US-INDIA POLICY INSTITUTE
DEVELOPMENT • DEMOCRACY • DIVERSITY
USIPI Occasional Paper No: 4 • May, 2013

110 Maryland Ave. NE, Suite 508, Washington, DC 20002 • Phone: 202-688-1947 • info@usindiapolicy.org • www.usindiapolicy.org

Inter-generational and Regional Differentials In Higher-Level Education in India

Abusaleh Shariff
Ctr. for Research and Debates in Development Policy, New Delhi
Executive Director, US-India Policy Institute, Washington D. C

Amit Sharma
Research Analyst, National Council of Applied Economic Research, New Delhi.

USIPI is a not for profit, 501 (c) 3 tax exempt institute.

Abusaleh Shariff is a human development economist. Through research, publications and policy advice it was possible for him to bring the issue of Indian Muslim deprivation on the mainstream policy and academic debates. He is the Executive Director of the US-India Policy Institute, Washington D.C. He was a Senior Fellow and Chief Economist at the National Council of Applied Economic Research, New Delhi associated with it since 1994. He was member-secretary of the Prime Minister's Committee to assess the social, economic and educational status of the Muslim Community of India' and lead author of the now well known 'Sachar Committee' report submitted to the prime minister of India Dr. Manmohan Singh on 17th November 2006. He was also a member of the ministry of Home Affairs, Government of India's 'Committee for the Consultations on the Situation in Andhra Pradesh'. He worked as a senior research fellow, at the International Food Policy Research Institute, Washington DC during 2008-10.

Dr. Shariff was a recipient of the Rockefeller Foundation International Family Fellowship to undertake research at Economic Growth Centre of Yale University, USA during 1991-2. He has a PhD (1986) from Australian National University, Canberra, Australia and M.A degree from Bangalore University, India. He has over 30 years of consistent record of academic research in the field of human development, inclusive growth, poverty and inequity, development economics, labor and social security, social sector budgetary analysis, micro-impact of economic reforms, food policy and nutrition. He has executed large scale representative sample surveys on behalf of Indian Planning Commission and the United Nations System in India. He has authored/edited over a dozen books published mostly from the Oxford University Press. he is the author of 'India: Human Development Report, 1999, first such report for India, New Delhi: Oxford University Press, pp.i-xiii and 1-370. Has published over 50 articles in refereed journals of international repute. Dr. Shariff is a member of several academic and policy committees.

Edition USIPI Occasional Paper No 04 • May, 2013.

USIPI welcomes your comments, you can send your comments to USIPI by emailing us at info@usindiapolicy.org or write to the following address:
110 Maryland Avenue NE, Suite 508, Washington, DC 20002, USA
Published by Dr. Hyder Khan, Trustee, US-India Policy Institute
Website: www.usindiapolicy.org • Email: info@usindiapolicy.org

US-India Policy Institute (USIPI) is a Washington, DC based non-profit organization undertaking policy research on diversity and inclusive development in India and the US. USIPI celebrates the special relationship that India and the US share as the World's largest and oldest democracies and the common commitment to equality, freedom, rights and equal access to resources and developmental opportunities. USIPI envisions that citizens of India and the United States and the world at large are economically, educationally, politically and culturally engaged and have equal access to freedom, justice and opportunity without any prejudice.

USIPI is committed to materializing this vision by generating facts for effective public policy, articulating policy vision for economic development, diversity, equal opportunity and inclusiveness, provide forum for debate and discourse on strengthening democracy, secular institutions and minority rights in India and the US and strive to stimulate a deep US and India relationship committed to sustainable development.

Inter-generational and Regional Differentials In Higher-Level Education in India

Abusaleh Shariff[1] and Amit Sharma[2]

Abstract

May 2013

This paper highlights geographic, gender and social differentials in access to higher level education (HLE) in India. The analysis is based on rare data from the 64th round NSSO survey 2007-08, namely 'Participation and Expenditure in Education'. As expected, the current-generation (22-35 years old) enrolment has considerably improved over the past-generation for all sub-sections of the population across India. The prevalence of HLE in English language, penetration of Technical HLE (HTE), the role of private sector and associated costs across six different regions and socio-religious communities (SRCs) are explored. Southern India offers better opportunities as evident from higher prevalence of HLE, HTE, English as medium of instruction and higher private institutional access. While differentials do exists, the Southern region HLE scenario is more socially inclusive compared to all other regions in India. The cost of education in English, HTE and HLE in private institutions is substantially higher across India.

It is also evident that regional and SRC differentials are enormous. The differentials have evolved as the combined effects of base-level differences as found in above 36 year group, which deepen due to continued differentiation in levels among the current generation. Further deepening has occurred due to the interactive effects of regions with SRCs. Interactions with place of residence and gender also present a highly differentiated, complex and compounding picture of iniquitous access to higher level education in India.

Key Words: Higher-level education, India, Social, regional, gender differentials, higher technical education, English language of instruction, cost of private education

1 Executive Director, US-India Policy Institute, Washington D. C.
2 Research Analyst, National Council of Applied Economic Research, New Delhi.

This page is intentionally left blank.

