

Measuring Access, Quality and Relevance in Higher Education

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Gross enrolment ratio is a widely accepted indicator to measure the level of participation in education. It is proposed that the eligible enrolment ratio could be a better indicator instead. A study of five-year data of 10 different countries highlights its significance. In addition, it is also critical to reimagine higher education as beyond general university degrees, and develop a complementary vertical of equal status of skill and vocational education and enhance employment opportunities.

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Universities as centres for creation and transmission of knowledge play a key role in building a symbiotic relationship between the nation state and society. Over the last two decades, the interest of first-generation learners in higher education in India has led to redefining the teaching–learning process, making it more inclusive for the disadvantaged population that is entering the portals of higher education. Therefore, we need a strategy that respects equity in higher education while expanding the vocational education vertical and realigning employment opportunities being created by the new knowledge economy. Higher education in a country provides the much-needed impetus for growth and development, thereby benefiting both the individual and society (Haas and Hadjar 2019).

The rapid expansion of higher education across the world has led to an increased number of universities and colleges, thereby providing greater access to post-secondary education to a large number of students (Declercq and Verboven 2018). As enrolment trends in higher education showed a steep rise, competing countries focused on increasing student enrolment in an attempt to catch up with the developed countries. However, real growth and development are possible only when the quality and relevance of higher education is assured. While expanding the facilities for higher education, sufficient attention must be paid to the basic purpose of higher education.

There is an urgent need to balance the demand and supply of educated manpower through an optimal enrolment policy (Boes and Pflaumer 2006; Lukka 1974). The disconnect between the higher education sector and the evolving employment market raises a question about the

relevance of university degrees. This changed scenario is leading to overqualified, under-skilled unemployed youth that, in turn, is creating dissent and disillusionment. This is true for India and a few other developing Commonwealth countries that have retained the colonial model of higher education, with little change to meet the contemporary challenges. Against this background, there is a need to reimagine Indian universities based on our own history and culture relevant to contemporary needs and future trends (Patwardhan 2020).

Higher Education in India

Traditionally, universities in India were established to focus on promoting scholarship and freedom of thought. The centres of higher learning such as Taxila (fifth century BC) and Nalanda (sixth century BC) thrived in a climate of eclecticism, freedom, and cross-cultural knowledge-sharing spanning philosophy, arts, humanities social and natural science (Kurup and Singai 2017). The colonial period in India witnessed a transformation of native traditional higher education in response to the expectations of the rulers during the period. The Westernised construct of universities established by the British rule in India in 1857 at Madras, Calcutta, and Bombay were institutional transplants from Great Britain (Basu 2012). Macaulay, in his minutes on Indian education in 1835, described that the purpose of the universities in India was to produce “a new generation of English-speaking Indians loyal to the British crown to act as an army of clerks” (Evans 2002).

Post-independence India had the twin challenge of increasing literacy rates on the one hand, and promoting the development of science and technology by building institutions of excellence in the higher education sector on the other. The initial focus remained on expanding the formal education base, and school education received the maximum attention. However, in the last three decades, India witnessed an unprecedented expansion of the higher education sector. At present, the higher education sector consists of 37.4 million students, across

993 universities, 39,931 colleges, and 10,725 stand-alone institutions as compared to 0.2 million students and up to 20 universities in 1950–51 (AISHE 2019).

India claims to be the third-largest system in the world after China and the United States (US) in terms of enrolment, and largest in the world in terms of the number of higher education institutions. This expansion is characterised by “islands of excellence in a sea of mediocrity” (Altbach 2014). Inequalities of different kinds characterise the higher education sector in India. For example, the types of institutions, institutions of excellence, public universities, private universities, and deemed to be universities reflect the inequalities of resources, financial and human, along with the skewed distribution of students that represent different caste, class, gender, and urban and rural background. There is a need to reform Indian higher education by linking it to the changing employment needs at local, national, and global levels. Thus, it is crucial to address the quality of education and its relevance while planning an expansion to increase access to higher education. In India, successful completion of the 12th grade at the higher secondary school level is basic eligibility for enrolment in higher education. Therefore, eligibility for higher education also needs to be considered while measuring its access.

