

A Critical Analysis of Financing in Indian Higher Education

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ABSTRACT

The present study attempts to understand and explore the higher education financing structure of India, for instance, public expenditure on higher and technical education in India and, role of center and state in financing higher and technical education in India. Besides, the study carryout a cross-country comparison on higher education financing of the OECD countries and takes into consideration the data from the year 2000 till 2018. The cross-country analysis shows the relative stand of countries on funding of higher education sector, which becomes helpful for a developing country like India, to devise a proper policy on financing the sector. As the education sector is experiencing globalization effects, knowing the phenomena followed by other countries, may help in developing and enriching equitable human resource for future.

Keywords

Higher Education Financing, Public Funding, National Education Policy 2020, OECD, India.

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Introduction

The Indian Constitution acknowledges education as a fundamental right, in addition to its acceptability as a basic human right globally. The constitutional commitment for education at all levels, attracts the majority stake of resources in the country. Education is widely accepted to be one of the driving factors for a nations' development (Azevedo & Nnadozic, 2019; Ozturk, 2008) making the role of higher and technical education crucial in achieving the social and economic goal of a country (Ngware, 2016; Prakash, 2007). This is to emphasize that primary and secondary education is an essential ingredient for the development of a country, and higher education becomes crucial in achieving sustainable and inclusive growth (Prakash, 2007). The world has witnessed a significant increase in students' enrollment, leading to a phenomenon of massification in higher education (Altbach & Reisberg, 2018). In this context, the Indian higher education system has undergone considerable progress over the years. Post-independence, there was a steep quantitative growth of educational infrastructure, with a focus on increasing the Gross Enrollment Ratio (GER). This led India to enter the 'mass' system of higher education from an "elite" system by surpassing the 15% threshold

(Rao, 2017). Despite this rapid expansion and increased access to higher education, the sector continues to be plagued by low employability of students, poor teaching quality, lack of good governance, inadequate funding, and complex regulatory standards (Rani, 2002; Tilak, 1997). Existing literature on the subject is evident that the allotment of funds for higher education has been a tedious task for the policymakers because of various limited fiscal resources (Chinara & Rout, 2016). It is observed that the government spends less than 3% on the education sector against the policy recommendations of 6% of GDP, which is itself very less in view of the present situation of a large youth population in the country (Mitra, 2015; Tilak, 2006). In contrast, many countries in similar economic size bracket makes significantly greater public investment in education, even after having an established education systems.

In India, previous education policies constantly restated the need to increase investments in the education sector, but the said targets could not be achieved as stated. The National Education Policy 2020 (introduced recently), again attempts to focus on attaining the target of increasing the public investment in the education sector to 6% of the gross domestic product (GDP) at the earliest. Even as the government promises an increase in

spending on education, no provision for such an increase has been provided in the current education budget for FY 2020-21; although it aspires to make India, the largest working-age population in the world by the year 2030. The share of the union budget allocated to education fell from 4.14% in 2014-15 to 3.26% in 2020-21. In the 2020-21 budget, the share of the union budget allocated to higher education too reduced from 1.54% to 1.30% for the same period, which means that the funds have not been allocated to education to the extent required to achieve target recommended in the new education policy.

It is still unclear that what needs to be done to ensure the resources needed that will be allotted to increase access, improve the quality of higher education and make it a world-class hub for higher education across the globe. With this background, there is a need to analyze the financing trends of government on higher & technical education vis-a-vis cross-country comparison and policy recommendation of National Education Policy 2020, to deal with the financing issue of Indian higher education.

Literature Review

There exists two major schools of thought on financing in higher education. First being the welfare economists and second is the neo-liberal economists. Welfare economists assume higher education as a 'public good' as it is directly related to society benefits (Chattopadhyay, 2007), and advocates for the public financing of higher education (Tilak, 2012). This will facilitate providing equity in access to higher education for economically backward communities and equality of opportunity. Hence, government intervention and dominance in financing higher education becomes more significant, so that these underprivileged groups are not deprived of educational services (Soyler, 2009). On the other hand, neo-liberal economists assert market philosophy for financing higher education. It supports reduction in public financing, increasing market reliance, privatization as well as commercialization of higher education (Tilak, 2012). This shift of paradigm toward neo-liberal philosophy is supported by various factors like acute fiscal stress faced by the higher education sector and increasing dominance of neo-liberal

economic ideology supporting structural adjustments, stabilization and globalization (Carnoy et al., 2014). Further, a mixed financing system evolved in recent years based on the neo-liberal approach, proposing a public-private partnership (PPP) model, involving transferring the public resources to the private sector in higher education facilitating the growth of the private sector as well (Williams, 2016).

