

Missing Middle of Educated Unemployable: A Critical Perspective on Secondary Education in India



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1 Introduction

1.1 Motivation

Acquisition of secondary education (Grades nine and ten) is the first steps towards adulthood, acting as a bridge between childhood and young adulthood. “Secondary education completes the provision of basic education that began at the primary level and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using more specialised teachers”.¹ Secondary education, ideally, should prepare the 14–15 year old for further higher education and for the world of work.²

The important thing to remember is that “skills beget skills through a multiplier process”, (Cunha et al. 2006; page 698 via Hanushek and Woessmann 2012). “Skills are personal qualities with three key features—(i) productive: using skills at work are productive of value; (ii) expandable: skills are enhanced by training and development and; (iii) social: skills are socially determined” (Green 2013). For the purpose of this paper, the term “skills” include cognitive, socio-emotional, psychomotor, technical and vocational and job-specific skills. There are three main questions that are explored in this paper. First, the extent of inequality in secondary education is assessed as per latest available data in 2014 and whether there has been any improvement or worsening since 2007. Second, whether the secondary education is adequately preparing

¹WDI website.

²Children are in primary school (Grades 1–8) between ages 5 and 13. Therefore, 14 and 15 are the appropriate ages for children in Grades nine and ten.

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the youth with appropriate skills which would enable them to acquire further skills via higher education or work. Third is the policy implication of this analysis on the universalisation debate on secondary education. These questions are important from the policy perspective. The goal number four of the 2030 Agenda for Sustainable Development aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” by 2030.³

While secondary education may include attainment of education through Classes 9–12 (or 14–18 years old), this paper focusses on the first two grades of nine and ten.⁴ This is because education till the 8th grade is compulsory in India due to the implementation of the Right of Children to Free and Compulsory Education (RTE) Act, 2009.⁵ Therefore, at the end of the 8th grade, they are 14 years old and cannot be formally employed because they are under-age (15 years is the legal working age). If drop-out rates are high or transition rates from elementary to secondary schools are low, these two critically skill formative years are “wasted” for the youth. This is, especially, challenging for females who may be employed for household chores. It is essential to plug the leakage of these two years, if any.

Secondary education is important both from the micro- and macro-perspectives. There is a demand for workers with secondary education. Approximately 12% of the Indian workforce, aged 15 and above, had secondary education in 2011–2012 (NSSO 2014)⁶ and close to 20% of the workforce had secondary education in high employment generating sectors like transport and wholesale and retail trade; repair of motor vehicles and motorcycles (NSSO 2014). The World Bank (2009) showed that returns to secondary education had steadily increased in India over time from 1984 to 2000. The returns to secondary education were highest in the 1980s to early 1990s (Singharia and Madeshwaran 2016; Rani 2014; Duraisamy 2002; Blaug 1972; Tilak 1987). The World Bank (2009) showed that the returns to secondary education were lower in 2004–05 versus 2000 but returns to higher secondary and tertiary education kept on increasing. Besides, marginal returns to secondary education were higher for females than males throughout the period 1984 to 2004. According to the World Bank (2009), attainment of secondary education contributes to higher economic growth and lowers poverty. Further, secondary education has positive externalities on health, gender equality, ameliorating living conditions while contributing to democratic citizenship and social cohesion.

³UNESCO website. <https://en.unesco.org/education2030-sdg4>.

⁴Higher secondary includes Grades 11 and 12.

⁵MHRD website. <http://mhrd.gov.in/rte>.

⁶Workers with higher secondary education had lower representation in the workforce of 6.7% in 2011–12, while share of workers with above higher secondary education was 10.3%. The share of workers with middle level education was 16.5% in 2011–12 and workers with up to primary level education was 54.7%. Plus, the average wage rate of secondary education in 2011–12 was Rs. 247 and higher secondary education Rs. 317. However, if the secondary education is combined with received or receiving vocational education, the average wage rate was Rs. 553. This gap is consistent across the age profiles from 15 and above. This implies that it makes sense to complete the secondary education before looking for other educational or work options.

1.2 Government Policy and Its Achievements

The Government of India had launched the *Rashtriya Madhyamik Shiksha Abhiyan* (RMSA) scheme in 2009⁷ with the objective of increasing the enrolment rate to 90% at secondary stage, by providing a secondary school accessible within a reasonable distance. It had also aimed to improve the quality of secondary education by making all secondary schools conform to prescribed norms, removing gender, socio-economic and disability barriers, and providing universal access to secondary-level education by 2017. Recently, RMSA scheme had revised its targets to achieve universal completion of Grade 10 by 2020 and achieving GER of 75% by 2017 (Ministry of Human Resource Development (MHRD) 2016).

The last thick round of household survey in India (NSSO 2014) with education and employment data revealed that in 2011–12, 10% of youth aged 14–16 years were working, 1.3% were working and attending educational institutions, 9.9% were neither attending educational institutions nor working and 78.8% were attending educational institutions.

The transition rate from elementary to secondary education in 2014–15 was 90.62%.⁸ Latest available data from 2015 to 16 showed that the gross enrolment ratio (GER) in secondary education was 80.01, with 79.16 for boys and 80.67 for girls (NUEPA 2016),⁹ suggesting that India may meet its revised RMSA targets. However, the net enrolment ratio was significantly lower at 51.26 for the corresponding year (NUEPA 2016).¹⁰ The corresponding number for 2012–13 was 41.9 (NUEPA 2013). The relatively lower NER confirms that many students in secondary school are overage. Besides, the average annual drop-out rate in secondary education was 17.06 in 2014–15 (NUEPA 2016).¹¹ Further, the transition rate from secondary to higher secondary education in 2015–16 was 69.04; annual average repetition rate was 3.03 in 2014–15 in secondary education; GER in higher secondary education was 56.16 while NER was 32.3 in 2015–16.

⁷RMSA website. <http://rmsaindia.gov.in/en>.

⁸*Transition Rate*: The number of pupils admitted (new entrants) to the first grade of a higher level of education in a given year, expressed as a percentage of number of pupils enrolled in the final grade of the lower level of education (i.e. Grade V) in the previous year.

⁹*Gross Enrolment Ratio*: Total enrolment in primary education (Grades 9–10), regardless of age, expressed as a percentage of the eligible official primary school-age population (14+ to 15+ years) in a given school-year (NUEPA 2016).

¹⁰*Net Enrolment Ratio*: Enrolment in primary education (Grades 9–10) of the official primary school age group (16+ to 17+) expressed as a percentage of the corresponding population (NUEPA 2016).

¹¹*Average Annual Drop-out Rate*: Presents average of grade-specific drop-out rates in Primary Grades and is calculated by considering grade-wise enrolment in 2013–14 and 2014–15 and grade-specific number of repeaters in 2014–15 (NUEPA 2016).

1.3 Contribution to the Literature and Policy Discussions

Issues of educational inequality continue to plague education, in general, but, more specifically, secondary education (Agrawal 2014; Chakravarty 2016; MHRD 2016).¹² This could be across socio-economic backgrounds (caste, gender, incomes, etc..) and spatially distributed (rural–urban and States). Agrawal (2014) examines this question for all types of education from primary to graduation and above for the whole population of the States. The author shows that although educational inequality has gone down between 1993 and 2009, it remained quite high (all-India Gini coefficient in education in India in 2009 was 0.51).¹³ Further, there were rural-urban differences—all-India rural Gini was 0.55 in 2009 and all-India urban Gini was 0.37 in 2009. Plus there were state-wide differences. Delhi had the lowest Gini of 0.29 in 2009 and Bihar the highest at 0.61.