Access to Higher Education

The gross enrolment ratio (GER) is a universally accepted indicator for analysing enrolments in higher education (Wu et al 2019). Typically, GER is the ratio of the number of enrolments in higher education to the total population in the age group of 18–23 years. Generally, a high GER indicates a high degree of participation. The GER in higher education drastically differs in developed and developing countries. According to the All India Survey on Higher Education (AISHE) data, the GER in higher education has increased from 19.4 in 2010–11 to 26.3 in 2018–19. India has made significant progress in higher education during the last three decades. The increase in the GER of India in this decade is almost double from 13.2 in 2003 (Thorat 2006). There seems to be a proportionate expansion in

the number of universities that increased 3.87 times, colleges that increased 3.12 times, and the increase in the number of students being 3.65 times. However, the Indian GER for higher education remains lower than the current global average of 29. There are several reasons for this. We discuss here various issues related to the increasing GER, as well as its relevance to India.

We have studied five years' (2013–17) data for 10 selected countries across the world, including developed, and developing and populous countries. Considering the fact that no unexpected variations in data are observed, we have taken data of 2017 as a reference year. The GER values in higher education show that developed nations such as the US, United Kingdom (UK) as well as emerging economies such as Brazil and Indonesia are ahead of India (Table 1).

Various factors such as enrolment, retention, and completion of secondary school education are known to influence the GER in higher education of a country (Gao and Chen 2010). Currently, India is facing serious challenges due to low enrolments and retention at the school level. Additionally, as witnessed recently, the enormous number of migrant labourers brings with it the challenge of the education of their children, which are not sufficiently recognised or addressed. Furthermore, the contradictions and contestations of the formal schooling system, which is struggling to close the gap between the marginalised and the

privileged despite affirmative action, pose serious setbacks to realise the fundamental right to education. Gender-related factors such as early marriage, childcare, and domestic responsibilities, availability of toilets and distance of the school from home, especially for girls, coupled with family labour, economic constraints and the disconnect of education with their daily lives have remained real obstacles for access and retention in schools among the poor. This situation leads to significant school dropouts, drastically reducing educationally eligible population for enrolment in higher education, resulting in a lower GER in higher education for India. Obviously, this problem cannot be resolved by increasing the number of colleges or universities or by promoting degrees through distance or online mode. For a meaningful increase in the GER, it is necessary to improve the quality of school education and link higher education to skills and vocation, thereby making it attractive to the student population.

Appropriateness of GER

In India, only 26.3% of the students in the relevant age group (18–23 years) are enrolled in the institutions of higher education. The GER in higher education for India is lower as compared to developed nations because a large population of students in the relevant age group is simply not eligible to enrol in colleges because they have not successfully completed the 12th grade higher secondary education. Hence, focusing on the expansion of higher education to increase GER is misplaced. In other words, India needs to focus on increasing the number of students completing higher secondary schools, thereby enabling an increase in the number of students eligible for a college education. It should also be noted that the availability, accessibility, affordability, as well as quality of higher education and its relevance for employment have a significant bearing on GER.

It is against this background that we hypothesise that GER may not be the appropriate measure or indicator for developing countries like India because of a large gap between the number of students available in the age group of

Table 1: Comparison and Inter Alia Difference between GER and EER

No	Country	Gross Enrolment Ratio (GER) 2017	Eligible Enrolment Ratio (EER) 2017	Inter Alia Difference 2017	Wage and Salaried Workers (%) [*] 2016
1	US	88.2	93.5	5.3	90.1
2	Germany	70.3	91.2	20.9	89.6
3	France	65.6	75.5	9.9	88.1
4	UK	60.0	63.1	3.1	84.5
5	Brazil	51.3	78.6	27.2	68.1
6	China	49.1	72.9	23.8	63.6
7	Indonesia	36.4	57.7	21.2	48.9
8	India	27.4 [#]	64.9	37.5	20.9
9	South Africa	22.4	46.6	24.2	84.8
10	Pakistan	9.4	43.3	33.9	38.9

^{*}Wage and salaried workers' total (% of total employment) modelled by the International Labour Organization (ILO) estimate.