Previous studies reveals that the world is divided into different groups having different financing models in higher education. Some accept public funding and other advocates and practice private funding in higher education, each having its own benefits and success rate. Following the fiscal stress worldwide since the 1980s, various changes have taken place in financing the higher education sector and neo-liberal policies started becoming more important enabling the introduction of significant changes in higher education financing. The share of the public sector has decreased predominantly, and the participation of private sector has increased in higher education, across the globe (Goksu & Goksu, 2015). In the last two decades, the cost-sharing system and the private sector's participation in higher education financing have been a major development in the majority of developing and developed countries (Johnstone, 2006). On the contrary, many previous scholars have argued that the increased participation of the private sector in higher education is a great threat following the notion of education as a public good (Altbach & Reisberg, 2018; Carnoy et al., 2014; Morey, 2004).

In developing economies, lack of concern toward the development of higher education seems to have been based on some faulty assumptions, such as, there has been an excess expansion in higher education, it has been increasing at the cost of primary education, and it is a state-sponsored service (Tilak, 2005). This has led to an unparalleled focus between primary education and higher education. Where focus on improving primary education grew significantly, for higher education, it declined year on year. This phenomenon led to reduced public funding toward higher education (Tilak, 2005). Factors such as economic slowdown and fluctuations in higher education have affected the capability of providing financial support for expanding higher education in most of the nations. This in return,

introduced the phase of cost-sharing from the stakeholders of the sector (Sanyal & Johnstone, 2011). Various studies advocated that higher education will continue to be a major driving force for the development of modern economies, in terms of work-force education and socio-economic progress (Tilak, 2012).

The existing literature on financing higher education discusses it being a public good or private good. The core of these arguments is the issues, challenges, and trends in funding the higher education sector. There are several issues in higher education as declining public funding, shifting toward privatization, less enrollment ratio, and many others. Policies are being framed with targets to improve these situations. There is no doubt that, the current volatile market-like situation demands the adoption of alternative strategies to achieve the targets in the sector. But, today the most important question is not whether the prevailing mass higher education is public or private, rather, it is adequately financed or not. It is discussed in earlier sections that there exists unparalleled and unbalanced financial support in the education sector, giving more emphasis on primary and secondary education and ignoring higher education allowing laissez-faireism. Sufficient financial support is essential to fulfilling the aspiration of the country to become the third-largest economy by 2030-2032. This is to note that, the future developments of a ten trillion economy will be driven by knowledge resources and not by natural resources. Natural resources cannot be increased and only can be preserved, but knowledge can be increased as well as preserved also.

One of the major document regarding financing in education sector in India is the National Policy on Education. After the independence in 1947, the Indian government emphasised the problems of illiteracy in the country. There were many committees constituted to reform the education system for the country. Following this vision, the first National Policy on Education was announced in the year 1968 by the government of India. The main focus of this policy included compulsory education for the children up to the age of 14 years, teachers' training, regional language learning – '*the three language formula*', teaching of Sanskrit language as it rooted to India's culture and heritage. In the policy, it was recommended to

increase the education spending to 6% of the national income. In the year 1986, the government of India, introduced a new National Policy on Education, which focussed on equalizing the educational opportunities among the communities. It has also emphasised, on Open University system and rural university model and had launched Operation Blackboard to improve the primary education countrywide.

The National Policy on Education was subsequently revised and modified by the government of India in the year 1992, then in 2005 and then again in 2019. The recently introduced National Education Policy (NEP), 2020, has been modified keeping in mind the contemporary challenges and opportunities for the next generations. The main highlights of the new NEP, 2020, includes revised curriculum structure from 10+2 system to a new 5+3+3+4 system design. It is noteworthy here that in all the revisions of National Policy on Education, the contribution of financing on education remains the same i.e. 6% of the national income. The new NEP, 2020 proposes in its document to attain the spending target in a time frame of ten years by a gradual process of implementation and progress (NEP, 2020).

With these arguments, the present study shall attempt to educate and add to the body of literature about the higher education financing systems and trends across the countries with a cross country comparison including India. Besides, the study shall attempt to analyse the present financing system of Indian higher education and discuss the relevant future scopes in improving the financing system and structures. The objectives of the present study is to critically examine the new education policy 2020 along with a cross country comparison with reference to higher education financing. The cross country comparison has been done using the OECD countries as it provides a basis of selection of a large pool of countries for data collection and analysis.