Chakravarty (2016) showed that the Net Attendance Ratio (NAR) varied widely across expenditure quintile groups in secondary education. The NAR was 38 for the bottom 20% of the population and 72 for the top-most quintile in 2014. MHRD (2015) showed that there are gaps in supply and quality of secondary schools. The “National Achievement Survey (NAS) data shows that at least half of all children are performing poorly, confirming that many secondary school students would fail to reach the Programme for International Student Assessment (PISA) minimum score levels in core subjects” (MHRD 2016; pp. 15). Last but not the least, anecdotal evidence informs us that the introduction of vocational education at secondary level is not able to plug the gap sufficiently because of both supply and demand reasons.¹⁴ The Annual Status of Education Report or ASER (2018) also reports that youth are not learning vocational skills in the 14–18 age group.

The second section of the paper examines the inequities in secondary education using three key variables—attainment, attendance and expenditure. While MHRD (2016) has examined the latest available NSSO 71st round data on secondary education, the intention in this paper is to partially extend the analysis of Agrawal (2014) and compute Lorenz curves to examine inequalities in the variables mentioned above.

¹²MHRD (2016) states that India will find it difficult to achieve universalisation in secondary education as “insufficient numbers of students are reaching and graduating from Grade 8; inadequate levels of achievement of Grade 9 entrants who may then fail to complete Grade 10 successfully; insufficient access to secondary school places in some areas and oversupply in other areas; poor attendance of students and absenteeism by teachers; wide variations between schools in staffing, class size and availability of learning materials; diversion of resources from free public provision to subsidies for private schools which do not enrol children from poor households; and failure to ensure adequate financing at State level to universalise access”. Agrawal (2014) discusses about teacher absenteeism, culture, agrarian distress as possible factors contributing to high inequalities of educational attainment.

¹³Agrawal (2014) computed the Gini coefficient using educational attainment data from the National Sample Survey Organisation (NSSO).

¹⁴The Central Board of Secondary Education (CBSE) remodelled secondary education by discontinuing the compulsory vocational subject as the sixth subject (CBSE 2017). An yet to be published evaluation of the Apprenticeship programme showed that employers did not want to hire apprentices with secondary vocational education as they did not have enough knowledge and vocational skills.

The qualitative analysis focuses on the change between 2007–08 and 2014, especially since the RMSA was implemented during this period. Given the spread of youth currently (2011–12) attending secondary education, this paper looks at the whole youth population from 5 to 29 years old.¹⁵ The authors find that inequality has reduced between 2007–08 and 2014 for attainment, attendance and expenditure, but at a slow pace. Further, this paper also pays attention to the state-wide differences, rural–urban and gender differences for 2014.

The inequities are then linked up with the discussion on poor quality of secondary education in the third section of this paper. Unlike previous literature, which had tended to focus on structural issues of education, this paper wants to link the issues of gaps in secondary education to those of employability. The issues of quality are directly correlated with the discussion on skills and, therefore, the employability of the youth. This is done qualitatively using more recent data from ASER (2018), which suggests that the rural youth have poor functional skills. This implies that the youth are poorly equipped to enter the world of work, and therefore, their employability is limited. Since overall the transition to higher secondary education is also limited as suggested by the Unified District Information System for Education (U-DISE) data, this poses severe challenges to the policy-makers to turn the demographic opportunity into a dividend.

The fourth section of the paper discusses the policy implications from the above quantity and quality of secondary education while the last section presents the conclusions. Two major conclusions that are derived from the analysis in this paper are that the secondary education up to Class X should be made compulsory. Second, the secondary education should focus on attainment of cognitive and non-cognitive skills. Technical and vocational education should be encouraged in the form of compulsory and graded pre-vocational curricula.

2 Revisiting Inequality in Secondary Education: Attainment, Attendance and Expenditure

In this section, the primary focus is on measuring the education inequality in terms of secondary educational attainment, attendance and expenditure patterns. As mentioned earlier in the introduction, unit-level data from 64th and 71st rounds have been used (NSSO 2007–08 and 2014) to facilitate comparisons. Further, we are examining youth in the age range of 5–29 years. This is because Fig. 1 illustrates that youth attending secondary education can range from 11 to 29 years' age although the majority are concentrated in 13–18 years' group. This happens due to measurement errors as the definition of secondary education is not uniform across States in India. Furthermore, the gap between GER and NER of secondary education also suggests that the youth currently attending secondary education may be either underage or

¹⁵Results would not change significantly if we take a smaller sample of 14–18 years old.

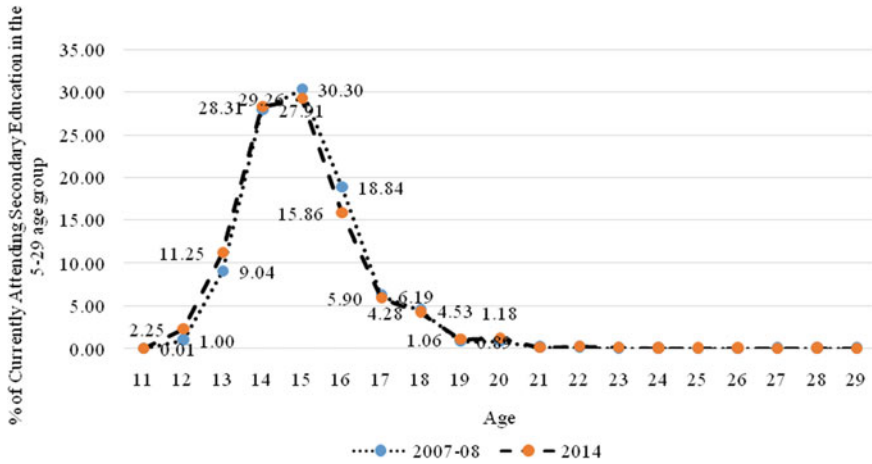


Fig. 1 Age-wise distribution of currently attending secondary education, 2007–08 and 2014. *Note* Secondary and diploma/certificate course (up to secondary) have been combined to form secondary education for 2014. In 2007–08, these were not reported separately. *Source* Authors’ computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

average. Given the vast heterogeneity of India, covering this age group makes sense. Results are broadly similar for the age range of 14–18 years.

This section is further divided into three sub-sections. The first sub-section gives an overview or descriptive statistics of the youth aged 5–29 years on all-India basis. The second sub-section assesses the inequalities in secondary education attainment, attendance and expenditure for 2007 and 2014 by expenditure quintiles. The third sub-section, on its part, examines state-wise data.

2.1 Descriptive Statistics of Youth 5–29 Years Old, 2007–08 and 2014

At the all-India level, the proportion of population in the age group of 5–29 years was nearly 46% in 2014. The statistics broadly shows that educational attainment and current attendance levels have gone up between the seven years of 2007–08 and 2014. In 2007–08, 31% of the youth had either attained at least secondary education or were attending secondary education. This figure went up to 41.9% in 2014. The interesting fact to note is that average expenditure on secondary education has gone up barely by 2.6% on an annual basis.