[#]Value as per AISHE data is 26.3.

Source: Authors' calculations based on UNESCO Institute of Statistics data.

18–23 and those eligible, inter alia, to enter in higher education.

Eligible Enrolment Ratio

We propose that the eligible enrolment ratio (EER), based on the eligible population in the relevant age group, may be considered as a more appropriate indicator to measure the access to higher education. The EER can be defined as the ratio of the number of students enrolled in higher education to the number of students who have successfully completed 12th grade in the age group 18–23 years. The EER computed in this manner seems to be a more fair and judicious measurement of enrolment as it focuses on eligibility and optimises the precision of the indicator.

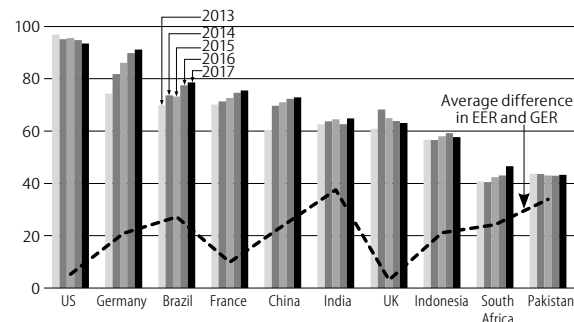
As the data on the number of students who have passed 12th grade in the relevant age group is not readily available, we used data relating to completion rate (CR). According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics, CR is defined as the number of persons in the relevant age group who have completed the last grade of a given level of education expressed as a percentage of the total population of the same age group (Loeb and Duff 1974). Therefore, EER can be expressed in terms of the equation,

$$\text{EER} = \frac{\text{GER}}{\text{CR}}$$

This equation has been used for determining EER of 10 different countries, both from developed and developing economies of the world. The data on GER and CR was collected from the databank of the UNESCO Institute for Statistics for the period of five years from 2013 to 2017. The missing data for CR was calculated using a forecasting tool incorporating a linear regression model (Nadler and Kros 2007). The 2017 CR for the UK and US are about 95%, France 87%, and Germany 77%. Interestingly, 2017 CR for India is 42.3%, indicating the maximum limit for GER. This means that even if 100% of those completing the 12th grade enrol for higher education, still the GER cannot be more than 42.3%.

Although, GER is internationally acknowledged measure of enrolment, it needs some standardisation and correction to portray a valid scenario. A comparison

Figure 1: EER and Difference in EER and GER, 2017



Source: Authors' calculations based on UNESCO Institute of Statistics data.

of higher education access values across the countries is valid only when they are at par at the juncture of enrolment. Therefore, we compared the EER thus obtained to the GER of respective countries. It was observed that the increase in both the GER and EER was gradual during the five years of 2013–17 across all the selected countries. However, the absolute difference between the EER values of developed and developing countries was much smaller than the difference in the GER values of the same countries. This scenario probably emerged due to the fact that the measure of EER enables the comparison of these countries on a level playing field. Therefore, we suggest that the application of eligibility as a condition might provide a better realistic picture to know the correct level of participation for higher education.

