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Economics of Higher Education in India: Expansion, Financing and Equity

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Abstract

This study examines the finances of Indian higher education between 2014-15 and 2018-19 when one of the major news headlines was the expansion of institutions while state funding remained relatively stable. Secondary data from the All India Survey on Higher Education (AISHE), Analysis of Budgeted Expenditure on Education, National Sample Survey (NSS) 75th Round, and Periodic Labour Force Survey (PLFS) were used to identify four trends. This objective was only partially realized. Enrollment grew from 34.2 million to 37.4 million, and GER from 24.3 percent to 26.3 percent, missing the progress required to reach the two-thirds ratio and 30 percent GER target by 2020. Government expenditure on education by Center and States was about 3 percent of GDP, and of this, only 1 percent was spent on higher education, well below the Kothari Commission's benchmark. Third, the gap was largely made up with private and household funding. By 2018-19, 77.8% of institutions (66.4% of total enrollment) were privately owned. Finally, continued inequalities in access to higher education by SES and region and poor labor market outcomes for graduates marked the expansion in higher education. The article goes on to argue that the expansion in higher education in India during this period is demand-led and that the resulting cost shifting has implications for efficiency and equity.

Keywords: higher education finance; gross enrolment ratio; privatisation; cost sharing; equity; human capital; India

1. Introduction

Tertiary education is a special type of human capital investment in which the private return to the investor is accompanied by a positive spillover on the national economy. Empirical studies have found strong support for the human capital model of education as an investment by Becker (1964) and Schultz (1961). Psacharopoulos and Patrinos (2018), citing a database for 139 countries, calculate that the average private return to education is about 9 percent per additional year of schooling, with the highest returns to tertiary education concentrated in low and middle income countries. When private returns to education exceed social returns, there is less justification for fully subsidizing education publicly. This debate has affected Indian public policy since the Education Commission (1966) recommended that public spending on education be raised to 6 per cent of national income.

This is important for India, given that it has the second largest higher education system in the world, and that 15 to 29 year olds make up 25% of the population (Varghese, 2015), because financing conditions in higher education have consequences for making or squandering the

demographic dividend. The years 2014-15 to 2018-19 are representative for a number of reasons. This period is bracketed between two complete AISHE reporting cycles, before the pandemic-induced disruption, and coincides with a policy environment dealing with RUSA, the HEFA, the Institutions of Eminence scheme and the graded autonomy scheme of the UGC. This research seeks to understand the expansion of the higher education system over the last five years, its funding sources and the implications for equity and efficiency.

2. Objectives, Data and Method

The first objective of the study is to estimate the institutions, enrollment and GER of schools during the years 2014-15 to 2018-19. The second objective is to analyze trends in government spending on higher education and the associated incidence of recovery from families. The third objective is to look into the impact on equity and employment of this expansion. The paper is purely descriptive and diagnostic in nature and is based only on existing secondary data. It draws upon the government's annual All India Survey on Higher Education (AISHE) reports (MHRD, 2015; 2016; 2017; 2018; 2019a), Analysis of Budgeted Expenditure on Education (MHRD, 2019b), Economic Survey 2018-19 (Government of India, 2019), NSS 75th Round Household Survey for Consumption of Education (NSO, 2019a), and first annual report of the PLFS (NSO, 2019b). For financial data, PRS Legislative Research (2019) is cited. Growth is broken down into absolute change, percentage change, and compound annual growth rate. Finance metrics are measured as the ratio of expenditure to GDP and Union budget. Equality metrics are measured as the difference in GER by gender, social class, and by state.

3. Expansion of the System, 2014–15 to 2018–19

Table 1 encapsulates the corporeal development of the system. Enrolment increased from 34.2 million in 2014–15 to 37.4 million in 2018–19, reflecting a rise of 3.2 million students or around 9.4 percent over five years, which corresponds to a compound annual growth rate of nearly 2.3 percent. The quantity of universities increased significantly, from 760 to 993, representing an approximate 31 percent surge. The Gross Enrolment Ratio (GER) increased from 24.3 to 26.3 percent, reflecting an average annual improvement of just half a percentage point (MHRD, 2019a).

