International Journal of Commerce and Management Research
ISSN: 2455-1627, Impact Factor: RJIF 5.22
www.managejournal.com
Volume 2; Issue 11; November 2016; Page No. 97-102

Is government really sensitive towards financing higher education in India: An empirical evidence

Geetanjali Diwani

Kristujayanti College (Autonomous), Bengaluru, Karnataka, India

Abstract
In terms of expenditure on education as a percentage to GDP, India lags behind most of the developed nations and makes higher education expensive and inaccessible to many deserving students. The purpose of the present study is to understand the trend set in Govt. policy towards financing higher education and to project that with the existing trend whether Govt. can reach the goal of education to all by 2030. Descriptive and Exploratory Methods are used to study the current trend of financing higher education by Government of India. Empirical method is used to project the trend for next 15 years of policy for financing higher education. Secondary data is collected through Budget reports, journals, research articles, magazines etc. The findings of the present study shows that higher education fund allotment has increased considerably in the course of time but still it is not satisfactory with respect to its consistently increasing demand.

Keywords: higher education, education expenditure, union budget

1. Introduction

It's rightly said, "The Future Belongs to those who believe in the Beauty of their Dreams". India is a perfect example. IMF calls India as, "the bright spot in the Global Landscape". Economist Intelligence Unit (EIU), quotes "India is likely to overtake current global leaders such as the US, Japan and Western Europe." PricewaterhouseCoopers (PwC) report anticipates, "India is set to become the third largest economy in the world by 2030". HSBC global trade report, forecast, "India could be the world's fastest growing exporter between 2014 and 2030, moving from the 14th largest exporter of goods by value to the world's 5th largest". The US Department of Agriculture projects India to rise up the rankings and for the first time, enter the top three to become the third largest economy in the world by 2030.

The London-headquartered accountancy giant believed the rapid rise of the Indian economy with its young workforce is responsible to pull India to the third largest economy in 2030 from tenth largest economy in 2013.

2030, looks very promising for India. The year will mark 83 years of Independence, 80 years of constitutional democracy, and 40 years of Economic Liberalization. Each of these is a milestone in itself on the road to India's success. The most remarkable of them for India will be the World's Oldest Civilization and Youngest Nation. As per FICCI, today, the median age of India's 1.5 billion strong population is a mere 32 years; a good ten years lower than most other nations in the world. Today, India is the largest contributor to the global workforce, its working age population surpassing 950 million. It is no surprise then that; India has the potential to emerge as the world's third largest economy soon by its unique demographic advantage.

Since the last two decades, remarkable transformation is witnessed in Indian higher education. Student-centric learning-driven model of education, bettered enrolment numbers, enhanced learning outcomes has enabled universities to build on their strengths and cater across different categories of educational needs. Despite of these trends, India's higher education institutions are not yet the best in the world. We can observe less than 25 universities in the top 200 in the global scenario. This paper attempts to understand the trend followed in the Government policies towards financing higher education and to predict a picture of higher education in 2030, so to make India as a regional hub of education and attracts global learners from all over the world.

2. Literature Review

"*Our progress as a nation can be no swifter than our progress in education. The human mind is our fundamental resource."*

- John F Kennedy

Lucas (1988) in his Endogenous Growth Theory regarded Human Capital as a factor of Production and Knowledge which is the centrifugal force to accelerate economic growth. Sustaining an economic and social progress in a nation requires Human Capital.

The interaction between human capital and economic growth has been an object of research for several decades, both in macroeconomic (Pereira and Aubyn, 2009; Odit *et al.*, 2010) [13, 12] and microeconomic literature (Psacharopoulos, 1995; Bouaissa, 2009) [15, 4], (Ahmed, 2009) [2].

Douglass (2010) [5] found that educational achievement of a nation's population is an important factor for greater national productivity and global competitiveness. Musai *et al.* (2011) [11] studied the relationship between education and economic growth of 79 countries. They revealed that the elasticity of the production of human capital, physical capital and labor force are 0.28, 0.696 and 0.044 respectively. Their significant contributed to the literature stating that increases in education spending, physical capital and labor force will increase the economic growth of a country.