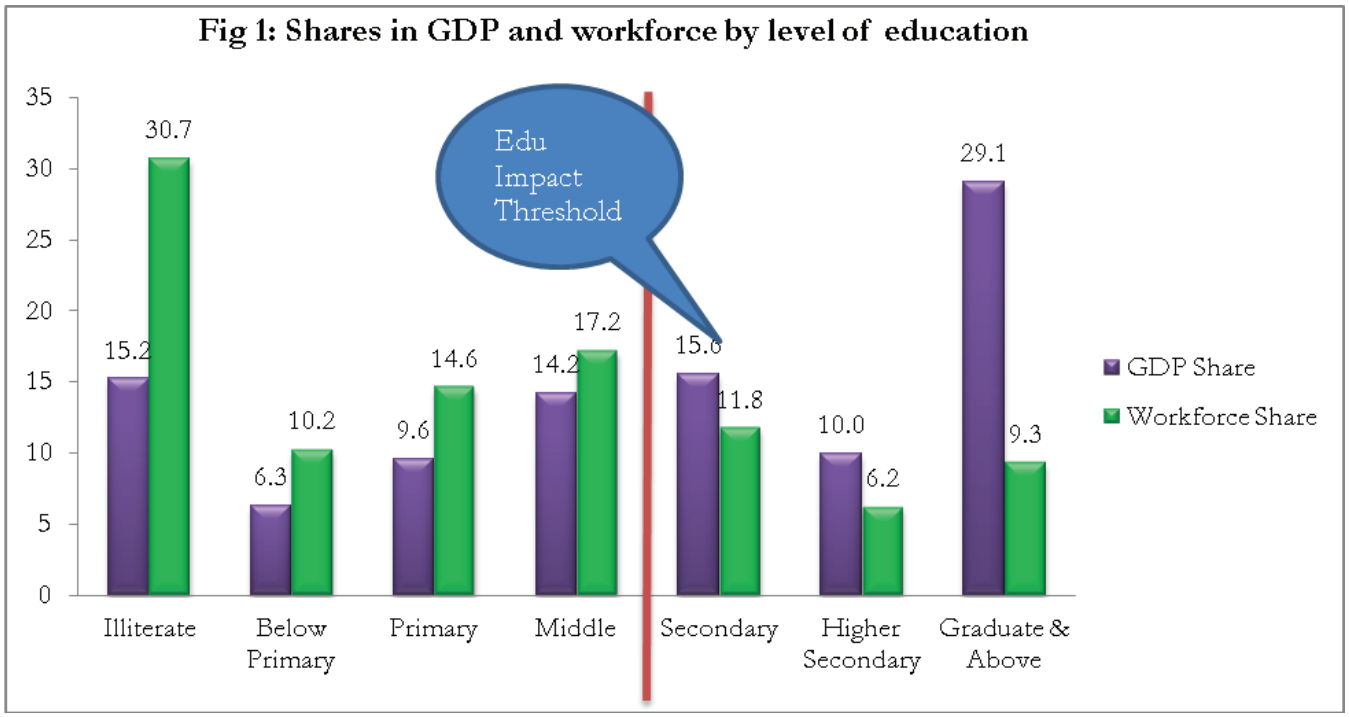
1. Introduction

Achieving a higher-level of education (HLE) degree, especially one that is technical in nature, is desired and cherished by all youth. Both market (rupee wage) and non-market (life-enriching human development) 'rates of return' increase with increasing levels of education, made possible due to the demands of globalizing and growing Indian economy. The sectors of the economy showing vibrancy and recording near-double digit growth (notwithstanding a fall during 2012-13) are able to perform mainly through the support of two important inputs, i.e., higher levels of human (educated) resource, and better adaptation and assimilation of technology through physical capital investment. It is critical, therefore, that HLE becomes accessible to all citizens across India, irrespective of economic, social, linguistic and regional differentiations. This context is appropriate to invoke the constitutional provisions enshrined in Article 15 which direct the governments to create equal opportunity and equity in access to all levels of education, including the higher-level modern education.

Importance of Higher Levels of Education (HLE) in Modern Sector Employment

Decades of research across the world has established the fact that education is the foremost driving force for economic and social development. The economic development of an individual (Becker, 1964; Mincer, 1974) as well as a nation (Schultz, 1961; Barro, 1991; Barro and Sala-i-Martin, 1995; Lucas, 1998) is highly correlated with levels of education. Generally the mean years of schooling of adults, an indicator of the pool of education in a country, is as high as 13.3 years in the USA, (http://hdrstats.undp.org/en/countries/profiles/USA.html) and just 4.4 years in India (http://hdrstats.undp.org/en/countries/profiles/IND.html). Further, proportion of age-specific population having enrolled into a college would be substantially high in developed countries. In 2009, over 28 per cent population of the reported having obtained a bachelor's degree or higher in the USA. Among people in the age group 25 to 34 years, higher percentage of women (about 35 per cent) reported having a bachelor's degree or higher in comparison with 27 percent of men (Ryan et al, 2012). India and China are large fastest growing economies in the world and one finds substantial growth in HLE in both countries (Altbach, 2009). The HLE enrollment in Indian is about 10 per cent of university-age, while China enrolls about 22 per cent. In absolute numbers China enrolls a record 27 million post-higher secondary level students and India's 13 million enrollment ranks third. Since the early 1990s, China's post-secondary enrollments have grown from 5 million to 27 million, while India has expanded from 5 million to only 13 million. The growth of HLE in India is partly dependent upon the private sector and expansion of distant education although quality of higher education will be driven by enhanced financial support and effective quality-assurance system, both of which are currently missing in India (Altbach, 2009). Analyzing large NSSO data bases Basant and Sen (2010) estimate that about 31 percent of eligible population in 17-29 years age group (39 % in 18-25 years age group) participates in higher education. The HLE participation amongst the marginalized groups also sharply increased once the eligibility criteria benchmarks were crossed. They pitch for school education reforms to increase the success rates so that even the deprived groups catch up by improving eligibility for higher education enrollment.

This broad association between higher levels of education and development status of a nation should essentially get reflected into the education and skills impact on contribution of specified economic sector to the national GDP. In case of India a recent analysis highlights these associations between levels of education and individual's contribution to the national GDP.



Source: Authors' estimates using NSS 66th round survey data with reference year 2009-10

It is clear from Figure 1 that at the level of all India, the share of illiterate workforce is 30.7 per cent in the year 2009-10, which is twice their share of 15.2 per cent contribution to the GDP. On the other extreme, only about 9 per cent of the HLE (graduates and above) contribute over 29 per cent of the GDP. This adequately demonstrates the power of education which enhances productivity and economic value both at the individual level and when aggregated at the level of a nation. Note that up to middle class level education the shares in workforce are higher than the respective shares in GDP. Once this threshold of education level is crossed the per cent share in GDP supersedes the per cent share in workforce and this difference increases sharply with increase in level of education. The efficiency quotients – that is, the ratio of share in GDP and the share in workforce – estimates suggest that the impact of education on GDP is prominent and they are highly correlated.

The growth in household income or income per capita occurs due to a consistent growth in labor productivity and number of able-bodied workers within the household. An average of this labor productivity at the level of nation gives national-level per capita income. Although the growth in other Asian economies has occurred due to growth in capital per worker and total factor productivity (GOI, 2013), given a high population base, a balanced growth in India demands a considerable contribution through human capital formation which, as this paper argues, is a function of HLE.

HLE in English Language

English as a globalized language in the present era has proved an effective medium of communication, exchange of ideas, especially transporting business and scientific knowledge across the globe. The developed economies, especially the USA, have used English as a common and unifying language of communication to drive the global economic development. In spite of historical advantage and dominance of English as a language of administration and inter-state communication, proficiency in both oral and written English is quite low in India. Currently, about 20 per cent of the Indian population has the ability to speak in English, of which only 4 per cent can be considered as fluent. There is also a strong bias amongst those having knowledge of English favoring males and the young, and the cost of English-medium HLE is much higher compared with similar education imparted in other languages (Azam et al 2013). It would be important to find out whether the high cost of English

education yields higher financial returns too. They have estimated relative returns on English language skills, which is rather a rare contribution in the Indian context. On average, men who speak English fluently earn wages about 34 percent higher and whereas men who speak a little English earn wages about 13 percent higher than those who don't speak any English. The raw difference in wages by English proficiency is greater for women compared to men. The returns on English language skills increase sharply with increase in experience and level of education (Azam et al 2013).

Inclusive HLE Promotes Equity

Ensuring equity and reducing inequality in the Indian society is an important objective of the democratic policy and constitutional resolve. India is a highly diverse society in terms of caste, religion, language, geographic region, place of residence (such as rural and urban areas and so on) and most of the deprivations such as poverty, illiteracy, ill-health and low productivity register high correlations with these attributes. It is but natural that any study of diversity and development must identify the economic disadvantages associated with such attributes and also assess the role education system plays in contributing to India's inclusive economic growth (GOI, 2006). Further, providing education to the young has come to be known as the best mechanism of inter-generational resource transfer. Education has evolved as a new type of asset as opposed to conventional assets such as land, cash, gold and so on. Thus the new types of bequeaths are providing children and the young with high-quality education, skills and socio-political empowerment.

Given the importance of HLE in improving human lives both at the level of individual and household as well at the aggregate level of state or nation, the authors intend to highlight differentials in achievements as well as opportunities amongst various regions and SRCs. This paper is in seven parts. Section 2 introduces the data and methods, especially the definitions and categorizations used in this analysis. Section 3 contains the substantive parts which discuss the HLE trends at various disaggregations such as rural-urban, gender, region according to SRC categorization. Regional differentiations are the prominent highlights, especially when interacted with the SRC categorization. Measures of the penetration of HLE in English is discussed in Section 4, and Section 5 analyses the shares of higher-level technical education according to regions. There is a fast growth in the pace of privatization of HLE in India; Section 6 elaborates on shares of HLE according to management types such as government, private-aided and purely privately- managed institutions along with associated costs of education. Section 7 presents conclusions and policy directions emerging from this analysis. The paper provides empirical base to draw lessons for promoting inclusive development in HLE provisioning according to regions in India.