A graphical representation of the five-year EER for the selected countries and differences in the GER and EER for 2017 is shown in Figure 1. Ideally, in a good education system, the difference between the GER and EER should be minimum. The smaller the gap between the GER and EER, the better the quality of the education system as a whole. A specific comparison between the GER and EER for 2017 along with inter alia difference between them is shown in Table 1. The ranking of the GER and EER of the top-two and bottom-two countries has not changed. Interestingly, it is seen that both the GER and EER are high for developed nations, such as the US, Germany, and France. Indonesia's GER (36.4) is higher than India; however, its EER (57.7) is less. Pakistan remains the last among selected countries both in GER (9.4) and EER (43.3). Surprisingly, the EER of the UK is exceptionally low, in fact, even lower

than India. A deeper study is necessary to understand the underlying reasons for this.

India ranks at number six with the EER as an indicator for access, two positions up as of the GER. Thus, our results suggest that for countries like India, EER can be considered as an appropriate indicator

for measuring the level of participation in higher education.

The difference between GER and EER is less than 10 percentage points for most developed countries, which indicates a relatively stable and mature education system. For emerging economies, it is between 20 percentage points and 30 percentage points. It should be noted that the difference between the GER and EER for India is 37.5 percentage points for 2017, the highest of all 10 countries. This high difference between the GER and EER indicates a huge gap between the “population eligible” and “eligible population.” In India, a slight improvement in this difference over the period of five years is observed. This could be attributed to the success of government programmes, which may have resulted in reducing dropouts and retention at higher secondary levels. The gap in the GER and EER can be further narrowed down only when the school system is further strengthened.

Higher Education Perspective

We question the rationale of GER as a stand-alone parameter to measure the level of participation in higher education for developing countries like India, where the problem is not much about access to higher education, but it is about the state of school education. The problem

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of a large number of dropouts in the school needs to be addressed first as these are the potential entrants to higher education. In India, the real bottleneck in higher education is an insufficient number of students who are eligible for entry into university education. There is a need to recognise that in India the shift from education to work starts from the age of 15 years in search of livelihood. The National Sample Survey Office (NSSO) and the Periodic Labour Force Survey (PLFS) 2017–18 data reveal that 15.6% of the population of the age group of 15–19 had entered into the labour market. Among these, 11.6% were working and 4% were looking for a job. The compulsion of early entry into the labour market is mainly caused by poverty.

This also explains why countries like the us have remained at the top in the list, both in terms of the GER and EER. The difference between the GER and EER was less than 10 percentage points for developed countries. This indicates the success of their higher secondary schooling system. A study of the us youth conducted in 2002 and 2012 shows that over 84% of them had enrolled for some post-secondary course. The same data further reveals that 33.3% had completed a bachelor's degree; 8.7% received an associate's degree while the remaining 42% got some undergraduate certificate (Lauff et al 2014). The same distribution of university students in the us shows

that only a third of them complete their graduation, yet many of them are employed. Therefore, it is necessary to examine the different forms of completion of education that accommodate the varying ability of students.

As per Trow (2006), developed countries portray universalisation of higher education as an important direction for the future. However, whether this is the right direction remains a key question. In the Indian higher education landscape, students have a very limited opportunity of continuing education of their interests at their own pace. It was worrying to note that the difference between the GER and EER in India was about 38 percentage points, which was the highest among 10 countries studied for comparison. This indicates the poor state of the school system linked to lesser access to higher education.

Alternate Career Paths

There is a need to develop attractive alternate career paths linked to skills and vocational education that will equip students for employment and career advancement. Unfortunately, in India, there is only one form of completion, that is, successful graduation. Those who are unsuccessful, do not get any form of certification based on the credits earned, which can help these students in getting suitable employment. It must be mentioned that the draft National

Education Policy (NEP), 2019 has rightly recommended multiple entry and exit options with a focus on liberal education as well as skills and vocation. The National Academic Credit Bank proposed by the University Grants Commission (UGC) may provide a formal structure to ensure smooth transfer and redemption of credits to get degrees as per students' convenience.

