

Trends in Growth and Patterns of Public Funding on Higher Education in India: An Empirical Analysis

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Abstract

This paper examines the trends in growth and the patterns of public expenditure on higher education in India, with a focus on both national and state levels. Higher education is a significant component of the social sector and plays a vital role in the economic development of the country. Recognized as a public good, it falls under the Concurrent List of the Indian Constitution, thereby making both the Central and State Governments responsible for ensuring its accessibility, equity, quality, and quantity. The level of funding provided by the Union Government to any sector reflects the importance accorded to it. In this context, public funding plays a pivotal role in shaping the development, reach, and quality of higher education. Given India's vast demographic base, socio-economic diversity, and evolving policy priorities, sustained and strategic public investment in higher education is essential for achieving inclusive and sustainable national growth. The findings reveal that public funding has exhibited a positive growth trend, with an average annual growth rate of 2.6% during the study period. This growth is statistically significant at the 1% level, indicating a high level of confidence in the results. The model also demonstrates a high goodness-of-fit ($R^2 = 96.3\%$), suggesting that the model explains a substantial proportion of the variation in public funding for higher education.

Keywords: Higher Education, Public Funding, Intra-sectoral, and Plan and Non-plan.

Introduction

Higher Education is a very predominantly factors of social sector and economic development in the country. It is public good and it is involved in the concurrent list of Indian constitution, both Central and state government has the concern to preserve quantity, quality, access and equity in higher education. Funding resource funded by the Union Government on any sector indicates the importance attached to that sector. It is the most an important vital role of human resources for socio-economic and political transformation. A well-educated population, equipped with the relevant knowledge, attitudes and skills is essential for socio-economic development in the twenty-first century. Education is the most powerful tool for socio-economic development mobility and a key instrument for building an equitable and just society. It can be providing skills and competencies for economic well-being.

Objectives of the Study

Objective of the Study

The present study is objectives to provide comprehensive assessment of the spending incurred both by Central and State Government on education, the primary emphasis of the study is on the following objectives as given in below:

1. To examine the trends analysis of intra-sectoral allocation of plan expenditure on education sector in Five Year Plans in India.
2. To know the public funding by Centre, State government of plan and non-plan funding on higher education in India

Hypothesis

1. Public funding has a significant impact on higher education system in India.

Materials and Methods

The present study is primarily based on secondary data obtained from various official sources, including the Budgetary Analysis of Government Expenditure (Ministry of Human Resource Development, Government of India). Additional data has been sourced from the University Grants Commission (UGC) Annual Reports, the All India Survey on Higher Education (AISHE), and Educational Statistics at a Glance. The study covers the period from 2011 to 2017. For data analysis, statistical tools such as the mean, Annual Growth Rate (AGR), Compound Annual Growth Rate (CAGR), and Pearson correlation were employed. The data analysis was carried out using Microsoft Excel, SPSS version 21, and Gretl statistical software.

Growth of Higher Education System in India

India being a youthful nation has the opportunity to benefit from its demographic dividend if it can ensure support and access to higher education of the right quality. The Indian higher education system is one of the largest in the world in terms of the number of colleges and universities. At the time of Independence of India, there were only 20 Universities and 500 Colleges in the country with 2.1 lakhs students in higher education. There were just 25 universities and 500 recognized colleges in India, which together enrolled a meager 0.1 million students in 1947(Agarwal, 2006). After that the state made aware efforts to increase the infrastructure facilities in higher education sector in each state of India. As a result of these state efforts, the total number of universities increased from 25 in 1950-51 to 350 universities and 16,982 colleges in 2005-06, the numbers have gone up to 799 universities, 39,071 colleges, and 11,923 diploma-level institutions in 2015-16.

Sources of Higher Education Funding

There are various sources of higher education funding and they are- Public sector which consists spending incurred by the central government, state governments and union territories government, and local bodies. In addition to government, NGOs agencies, corporate investment and individual household expenditure also contribute pointedly. The emphasis in this article has been need on public funding on higher education by the central and the state government.

Trends Analysis of Intra-Sectoral Allocation of Plan Expenditure on Education Sector in Five Year Plans in India

Five-year plans are an essential instrument of economic development strategy adopted by the independent India. It set new instructions for development-quantitative expansion, improvement in quality as well as several other dimensions of educational development. Therefore, it is important to examine the priority given to different levels of education in the Five Year Plans. An analysis of intra-sectoral allocation of resources in India during the plan period shows an emphasis on some levels of education. In the First Plan, 61.15 per cent of the total plan resources to education were allocated to elementary education, 14.38 per cent to secondary, 10.07 per cent to university and 14.38 per cent to technical education. The allocation to elementary education came down severely in the subsequent plans, 39.05 per cent in Second Plan, 38.95 per cent in the Third Plan and 35.14 per cent in the Fourth Plan. Then it increased to 40.38 per cent in the Fifth plan and again it tended to decline to 35.70 per cent in the Sixth Five Year Plan. During the Seventh, the Eight, the Ninth Five Year Plan, significant efforts were made to increase the allocation substantially, though the allocations made in the Eighth and Ninth Five Year Plan were still less the corresponding one in the First Five Year Plan in percentage terms. But again in the Tenth Five Year Plan the elementary education was given a high priority, its share has increased to 65 per cent of the total plan expenditure on education.