Financing higher education has attracted serious attention of policy makers and educational thinkers as higher education system is facing financial crunch (Varghese 2009, Rani 2009, GoI 2005) [20, 8] in recent years. It is important to underline the fact here, that from the Second to the Sixth Five-Year Plan period, higher education grew reasonably well with increasing

attention coupled with rising allocations of public resources. But from the Seventh Five-Year Plan onwards, higher education did not receive the attention it deserved. This resulted in erratic growth of higher education, affecting the access, equity, relevance and excellence.

Inequalities in access to higher education by gender, caste and religion increased and inter-institutional variations in quality of higher education became strikingly visible (Tilak 2005) [18]. Dukkipati (2010) [6] quoted that for India to maintain its economic growth in a global marketplace fuelled by the knowledge economy, it needs to nearly double its number of students in higher education by 2012. Without proper access to education the country's demographic dividend could turn into a demographic disaster. He proposed that the Government of India expenditure on education and more specifically higher education does not correspond with the country's economic growth. The author points out that in 1950, higher education expenditure as a proportion of GNP was 0.19 percent and rose to 1% in 1980; however by the mid-1990s it fell to 0.4%. In this backdrop the author makes a case for increasing the budget expenditure. It is also argued that given the limited national and state resources for drawing on funds, the budgetary support must be supplemented with foreign and private sources.

Gupta & Gupta (2012) [9] uphold Dukkipati's contention about the Government's desertion of research. The authors recorded that the Government expenditure on research and development in science and technology as percentage of GDP was 0.8% during 2005-06 in India. By way of comparison, the equivalent figure for other countries like Israel, Sweden, Japan, US and China were 5%, 4%, 3%, 2.77% and 1.5% respectively.

3. Objectives

The objectives of the study are

a) To examine the allocation of education expenditure and allocation of grants demanded for Higher Education Department by Government through Union Budget.
b) To forecast the trend in rate of allocating higher education expenditure in Union Budget for next 15 years.
c) To analyse the relationship between growth rate of higher education expenditure and of GDP.

4. Methodology

Descriptive and Exploratory methods are used to review the allocation of total education expenditure planned to incur by Government of India for last 15 years. Trend Projection Method through Regression is used to forecast the future trend in deciding the expenditure on higher education by the Government of India using data of past 15 years. Regression and Correlation Analysis is used to analyze the relationship between the growth rate of higher education expenditure and GDP. Secondary data is used and collected from Union budget 2000-2015, Reports of Ministry of Human Resource Development, Database of World Bank etc.

5. Analysis & Discussion

To begin with our analysis, we first attempt to investigate the allocation of education expenditure by Government through Union Budget, for which we considered the reports from Ministry of Human Resource Development (MHRD). It was created on September 26, 1985, through the 174th amendment to the Government of India (Allocation of Business) Rules, 1961, works through two departments:

a) Department of School Education & Literacy
b) Department of Higher Education

Table 1: Fund allocated to Ministry of Human Resource Development

Years	Share of HRD in Total Budget %	Share of Higher Education in Budget of HRD %	Share of Higher Education in Total Budget %
2015	3.06	83	2.54
2014	3.57	83	2.95
2013	9.54	24	2.31
2012	11.14	23	2.55
2011	9.96	25	2.47
2010	9.37	22	2.02
2009	7.28	26	1.91
2008	7.73	23	1.75
2007	8.71	13	1.12
2006	8.49	17	1.48
2005	9.21	13	1.22
2004	8.37	18	1.48
2003	6.77	21	1.41
2002	6.08	23	1.42
2001	5.65	25	1.42