Of the total 5–29 population age group, the proportion of individuals to have attained formal education at various levels has gone up from 86% in 2007 to 89.5% in 2014 (Fig. 2). The share of youth population to have attained at least secondary education has gone up from 18% in 2007–08 to 27% in 2014 (Table 6). The share

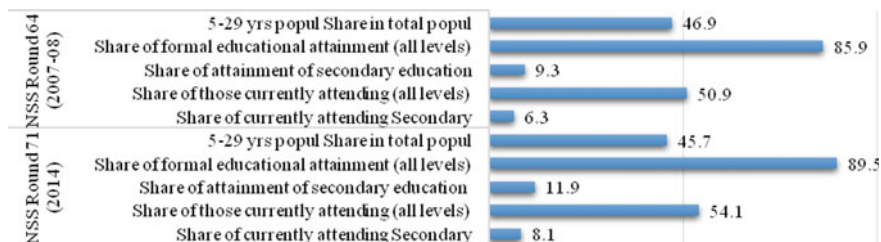


Fig. 2 All-India percentage share of population (5–29 years), attainment and currently attending: All India (2007–08 and 2014). *Notes* (1) To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014. (2) Share of educational attainment and current attendance have been calculated from total MPCE-wise population in the 5–29 years’ age group. (3) The share of attainment of secondary education has been shown at that level and does not cover those having more than secondary education. 4. When the percentage of those currently attending secondary education is computed as a share of the youth population that have not attained secondary education, the share of currently attending secondary goes up to 7.8 and 11.1% for 2007–08 and 2014, respectively. *Source* Authors’ computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

of formal secondary educational attainment has also gone up from 9.3% in 2007–08 to 11.9% in 2014. Similarly, the share of those attending secondary education in the 5–29 years’ age group also went up from 6.3% in 2007–08 to 8.1% in 2014 (Table 5).

Figure 3a, b shows that there has been a shift from lower to higher levels of educational attainment between 2007–08 (NSSO Round 64 or R64) and 2014 (NSSO Round 71 or R71). The percentage share of individuals with middle- and higher-level educational attainment also shows improvements between the two rounds, whereas

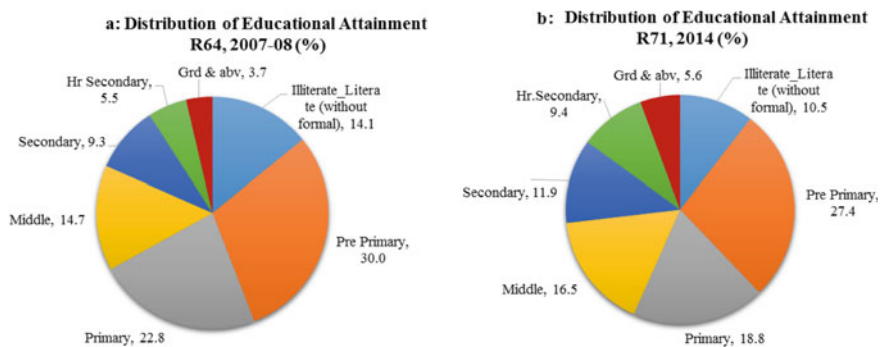


Fig. 3 Distribution of educational attainment in 5–29 years: All India, 2007–08 and 2014 (%). *Note* To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014. Likewise, higher secondary and diploma/certificate courses (up to higher secondary) have been combined to form higher secondary education. The 2014 prices are used to compare the average expenditure for the two years. *Source* Authors’ computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

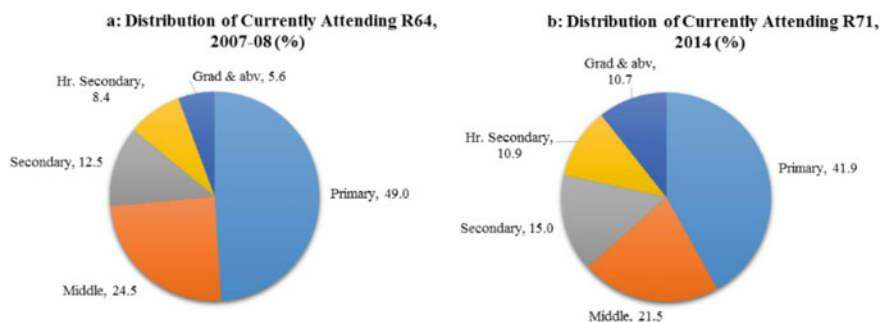


Fig. 4 Distribution of currently attending in 5–29 years: All India, 2007–08 and 2014 (%). *Note* Secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014. Similarly, higher secondary and diploma/certificate course (up to higher secondary) have been combined to form higher secondary education. In 2007–08, these were not reported separately. *Source* Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

for primary and below levels, it has declined although in percentage terms, the change is not very significant.

In the case of those currently attending, significant improvement in the pattern of distribution is recorded for tertiary level of education, going up from 5.6 to 10.7%, showing a rise of 5.1 percentage points. However, in cases of secondary and senior secondary levels, the percentage share has gone up by 2.5 percentage points each in R71 over R64. This indicates that although progress in secondary level of education has been registered over the years, the pace of change was quite slow (Fig. 4).

Figure 5 shows that real average education expenditure has gone up for all levels of education, but growth in expenditure is negatively correlated to the levels of education. For secondary education, the compound annual growth rate of education expenditure is 2.6%.

2.2 *Inequality in Attainment, Attendance and Expenditure for 2007–08 and 2014 by Expenditure Quintiles*

The attainment in secondary education, current attendance and average expenditure in secondary education is examined by monthly per-capita expenditure (MPCE) class-wise for both 2007–08 and 2014 for the 5–29 years' age population (Table 1). In 2014, the secondary educational attainment of the top quintile was double that of the bottom-most quintile. The change in attainment between 2007–08 and 2014 was relatively slow, but among all quintiles, the highest growth was seen in the middle quintile, while the least change was experienced in the top-most quintile. Table 6 in the appendix shows the educational attainment in other levels of education by MPCE classes for both 2007–08 and 2014.

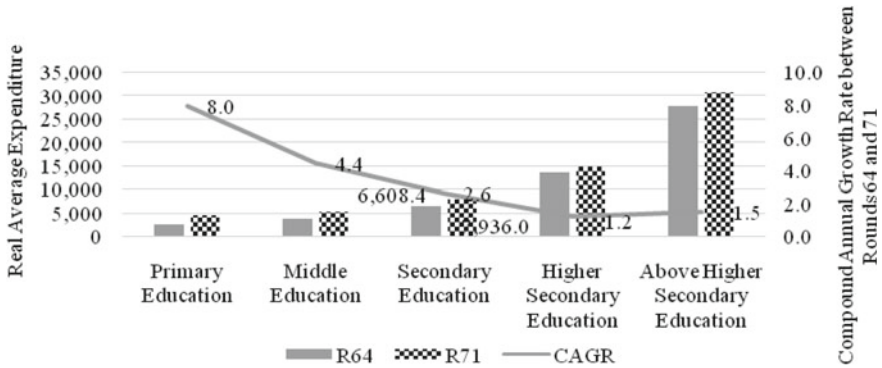


Fig. 5 Real average education expenditure by education level, 2007–08 and 2014 and CAGR (%change between 2007–08 and 2014). *Note* To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014, while higher secondary and diploma/certificate courses (up to higher secondary) have been combined to form higher secondary education. The 2014 prices are used to compare the average expenditure for the two years. *Source* Authors’ computations from NSSO data rounds 64 and 71

The changes in current attendance in secondary education have been very slow over the seven years between 2007–08 and 2014. When one looks at current attendance in secondary education by quintiles, the shares of each quintile are broadly close to each other, with the exception of the bottom-most quintile. Only 6.3% of the youth, aged 5–29 years in the bottom-most quintile, were attending secondary education.