Methodology

The descriptive research design has been used in the present study given the nature of the study. The population for the study comprises of the higher educational institutions in India, which

comes in the purview of public funding. The data used in the study for analyzing and comparing the facts were secondary and were collected from previously published research articles, reports from the Ministry of Human Resource Development (MHRD), National Sample Survey Organization (NSSO), Economic Survey of India, data and information from various committees on higher education constituted by Government of India and so on. In addition to this, the OECD's 'Education at Glance' and reports from the World Bank on education has also been taken into consideration to expand the reach and intensity of the study. The data from all the above mentioned sources were collected and summarized for a period of 2000 – 2018 for further analysis. The data have undergone minute detailing for any discrepancies and were then tabled in a format to

ease the comparison. The techniques used in analyzing the data were GDP deflator, percentage and growth rate of GDP deflator to summarize the findings of the research. The study utilizes prominent indicators (Higher education expenditure as a share of GDP, Public expenditure on higher education relative to total public expenditure, Per-student expenditure, and Higher Education attainment rate) to measure the relative positions of expenditure in Indian higher education to get insights on the current phenomena on the subject.

Analysis and Results

A Cross-Country Comparison of Higher Education Financing

Table 1. Higher Education Expenditure pattern across nations

	Expenditure on higher education institutions as a percentage of GDP				Public expenditure on higher education as a percentage of total public expenditure		Annual expenditure per student by higher education institutions (USD)		% Population (25-34 years old) Higher Education attainment	
	2000		2016		2000	2016	2000	2016	2000	2016
	Public	Private	Public	Private						
OECD										
Australia	0.8	0.7	0.8	1.2	3.2	3.6	12854	16,170	31	49
Austria	1.2	0.0	1.6	0.1	2.7	3.6	10851	18,332	15	40
Belgium	1.2	0.1	1.2	0.2	2.6	2.7	10771	18,169	36	44
Canada	1.6	1.0	1.2	1.1	4.7	3.8	14983	23,700	48	61
Chile	0.6	1.7	1.0	1.7	2.5	5.4	7483	9,769		30
Czech Republic	0.8	0.1	0.7	0.2	1.8	1.8	5431	10,009	11	33
Finland	1.7	0.0	1.5	0.1	4.2	3.3	8244	17,541	38	41
France	1.0	0.1	1.1	0.3	2.0	2.2	8373	16,173	32	44
Germany	1.0	0.1	1.0	0.2	2.4	2.8	10898	17,429	22	31
Hungary	0.9	0.3	0.7	0.4	3.0	1.6	7024	11,288	15	30
Iceland	0.8	0.0	1.1	0.1	2.6	3.4	7994	14,551	28	43
Ireland	1.2	0.3	0.6	0.2	4.1	2.6	11083	13,237	47	
Israel	1.1	0.8	0.8	0.6	2.5	2.3	11550	11,153		47
Italy	0.7	0.1	0.5	0.3	1.8	1.5	11934	11,589	10	26
Japan	0.5	0.6	0.4	1.0	1.6	1.6	10914	19,191	47	60
Korea	0.6	1.9	0.7	1.1	2.7	2.9	6118	10,486	37	70
Mexico	0.8	0.2	0.9	0.4	4.3	4.0	4688	7,347	17	22
Netherlands	0.8	0.2	1.1	0.5	2.9	4.0	11934	19,513	27	45
New Zealand	1.0	0.2	0.9	0.9		3.7		14,933	27.0	43
Norway	1.2	N	1.8	0.1	4.1	4.2	13353	21,993	35	49
Poland	0.8	M	0.9	0.2	1.8	2.6	3222	8,977	14	43
Portugal	1.0	0.1	0.7	0.4	2.3	1.8	4766	11,014	12	35
Slovak Republic	0.7	0.1	0.7	0.3	2.7	2.0	4949	11,413	11	33
Spain	0.9	0.3	0.8	0.4	2.4	2.2	6666	12,614	34	41
Sweden	1.5	0.2	1.4	0.2	3.6	3.7	15097	24,341	34	47
Switzerland	1.2	M	1.3	0.0	3.4	3.9	18450		26	49
Turkey	1.0	N	1.4	0.5		4.6	4121	10,519	9	30
United Kingdom	0.7	0.3	0.5	1.2	2.5	3.3	9657	23,771	29	52
United States	0.9	1.8	0.9	1.6	3.5	3.1	20358	30,165	38	48
OECD Average	1.0	0.4	0.9	0.5	2.9	2.9	11,109.0	15,556	27.0	43
India*	0.61	N	0.53	0.0	2.05	2.01	1486	1,435	8.0	11.00

* Data pertains to the public (Revenue) on higher education by the education department in the case of India.

Source:

- i. Education at a Glance, OECD, 2003-2019.
- ii. Analysis of Budgeted Expenditure, MHRD, 2002-2017.

With the increasing demand for higher education, significantly expanding costs, and the need for greater investment in the sector, there are growing concerns across countries to maintain the financial sustainability in higher education systems. The relative position of a nation concerning expenditure on higher education varies significantly depending upon the wealth of a nation, the overall size of the young cohorts in the populace, expenditure on higher education as a percentage of GDP from all the sources, public expenditure on higher education as a percentage of total government expenditure and per-student expenditure on higher education (Table 1).