Source: Union Budget 2001-2015

Table.1 indicates the fund allocated to MHRD shows an increasing trend from 5.65% in 2001 with highest 11.14% in 2012. But in 2013 and 2014 there is a steep fall in allocation of fund to MHRD out of total budget (from 9.54% to 3.57%), almost 3 times less, further decline to 3.06% in 2015 estimated budget. Division of fund between the two departments of MHRD i.e., Department of School Education & Literacy and Department of Higher Education depicts a different picture. From 2001 to 2013, share of Department of Higher Education was considerably small (ranges from 13% to 26%). In 2014, MHRD has taken a bold decision of increasing the share of Department of Higher Education to 83%, remain same even in estimated budget of 2015-16. Share of Higher Education has increased by almost 1% in total budget i.e., from 1.42% in 2001 to 2.54% in 2015 budget estimates. The University Grants Commission (UGC) is a statutory organization established by an Act of Parliament in 1956 for the coordination, determination and maintenance of standards of university

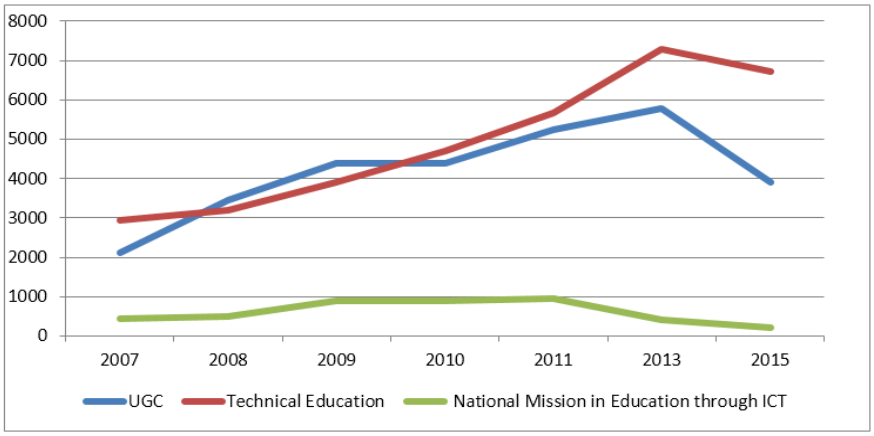
education. The Commission also advises the Central and State Governments on the measures which are necessary for the development of Higher Education. National Mission on Education through Information and Communication Technology (NMEICT) was launched in 2009 to provide the opportunity for all the teachers and experts in the country to pool their collective wisdom for the benefit of every Indian learner. Technical Education plays a vital role in human resource development of the country by creating skilled manpower, enhancing industrial productivity and improving the quality of life of its people.

Table 2: Allocation of fund among the 3 major components

Year	UGC (Rs. In crore)	Technical Education (Rs. In crore)	National Mission in Education through ICT (Rs. In crore)
2015	3905	6705	200
2013	5769	7299	400
2011	5254	5660	943
2010	4390	4706	900
2009	4375	3902	900
2008	3440	3205	502
2007	2125	2930	452

Source: Union Budget 2007-2015

Table 2 further describes the allocation of fund among the 3 major components viz. UGC, Technical education and National Mission in Higher Education through ICT shows more importance given to technical education from year 2010 onwards.



Source: Union Budget 2007-2015

Fig 1: Allocation of fund among the 3 major components

Graph 1 clearly indicates that there is a consistent increase in share of Technical Education till 2013, but in 2015 Budget estimates it is reduced. Shares of UGC and National Mission in Education through ICT have fallen sharply. To explore the allocation of grants demanded for higher education, we considered the data from Union Budget from 2008-2015.

Table 3: Demand for Grants

Year	Dept. of school education and literacy (Rs.Crore)	Dept. of Higher education (Rs.Crore)
2015	3905	6705
2013	5769	7299
2011	5254	5660
2010	4390	4706
2009	4375	3902
2008	3440	3205

Source: Union Budget 2008-2015

Table 3 shows the division of Grant between School education & literacy and Higher education which highlights more importance given to School education & Literacy Dept.

Demand for Grants for School Education & Literacy has shown increasing trend from 2010 to 2014, but dropped down in 2015.Even though there is marginal increase in the Grants demanded for Higher Education, it is also declined in 2015.