This page is intentionally left blank.

2. Data and Methods

This is an empirical analysis intended to facilitate and propagate the tradition of 'evidence-based policy making'. The analysis uses the National Sample Survey data which provides information for a number of household-level economic, social and educational parameters. The NSSO surveys are undertaken frequently and often on an annual basis. On certain occasions there are special-focus surveys such as on migration, health and education. A recent national survey namely 'Participation and Expenditure in Education' was conducted as a part of the 64th round NSSO during July 2007 - June 2008 or reference year 2007-08, which provides information on the type of education respondents were currently pursuing or had already pursued. A total of 445,960 sample persons living in 100,581 households (63,318 rural and 37,263 urban) were surveyed, which provides fairly robust estimates for the type of analytical categories generated for the purpose of this paper.

From a range of categories of education found in the survey, the authors created and redefined higher-education categories into technical and non-technical types as given in Table 1. The analysis presented in this paper has been based on this categorization.

For the purposes of this paper two distinct types of age categories are created to estimate achievements at higher levels of education. These are the achievement levels amongst the 22 to 35 years old and those who are 36 years and older; the first representing the current generation pursuing education and the latter a generation earlier. An aggregation of these two is considered as current stock for the purposes of this analysis.

While this analysis intends to highlight differentials in

Table 1:

Higher education categories used in this paper and its concordance with the NSSO categories

NSSO's 64th Round Survey's higher education category		Higher education category used in this paper
Degree	**Subject**	
Diploma or certificate (below graduate level)	Agriculture, Medicine, Engineering/ Technology or Crafts	Higher Education (Technical)
Diploma or certificate (graduate and above level)		
Graduation level degree courses		
Post-graduation and above level degree courses		
Diploma or certificate (below graduate level)	All Other Subjects	Higher Education (Non-technical)
Diploma or certificate (graduate and above level)		
Graduation level degree courses		
Post-graduation and above level degree courses		

higher levels of education between rural and urban areas and between men and women, another noteworthy differentiation investigated is according to socio-religious community (SRC) categories. Research and analysis based on caste and religion is not very popular in India, excepting focus on the estimates for the SCs and STs. The SRC categorization used in the 2004-06 x PMO's High Level Committee on social, economic and educational situation of the Muslim community of India (also known as Sachar Committee) is used in this analysis (GOI, 2006). Given the distribution and spread of various communities across India and its many states, as well as keeping the statistical fact of sample size and robustness of the estimates in mind, exclusive SRC groupings are created. The categorization was based on a combination of commonly recognized social identities and empirical measurability that yields robust estimates. Note also that all SRC identification is based on self-reported information during the NSSO surveys with the exception that no SC category was feasible for those reporting Muslim or Christian as their religious affiliation. Once the declared religion was Muslim or Christian, the subsequent question as to whether the respondent was also a SC became 'not applicable' by design.

The Socio-religious categories used in this analysis:
Hindu - SCs/STs together
Hindu - Other Backward Classes (OBCs)
Hindu - Upper Castes/ Hindu Others / Hindu General
Muslim – Other Backward Classes (OBCs), wherever possible
Muslim - General category, wherever possible
All Others/Other Minorities

3. High-Level Education Attainment

3.1. Current Stock

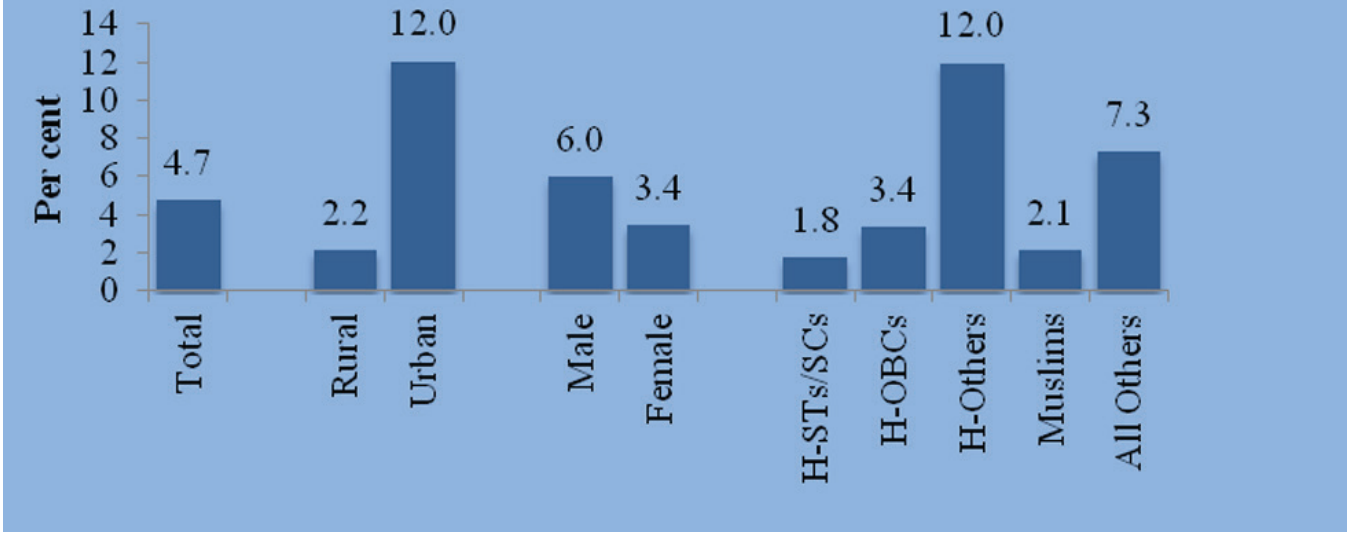
According to the estimates from NSSO's 'participation and expenditure in education' survey -2007-08, only 4.7 per cent of all population (all ages) have completed post-higher secondary education. There is a large gap in the attainment levels in higher-level education between rural and urban areas. Just above 2 per cent of the rural population is educated up to a level higher than secondary as compared with 12 per cent in the urban parts of India (See figure 2). There clearly is an urban bias in access to higher-level education. Also that education-linked jobs are concentrated in urban areas.

Another dimension where the achievement differentials are high is by gender; 6 per cent of the male population is educated up to post-higher secondary level in contrast with just 3.4 per cent of the female population. The socio-religious groups bear extremely high variation in attainment of HLE, with a low of just about 2 per cent or less for Muslims and H-SCs/STs, through to 12 per cent for Hindu-General, or upper castes. Note, however, that the per cent shares in higher education presented in Figure 1 are not age-specific, rather for all respective populations at the national level.

3.2: Inter-Generational Differentials in HLE

There is a minimum age at which most of the population reaches and finishes any higher level education degree. The general graduation courses are three years long after the post-higher secondary level class, while the professional graduations such as engineering, law, medicine, architecture, take four years or more to finish. Therefore, the minimum age threshold, considering all types of technical and general courses altogether, for the purposes of this paper is 22 years. Thus for a more appropriate understanding of the share of population in higher edu-

Figure 2: Per cent of population attained HE: All India



Source: Authors' estimates using NSS 64th round (2007-08) survey data

cation, all those below the age of 22 years are excluded from the analysis presented below.