However, when we look at the 13–18 year age group, the share of secondary education was 23% in 2014 for the bottom-most quintile (NSSO R71). The shares for the other four quintiles, in ascending order, for the age group 13–18 years were 29, 31, 31 and 32% (NSSO R71). Interestingly, 42% in the bottom-most quintile in the 13–18 years’ age group were not attending school or college at any level (NSSO R71). The corresponding numbers for the other four quintiles, in ascending order, were 32%, 25%, 21% and 13%, respectively. Table 7 in the appendix shows the current education of other education levels by MPCE class.

Last, but not the least, is the average expenditure on secondary education by MPCE—the average expenditure of the top-most quintile is four times that of the bottom-most quintile.¹⁶ It is even double that of the second quintile. Average expenditures have gone up for all quintiles between 2007–08 and 2014, but it has increased the most for the top-most quintile (5%) as shown in Table 1. The average expenditure has experienced the least rise for the bottom-most quintile.

¹⁶Why are the inequities in expenditure a problem? Desai and Vannemann (2015) show that early learning outcomes are positively linked to subsequent educational attainment. However, if one comes from a privileged background, one is able to overcome the learning handicaps, while the ones from less privileged backgrounds are not able to do so. Children from less privileged backgrounds need more inputs than not and they are the ones who attend poor quality schools.

Table 1 Secondary educational attainment, current attendance, average expenditure MPCE-wise of youth (5–29 years), 2007–08 and 2014

MPCE class	2007–08	2014	Percentage point change
<i>Secondary educational attainment in 5–29 years' population MPCE-wise and percentage change, 2007–08 and 2014</i>			
1	4.8	7.6	2.8
2	7.4	9.8	2.5
3	9.2	12.7	3.5
4	11.6	14.4	2.9
5	14.3	15.7	1.4
All India	9.3	11.9	2.6
<i>Current attendance secondary education in 5–29 years' population MPCE-wise and percentage change, 2007–08 and 2014</i>			
1	4.0	6.3	2.3
2	5.3	8.1	2.8
3	6.2	8.3	2.1
4	7.6	8.9	1.4
5	9.1	9.3	0.3
All India	6.3	8.1	1.8
<i>Real average expenditure in secondary education in 5–29 years' population MPCE-wise and percentage change, 2007–08 and 2014</i>			
1	3309	3734	1.7
2	4094	5172	3.4
3	5023	6243	3.2
4	6685	8090	2.8
5	11,210	15,717	4.9
All India	6608	7936	2.6

Notes (1) Share of educational attainment and current attendance calculated from total MPCE-wise population in 5–29 years' age. (2) The distribution for each type of education is shown in the appendix (Tables 5, 6, 7 and 8). This table shows attainment and attendance for that particular level of education only. (3) To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education. The 2014 prices are used to compare the average expenditure between 2007–08 and 2014

Source Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

Lorenz curve is a measure of inequality. Here, the Lorenz curves exhibit decline in inequality across MPCE classes by educational attainment (Fig. 6) and current attendance (Fig. 7) between 2007–08 and 2014 for secondary level of education. Attainment of secondary education has shown only a marginal decline, with maximum decline seen in third and fourth quintiles. In contrast, current attendance in secondary education has shown a significant decline between 2007–08 and 2014.

Table 2 shows the break-up of expenditure for those currently attending secondary education. The significant share is driven by course fees, followed by books,

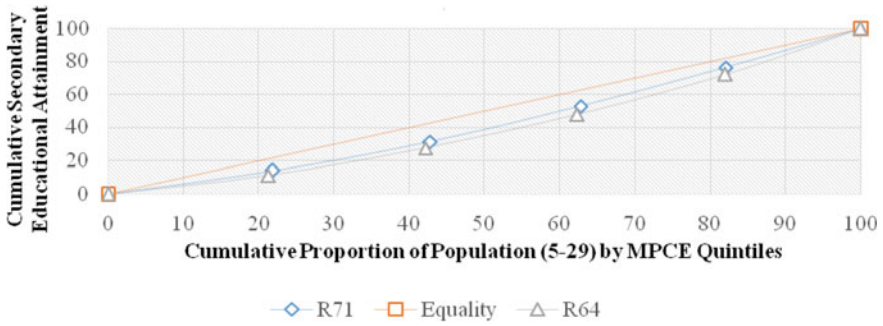


Fig. 6 Lorenz curves of secondary educational attainment of youth aged 5–29, 2007–08 and 2014. *Note* (1) To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014. (2) This graph pertains to those who have attained secondary level of education only and not anything beyond it. *Source* Authors’ computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

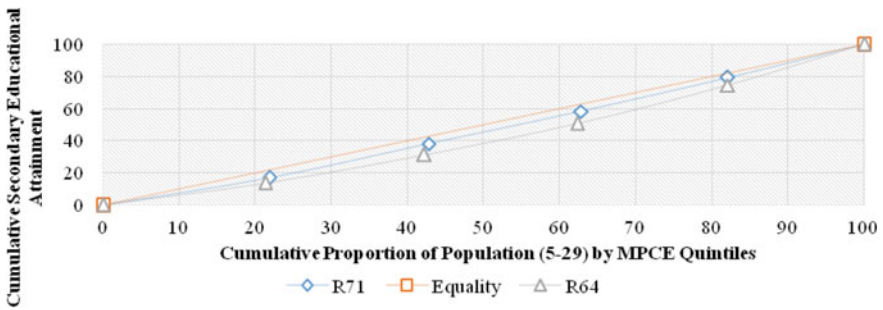


Fig. 7 Lorenz curves of secondary education current attendance of youth aged 5–29, 2007–08 and 2014. *Note* To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014. *Source* Authors’ computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

stationery and uniform, and then private coaching. Average expenditure (‘) per student (in current academic session) pursuing general course for secondary education is ‘3724 for government schools, ‘9298 for government-aided and ‘15,785 for private non-aided schools (NSSO R71). The rise in average expenditure can be explained by the fact that the households in top-most quintile would be sending their children to private non-aided schools. The reason for preferring private schools is that they offer a better environment for learning, whereas the quality of government education is not satisfactory (NSSO R71).