The global financial crisis that started in 2008 has severely affected public expenditure across all levels of education (Goksu & Goksu, 2015). The public spending on higher education as a percentage of its GDP between 2000 and 2016 has either declined or remained almost stable in most of these countries with a notable exception in Austria, Chile, Iceland, Norway, and Turkey which registered a phenomenal growth in public expenditure. Despite budget constraints, the public sector still seems to be playing a dominant role than the private sector in higher education financing in most of these countries except the United States, the United Kingdom, Chile, Korea, Japan, and Australia. The rate of public expenditure on higher education as a percentage of total public expenditure witnessed an upward trend in most of these countries over the decade. While the per-student expenditure of higher education increased, the student enrolments have been increasing at a much faster rate in higher education in most of these countries since 2000.

The relative position of a country in terms of higher education expenditure varies from country to country depending upon different measures. For example, Chile with spending of 2.7% on higher education as a share of GDP or public expenditure, the largest across OECD countries in 2016 but its per-student expenditure was only about two-thirds of the average of OECD. As another example, expenditure per student in the United States and Sweden had increased over the year and highest among OECD in 2016 but its public and private expenditure relative to GDP has declined.

Norway is relatively a wealthy country and its public investment in social services extends to higher education at a high level. As a result, Norway spent 4.2% of its public spending relative to total public expenditure on higher education, one of the highest shares across OECD countries after India and Chile. Norway spent 1.8% of public expenditure relative to its GDP on higher education in 2016, about 90% more than the average of OECD but it ranked lower in terms of expenditure on higher education as a share of GDP from all the sources due to the relatively small share of private expenditure on higher education, but still above the average of OECD.

India's public spending on higher education relative to GDP has decreased over the decades from 0.61 % to 0.53% between 2000 and 2016. The rate of public expenditure on higher education as a percentage of total public expenditure has also decreased from 2.05% in 2000 to 2.01 % in 2016. It also ranks lowest in terms of per-student expenditure in higher education if compared with the OECD countries. Higher education attainment rate at 11% is also very low in India, the lowest as compared to OECD countries and third lowest rate after China (10%) and South Africa (7%) (OECD, 2019). India's public spending on higher education at 0.53% as a share of GDP and 2.01% relative to public expenditure is not sufficient to meet the higher education requirement of the nation, with the largest youth population in the world.

Public Expenditure on Higher and Technical Education in India

Higher education is a public good in nature, warrants dominant government funding in higher & technical education (CABE, 2005). Most nations have accepted this fact and with time begun to make increased budget provisions on higher education, as this important component receives greater global recognition. The growth of the higher & technical education system in terms of the number of institutions, students' enrolment, are impressive since independence, but the funds allocated to achieve the goals of higher education are always found to fall short of the requirement.

Table 2. Public Expenditure on Higher Education and Technical Education Relative to GDP and Total Public Expenditure

Year	University and Higher Education						Technical Education						Total Expenditure on Education by Education Dept.	
	% GDP			% of total Public expenditure			% GDP			% of total Public expenditure			% GDP	% of total Public expenditure
	Stat e	Centr e	Tota l	Stat e	Centr e	Tota l	Stat e	Centr e	Tota l	Stat e	Centr e	Tota l		
2000-01	0.35	0.11	0.46	2.32	0.83	1.61	0.07	0.06	0.13	0.48	0.40	0.44		
2001-02	0.30	0.08	0.37	2.04	0.54	1.31	0.06	0.06	0.12	0.42	0.41	0.41	3.10	10.10
2002-03	0.31	0.08	0.39	2.10	0.52	1.31	0.06	0.06	0.12	0.42	0.41	0.42	3.03	9.82
2003-04	0.29	0.07	0.36	1.91	0.49	1.22	0.06	0.06	0.11	0.38	0.39	0.38	2.88	10.19
2004-05	0.25	0.07	0.32	1.79	0.55	1.19	0.06	0.05	0.11	0.41	0.38	0.39	2.74	10.62
2005-06	0.26	0.07	0.32	1.93	0.53	1.24	0.06	0.04	0.11	0.47	0.35	0.41	2.79	10.67
2006-07	0.24	0.07	0.32	1.85	0.57	1.21	0.06	0.04	0.10	0.44	0.34	0.39	2.79	13.95
2007-08	0.23	0.09	0.31	2.18	0.93	1.59	0.06	0.05	0.10	0.54	0.49	0.52	2.74	10.22
2008-09	0.23	0.12	0.35	1.72	0.82	1.24	0.05	0.08	0.14	0.41	0.55	0.49	2.88	10.10
2009-10	0.24	0.13	0.37	1.78	0.89	1.31	0.06	0.09	0.15	0.47	0.60	0.54	3.24	10.60
2010-11	0.28	0.13	0.40	2.09	0.88	1.46	0.06	0.08	0.15	0.49	0.57	0.53	3.22	11.40
2011-12	0.25	0.13	0.38	1.98	0.98	1.47	0.07	0.09	0.16	0.52	0.70	0.61	3.09	11.40
2012-13	0.26	0.12	0.38	2.07	0.92	1.50	0.07	0.09	0.15	0.53	0.68	0.61	3.10	11.60
2013-14	0.27	0.13	0.40	2.79	1.44	2.14	0.07	0.08	0.15	0.70	0.91	0.80	3.00	11.60
2014-15	0.25	0.11	0.36	1.87	0.91	1.42	0.07	0.08	0.15	0.53	0.64	0.58	2.90	10.80
2015-16(RE)	0.27	0.11	0.38	1.84	0.96	1.46	0.07	0.07	0.14	0.47	0.63	0.54	2.80*	10.40*
2016-17(RE)	0.28	0.11	0.39	1.84	0.97	1.47	0.07	0.07	0.14	0.46	0.66	0.55	2.80*	10.20*