Agreeably, the quality of higher education must be the hallmark of policy for any country. Countries like the us are able to effectively manage the knowledge economy and also draw a large number of international students because of high quality education linked with skills and employability. One of the reasons for the high GER for developed countries is internationalisation, which needs to be factored. Many developed countries, especially the us, Australia, and the uk, attract a large number of international students. The World Bank data for 2017 shows that among the total enrolled students, 17.9% in the uk, 10.2% in France, and 8.4% in Germany are international students. In 2017, among the enrolled international students in the world, 19%, that is, close to one-fifth, were enrolled in the us alone. It must be noted that the number of international students also contribute to enrolments in the respective countries. As against this, in India, the share of enrolment of international students is just 0.1%. This may explain the

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higher values of the GER and EER in the US and UK as compared to countries like India. It will require more in-depth study to know the extent of the impact of the number of international students on the GER and EER values.

Relevance and Employability

Higher education cannot be viewed in isolation, because its relevance is one of the most important proximate determinants of employment. World Bank data for 2016 shows that the percentage of wage and salaried workers in developed countries is in the range of 85% to 90%, which is just 20.9% in India. Data collected in various rounds of NSSO and PLFS substantiates it. Higher education is reflected to a great extent in the inability of the degree holders to get a job. The NSSO and PLFS (2017–18) data shows that, while the overall unemployment among the population over 15 years was 6%, it was much higher among graduates (17.2%) and those qualified postgraduate and higher degrees (14.1%).¹

One of the objectives of the draft NEP 2019 is to increase the GER to at least 50% by 2035. For that to happen, enrolments need to be more than 6.8 crore, that is, more than double of the current enrolments. This is not possible without increasing the population eligible for entry into higher education. Also, the moot point is ensuring the absorption of this educated population in meaningful employment or empowering them to be self-employed. For this to happen, India will have to ensure a judicious balance between quantity and quality. The quality of teachers, innovative curricula, and contemporary pedagogical practices are the backbone of the quality of higher education, which must get policy priority. Any desperate attempt to increase GER in higher education without improving quality, relevance, and requisite skills might result in increased unemployment, social unrest and may not allow us to reap expected benefits of the demographic dividend.

Conclusions

We propose that, for India, EER would be the most appropriate indicator rather than mere GER for assessing the access,

quality, and relevance to higher education. The EER might be a refined measure to position developed and developing countries on the same plane and, therefore might portray a fairer picture about the enrolment in higher education. Moreover, in an era where lifelong learning facilitates continuously changing employment opportunities, it is high time to reconsider the current notion of an age-linked GER.

The future of learning is undoubtedly in blended pedagogy comprising face-to-face, distance, continuing, digital and online modes of delivery. One must not forget that quality online education not only needs technology but a robust curriculum and pedagogy to facilitate independent learning. However, online education need not be used as an easy tool merely to increase the GER. Such steps may be detrimental, unless the quality, relevance, skills, and employability issues are sufficiently addressed.

We should make efforts to improve the quality of school education as well as access and relevance to higher education to contribute towards national development and improve international competitiveness. We may need to deglamourise general education degrees and give social recognition/prestige and equal or even higher status to skill and vocational training. A renewed strategy of bridging blue and white-collared education may help enhance the employment opportunities in India and abroad. This will probably be a great tribute to the vision of a rapidly emerging young and aspiring new India.

NOTE

- 1 Unemployment Rate (UR) according to Usual Status (ps+ss) among 15+ Population

Year	Unemployment Rate in % among Persons with Higher Education Degrees		
	Graduates	Postgraduates and above	Total
2004–05	8.9	8.1	2.3
2011–12	7.6	7.5	2.1
2017–18	17.2	14.6	6.1

1 ps+ss: Principal Status and Subsidiary Status

2 Unemployment Rate is computed as:

$$\left(\frac{\text{Number of Unemployed Persons (Persons Looking for Job)}}{\text{Total Labour Force (Persons Working + Persons Looking for Job)}} \right) * 100$$

Source: National Sample Survey Office.

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