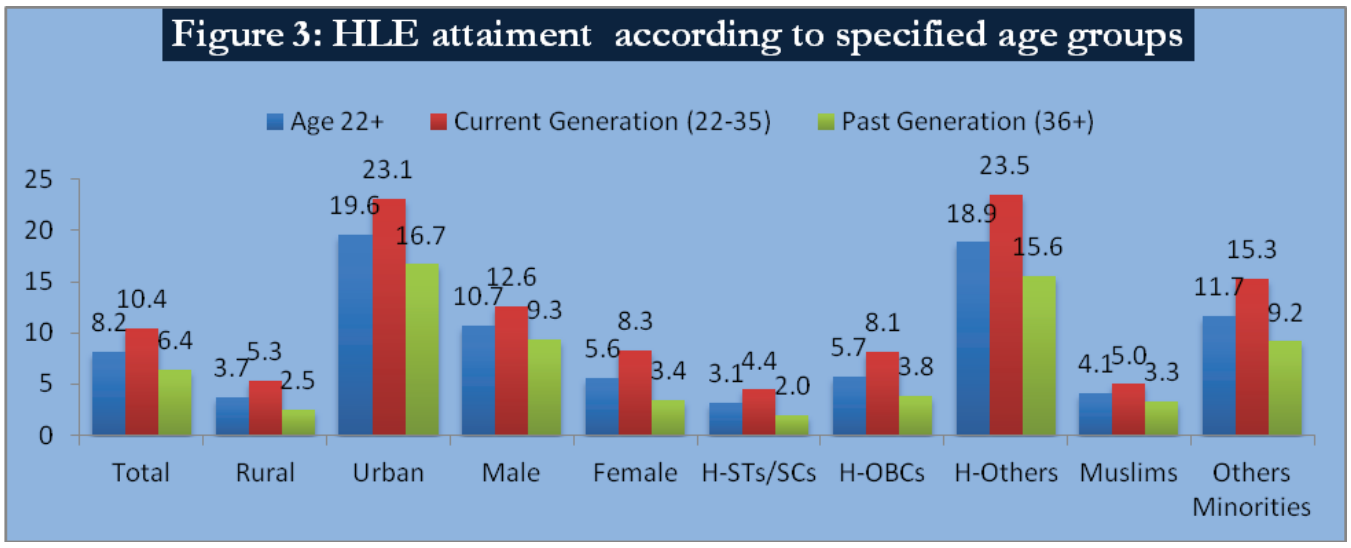
The population of 22 years or above is further split into two sub-groups: (1) current generation, defined as those who are aged 22 to 35 years, and (2) a generation before (older generation) – all those who are 36 years and older (Figure 3). A look at these two age-based analytical categories provides robust comparisons in achievements in higher-level education between generations.

All measures in following analysis are per cent having achieved HLE within the respective population sub-group. For example, 3.7 per cent in Figure 3 represents that 3.7 per cent of rural population in the age group 22 years and above which has attained higher education. At the all India level, 8.2 per cent of the total 22 years and above population have attained any degree higher than the higher secondary class.

Taking all population above 22 years of age, it can be seen that just about 20 per cent of total urban population has attained HLE; while the respective percentages for Hindu-General is 19 per cent and other (minority) communities is about 12 per cent. For the males achievement level is 11 percent; for rural it is as little as 3.7 per cent; for the Hindu- SCs/STs it is only 3.1 per cent, Hindu- OBCs - 5.7 per cent, Muslims - 4.1 per cent and for females it is 5.7 per cent. Thus one finds a huge variation in HLE in India, and one needs to probe further to understand the characteristics of inequity in education.

A better understanding of the differentials can be judged when the HLE levels are evaluated to the 'current generation'. The younger generation has evolved to be more aware of the value of higher education and the shares of respective populations in higher education in each socio-religious group as well as in rural, urban, male and female groups have significantly increased over the past generation. Figure 3 indicates sharp distinction between current and past generation with respect to participation in higher education. At all India aggregate level, slightly higher than 8 per cent of 22 and above-aged population has attained HLE. One can, however, notice that there has been a strong generational impact. For example, the past generation which recorded only 6.4 per cent HLE increased by 4 per cent points to register 10.4 per cent HLE penetration amongst the current generation. Past generation of rural India had a share of only 2.5 per cent of its population in higher education while current generation's share is 5.3 per cent.

In contrast with rural India, higher educational attainment in urban parts of India was high in both the past (16.7 per cent) and current (23.1 per cent) generations. The shares of respective populations of different socio-religious groups and gender in HLE and the changes in current generation over past generation are given in



Source: Authors' estimates using NSS 64th round (2007-08) survey data

*= Population in a sub-group attained higher education as per cent of total population of the respective sub-group

Table 3. A close look at the per cent change in shares in higher education over the two generations reveals that current generation females have shown large growth in share in higher education of 143 per cent over the past generation compared with the current generation males with only 35 per cent improvement (Table 2). Current generation rural population has recorded a 112 per cent improvement over the previous generation in HLE enrollment, much higher than improvement amongst their urban counterparts with only 38 per cent. The positive features are that the access and achievements in HLE are inclusive so far as the gender and rural-urban place of residence criteria are evaluated.

3.3: HLE achievements according to Socio-Religious Communities

Study of the social differentials in access and achievements in education, especially in HLE, is rare in India. Such an analysis was undertaken for the first time at the instance of the Prime Minister of India by the Sachar Committee in 2006. The following socio-religious community (SRC) analysis follows the categorization used by this committee (GOI, 2006). The generational difference in prevalence of HLE varies greatly by the SRCs. The generational change is as high as 120 for the H-SCs/STs and 113 for the H-OBCs; only 66 for other minorities and a modest 51 each for Muslims and Hindu-General respectively (Table 2). However, the case of Muslims with an improvement only of 51 points has occurred at very low levels of prevalence, i.e., a change from 3.3 per cent to 5 per cent; compared with the Hindu-General whose prevalence was already the highest to begin with – an increase from 16 per cent to 24 per cent.

It is encouraging to find the respective per cent growth in shares of populations in higher education by most sub-groups, especially the Hindu-SCs/STs, Hindu- OBCs, females and rural population. higher than the Hindu-General, males and urban areas. Such a trend strongly points towards the positive outcomes of the schemes and interventions, including reservation in higher education initiated for alleviating low educational attainment amongst female SCs/STs, and the rural population. The high per cent growth can also be attributed to low share of past generations in case of females, SCs/STs

Table 2: Generational change in HLE attainment (Current generation compared with Previous generation)

	Per cent respective population attained HLE		Change over last generation	
	Current Generation (Ages 22-35 years)	Past Generation (36 years and above)	per cent difference	Percentage points/ absolute difference
All India	10.4	6.4	62.5	4
Rural	5.3	2.5	112	2.8
Urban	23.1	16.7	38.3	6.4
Female	8.3	3.4	144.1	4.9
Male	12.6	9.3	35.5	3.3
H-STs/SCs	4.4	2	120	2.4
H-OBCs	8.1	3.8	113.2	4.3
H-Others/ General	23.5	15.6	50.6	7.9
Muslims	5	3.3	51.5	1.7
Other Minorities	15.3	9.2	66.3	6.1

Source: Authors' estimates using NSS 64th round (2007-08) survey data

and rural population. An absolute change of just 2.4 per cent points in share in higher education for Hindu-SCs/STs from 2 per cent in past generation to 4.4 per cent in current generation corresponds to 120 per cent change because of low denominator (share in higher education for past generation). Hence, apart from observing the per cent growth in individual groups, what is also needed is to look at the absolute change in terms of per cent points in shares in higher education for a more lucid and more propitiously descriptive picture of the issue under discussion.