*Actual Expenditure (Report- Economic Survey of India. 2019-20).

Sources:

1. CSO, 2017
2. Analysis of Budgeted Expenditure, MHRD, 2005-2017.
3. Education Statistics- at a Glance, MHRD, 2005-2017.
4. All India Survey on Higher Education, MHRD, 2005-2017.
5. Economic Survey Report, GoI, 2019-20.

Note: In this context, the Analysis of the Budgeted Expenditure on Education (Department of Education, Ministry of Human Resource Development) is a very valuable document, though it is published with a gap of 3-4 years. However, it does not give other details like the revenue incomes of the education sector that are found in the general budgets, which facilitate the estimation of budgetary subsidies, etc. This also does not provide details on expenditure on education incurred by other departments by levels of education).

From the above-tabulated data, it is observed that post-economic liberalization, government expenditure on higher & technical education as percentage of GDP, although witnessed an

increase of 0.61% in 2000-01 but since then it has been continuously fluctuating and hovering from 0.44% to 0.53%. Public expenditure on university & higher education a percentage of GDP accelerated to 0.46% in 2000-01 post liberalization, but since then witnessed a downtrend and slipped to 0.31% in 2007-08. Although the rate improved to 0.39% as on 2016-17. The share of government spending as a proportion of GDP on technical education has been slightly improved as it rose from 0.13% in 2000-01 to 0.14% in 2016-17. Despite various policy recommendations, spending on higher and technical education is merely 0.53% of the GDP which is very less from the proposed target of 1.5% of GDP. This includes 1.0% of GDP on general higher education and 0.5% of GDP on technical and professional education.

As can be seen in Table 2, the annual public expenditure on higher education in India since 2000 has been hovering around 0.53% of GDP. The corresponding figures as on 2016 stand at 1.6% for Austria, 1.2% for Belgium, Canada and Estonia; 1% for Chile and Germany; 1.5% for Finland; 1.1% for Iceland and Netherland; 1.8% for Norway; 1.4% for Sweden and Turkey; 1.3% for Switzerland; and 0.9% for USA (Table 1).

Table 3. Compound Annual Growth of Public Revenue Expenditure by Education Department using GDP deflator in 2004-05 prices