Table 1: Growth of Indian higher education, 2014–15 to 2018–19

Year	Universities	Colleges	Stand-alone institutions	Enrolment (million)	GER (%)
2014–15	760	38,498	12,276	34.2	24.3
2015–16	799	39,071	11,923	34.6	24.5
2016–17	864	40,026	11,669	35.7	25.2
2017–18	903	39,050	10,011	36.6	25.8
2018–19	993	39,931	10,725	37.4	26.3

Source: Compiled from AISHE reports, MHRD (2015, 2016, 2017, 2018, 2019a). Notes: Institutional counts refer to entities listed on the AISHE portal; the fall after 2016–17 reflects de-listing of defunct institutions rather than closure of functioning capacity. GER is as

reported in the respective years; the series was subsequently revised on 2011 Census-based population projections, under which the 2014–15 GER is 23.7 per cent.

Three features of this expansion are worth commenting: the increase in institutions outstripped the increase in students, so institution size, on average, fell. In 2018-19, 16.3 per cent of the colleges had less than 100 students and only 4 per cent had more than 3000. Under a very small college system, the economies of scale and scope of laboratories, libraries and specialist faculty cannot be applied, so the unit costs will be higher (MHRD, 2019a). Second, the target in all plans and reaffirmed in the Draft National Education Policy (MHRD, 2019c) of 30 per cent GER by 2020 was far from being met at the observed rate of increase. Third, the enrolment continued to be overwhelmingly undergraduate and non-specialized: enrolment at the undergraduate level constituted 79.8 per cent of the total and that at the doctoral level was less than one-half percent, which is a structural limitation on the research capacity that a knowledge economy needs (MHRD, 2019a; World Bank, 2019).

4. Public Financing: A Stagnant Effort

The funding history contrasts with the growth record. The aggregate expenditure by the Center and State on education remained about 3 percent of GDP for the whole timeframe, with just 1 percent of GDP allocated to higher education (Government of India, 2019; PRS Legislative Research, 2019). The disparity between this statistic and the 6 percent standard advocated by the Education Commission (1966), and reaffirmed in the Draft National Education Policy (MHRD, 2019c), has consequently endured for almost fifty years. Table 2 indicates that the Union's funding for the Department of Higher Education increased in nominal value, although decreased as a proportion of the overall Union budget, and when adjusted for the GDP deflator, the actual growth is minimal.

Table 2: Union allocation to higher education and overall education expenditure

Year	Dept. of Higher Education (₹ crore)	Share of Union budget (%)	Education spending (% of GDP)
2014–15	23,152	1.29	~2.8
2017–18	34,862	1.62	~2.8
2018–19	35,010	1.43	~3.0
2019–20 (BE)	38,317	n.a.	~3.0

Source: PRS Legislative Research (2019); MHRD (2019b); Government of India (2019). BE = Budget Estimate.

Two instruments delineated the funding approach during this period. RUSA, with an allocation of ₹1,400 crore in 2018–19 and ₹2,100 crore in 2019–20, directed strategic funding to State institutions that accommodate the vast majority of Indian students. HEFA, established in 2017 as a collaboration between the MHRD and Canara Bank, was assigned the responsibility of raising ₹1,00,000 crore for educational infrastructure by 2022 under the RISE plan, with institutions repaying the principle from their own earnings (PRS Legislative Research, 2019). From a public finance perspective, this is a significant shift in methodology: a grant constitutes a transfer, whereas a loan signifies an obligation that must eventually be repaid through fee income or other domestically produced revenues. Utilising securitised

future revenues to finance capital development transforms a public benefit into a service with partial charges, and without an effectively structured student-aid system, it shifts the financial burden onto students through increased fees (Tilak, 2018).

5. Privatisation and the Household Burden

As a result, this shortfall was met by private colleges. In 2018-19, there were 77.8% colleges and 66.4% enrollment in private self-financing colleges (MHRD, 2019a). As a result of this, about two-thirds of Indian students enroll in higher education in a market where the price is determined by tuition fees rather than family income. Table 3 below shows data from the NSS 75th Round on family burdens.

Table 3: Average annual household expenditure per student, 2017–18 (₹)

Category of course	Rural	Urban
General courses	5,240	16,308
Technical / professional courses	32,137	64,763

Source: NSO (2019a), Key Indicators of Household Social Consumption on Education in India, NSS 75th Round.