The absolute change in women's presence in higher education is almost 5 per cent points (from 3.4 for past generation to 8.3 for current generation) and is quite high compared to men's generational change, which is only 3.3 per cent points (from 9.3 per cent for past to 12.6 per cent for current generation). Another way of looking at it is that the difference in males' presence in higher education as per cent of their own total population and that of females has come down to 4.3 per cent points for current generation from 6 per cent for the past generation. The narrowing down of this inequality between males and females indicates increased awareness of female participation in higher education amongst the populace as well as the success of all the interventions initiated in favor of female higher education.

A contrasting picture emerges when one compares the HLE achievements according to socio-religious groups. The Hindu-General's current generation has logged the highest absolute change of 7.9 per cent points followed by other minorities with 6.2, Hindu-OBCs with 4.3, Hindu-SCs/STs with 2.5, and a meager 1.7 for the Muslims. In growth terms, Hindu-SCs/STs are at the top amongst the socio-religious groups, while in absolute change terms they are at the bottom. Similarly, rural current generation shows higher per cent growth (112 per cent) than urban current generation (38 per cent) but in absolute per cent point terms urban current generation has shown much higher change (6.4 per cent points) than rural current generation (2.8 per cent points). The only group which seems to have not benefitted and reaped the gains of HLE is the Muslim community, and this requires an exclusive study to find out whether such exclusion has occurred due to religious bias in the public educational system in India.

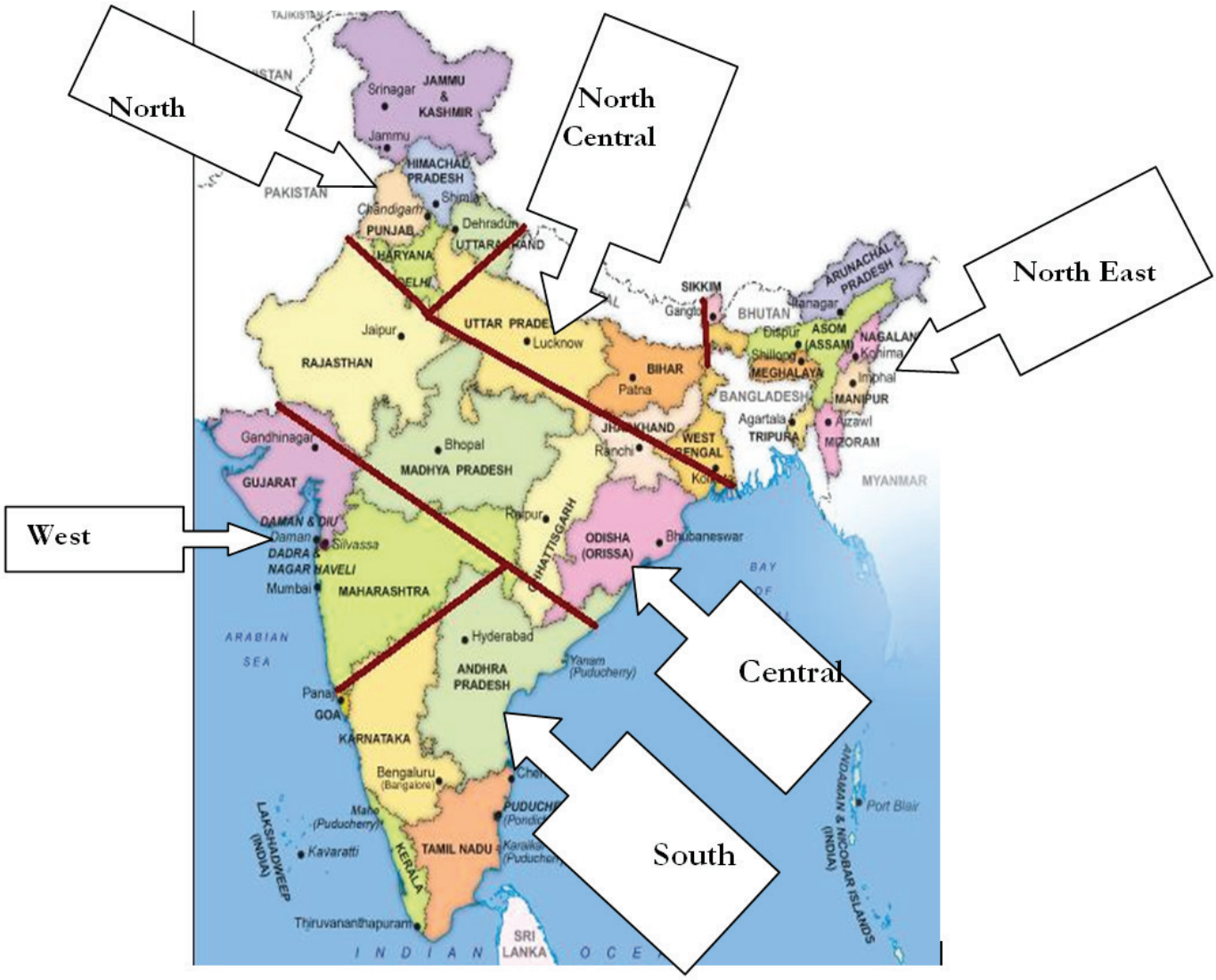
This makes clearer the fact that even though improvements are there in India, something is wrong in the system created for uplifting the deprived communities from the disastrous deep trough of low attainment of higher level education through decades of innovative interventions of government both at national and state level, international as well as civil society agencies. Hindu-General and other minorities are improving at much higher pace without as many specific scheme designed for them as have been for the others. This backdrop raises some very basic questions. Why have all the schemes and support from government involving massive budget allocations, reservations in higher education, and all the awareness programs not so effectively been working for the deprived communities? Besides all the support and programs designed for the deprived, why is the share of current generation, which successfully attains higher education, so low for the rural population (5.3 per cent), Hindu-SCs/STs (4.4 per cent), Muslims (5 per cent), Hindu-OBCs (8.1 per cent) in comparison with that of urban population (23.1 per cent), Hindu-General (23.5 per cent), and other minorities (15.3 per cent)? Is it that (a) the deprived communities are not capable enough of performing well in higher education, (b) a big portion of deprived communities' population fails to showcase success at school level itself, and drops out of the education system before being eligible for higher education and, hence, reduce their share in higher education in their respective population; and if so, why are the interventions at school level education not working desirably for them?, (c) are the interventions – by government, NGOs and philanthropists – like reservation in HLE, monetary support etc. not working beneficially enough? Or, are all of the above three causal factors working together hand-in-hand?

These are the basic policy questions, answers to which need to be investigated through empirical research. This analysis does not ponder over these issues due to limited scope and objective of this paper.