Year	University and Higher Education				Technical Education				Expenditure(Revenue) per student of higher & technical education			
	In current prices		In 2004-05 Prices		In current prices		In 2004-05 Prices		In current prices		In 2004-05 Prices	
	Total Expenditure	Annual Growth rate %	Expenditure	Annual Growth rate %	Total Expenditure	Annual Growth rate %	Expenditure	Annual Growth rate %	Expenditure	Annual Growth Rate (%)	Expenditure	Annual Growth Rate (%)
2000-01	9194.8	11%	11061	4%	2528.02	3%	3041	-4.06%	13957	4.94%	16789	-2.07%
2001-02	8087.70	-12%	9391	-15%	2560.39	1%	2973	-2.24%	12071	-13.51%	14017	-16.51%
2002-03	8859.64	10%	9949	6%	2820.51	10%	3167	6.53%	12481	3.40%	14015	-0.01%
2003-04	9060.15	2%	9647	-3%	2833.08	0%	3017	-4.75%	12449	-0.26%	13256	-5.42%
2004-05	9503.21	5%	9503	-1%	3146.22	11%	3146	4.29%	11647	-6.44%	11647	-12.14%
2005-06	11013.34	16%	10539	11%	3657.00	16%	3500	11.23%	12073	3.65%	11553	-0.81%
2006-07	12541.09	14%	10962	4%	4041.76	11%	3533	0.96%	10837	-10.24%	9473	-18.00%
2007-08	14311.43	14%	12274	12%	4657.40	15%	3994	13.06%	13488	24.47%	11568	22.12%
2008-09	18605.01	30%	14766	20%	7266.46	56%	5767	44.38%	15151	12.33%	12025	3.95%
2009-10	22737.10	22%	17383	18%	9327.73	28%	7131	23.66%	18540	22.37%	14174	17.87%
2010-11	29169.41	28%	20355	17%	10673.32	14%	7448	4.44%	14950	-19.36%	10433	-26.40%
2011-12	33030.53	13%	21160	4%	13664.98	28%	8754	17.53%	15009	0.40%	9615	-7.84%
2012-13	37678.13	14%	22481	6%	15193.87	11%	9066	3.56%	17117	14.04%	10213	6.22%
2013-14	45191.44	20%	25446	13%	16872.91	11%	9501	4.80%	18026	5.31%	10150	-0.62%
2014-15	44668.28	-1%	24651	-3%	18320.51	9%	10111	6.42%	21384	18.63%	11801	16.27%
2015-16(RE)	52402.05	17%	29656	20%	19280.68	5%	10912	7.92%	22403	4.77%	12679	7.43%
2016-17(RE)	58923.52	12%	32199	9%	21911.57	14%	11974	9.73%	25092	12.00%	13712	8.15%
Average Growth rate		13%		7%		14%		9%		4.50%		-0.46%
Compound Annual Growth rate		12%		7%		14%		9%		3.73%		-1.26%

CAGR-Compound Annual Growth Rate

AAGR-Annual Average Growth Rate

Sources:

1. Analysis of Budgeted Expenditure, MHRD, 2005-2017.
2. Education Statistics- at a Glance, MHRD, 2005-2017.
3. All India Survey on Higher Education, MHRD, 2005-2017.
4. Economic Survey Report, GoI, 2019-20.

The increase in investment in higher & technical education is not remarkable if converted into

2004-05 prices. The annual growth rate in university and higher education has not been constant. The rate of annual growth was 4% in 2000-01 but since then it registered a negative growth and dropped to (-) 1% in 2004-05. However, in 2008-09, it experienced a 20% increase in investment but again lost momentum. The average growth rate and the compound annual growth rate of higher education on university and higher education at constant prices from 2000-01 to 2016-17 have only been 7% respectively.

If converted into 2004-05 prices, the pattern of investments in technical education since 2000-01

to 2016-17 also experienced setbacks. Although the annual growth rate of financing of technical education witnessed a negative growth from 2000-01(-4.06%) to 2003-04(-4.75%). The investment in technical education, after witnessing a remarkable annual growth of 44.38% in 2008-09, started declining since then. The average growth rate and the compound annual growth rate of investment of technical education in constant prices from 2000-01 to 2016-17 have only been 9%.

In nominal prices, government spending per student on higher & technical education raised from INR 13957.00 in 2000-01 to INR 25092.00 in 2016-17, while in constant prices, public expenditure per student in 2016-17 is INR 13712.00 only. From 2000-01 to 2016-17, the average growth rate of public expenditure per student in higher & technical education in nominal terms has been 4.50% and the compound annual growth rate has only been 3.73%. Whereas spending per student if converted into prices of 2004-05, has registered a negative average growth rate (-) -0.46% and compound annual growth rate of -1.26% during the period 2000-01 to 2016-17. Public spending per student in higher education in India in nominal terms is the lowest among most

developed and developing nations as shown in Table 1 and enrolment is growing at a faster rate than the resources allocated to higher education. And if the same trend continues, there is likely to be a big difference between the system's resource requirement as well as resource accessibility. A decline in expenditure per student means a decline in real resources available per student on average, seriously affecting the quality of higher education (CABE 2005).

Role of Centre and States in Financing Higher and Technical Education in India

The center and state relationship in sharing financial responsibilities in the education sector is of crucial importance in any federal framework (Tilak, 1984). Education was a 'state' subject initially as per the constitutional provision of India, but with the 42nd amendment of the constitution in 1976, it was listed as a concurrent list in which both the central and state governments jointly share the responsibility of financing higher education. The total budget expenditure on higher and technical education and the percent shares borne by Centre and States respectively are given in Table 4.