Therefore, this section shows that inequality in secondary education has declined between 2007–08 and 2014. However, the change in secondary education has been relatively slow in the seven years. The glaring inequity is the average expenditure on secondary education in the top-most quintile. This is, approximately, twice that of even the second quintile. Not only does the top-most quintile have more

Table 2 Percentage share in total expenditure on secondary education, 2007–08 and 2014

	MPCE class	Course fee	Books, stationery, uniform	Transport	Private coaching	Other expenditure
71st round	1	32.2	33.0	6.6	23.2	5.0
	2	36.2	29.7	6.6	22.9	4.5
	3	38.5	26.5	8.5	21.7	4.7
	4	43.0	24.0	8.6	19.3	5.2
	5	48.3	17.8	9.9	18.5	5.4
	Grand total	42.7	23.4	8.7	20.2	5.1
64th round	1	16.5	49.2	4.0	16.8	13.5
	2	18.8	44.2	4.4	20.9	11.7
	3	23.2	41.1	4.8	18.8	12.1
	4	25.8	34.7	5.6	20.6	13.2
	5	31.6	28.0	7.6	19.4	13.4
	Grand total	26.5	34.7	6.1	19.6	13.0

Note To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014

Source Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

access to secondary education, it is being reinforced further by the significant gap in expenditure per student and, consequently, the quality and learning outcomes.

2.3 State-Level Analysis

Table 9 shows the share of youth population (of age 5–29 years) in each State in 2014, the percentage of youth population who have either attained or are attending secondary education and the average per-capita expenditure on secondary education. This helps to bring out State-wide differences across rural–urban and gender. There are States/UTs like Bihar, Chandigarh, Daman and Diu, Jharkhand, Madhya Pradesh, Nagaland, Rajasthan, Sikkim and Uttar Pradesh and Union Territories where approximately half the population is young. At the other end of the spectrum, less than 40% of the population are young in Kerala, Goa and Tamil Nadu. These States are at the more advanced stage of demographic transition.

The percentage of youth who have attained or are attending secondary education is 35% in 2014. States which perform below the Indian average are Assam, Bihar, Chhattisgarh, Meghalaya, Mizoram, Odisha, Rajasthan, Tripura, Uttar Pradesh and West Bengal. Chandigarh is the best performer, with 61% of the youth having attained secondary education or attending it, followed by Kerala. Both Himachal Pradesh and Nagaland have 55% of the youth who have either attained secondary education or are attending it.

Urban–rural gaps are large with percentage of the urban young, who have either attained secondary education or are attending it, significantly larger than rural. In Puducherry and Daman and Diu, the rural shares are higher than the urban ones. In Haryana, there is no rural–urban gap, with 41 and 42% of the relevant population having either attained or attending secondary education, respectively.

Surprisingly, Table 9 shows no discernible trends in the gaps between male and female attainment of secondary education and attending it. There are 13 States wherein the percentage of female attainment in secondary education and currently attending it are higher than the percentage of males. Delhi and Daman and Diu significantly stand-out in that respect. Between Nagaland, Meghalaya and Andaman and Nicobar Islands, there is not much difference. The highest gap between males and females is in Uttarakhand, Bihar and Manipur.

Additionally, one looked at the percentage of youth population (net of the youth who have already attained secondary education), who are attending secondary education for both the NSSO Rounds 64 and 71. The change is positive between the two years but there is spatial variation, with Chandigarh and Goa leading the change (Fig. 8). There are States like Kerala and Himachal Pradesh, which had very secondary education attendance in 2007–08 itself and, therefore, registered lower change.

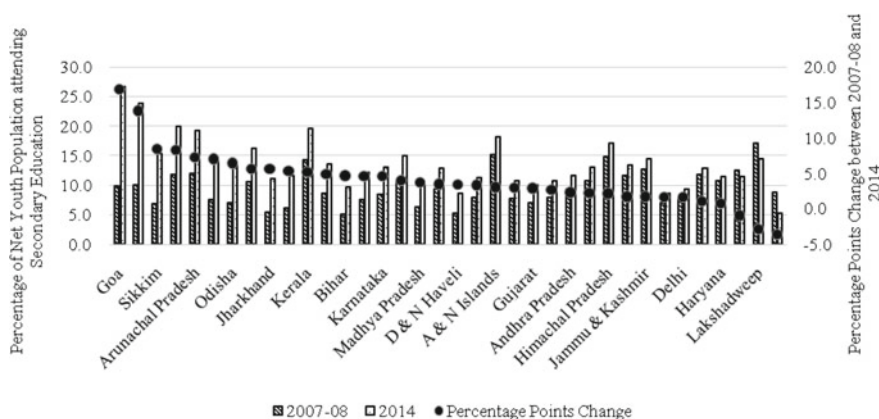


Fig. 8 Percentage of net youth population attending secondary education and percentage points change, 2007–08 and 2014. *Notes* (1) To make 2007–08 and 2014 data comparable, secondary and diploma/certificate courses (up to secondary) have been combined to form secondary education for 2014. (2) The population between 5 and 29 years of age is defined as youth population. The net youth population is derived by subtracting the youth who have already attained secondary education from the total youth population. *Source* Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

2.4 Main Issues

The above sections indicate that India may meet its downwardly revised target of universalisation of secondary education. The change over the seven years has been slow. The aggregate, however, hides variations across income class and spatially, both rural–urban and State-wise. Rural aggregates, on an average, tend to be lower than urban ones. The good news is that there is no firm trend of male–female gaps, with the gaps varying from State to State. The most worrisome feature is the jump in average expenditure in education between the seven years. Significantly, the average expenditure in education of the top 20% is double that of the second tier in terms of MPCE. This tends to perpetuate inequalities in education. The policy implication is that since secondary education is critical for economic growth and development, it is, perhaps, time to make it compulsory.

3 Quality of Secondary Education: An Outcomes Approach

The pertinent question that one should pose is whether educational attainment, per se, is enough. Does acquiring secondary education result in children acquiring skills that help them in future to acquire further skills, whether in higher secondary education or jobs? Hanushek and Woessmann (2008) and Hanushek (2013) empirically prove that acquiring education and acquiring skills may not be necessarily equivalent and the latter has a stronger relation to economic growth. Education happens to be just one channel of acquiring skills (Pilz and Wilmshöfer 2015).

This, then, ties up directly with the discussions on the quality of secondary education. There are multiple perspectives on the definition of the term “quality of education” and many differing traditions to approaching the question of quality of education (UNESCO 2004). The UNESCO (2004) states that there should be three-action principle on the quality of education—relevant, equitable access and outcome and proper observance of individual rights. Essentially, “education should allow children to reach their fullest potential in terms of cognitive, emotional and creative capacities” (UNESCO 2004, p. 30). There are five dimensions of quality, viz. learners, environments, content, processes and outcomes (UNICEF 2000). Based on students’ survey, Jain and Prasad (2018) have comprehensively assessed the quality of secondary education and its impact on students attaining distinction. Factors like cleanliness of school, well-qualified teachers with a positive attitude, quality of school infrastructure had a positive impact on students obtaining distinctions (above 75% in their report cards).

In contrast to Jain and Prasad (2018), for tractability purposes, this paper specifically focusses on the dimension of outcomes in the discussion on the quality of education. The outcomes include literacy, numeracy and life skills, creative and emotional skills, values and social benefits (UNESCO 2004). While numbers on secondary

educational attainment, attendance and expenditure are available, numbers on the quality of secondary education are, at best, sparse.