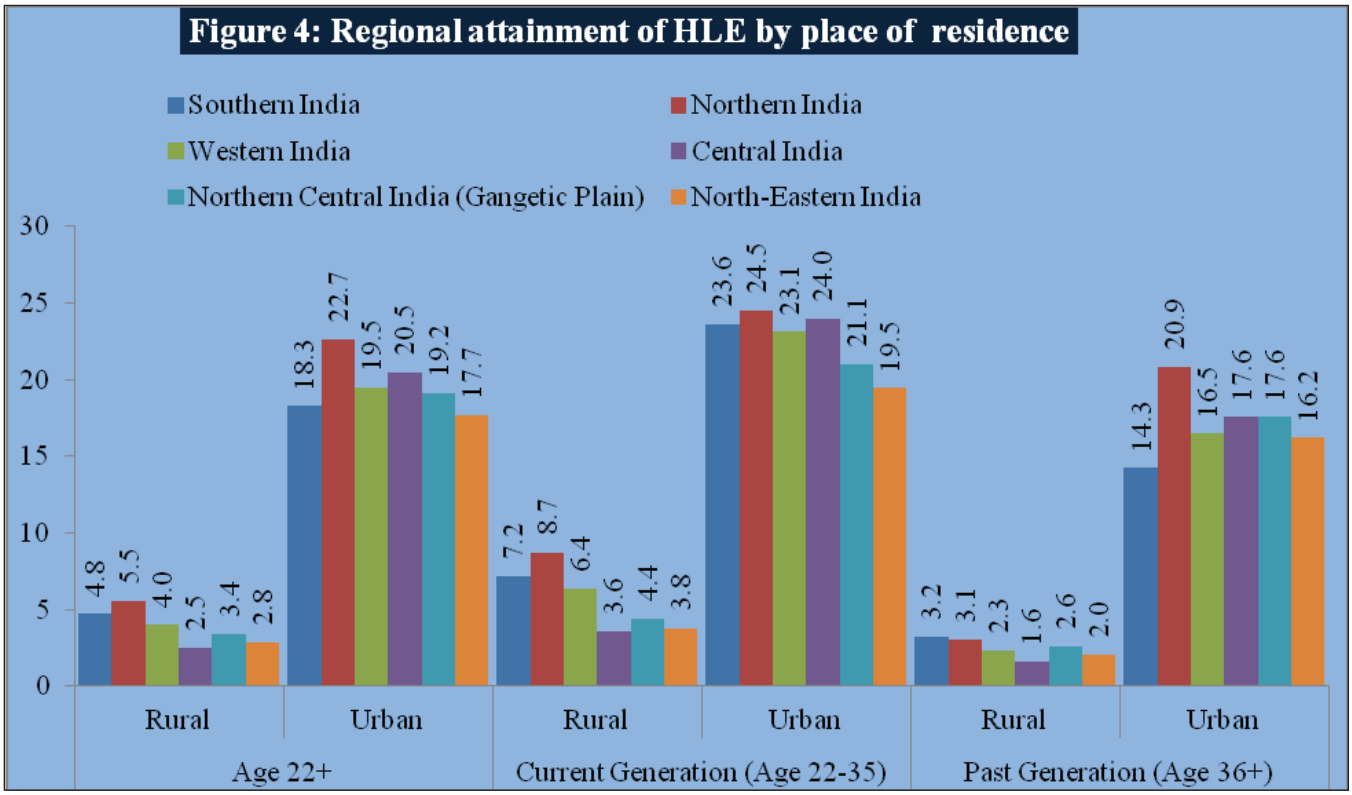
3.4: Inter-Regional Analysis of Achievements in HLE

Given India's vastness and diverse population distribution across its length and breath, one can understand

Table 3: Regional categorizations - the state agglomerations	
Region	**States constituting the region**
Southern India (SI)	Andhra Pradesh, Karnataka, Lakshadweep, Kerala, Tamil Nadu, Pondicherry, Andaman & Nicobar
Northern India (NI)	Jammu & Kashmir, Himachal Pradesh, Punjab, Chandigarh, Uttaranchal, Haryana, Delhi
Western India (WI)	Gujarat, Maharashtra, Goa, Dadra & Nagar Haveli, Daman & Diu
Central India (CI)	Chhattisgarh, Madhya Pradesh, Rajasthan, Jharkhand, Orissa
Northern Central India (Gangtic Plain) (NCI)	Uttar Pradesh, Bihar, West Bengal
North-Eastern India (NEI)	Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Meghalaya, Assam



the gravity of inequity and differentiation in HLE better at geographically disaggregated units. In the following we analyze the HLE amongst different sub-groups of the population at regional level. Undertaking a state-level analysis was not statistically feasible due to many insufficient state-level sample sizes. In view of sample sufficiency, the authors have created six geographical regions for this analysis, namely Southern India (SI), Northern India (NI), Western India (WI), Central India (CI), North-Central India (NCI) and North-Eastern India (NEI), clubbing the contiguous states as below. The regional categorization is presented in Table 3 as well as identified in the map with geographical representation.



Source: Authors' estimates using NSS 64th round (2007-08) survey data

HLE Differentials according to Regions, Rural/Urban and Gender

Shares representing in higher-level education for all 22+ year old population as well as for current and past generation according to region, place of residence (rural/urban) and gender are presented in Figure 4 and Figure 5. It is clear that at regional level, the share in higher-level education as per cent of urban total population is higher than that of rural population for both the generations and for total population of 22+ years of age; suggesting a strong urban bias, an issue discussed earlier.

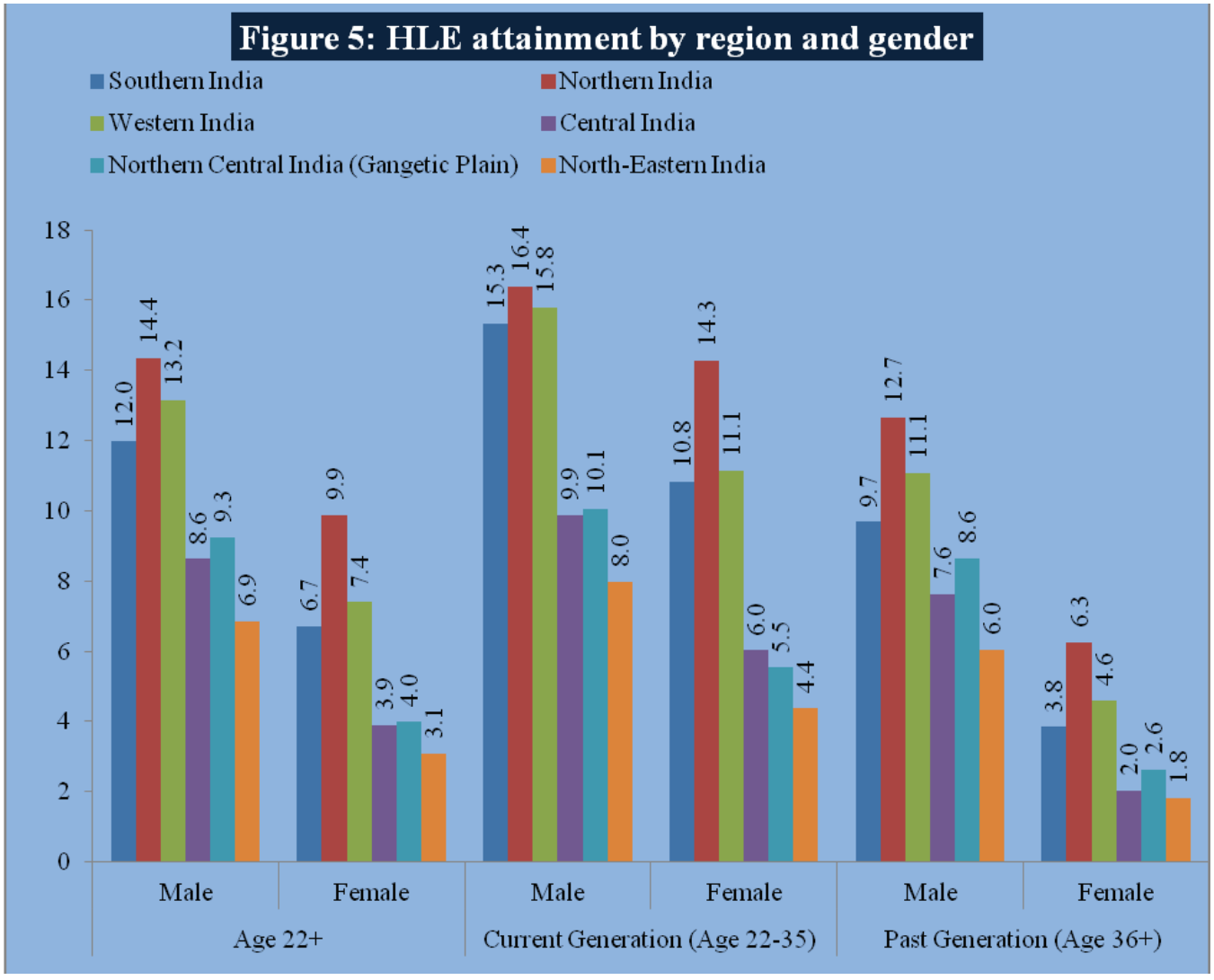
Comparison of prevalence in higher education in different regions (Fig 4) over the two generations shows that urban population in Northern India was at the top in both the generations while in the past generation it had second highest prevalence for its rural counterpart which in current generation has also made it to the top. Southern India's urban population has improved at the fastest pace leading the region to showcase most promising growth in higher-level education in comparison with urban parts of all other regions. Further, both male and female sections of Northern Indian population have shown the highest prevalence in HLE, bagging the top position for both the generations (Fig 5). Note that the National Capital Territory of Delhi is part of this region and much of the respective estimates are influenced by its dominant pattern. North-Eastern India on the other hand has the least share in higher education as per cent