Table 4. Percent Share of Revenue Uni. Higher & Technical Education by Education Department

Year	University and Higher Education				Technical Education				Percent Share of Uni. Higher & Technical Education	
	Revenue Expenditure		Percent share		Revenue Expenditure		Percent share		State	Centre
	State	Centre	State	Centre	State	Centre	State	Centre		
2000-01	6910	2285	75	25	1423	1105	56	44	71	29
2001-02	6440	1648	80	20	1319	1242	51	49	73	27
2002-03	7108	1752	80	20	1440	1381	51	49	73	27
2003-04	7299	1762	81	19	1433	1400	51	49	73	27
2004-05	7404	2099	78	22	1705	1442	54	46	72	28
2005-06	8682	2331	79	21	2133	1524	58	42	74	26
2006-07	9585	2956	76	24	2285	1757	57	43	72	28
2007-08	10416	3895	73	27	2575	2082	55	45	68	32
2008-09	12099	6506	65	35	2895	4371	40	60	58	42
2009-10	14660	8078	64	36	3877	5451	42	58	58	42
2010-11	20045	9124	69	31	4703	5970	44	56	62	38
2011-12	21826	11204	66	34	5692	7973	42	58	59	41
2012-13	26232	11446	70	30	6685	8509	44	56	62	38
2013-14	30476	14715	67	33	7640	9233	45	55	61	39
2014-15	31374	13294	70	30	8953	9367	49	51	64	36
2015-16(RE)	37494	14908	72	28	9475	9806	49	51	66	34
2016-17(RE)	42185	16738	72	28	10528	11384	48	52	65	35

Sources

1. Analysis of Budgeted Expenditure, MHRD, 2005-2017.

2. Education Statistics, MHRD, 2005-2017.
3. All India Survey on Higher Education, MHRD, 2005-17.

While the States still bear the lion's share in university & higher education expenditure, their share has been declining since 1995-96 (from 82% in 1995-96 to 72% in 2016-17), the Centre's share has increased from 18% to 28% during the same period. Whereas, the Centre spends more than the state in technical education as it shares witnessed impressive growth over the years (from 38% in 1995-96 to 52% in 2016-17, while the state's share has declined from 62% to 48% percent in the above said year.

Thus, the above analysis shows that the Centre's share in higher & technical education expenditure has increased over the years, but at the same time, state share has decreased in both these periods. While central government, directly or indirectly, funds the central universities in total through the university grants commission (UGC), only the developmental expenditure of state universities and colleges is funded by the central government. The central government should also fund more to state universities and colleges and not only the developmental expenditure.

National Education Policy 2020 on Financing Higher Education: A Critical Review

The National Education Policy (NEP) was first formulated in 1968, subsequently amended in the year 1986, which was then marginally revised in 1992. The NEP accepted the recommendation of the Kothari Commission (1964-66) to steadily rise the investment in education up to 6% of national income at the earliest. Subsequently, the Saikia Committee in 1996, examined the financial implications of the proposal making free and compulsory education a fundamental right. It too reiterated the need to spend 6% of GNP on education with 50 percent to be earmarked for primary education. National Common Minimum Programme in 2004 and the Central Advisory Board of Education (CABE) in 2006 also made similar recommendations (De & Endow, 2008). These recommendations emphasized the need for higher investment in education and the importance of different levels of government in its

financing. However, policy recommendations and implementation do not always go together.

The targets set in the previous national education policies still being unaccomplished, the Government of India has announced National Education Policy 2020, which envisaged to revamp the higher education system, create world-class multidisciplinary higher education institutions across the country and to increase GER from around 26.3% (AISHE 2018-19) to 50% by 2035.

The proposed policy reaffirming a strong commitment to the national importance of public education aims to expand and improve the public higher education system fully backed by the public investment that is required to make that happen. The strengths of National Education Policy 2020 include the recognition of education as a "quasi-public good" rather than as a commodity to be traded. While reaffirming 6% of GDP as public investment in education, National Education Policy 2020 envisions to increase public investment in education gradually from the current level of 10% of total public expenditure to 20%, over 10 years to improve the quality and equity of education. The total additional increase proposed for higher education expenses of the total public expenditure is 5% (1% for research universities; 3.5% for teaching universities and 0.5% for colleges).

The policy recommendation is based on two important current trends of the Indian economy— a rapid pace of economic growth and an increase in tax-GDP ratio. The policy mentions that GDP will reach \$10 trillion by 2030-32, making India the world's third-largest economy by 2030-32 resulting in an increased resource for public expenditure and hence the education sector. But if we look at the past trend (Table 5) between 2011-12 to 2017-18, while the Indian economy witnessed an increase in the annual growth rate of GDP from 5.2% to 7.2% and tax to GDP ratio from 16.80% to 17.62%; the public expenditure on education has decreased from 12.01% to 10.70% of total public expenditure. The relative share of GDP on education expenditure also decreased from 3.09% to 2.80%. Thus, the higher GDP growth and tax to GDP ratio will lead to higher spending on education cannot be assured.