Therefore, we cite two different sources, which have used different measures of quality to inform us about the quality of secondary education. These include digital skills from the NSSO (R71) data for youth aged 14–29 years and ASER (2018) which assesses functional skills of youth aged 14–18. These are:

- Digital Skills from the NSSO 2014 (R71): The Sustainable Development Goals actually use indicators on ICT and digital literacy skills for measuring skills for work (UNESCO 2017). The 74th Round of the NSSO had assessed youth on their digital skills, the reports of which are available in Table 3. Less than 30% of youth are able to operate a computer and only 16.6% of youth are able to use the internet for sending e-mails. Considering the huge gap between the GER of secondary and higher secondary education, indicating high drop-out after secondary education, the numbers in Table 3 are alarming. The secondary educational system is ill-equipping secondary education attendees or those who have already attained the level with poor digital skills. This is a skill that the majority of firms want in their workers.

Further, the ASER (2018) showed that functional skills varied a lot among the rural youth aged 14–18 in 2017: 76.6% could read standard two level text, 43.1% could divide, 58.2% could read a sentence in English, 75.7% could count money, 55.7% could add weights, 82.7% could tell time in hour terms while 59.3% could tell the time more specifically in terms of hours and minutes, 50.2% could apply unitary method, 38.6% could calculate time, 53.5% could read at least three out of four instructions, 63.8% could manage a budget, 64.1% could take a purchase decision, 37.7% could apply a discount, 15.4% could calculate repayment, 86.3% could recognise the map of India, 64.1% could name India's capital, 78.6% could name their own State and 42% could identify their own State on the map. Further, while only 17.6% of youth had never used a mobile, 63.7% had never used internet and 59.7% had never used a computer. Media exposure of the youth varied, with 6.8% of them having never been exposed to television, 35.5% had never used the radio and 29.1% having never read a newspaper.

In order to assess learning outcomes, there is a third source, which is the National Achievement Surveys conducted by the National Council of Educational Research and Training. They were conducted twice—once in 2015 and, thereafter, in 2018—for secondary education. The survey tools included multiple test booklets for various subjects, including mathematics, Modern Indian Language, English, sciences and social sciences. Along with the test items, questionnaires pertaining to students, teachers and schools were also used. The problem was that the results in the NAS surveys were reported subject-wise and not “outcome-wise”. The 2015 results indicate that students' performance was below average, and this was due to a lack of conceptual clarity and understanding in the subjects/themes tested (NCERT 2015).

As mentioned earlier, vocational secondary education in India is characterised by uncertain quality. Further, the quality of the pre-vocational curricula leaves much to be desired while not actually preparing the students for work (Pilz et al. 2016). In

Table 3 Digital skills of youth aged 14–29 who have attained or are attending secondary education, 2014

Percentage of those attained secondary		Percentage of those attending secondary					
Able to operate a computer	Able to use computer for word processing/typing	Able to use internet for searching for desired information	Able to use internet for sending e-mails	Able to operate a computer	Able to use computer for word processing/typing	Able to use internet for searching for desired information	Able to use internet for sending e-mails
33.6	30.1	28.0	24.3	27.7	24.2	20.4	16.6

Source Authors' computations from the NSSO data 71st round (2016)

conclusion, whether in terms of content outcomes, skills for work, specifically digital skills or functional skills, the evidence seems to be a pointer to the poor quality of secondary education in India.

4 Policy Discussion: A Way Forward

The last two sections have indicated that secondary educational attainment showed slow improvement between 2007–08 and 2014. Although educational inequality has declined over time, the average expenditure of the top quintile on education indicates a perpetuation of inequities. There are spatial variations. Even if people have acquired secondary education, there is no guarantee of its quality.

In this scenario, it is important that one should make secondary education compulsory in India with the nature of education being so unequal. This boils down to the basic question as to what are the desirable outcomes that we want from secondary education in India. It is the bridge to adulthood and should prepare the students for both work and higher education. Besides, as UNESCO (2004) states, secondary education should also build good citizens. Given that India is a low middle-income country with limited resources, it is in its comparative advantage to concentrate on giving “general training” in secondary education (Becker 1962). General training would prepare students simultaneously to be good citizens while also pursuing their respective career paths (higher secondary education or jobs). In addition, the World Bank (2009) shows that the social returns to education are higher than the private returns to secondary education, while stressing on the need for more public investment in secondary education.

What should general training involve? Essentially, the secondary education should give students foundational skills. “Foundational skills are the fundamental and portable skills that are essential to conveying and receiving information that is critical to training and workplace success” (ACT website). There are two key words in the definition—fundamental and portable. The word ‘fundamental’ signifies that it serves as a foundation for supporting additional operations/tasks and learning (ACT website). The second key word ‘portable’ signifies that it is not job-specific but can be applied at some level across a wide variety of occupations.

Using the NCAER (2018) report, there are four types of skills included in this paper—cognitive, non-cognitive, physical/psychomotor and technical and vocational skills. Cognitive skills are attributes which are used for “thinking activities” (Green 2013) like reading, writing, etc. Non-cognitive/soft/socio-emotional skills are personality traits which matter for success at the job market place. One has to use one’s emotions to get the job done from others (Green 2013). International literature has identified from the psychology literature that there are Big Five Personality factors that matter for success in the job market—conscientiousness, openness to experiences, extraversion, agreeableness, neuroticism/emotional stability that encompass the idea of soft skills (Heckman and Kautz 2012). Physical or psychomotor skills cover areas which require strength and dexterity (Green 2013, p. 22) and involves

manual skills. Occupation-specific or technical and vocational skills are specific skills that are required to carry out a particular job.

If for the secondary education system, priority is to provide general training which boosts both students' employability and ability to get higher education, this is a supply-side problem. Technical and vocational skills are job-specific and, in many instances, firm-specific skills. These should be either provided by firms or in partnership with them. It would be impossible for a secondary school to provide the exact set of skills that a firm would want. However, it can provide pre-vocational skills that teach attitude to work rather than just "trades" and focus on situation and personality (Pilz et al. 2016). Teaching of trades and such skills should be done at the higher secondary level in collaboration with firms.

From this perspective, Indian secondary schools should be concentrating on foundational cognitive and non-cognitive skills, physical/psychomotor skills and pre-vocational skills, which concentrate on attitudes to work. Besides, the Indian secondary schools need to think ahead about the twenty-first century as technological changes are changing the nature of work and, consequently, the attributes required from their workers (NCAER 2018). Table 4 lists the foundational skills that would be required in the Indian context using Scott (2015) and P21 framework. The P21 framework emphasises on the 4Cs for twenty-first century learning: collaboration, communication, creativity and critical thinking.

As the list in Table 4 shows, the skills needed for twenty-first century are onerous and the Indian secondary education system in its current form is inadequate to address the gaps. The processes are simply not in place (Jain and Prasad 2018). Worse is that if the top quintile is spending four times that of the bottom-most quintile in preparing them for the twenty-first century, there will again be a small minority of people with the "right" set of skills, leading in the perpetuation of inequities.

5 Conclusion

The secondary education system in India is characterised by inequities in attainment, attendance and per-capita expenditure. Although inequities in the former two categories have gone down between 2007 and 2014, the gap between GER and NER indicates that children in secondary education are lagging behind. This is also evident in the spread of age in the people who are taking secondary education. Further, sparse details available on the quality of education in terms of outcomes indicate that India is lagging behind. These have serious consequences for India in terms of economic growth and development, especially as GER in secondary higher education is even lower. This means lots of youth choose to join work after secondary education.