The financial burden of vocational education is nearly four times that of a general course. For example, an engineering degree at a private unaided institution costs ₹69,155 per annum against ₹39,165 in a government institution (NSO, 2019a). To illustrate, with household consumption financed through current earnings and increasing borrowing, credit access, rather than ability, determines enrollment in skills with high returns to education. Only 10.6 percent of the population aged 15 and older graduated or enrolled in tertiary education in 2017-18, with 5.7 percent in rural areas versus 21.7 percent in metropolitan areas (NSO, 2019a). Failure to ensure strong loans and scholarship system in a cost sharing environment results in selection based on wealth rather than merit, leading to lower social return on investment in the system (Chattopadhyay, 2012; Tilak, 2015).

6. Equity: Gender, Social Group and Region

The last five years have seen mixed progress on equity, with gender equality being the most successful area. The female GER in 2018-19 was 26.4 percent, and male was 26.3 percent, having a Gender Parity Index of 1.00 (MHRD, 2019a). However, there is more persistence of unequal performance of social groups in the system than in gender. Nationally, GERs were 26.3 percent. But the corresponding GERs of SC and ST students, respectively, were 23.0 and 17.2 percent, indicating gaps of 3.3 and 9.1 percentage points. For 2017-18, they were 21.8 and 15.9 percentage points, indicating slow convergence (MHRD, 2018, 2019a). Varghese et al. (2019), for example, challenged the participation gaps as misleading, stressing the predominance of disadvantaged students in low-cost, low-quality schools and general as opposed to vocational streams.

Similarly, regional inequality is stark: 28 colleges existed per lakh of 18-23 year-olds in 2017-18, from 7 in Bihar to 51 each in Karnataka and Telangana (MHRD, 2018). More important still, in a federation where higher education was a State function, the better-off States with greater fiscal capacity were able to build greater networks, exacerbating inter-

State supply disparities and inter-State economic disparity. For such cases, a greater amount of equalising transfer may be necessary through schemes such as RUSA.

7. Efficiency, Quality and Labour-Market Outcomes

Despite growth, progress is lacking: in 2018-19, the pupil-teacher ratio for schools following the conventional model was 29 with a total stock of 1.42 million teachers, of which 57.8 percent were male (MHRD, 2019a). State universities and colleges, despite a growing enrollment, had high levels of vacancy and adjunct faculty. The 2017-18 PLFS estimated that unemployment rate in the country at 6.1 percent, the highest in over four decades. Unemployment for this educated urban youth remained disproportionately high (NSO, 2019b). Estimates for the industry at the time suggested that less than half of all graduates were employable (Wheebox, 2019). The simultaneous presence of graduate unemployment and employer skill shortages is a signature of qualifications-skills mismatch rather than over-education: the system produces certificates faster than it produces competencies, and the private return to a degree is consequently dispersed across a very wide range (Agarwal, 2009; World Bank, 2019).

8. Policy Implications

From this evidence we draw four conclusions. First, it is necessary to strengthen the public-financing effort: at the current level of public outlays for higher education at 1 percent of GDP per year, quality cannot be improved, and a credible medium-term policy is needed to reach the 6 percent standard if the GER target is to be achieved. Second, fees should be based on HEFA with some kind of student-aid system involving income-contingent repayment, more generous interest subsidies, and greater portability of scholarships and loans, so that, at the margin, poor families are not worse off by increasing fees. Third, consolidation needs to be prioritized over proliferation: merging colleges, sharing laboratories, libraries, and other expensive facilities, and strengthening university federations would do more to cut costs than opening new universities. Fourth, standardizing transfers to underperforming States and to first-generation students, while regulating quality in the private unaided sector, would tackle the two disparities regional and social that mere growth has failed to rectify.

9. Conclusion

Over 3.2 million students have been added, 233 institutions have been opened, GER has increased by almost 2 percentage points in the period between 2014-15 and 2018-19. This growth is real. However, it was almost completely funded by parents and private players, with public spending remaining around 3 per cent of GDP (1 per cent for higher education), consistent with the previous years. The system that resulted is large and fragmented, socially uneven and tenuously connected with the labor market. Gender equality was achieved, although socioeconomic equality and regional equality were not. The clear message of this report is that growth in quantity and improvement in quality are not achievable in the same way: growth in quantity can take place through open access. The other three goals require permanent public investment. Unless economic finance and utilization are improved, this

demographic dividend could become a vast pool of underutilized graduates, impeding the nation's long-term economic growth.

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