Observing the data in this case, it should be noticed that the grant request from higher education is quite less than that of School Education. When we attempted to locate the reasons for the same, we found that in spite of significant progress over last few years, Indian Higher Education faced some challenges.

a. The Supply-Demand Gap: - India has a low rate of enrolment in higher education, at only 18%, compared with 26% in China and 36% in Brazil. There is enormous unmet demand for higher education. By 2020, the Indian government aims to achieve 30% gross enrolment, which will mean providing 40 million university places, an

increase of 14 million in six years.

b. Low Quality Teaching and Learning: - The system is beset by issues of quality in many of its institutions: a chronic shortage of faculty, poor quality teaching, outdated and rigid curricula and pedagogy, lack of accountability and quality assurance and separation of research and teaching.
c. Constraints on research capacity and innovation: - With a very low level of PhD enrolment, India does not have enough high quality researchers; there are few opportunities for interdisciplinary and multidisciplinary working, lack of early stage research experience; a weak ecosystem for innovation, and low levels of industry engagement.
d. Uneven growth and access to opportunity: - Socially, India remains highly divided; access to higher education is uneven with multidimensional inequalities in enrolment across population groups and geographies. Considering the challenges, we understood that there is a need to change the present status of the Higher Education. There should be more focus on the dealing with this issue; therefore we attempted to forecast the rate at which allocation for higher education should be done in Union Budget for next 15 years. We used the Trend Projection through Regression method to analyse the same.

   With the help of available data the Regression Equation can be written as Y= 1.87+0.112X

   As Y in this case is Percentage Share of Higher Education, therefore % Share of Higher Education = 1.87 + 0.11X (Where X is the time deviation from base year 2008)

   Using this equation, estimated % share of Higher Education out of Total budget is observed in Table 4.

Table 4: Projected Percentage share of Higher Education in Total Budget

Year	Projected Percentage in Higher Education
2016	2.77
2017	2.88
2018	2.99
2019	3.10
2020	3.22
2021	3.33
2022	3.44
2023	3.55
2024	3.67
2025	3.78
2026	3.89
2027	4.00
2028	4.11
2029	4.23
2030	4.34

(Authors' Analysis)

In 2015, share of Higher Education was 2.54% of total budget and projected share in 2030 is 4.34% which shows about 1.8% increase in financial support from Government to MHRD. Keeping the fact in mind that there will be 142 million population of 18-23 years age group by 2030 according to FICCI report which constitutes demand for higher education in future, the projected marginal increase in allocation of fund for higher education in total budget in 2030 does not look sufficient, hence government should focus on allocating more funds and encouraging institutions/ students for using the same for knowledge creation. Economists traditionally used Gross Domestic Product (GDP) to measure economic progress. According to them if GDP is rising, the economy is good and the nation is moving forward. If GDP is falling, the economy is in trouble and the nation is losing ground. From a strictly numerical perspective, GDP provides an easy-to-follow indicator of economic health.

Table 5: Higher Education expenditure & GDP Growth rate in Total Budget

Year	Higher education expenditure growth rate %	GDP Growth rate %
2015	-0.14	8
2014	0.28	7.4
2013	-0.09	6.9
2012	0.03	5.1
2011	0.22	6.6
2010	0.06	10.3
2009	0.09	8.5
2008	0.56	3.9
2007	-0.24	9.8
2006	0.21	9.3
2005	-0.18	9.3
2004	0.05	7.9
2003	-0.01	7.9
2002	0.00	3.8
2001	-0.10	4.8

***Source*:** World Bank Database

We, here attempt to analyse whether there is any relationship between growth rate of higher education expenditure and GDP. Hence, we propose the following hypothesis,

H_0: There is no relation between rate of growth in Higher Education Expenditure and GDP.

H_1: There is a significant relationship between Rate of Growth in Higher Education Expenditure and GDP.

To understand the relationship, we used Correlation & Regression Analysis in SPPSS21 software, and observed the following results.