In this scenario, the best suggestion is to make secondary education compulsory. Further, the secondary education system should be reformed in such a way that it produces twenty-first century citizens with openness and flexibility to pursue lifelong learning, work in a cooperative manner, solve problems and respect diversity of backgrounds and opinions. Further, this has the added advantage that employers need and desire workers having these kind of attributes.

Table 4 Foundational skills: Outcomes for the twenty-first century Indian secondary education

S. No.	Type of skills	Skill	Definition
1	Knowledge	English, reading or language arts, World languages, Modern Indian languages (other than the mother tongue), Arts, mathematics, economics, science, geography, history and government and civics	
2	Foundational cognitive skills	Reading	Not only know how to read fluently but also ability to process the information like following instructions
3		Writing	Writing to convey the ideas in a bilingual framework
4		Mathematics	Not only know how to add, subtract, multiply and divide but also apply it to a variety of tasks like ASER (2018)
5		Communication	Articulate thoughts and ideas using a variety of means and listen effectively, especially in a country as diverse as India
6		ICT literacy	Use and apply technology effectively
7		Global awareness	Awareness, address global issues and ability to work with people around the world
8		Financial, economic, business and entrepreneurial literacy	Make appropriate economic choices, role of economy in society and use of entrepreneurial skills
9		Health literacy	Use and interpret health-related information
10		Environment literacy	Use and interpret environment-related information

(continued)

Table 4 (continued)

S. No.	Type of skills	Skill	Definition
11		Active learning	Active learning is defined as a form of learning in which the learner uses opportunities to decide about aspects of the learning process. A second definition of active learning connects it to mental activity in another sense: it refers to the extent to which the learner is challenged to use his or her mental abilities while learning. Thus, active learning, on the one hand, has to do with decisions about learning and, on the other hand, making active use of thinking. The first kind of active learning is called self-directed learning and the second independent work” (Van Hout-Wolters et al. 2000)
12		Active listening	Listening to others in a concentrated fashion
13		Critical thinking and problem-solving	Reason effectively, use systems thinking, make judgements and decisions and solve problems (not numerical problems but solve different kinds of non-familiar problems in both conventional and innovative ways and identify and ask significant questions that clarify various points of view which lead to better solutions)
14		Creativity and innovation	Think creatively (brainstorming) and work creatively with others; applying innovations

(continued)

Table 4 (continued)

S. No.	Type of skills	Skill	Definition
15		Communication and collaboration	Ability to work with others effectively and respectfully; exercise flexibility and willingness
16	Foundational non-cognitive skills	Civic and digital citizenship	Civic citizenship involves exercising rights and obligations of citizenship at local, State, national and global levels and basically staying involved. Digital citizenship involves doing all the above using digital modes
17		Seek and value diversity	Gender, socio-economic diversity
18	Physical/psychomotor skills		Flexibility and confidence, especially for Indian females which gives them the ability to deal with a variety of situations
19	Technical and vocational skills	Pre-vocational curricula	Attitudes to work, creativity and collaboration, problem-solving at work, agreeing to disagree at work, anger management etc.

Sources Scott (2015) and P21 website

Of course, one recognises that this is easier said than done in a resource-constrained country like India. It will also require major changes in the current education system. However, the long-term costs are immense versus “business-as-usual”.

Appendix

See Tables 5, 6, 7, 8, and 9.

Table 5 Percentage share of population (5–29 years), attainments and currently attending: All India MPCE -wise

MPCE class	NSS round 64 (2007–08): % share ^a					NSS round 71 (2014), % share ^a				
	Youth (5–29) in total pop	Formal educational attainment	Attainment of secondary education	Currently attending secondary	Currently attending secondary	Youth (5–29) in total pop	Formal educational attainment	Attainment of secondary education	Currently attending secondary	Currently attending secondary
1	50.0	77.4	4.8	47.4	4.0	50.0	82.6	7.6	49.6	6.3
2	49.0	83.3	7.4	49.2	5.3	47.8	87.0	9.8	52.6	8.1
3	47.3	86.2	9.2	50.5	6.2	45.7	90.9	12.7	53.5	8.3
4	46.2	89.8	11.6	52.6	7.6	44.1	92.3	14.4	56.2	8.9
5	42.2	94.2	14.3	55.6	9.1	41.0	96.3	15.7	59.7	9.3
All India	46.9	85.9	9.3	50.9	6.3	45.7	89.5	11.9	54.1	8.1

Notes ^aShare of educational attainment and current attendance calculated from total MPCE -wise population in 5–29 years. To make 2007–08 and 2014 data comparable, secondary and diploma/certificate course (up to secondary) have been combined to form secondary education for 2014. And higher secondary and diploma/certificate course (up to higher secondary) have been combined to form higher secondary education. 2014 prices are used to compare the average expenditure for the two years

Source Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

Table 6 Percentage Share of Educational Attainment in 5–29 years population MPCE-wise, 2007–08 and 2014

MPCE class	NSS round 64					NSS round 71				
	Primary	Middle	Secondary	Higher secondary	Above higher secondary	Primary	Middle	Secondary	Higher secondary	Above higher secondary
1	22.6	10.8	4.8	2.0	0.8	20.2	15.5	7.6	4.0	1.5
2	23.9	13.9	7.4	3.3	1.5	20.2	17.6	9.8	6.0	2.5
3	24.1	15.1	9.2	4.6	2.5	20.1	17.5	12.7	9.2	4.7
4	23.3	16.9	11.6	6.5	4.3	18.2	16.6	14.4	11.7	6.9
5	19.9	17.2	14.3	12.0	10.2	14.6	15.3	15.7	17.5	13.8
All India	22.8	14.7	9.3	5.5	3.7	18.8	16.5	11.9	9.4	5.6

Notes: ^aShare of educational attainment and current attendance calculated from total MPCE-wise population in 5–29 years. To make 2007–08 and 2014 data comparable, secondary and diploma/certificate course (up to secondary) have been combined to form secondary education for 2014. And higher secondary and diploma/certificate course (up to higher secondary) have been combined to form higher secondary education. 2014 prices are used to compare the average expenditure for the two years

Source: Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

Table 7 Percentage share of currently attending in 5–29 years population MPCE-wise, 2007–08 and 2014

MPCE class	NSS round 64						NSS round 71					
	Primary	Middle	Secondary	Higher secondary	Above higher secondary		Primary	Middle	Secondary	Higher secondary	Above higher secondary	
	1	29.4	11.5	4.0	1.8	0.7		27.1	11.3	6.3	3.1	1.8
2	27.6	12.4	5.3	2.6	1.3		24.9	12.3	8.1	4.4	2.9	
3	25.7	12.6	6.2	3.9	2.1		22.4	12.3	8.3	5.6	5.0	
4	23.0	13.2	7.6	5.5	3.3		20.9	11.7	8.9	7.2	7.4	
5	17.9	12.7	9.1	8.3	7.7		17.0	10.4	9.3	9.9	13.2	
All India	25.0	12.5	6.3	4.3	2.9		22.7	11.6	8.1	5.9	5.8	