Table 5. Statement showing the GDP growth, Tax-GDP ratio and Public expenditure on education relative to GDP & total public expenditure

Year	Annual Growth Rate of GDP	Tax to GDP ratio	%GDP	% total public expenditure
2000-01	3.8	14.0		
2001-02	4.8	13.4		10.1
2002-03	3.8	14.1		9.82
2003-04	7.9	14.6		10.19
2004-05	7.9	15.3		10.62
2005-06	9.5	15.9		10.67
2006-07	9.6	17.2		13.95
2007-08	9.3	17.5		10.22
2008-09	6.7	16.3	2.90	10.10
2009-10	8.6	15.5	3.00	10.60
2010-11	8.9	16.3	3.10	11.40
2011-12	5.2	16.8	3.10	11.40
2012-13	5.5	17.3	3.10	11.60
2013-14	6.4	16.7	3.00	11.60
2014-15	7.4	16.4	2.80	10.80
2015-16	8.0	17.0	2.80	10.40
2016-17	8.2	17.52*	2.80	10.20
2017-18	7.2	17.62*	2.80	10.70

*Estimates

Source:

1. Indian Public Finance Statistics, GoI 2017-18.

Economic Survey of India Reports 2019-20. There is a greater need to regulate and monitor the policies endorsed to increase public spending on the education sector to achieve the outcome. Pieces of evidence show that education cess, one of the significant sources of funding education, has not been efficiently utilized. As per the CAG report 2017-18, the amount collected under secondary and higher education cess since 2007 has not been transferred to the dedicated fund created for its utilization. The underutilization is although higher education expenditure relative to GDP and total public expenditure is stagnating.

The National Education Policy 2020 does look forward to transforming higher education by segregating the accreditation, funding, and regulation roles for regulators. But it does not provide the specific guidelines on how to increase public expenditure significantly. It is also silent on the role of the higher education institutes in generating revenue for the Institute. The scope for the private sector to invest, grow and stand on

quality parameters in the higher education sector needs to be articulated.

Conclusion

In the present scenario, Indian higher education sector needs a lot of support by the governing and regulatory bodies to facilitate an accelerated growth. The education sector, as a whole, is a public sector influencing the socio-economic condition of a nation directly. India as an emerging economy needs to strengthen its higher education as it affects the overall development of the country by supplying quality human resources. It is responsible for filling the gap of talent and skills supply and demand in the country. There are scopes for minimizing this gap and is necessary to facilitate the growth trajectory of the country toward becoming a developed economy in the near future. India is currently the sixth largest economy and will be the third largest economy at over ten trillion by 2030-32. The draft New Education Policy says that the country's ten trillion economy by 2030-32 will not be driven by natural resources, but by knowledge resources. Quality higher education will be a key part of the transition to the knowledge economy (Tilak 2005) and to make it happen, it should be fully backed

by the public investments. Currently, the public spending in Indian higher education is at 0.53% share of GDP and 2.01% relative to public expenditure. But it is not sufficient to meet the requirement of the nation's higher education, with the largest youth population in the world. In contrast to this, countries, for example, Canada, Korea, and Australia and so on, around the world of same economic size and development make significantly greater public investment in education.

Though holistic in its approach, the National Education Policy, 2020 faces number of hurdles in its effective implementation, which ranges from budgetary constraints to the absence of strong institutional machinery for hand holding and guidance for states. Other problem includes absolute transformation intended in a short span of time considering the strength of number of higher educational institutions and respective faculty & students. Therefore, there is a need to make necessary provisions for adequate budgetary allocation to boost investment in order to raise the quality of Indian higher education outcomes. The government should adopt multi stakeholder consultation process involving states, autonomous education boards, faculties & students to avoid unnecessary litigations, resistance from states and usual operational challenges.

Limitations and Future Directions

The present study attempted to analyze the existing trends from with a longer time frame in public financing of the higher education with special focus on India. But, there are few limitations and future research directions which this study would like to mention. First being the comparison of the new education policy w.r.t older versions. Since, the education policy is in its very early stage, any implication is imaginary and projections. For real results, this type of studies are recommended in future, which will measure the impact of the new education policy over the older ones. Also, few data which were collected from the published reports were missing in its original form and cannot be included in the analysis. Those economies may have significant inferences on cross-country evaluations w.r.t India, which went missing in this study. Future studies may try to go much deeper in collecting

those missing values for a proper and comprehensive evaluations. This study attempted the comparison of Indian higher education financing with OECD countries, which can also be expanded to other group of countries involving other countries which are missing in the OECD list. This study considered the public institutions only for analyzing the cross-country financing in higher education. Further studies may consider a comparison on the financing systems of private versus public institutions.

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