Table 6: Correlation Analysis between GDP & Higher Education Expenditure

		GDP_GROWTH	HIGH_EDU
GDP_ Growth	Pearson Correlation	1	-.360
	Sig. (2-tailed)		.188
	N	15	15
High_EDU	Pearson Correlation	-.360	1
	Sig. (2-tailed)	.188	
	N	15	15

The above table highlights that the nature of correlation between GDP Growth and Higher Education Expenditure is negative; also the degree of correlation is moderate (-0.36). Hence we cannot predict about the relationship between both the variables.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.360[a]	.129	.062	.19893
a. Predictors: (Constant), GDP_GROWTH				

As per the above table, R-Square is 0.129. R-Square is the proportion of variance in the dependent variable (Higher Education) which can be predicted from the independent variables (GDP). This value indicates that 12.9% of the variance in Higher education can be predicted from the GDP. R-Square is in this case is very small.

The value of R^2 (coefficient of determination) is to test the goodness of fit of the model. It is expressed as a value between zero and one. If value is one, it indicates a perfect fit, and therefore, a very reliable model for future forecasts. A value of zero, on the other hand, would indicate that the model fails to accurately model the dataset. Hence, the higher the value of R^2; the more useful the model

Table 8: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.076	1	.076	1.932	.188[b]
	Residual	.514	13	.040		
	Total	.591	14			

a. Dependent Variable: HIGH_EDU
b. Predictors: (Constant), GDP_GROWTH

The p-value associated with this F value is 0.188. These values are used to answer the question "Do the independent variables reliably predict the dependent variable?"

The p-value is compared to alpha level (typically 0.05) and, if smaller, we can conclude "Yes, the independent variables reliably predict the dependent variable". But in this case, as p-value is greater than 0.05, hence we can say that GDP cannot be used to reliably predict Higher education expenditure (the dependent variable) or Independent variables does not show a statistically significant relationship with the dependent variable.

Based on the same result we rejected our alternate hypothesis and conclude that there is no relation between rate of growth in Higher Education Expenditure and GDP.

6. Findings

Our major findings are as follows

a) Funds allocated to Ministry of Human Resource Development (MHRD) shows an increasing trend.
b) Grant requested from higher Education is quite less than that of School Education.
c) The major challenges faced by Indian Higher Education are Supply-Demand Gap, Low Quality Teaching & Learning, Constraints on research capacity and innovation, Uneven growth and access to opportunity
d) According to FICCI report which constitutes demand for higher education in future, the projected marginal increase in allocation of fund for higher education in total budget in 2030 does not look sufficient, hence government should focus on allocating more funds for higher education.
e) There is no relation between rate of growth in Higher Education Expenditure and GDP.

7. Suggestions

We quote the following recommendations based on our findings:-

a) As the twelfth five-year plan (2013-17) for higher education addresses three overarching challenges: excellence, equity and expansion, we believe that the same should be strictly followed by the government for next couple of years.
b) Investment in ICTs and internet access shall help the universities and institutes for multi-disciplinary collaboration and development of technology-enhanced learning and teaching
c) Support for multi-disciplinary research should come from government in form of scholarships and grants.
d) Government should introduce schemes for underprivileged and underrepresented students
e) And finally we think that the "Make in India" initiative should be backed up by "Stay in India" initiative as the huge Brain Drain somehow affects the research and development in India and has an adverse effect in the economic growth. The students from premiere institutes like IIT, IIMs and IISc should be encouraged to stay in India and contribute to their motherland.

8. Conclusion

According to UNESCO, "Higher education is no longer a luxury; it is essential to national, social and economic development". The education sector in India is evolving and has emerged as a strong potential market for investments in training and education sector, due to its favourable demographics (young population) and being a services-driven economy. As the economist Clark Kerr observed, "On a global scale, wealth and prosperity have become more dependent on the access to knowledge than the access to natural resources. The findings of the present study throws lights on some important facts like higher education fund allotment has increased considerably as compared to school education in the course of time but still it is not satisfactory with respect to its consistently increasing demand thereby giving ample chance to private players in education sector to charge exorbitant fees and make it inaccessible to many deserving youth. If the higher education system in India is to benefit the economy it has to be revamped systemically so it can reach as wide a base as possible without watering down the merit.