Notes: ^aShare of educational attainment and current attendance calculated from total MPCE-wise population in 5–29 years. To make 2007–08 and 2014 data comparable, secondary and diploma/certificate course (up to secondary) have been combined to form secondary education for 2014. And higher secondary and diploma/certificate course (up to higher secondary) have been combined to form higher secondary education. 2014 prices are used to compare the average expenditure for the two years

Source: Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

Table 8 Average expenditure on education in age group of 5–29 years MPCE-wise, 2007–08 and 2014

MPCE class	NSS round 64					NSS round 71				
	Primary	Middle	Secondary	Higher secondary	Above higher secondary	Primary	Middle	Secondary	Higher secondary	Above higher secondary
1	1042	1828	3309	7041	9395	1666	1978	3734	6730	11,878
2	1583	2414	4094	7539	11,556	2834	3125	5172	8812	14,722
3	2229	3208	5023	9692	18,091	4139	4424	6243	11,681	19,070
4	3385	4334	6685	12,124	19,814	5994	6138	8090	14,026	23,511
5	7663	8514	11,210	20,804	39,605	12,253	13,418	15,717	23,907	47,596
All India	2693	3975	6608	13,672	27,846	4610	5387	7936	14,892	30,888

Notes: ^aShare of educational attainment and current attendance calculated from total MPCE-wise population in 5–29 years. To make 2007–08 and 2014 data comparable, secondary and diploma/certificate course (up to secondary) have been combined to form secondary education for 2014. And higher secondary and diploma/certificate course (up to higher secondary) have been combined to form higher secondary education. 2014 prices are used to compare the average expenditure for the two years

Source: Authors' computations from NSSO data rounds 64 and 71 (NSSO 2010 and 2016)

Table 9 State analysis, 2014

S. No.	State	Share of youth population (5–29) as a percentage of their relevant all-population groups						Percentage of youth of 5–29 relevant Population who have attained or are attending secondary education						Average per-capita expenditure on secondary education					
		R	U	M	F	T	R	U	M	F	T	R	U	M	F	T			
1	A & N Islands	41	43	40	44	42	47	59	54	54	52	6229	12,789	12,431	4703	9376			
2	Andhra Pradesh	42	43	45	40	43	38	49	44	40	42	5274	14,237	8413	6990	8173			
3	Arunachal Pradesh	49	44	47	49	48	38	56	43	39	41	7657	11,530	6767	9393	8260			
4	Assam	43	40	43	41	42	29	46	32	30	31	3968	12,837	5550	4298	4992			
5	Bihar	50	51	51	50	50	22	36	27	21	24	4954	11,399	5688	5728	5708			
6	Chandigarh	–	–	49	52	50	–	–	60	69	61	–	–	23,835	16,390	20,610			
7	Chhattisgarh	46	44	48	44	46	28	36	32	29	29	1978	10,978	3736	2403	3163			
8	D & N Haveli	49	44	48	46	47	13	56	35	42	31	3202	9694	4110	12,702	7627			
9	Daman & Diu	49	60	62	52	58	47	38	28	55	39	10,419	15,176	20,824	7401	12,265			
10	Delhi	–	–	47	43	45	–	–	45	60	47	–	–	17,302	18,335	18,161			
11	Goa	36	40	40	37	38	51	56	58	64	54	6514	13,957	15,024	9807	11,679			
12	Gujarat	44	42	44	42	43	29	43	39	33	34	6626	15,807	10,721	7506	10,229			
13	Haryana	47	45	48	45	47	41	42	42	43	42	9685	21,132	17,578	7364	12,345			
14	Himachal Pradesh	42	43	44	41	42	55	61	56	56	55	7320	19,127	7714	8389	8312			

(continued)

Table 9 (continued)

S. No.	State	Share of youth population (5–29) as a percentage of their relevant all-population groups						Percentage of youth of 5–29 relevant Population who have attained or are attending secondary education						Average per-capita expenditure on secondary education					
		R	U	M	F	T	R	U	M	F	T	R	U	M	F	T			
15	Jammu & Kashmir	46	42	48	43	45	37	43	38	39	38	6443	12,260	7434	6439	7230			
16	Jharkhand	50	51	51	50	50	26	41	32	28	29	4235	12,064	7089	4940	6042			
17	Karnataka	42	43	43	42	42	38	52	45	43	43	4333	13,624	7877	7721	7799			
18	Kerala	39	37	38	38	38	57	59	57	54	58	8614	10,785	9188	9648	9493			
19	Lakshadweep	47	46	47	45	46	51	47	47	56	48	485	2285	2354	1303	1725			
20	Madhya Pradesh	49	48	49	48	49	23	43	31	26	28	3729	11,289	6839	4864	6028			
21	Maharashtra	43	42	44	41	43	38	51	44	46	44	5651	19,284	11,248	10,884	11,344			
22	Mamipur	43	42	44	41	42	43	49	48	42	45	11,051	16,975	13,461	10,507	13,249			
23	Meghalaya	52	50	51	51	51	27	51	31	31	31	6536	15,413	6950	9788	8094			
24	Mizoram	49	47	48	48	48	26	45	36	34	35	10,456	13,703	11,738	12,373	11,915			
25	Nagaland	49	49	47	52	49	53	59	54	54	55	9615	15,199	10,440	11,420	10,694			
26	Odisha	45	44	45	44	45	30	47	35	33	33	4168	14,642	6207	5219	5768			
27	Puducherry	48	43	49	40	45	54	49	47	51	51	2647	12,059	8582	5827	8701			
28	Punjab	44	44	46	41	44	40	55	46	49	45	11,628	17,989	16,301	9338	13,966			
29	Rajasthan	50	48	51	48	50	27	38	34	28	30	6884	12,062	9156	6066	8002			
30	Sikkim	49	49	47	50	49	32	49	33	41	36	4735	21,680	8573	6269	7259			

(continued)

Table 9 (continued)

S. No.	State	Share of youth population (5–29) as a percentage of their relevant all-population groups				Percentage of youth of 5–29 relevant Population who have attained or are attending secondary education				Average per-capita expenditure on secondary education						
		R	U	M	F	T	R	U	M	F	T	R	U	M	F	T
31	Tamil Nadu	39	39	40	38	39	46	52	49	46	49	6600	11,470	9564	7466	8796
32	Tripura	43	42	44	41	43	25	36	30	24	27	7241	12,961	7807	10,210	8376
33	Uttar Pradesh	51	50	52	49	51	27	37	30	29	29	5067	12,345	7598	5270	6716
34	Uttaranchal	45	45	46	44	45	40	48	44	37	42	5176	13,530	7140	5274	6653
35	West Bengal	45	39	43	44	44	26	43	30	31	31	6170	14,856	9165	8288	8684
	India	47	44	47	45	46	31	46	36	34	35	5525	14,102	8502	6934	7936

Notes R stands for rural; U for urban; M for male; F for female and T for total. To make 2007–08 and 2014 data comparable, secondary and diploma/certificate course (up to secondary) have been combined to form secondary education for 2014. Likewise, higher secondary and diploma/certificate course (up to higher secondary) have been combined to form higher secondary education. 2014 prices are used to compare the average expenditure for the two years

Source Authors' computations from NSSO Round 71st (2016)

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