of its population for both the generations and according to gender.

HLE Differentials According to Regions and Socio-Religious Communities (SRCs)

Given India's large expanse and diverse geographic entities one expects large variation in many parameters, and HLE is not an exception. In the following (Figure 6) analysis the differentials in generational prevalence in HLE are presented according to SRCs and regions. The Hindu-General and other minorities are the top two sections of the population which show highest shares of their populations in HLE followed by Hindu-OBCs, Muslims and Hindu- SCs/STs for both the generations. Hindu-SCs/STs followed by the Muslims do worst in both the generations in all the regions of India.

In the past generation, Hindu-SCs/STs were at the bottom in terms of prevalence in higher education in all regions, followed by Muslims, except for North-Eastern India where Muslims showed the least prevalence. Notwithstanding the past generation's trend, current generation of Hindu-SCs/STs has improved more than the Muslims; thus Muslims fall to the bottom rank showing the least prevalence in higher education in North-Central India (prevalence -3.3 %) and Northern India (prevalence -7.0 %). Past generations of all the socio-religious communities, except for Hindu-SCs/STs and Hindu-General, in Southern India showcase the highest prevalence while the current generation Hindu-General of Southern India has also come at the top in comparison with other regions' Hindu-General category.



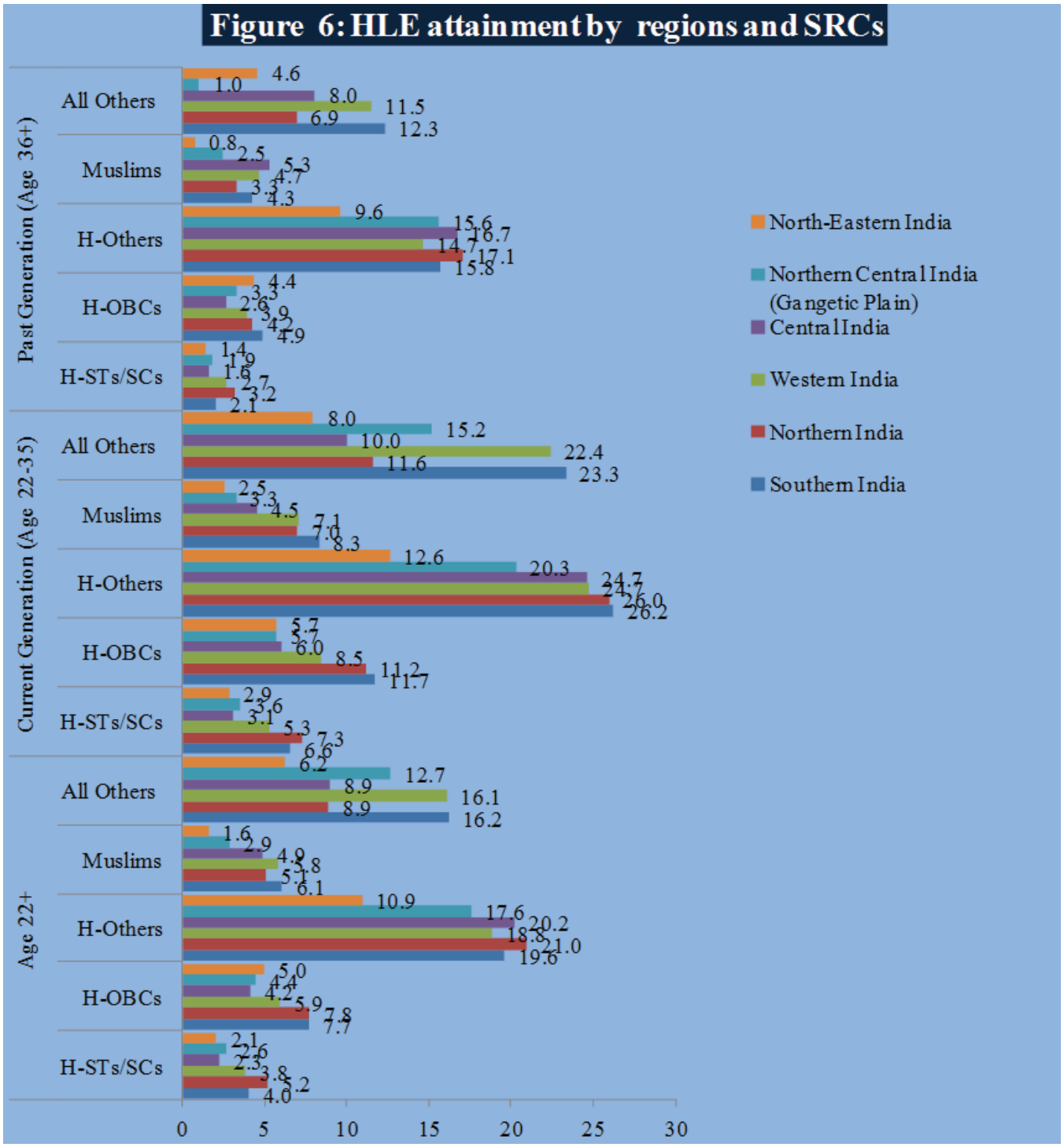
Source: Authors' estimates using NSS 64th round (2007-08) survey data

It is evident from the above analysis that both SRC differentials and regional differentials are enormous at the level of univariate analysis. The differentials have evolved as the combined effects of base-level differences as found in above 36 years group, which is then deepened due to continued differentiation in levels among the current generation. Further, one can see the impact accentuated, and dominant effects of the regions interacting with SRCs are manifested. Interactions with place of residence and gender would also present a highly differentiated, complex and compounding picture of iniquitous access to higher-level education in India.

It is much clearer from the analysis that the absolute differences in higher educational attainment amongst the deprived communities are not much appealing; rather the most dramatic positive differences are shown by already-at-the-top sections of the population, namely Hindu-General and other minorities. It is therefore desirable at this stage of analysis to look upon another dimension of the differences – which is relative difference – in regional section of population and to analyse the situation of deprived communities a step further at regional level. Since education and skills are the key to future development of not only individuals, but also regions, and the nation, it is utmost important to further probe the dimensions of inequity in HLE in India.