9. Limitations

Due to time constraints, many other factors like Gross Enrolment Ratio, Region wise and Gender wise, Category wise etc. could not be analysed in the present study which also affects allocation of Public Funding for Education.

10. Scope for further study

Comparative analysis of expenditure on higher education in developed and developing countries will give much wider outlook for sensitivity towards financing higher education among nations.

11. References

1. Agarwal P. Higher Education in India: The Need for Change. Indian Council for Research on International Economic Relations (Working paper No 180), 2006.
2. Ahmed S. Human Capital and Regional Growth: A Spatial Econometric Analysis of Pakistan, Thesis, Florence, Italy, 2009.
3. Bhatia K, Dash M. A demand of value based higher education system in India: A comparative study. International Journal of Research and Development - A Management Review (IJRDMR), 2013.
4. Bouaissa M. Human Capital Theory, Returns to Education and On the Job Learning: Evidence From the Canadian Data, Preliminary and Incomplete Version, CEA, 43rd Annual Conference, University of Toronto, Ontario, 2009.
5. Douglass JA. Creating a culture of aspiration: Higher education, human capital and social change. Procedia-Social and Behavioral Sciences. 2010; 2(5):6981-6995.
6. Dukkipati U. Higher Education in India: Sustaining Long-term Growth. In Center for Strategic Studies and International Studies, Washington D.C., 2010.
7. FICCI Higher Education Summit 2013 Final Report
8. Geetha Rani P. Determination of academic pay in universities and colleges in UK under the new pay framework: the policy and practice. International Journal of Education Economics and Development. 2009; 1(1):47-65.
9. Gupta D, Gupta N. Higher Education in India: Structure, Statistics and Challenges. In Journal of Education and Practice, IISTE, 2012.
10. Indian Public Finance Statistics, 2013-2014 Ministry of Finance, Dept. of Economic Affairs Economic Division, 2014.
11. Musai Maysam, Mohsen Mehrara, Saeid Garshasbi Fakhr. Relationship between education and economic growth (international comparison). European Journal of Economics, Finance and Administrative Sciences. 2011-12; 1:01-29.
12. Odit MP, Dookhan K. The Impact of Education on Economic Growth the Case of Mauritius, Conference Procedings, 2010.
13. Pereira João, Miguel St Aubyn. What level of education matters most for growth?: Evidence from Portugal. Economics of Education Review. 2009-10; 28(1):67-73.
14. Prakash V. Trends in Growth and Financing of Higher Education in India, Economic and Political Weekly, 2007.
15. Psacharopoulos G. The Profitability of Investment in Education: Concepts and Methods, the World Bank, Human Capital Development, Working Papers, 1995; No.76.
16. Sayantan. Relationship between public education expenditures and economic growth: The case of India Economic Studies, University of Dundee, UK.
17. Statistics and Reports of Ministry of Human Resource Development, Various issues.
18. Tilak JB. Higher Education in 'Trishanku': Hanging between State and Market. Economic and political weekly, 2005; 4029-4037.
19. Tilak J. Higher Education, Poverty and Development. In Higher Education and Development, IIEP, 2007.
20. Varghese NV. Globalization, economic crisis and national strategies for higher education development. International Institute for Educational Planning (IIEP) Research Paper, UNESCO. Paris: IIEP, 2009.
21. Union Budget of India, 2000-2015.
22. UGC. UGC Annual Report, Government of India, 2006-2007.
23. World Bank Reports ,Various issues
24. Understanding India - The Future of Higher Education and Opportunities for International Cooperation, British Council, 2014.
25. www.mhrd.gov.in
26. www.indiabudget.nic.in/budget.asp
27. www.data.worldbank.org
28. www.ficci.com/spdocument/20328/FICCI-EY-Report-2013
29. http://www.eurojournals.com/irjfe_53_04.pdf
30. www.unesco.org
31. http://csis.org/files/publication/sam_141.pdf
32. http://www.indexmundi.com/india/gdp_real_growth_rate.html
33. www.iiste.org/Journals/index.php/JEP/article/download/1146/1067