Table-1
Plan-wise Intra-sectoral Allocation of Plan Expenditure on Higher Education in India
(Rs Crore)

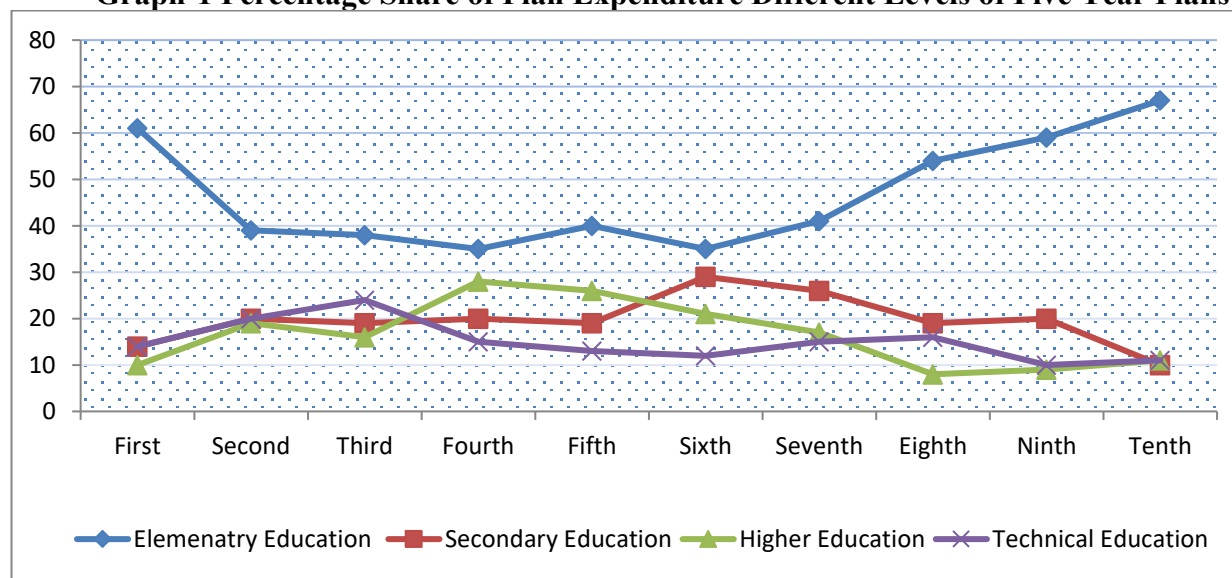
Five Year Plans	Elementary Education (%)	Secondary Education (%)	Higher Education (%)	Technical Education (%)	Total of Level of Education (%)
First	85 (61.15)	20 (14.38)	14 (10.07)	20 (14.38)	139.00 (100.00)
Second	95 (39.09)	51 (20.09)	48 (19.75)	49 (20.16)	243.00 (100.00)
Third	201 (38.95)	103 (19.96)	87 (16.86)	125 (24.36)	516.00 (100.00)
Fourth	239	140	195	106	680.00

	(35.14)	(20.58)	(28.67)	(15.58)	(100.00)
Fifth	317 (40.38)	156 (19.87)	205 (26.11)	107 (13.63)	785.00 (100.00)
Sixth	883 (35.70)	736 (29.76)	530 (21.43)	324 (13.10)	2473.00 (100.00)
Seventh	2849 (40.92)	1829 (26.27)	1201 (17.25)	1083 (15.55)	6962.00 (100.00)
Eighth	9201 (54.11)	3498 (20.53)	1516 (8.91)	2787 (16.39)	17002.00 (100.00)
Ninth	27363 (59.46)	9526 (20.70)	4350 (9.45)	4778 (10.38)	46017.00 (100.00)
Tenth	28750 (67.52)	4325 (10.15)	4799 (11.27)	4700 (11.03)	42574.00 (100.00)

Source: Government of India (2017), Five Year Plan Annual Reports, Various Annual reports of Financial Statistics of Education, MHRD.

The plan allocated to secondary education showed that after an early jump from 14.38 per cent to 19.96 per cent between the First and Second Five Year Plan, it got relatively stabilized and remained around that percentage until the sixth five year plan. In the Sixth Five Year Plan, for the first time, the allocation was increased to 29.76 per cent. But this level was subsequently reduced to 20.53 per cent in the Eight Plans and gradually it declined to 10.15 per cent in the Tenth Five Year Plan.

