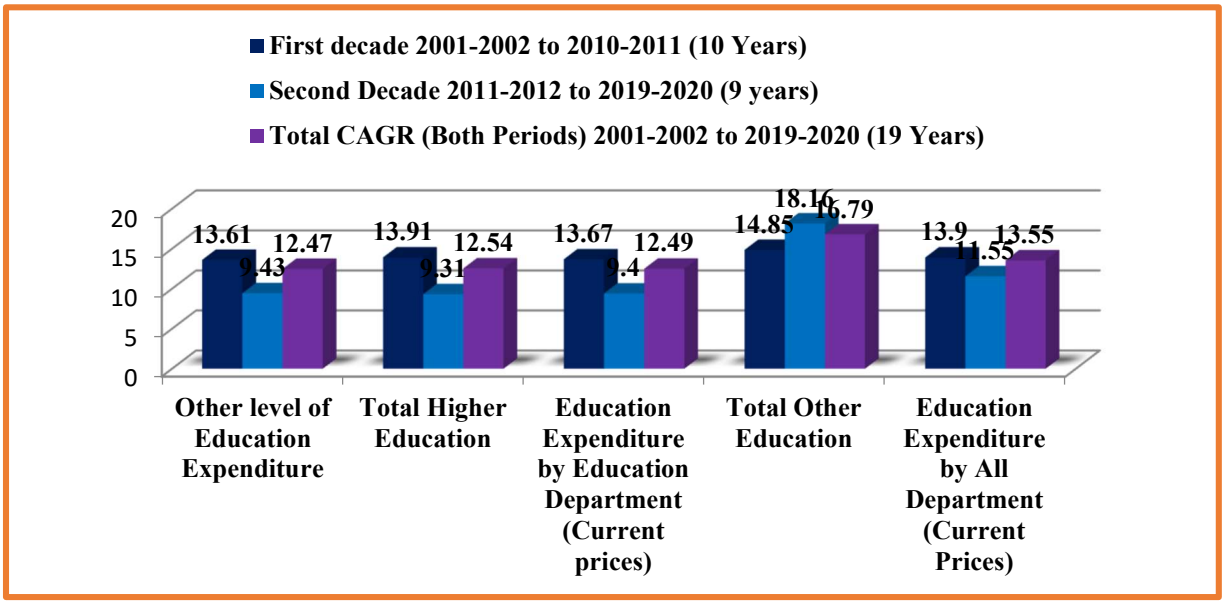


Figure 2 Compound Annual Growth Rate of Other level of Education Expenditure, Higher Education Expenditure, Education Expenditure by Education Department and Total Education Expenditure by all Department



Findings

- During the period under study, the other level of Education expenditure was Rs.53257 crore in 2001-2002 and it escalated to Rs.104775 crore in 2007-2008, it moved up to Rs.220597 crore in 2011-2012, and it enlarged to Rs.313607 crore in 2015-2016, and reached to Rs.497048 crore in 2019-2020 showing an increase of 933.30 per cent and which reveals an increase of about 9.33 times during the period under study.
- The education expenditure by education department had increased from Rs.64848 crore in the year 2001-2002, , further increase to Rs.233510 crores in 2010-2011, it intensified to

Rs.428011 crores in 2016-2017 and finally increased to Rs.606494 crore in 2019-2020, which exhibits an increase of 9.35 times. On average Rs.256677.26 of education expenditure by education department is devoted to education in India in between 2001-2002 and 2019-2020.

- The growth rate of education expenditure, however, is not uniform in the two sub-periods. The total expenditure by all department increased at the average compound growth rate 13.9 per cent per annum during the first decade while it increased at a lower rate of 11.55 per cent during second decade. The total other education expenditure is a dominant component of total expenditure which records a higher rate of growth of 16.79 per cent per annum during the period under study. During the first decade it Increased at the compound rate of growth of 14.85 per cent per annum while it increased to 18.16 per cent during the second decade.
- Total Public Educational Expenditure on University and Higher Education in India by States for a period of 10 years ranging from 2020-2021 to 2029-2030. Compared to 2019-2020 the projected Total Public Educational Expenditure on University and Higher Education in India by States in 2029-2030 will have a 2.21 fold increase.

Conclusion and Policy implication

The study concludes that higher education in India is facing a difficult and challenging situation. The increase in population has also led to an increase in the number of students seeking admission to colleges and universities. This suggests that after India's economic reforms, the central government took a greater role in investing in education, thereby improving the country's human capital and infrastructure and increasing job growth. Since state resources are limited, efficient and effective allocation of resources is of great importance. Therefore, the same precautions need to be taken. Undergraduate and graduate students going abroad may be required to pay at least some of their educational expenses immediately while working abroad. Contracts can also be used. This indicates that the government's primary role in funding higher education is coming to an end, and the expansion of higher education is no longer based on public funding. The role of higher education funding has reversed due to the privatization of public schools and reform measures to support private schools in the economy. This has led to the commercialization of education. From the above discussion, it can be seen that education can increase people's material capabilities and the development of the country. This fact means that people need education to acquire additional skills that will increase their earning power. The need for education in economics means that people benefit from the educational opportunities provided by the state. Generally speaking, education is considered a good consumer and a good investment. However, human capital views education as an investment rather than an expense because it makes the educated person more profitable in the future. However, parents and guardians send their children and wards to schools to acquire knowledge and skills that will help them earn money.

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