Graph-1 Percentage Share of Plan Expenditure Different Levels of Five Year Plans in India



From the study analysis of Table-1 and Graph-1, it can be observed that regarding higher education there have been considerable a fluctuations trend. During the First Five Year Plan, higher education was not given high priority. But probably realizing the importance of higher education soon, in the second five year plan the allocations to higher education was doubled from 10.07 per cent to 19.75 per cent of total education outlay.

Trends and Allocation of Public Expenditure on Higher Education

Public expenditure is existence provided to the Central, State and Deemed Universities for their overall development covering aspects like enhancing access, ensuring equity, imparting relevant education, improving quality, making the administration effective, enhancing facilities for students, augmenting research facilities and other plans of universities. Non-plans are also being provided to a limited number of universities to meet their recurring expenditure on salaries of both teaching and non-teaching employees, maintenance of labs, libraries, buildings and also for obligatory payments such as taxes, telephone and electricity bills, postage, etc. During the financial year 2014–15, the Central Government extended both Plan and Non-Plan grants to Central Universities and a few Deemed Universities, while State Universities received only Plan grants. In total, 39 Central Universities were provided financial assistance under both Plan and Non-Plan heads. Specifically, Plan expenditure amounted to ₹1,835.67 crore for these 39 Central Universities. Additionally, Non-Plan grants totaling ₹3,527.45 crore were disbursed to 24 Central Universities and one medical college during the reporting year.

Results and Discussion

Central and State Government of Plan and Non-Plan Funding on Higher Education in India

An important division of Budget in India is Plan and Non-plan financial. There is no country in the world to make such a division. “Plan expenditure” refers to the amount spent on the recruitment of new staff, improvement of universities and college campus, improvement of boys and girls PG and UG hostels, conduct international conference and workshops, construction of universities and colleges etc. Whereas Non Plan Expenditure is incurred on the maintenance of established infrastructure and committed expenditures. The Central government supervises the formulation and implementation of the State plans. The Non- plan component is eight to ten times larger than the plan component. The Central Government full finances to Central universities and gives plan grants to state universities and private colleges. Besides, this it also incurs expenditure on maintenance of Central Government schools and colleges. State and Central Government plan and non-plan expenditure on higher education in India in the period study 1999-2000 to 2011-12.

**Table-2 Central and State Plan Financial on Higher Education in India
(2011-12 to 2017-18)**

Year	Plan Expenditure		Total Expenditure	(Rs in Lakhs) AGR
	Central	State		
2011-12	4352.5	1705.7	6058.2	-
2012-13	4615.3	1812.2	6427.5	6.10
2013-14	4716.3	1819.2	6535.5	1.68
2014-15	4756.1	1920.1	6676.2	2.15
2015-16	4800.5	1943.5	6744.0	1.02
2016-17	4812.2	1951.1	6763.3	0.29

2017-18	4925.8	1992.2	6918.0	2.29
CAGR	17.69	12.20	15.73	

Source: Government of India (2017), Educational Statistical at A Glance, and Various Annual Reports Educational Statistics and Budget Expenditure.

Table 2 provides valuable insights into the Plan expenditure by the central and state governments on higher education during the study period from 2011–12 to 2017–18. The data indicate a gradual increase in total expenditure on higher education, with contributions from both central and state Plan allocations showing positive growth over the years. In 2011–12, central Plan expenditure on higher education was ₹4,352.5 lakhs, while state Plan expenditure stood at ₹1,705.7 lakhs. By 2017–18, central expenditure had increased to ₹4,925.8 lakhs, and state expenditure rose to ₹1,992.2 lakhs. Overall, the total Plan expenditure grew steadily, reaching ₹6,058.2 lakhs (central) and ₹6,918.0 lakhs (state) by the end of the study period. These trends reflect the increasing financial commitment of both central and state governments towards the development of higher education through Plan-based funding mechanisms.

Table-4 Central and State Non-Plan Financial on Higher Education in India

(Rs in Lakhs)

Year	Non-Plan Expenditure			AGR
	Central	State	Total Expenditure	
2011-12	4785.9	17535.8	22321.7	-
2012-13	4975.4	18562.2	23537.6	5.45
2013-14	5575.1	18752.1	24327.2	3.35
2014-15	5963.4	18921.3	24884.7	2.29
2015-16	6124.1	19121	25245.1	1.45
2016-17	6436.8	19621.1	26057.9	3.22
2017-18	6931.2	19842.9	26774.1	2.75
CAGR (%)	13.05	8.78	9.61	

Source: Government of India (2017), Educational Statistical at A Glance, and Various Annual Reports Educational Statistics and Budget Expenditure.

Table 4 presents data on central and state government non-plan expenditure on higher education during the study period from 2011–12 to 2017–18. The findings indicate an increasing trend in both central and state non-plan expenditures over this period. The data reveal a consistent rise in the amount spent by both levels of government, reflecting a growing financial commitment to higher education. In 2011–12, central non-plan expenditure on higher education was ₹4,785.9 lakhs, while state non-plan expenditure stood at ₹17,535.8 lakhs. By 2017–18, central non-plan expenditure had increased to ₹6,931.2 lakhs, and state non-plan expenditure also demonstrated a year-on-year increase. Overall, the total non-plan expenditure grew significantly, reaching ₹22,321.7 lakhs (central) and ₹26,774.1 lakhs (state) by the end of the study period. These trends highlight a positive growth trajectory in public investment in higher education through non-plan funding mechanisms.

Testing Hypothesis

H0: Public funding does not have a significant impact on the higher education system in India.

H1: Public funding has a significant impact on the higher education system in India.

Table-5 Impact of Plan and Non-Plan Expenditure on Higher Education in India

Model Summary and Parameter Estimates							
Dependent Variable: Total Public funding							
Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	Sig.	Constant	b1
Exponential	.963	130.704	1	5	.000	28171.754	.026

Table 2 presents the results of the exponential growth model used to analyze the impact of Plan and Non-Plan expenditure by the central government on higher education in India. The findings reveal that public funding has exhibited a positive growth trend, with an average annual growth rate of 2.6% during the study period. This growth is statistically significant at the 1% level, indicating a high level of confidence in the results. The model also demonstrates a high goodness-of-fit ($R^2 = 96.3\%$), suggesting that the model explains a substantial proportion of the variation in public funding for higher education. Based on these results, the null hypothesis—that public funding has no significant impact on the higher education system in India—is rejected. Therefore, the study concludes that public funding has a statistically significant and positive impact on the development of higher education in India.

Conclusion

The present article examines the levels, growth trends, and intra-sectoral allocation of public expenditure on higher education in India. The findings indicate that while the overall quantum of expenditure on education has increased significantly over time, the actual amount allocated to the higher education sector remains below the required level. The study highlights trends in both Plan and Non-Plan funding (now subsumed under revenue and capital expenditure post-2017 reforms), and analyzes intra-sectoral allocations across different levels of education—namely primary, secondary, higher, and technical education. The paper also explores the patterns of expenditure incurred by the central and state governments. Notably, distinct trends have emerged in the distribution of planned and non-planned expenditure within the higher education sector.

References

- Azad, J. L. (2008). *Financing and management of higher education in India: The role of the private sector*. Gyan Publishing House.
- Anuradha De, Tanuka E (2008) Public Expenditure on Education in India: Recent Trends and Outcomes. Research Consortium on Educational Outcomes and Poverty.
- De, A. and Endow, T. (2008). Public Expenditure on Education in India: Recent Trends and Outcomes, Research Consortium on Educational Outcomes and Poverty, Working Paper No. 18.
- Devi, T. P., Maisnam, C., & Panigrahi, S. K. (2019). Public-Funding in Higher Education: A Critical Reflection. *Journal of Accounting and Finance*, 34(1).
- Jayaram, N. (2004). Higher education in India. *Asian universities: Historical perspectives and contemporary challenges*, 85.
- Kalita, P. (2022). Financing Of Higher Education in India. *Journal of Positive School Psychology*, 6(3).
- Ministry of Finance (2021). Expenditure Budget Vol.1 2021-22, Government of India, New Delhi.
- Ministry of Human Resources Development, (2023). National Policy on Education 1986, New Delhi: Government of India.
- Ministry of Human Resource Development (2018). A Handbook of Educational and Allied Statistics. New Delhi: Ministry of Human Resource Development
- Ministry of Human Resource Development (2023). Statistics of Higher and Technical Education. New Delhi: Ministry of Human Resource Development.
- Ministry of Human Resource Development (2011-12 to 2017-18). Statistics of Higher and Technical Education. New Delhi: Ministry of Human Resource Development, 2023.
- Singh, J. D. (2011). Higher education in India—Issues, challenges and suggestions. *Higher education*, 1, 93-103.
- Varghese, N. V., & Panigrahi, J. (2019). *India Higher Education Report 2018: Financing of Higher Education*. SAGE Publications Pvt Ltd.
- Varghese, N. V. (2021). Financing of higher education in India. *University Grants Commission (UGC), Quality Mandate for Higher Education Institutions in India*, 223-235.
- Tilak, J. B., & Varghese, N. V. (1991). Financing higher education in India. *Higher Education*, 21(1), 83-101.
- Tilak, J. B. (1993). Financing higher education in India: principles, practice, and policy issues. *Higher Education*, 26(1), 43-67.