To carry out the exercise of comparing regions in respect of comparative differentials, the absolute difference and per cent difference in prevalence in higher education for regions were carried out. The following Table 4 represents the absolute difference and percentage difference in the respective prevalence from last generation to current generation. Further regional level breakup of prevalence in higher education at all India level is also given in last two columns of Table 2 (see above).

Apart from the fact that Hindu-SCs/STs and Muslims are relatively at the bottom in higher educational attainment and that males and urban population are better off than females and rural population in both the past and current generations, it is also evident from numbers shown in Table 4 that per cent growth in prevalence is highest for Hindu-SCs/STs in Southern India (220). The other groups where the growth is high are Hindu-OBCs in Northern India (164), Western India (118) and Central India (129), other minorities in North-Central India (1376) and Muslims in North-Eastern India (234). The percentage difference in prevalence in HLE for the two generations is higher for rural and female sections than urban and males sections of population respectively in all the regions. Higher percentage difference in prevalence across the two generations for females and rural populations has to be attributed to the low absolute higher education attainment (low base) shown by females and rural populations in the past generation. For Muslims, the absolute difference is least in all the regions except for North-Eastern India which shows relatively least development of this community across the country. It is further interesting to look at these regional differences at a deeper level, not just at an overall level for each section of population in each region. The data used in this paper also offer availability of four very important variables, viz., medium of instruction, type of institution, type of higher education (technical and non-technical) and mean expenditure incurred on higher education in terms of which the regional differences in higher education may be analysed at a much detailed level. The following section deals with the regional differences by each of the four variables one by one, further segregated by gender, sector and SRCs.



Source: Authors' estimates using NSS 64th round (2007-08) survey data

Table 4: Absolute change and percentage growth in prevalence: last generation compared with current generation, according to specified category and region

	Change in prevalence											
	Absolute Difference						Per cent Difference					
	SI	NI	WI	CI	NCI	NEI	SI	NI	WI	CI	NCI	NEI
Rural	4.0	5.7	4.0	2.0	1.9	1.8	124	186	173	126	72	86
Urban	9.4	3.7	6.7	6.5	3.5	3.2	66	18	40	37	20	20
Male	5.6	3.7	4.7	2.3	1.4	1.9	58	29	43	30	16	32
Female	7.0	8.0	6.6	4.0	2.9	2.6	182	128	143	195	110	140
H-STs/SCs	4.5	4.1	2.6	1.5	1.7	1.5	220	130	97	95	92	107
H-OBCs	6.8	7.0	4.6	3.4	2.5	1.3	139	164	118	129	75	31
H-Others	10.5	8.9	10.0	8.0	4.7	3.0	67	52	68	48	30	31
Muslims	4.0	3.7	2.4	-0.8	0.8	1.8	95	111	51	-14	31	234
All Others	11.0	4.6	10.9	2.0	14.2	3.4	89	67	95	25	1376	74

Source: Authors' estimates using NSS 64th round (2007-08) survey data

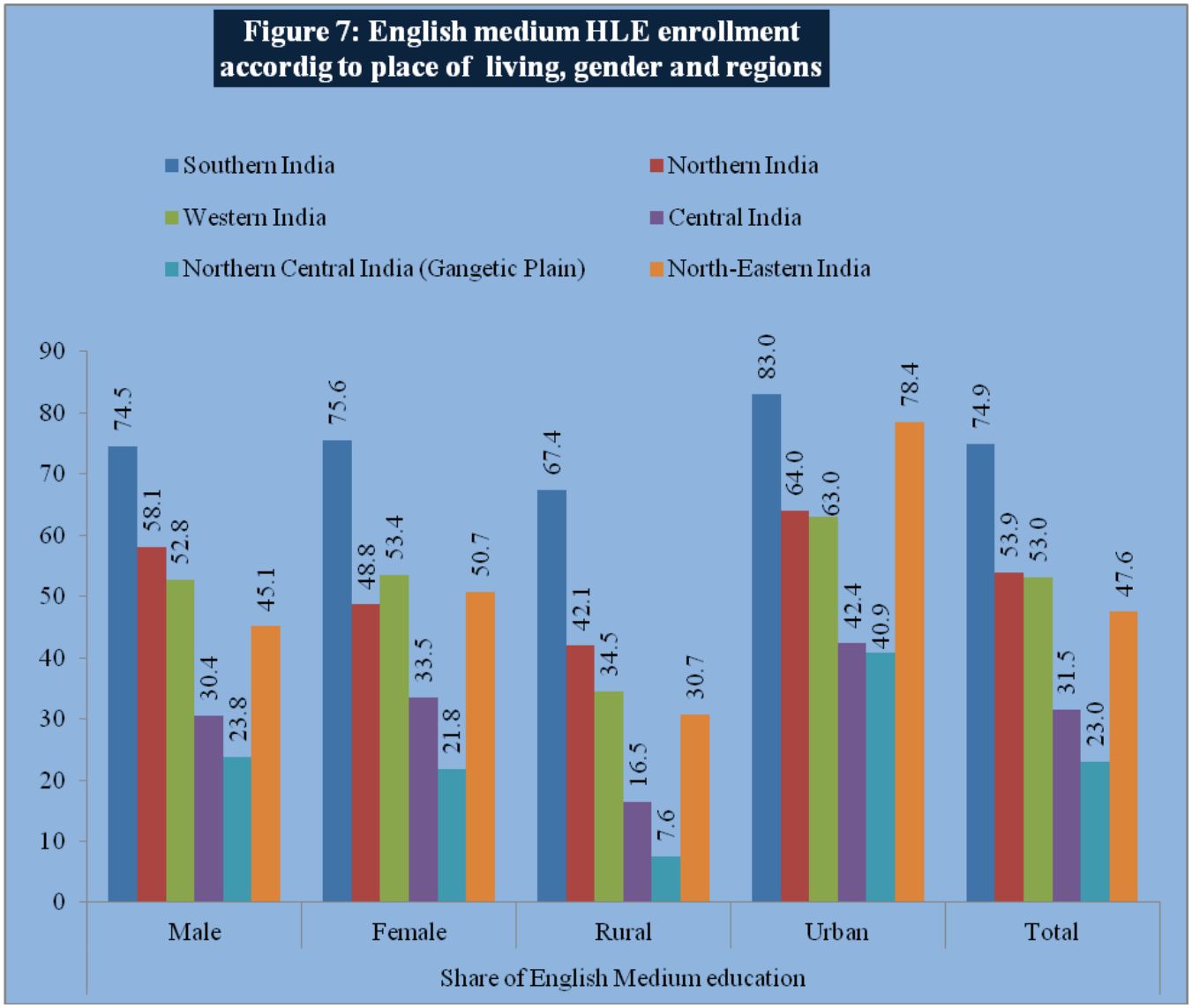
4. Size of English in Higher-Level Education

One of the most crucial issues with respect to higher-level education in particular and over all education policy in general is with respect to the medium of instruction. Since providing education is the responsibility of states in India, there is a wide diversity in medium of instruction policy. There are issues relating to mother tongue, regional languages, Hindi as the language of the nation, and English a foreign language, without which Indians cannot make it to the higher levels of learning and higher levels of earning. The complication has emerged since India is a nation of multiple languages and dialects and the very foundation for the formulation of the states was based on language. There is no country on this planet which has such a large diversity of languages and associated culture, literature and social value systems. However, it may not entirely be the legacy of the British Raj that now education of children in English is a mechanism to overcome serious socially motivate differentials; and also that contemporary globalizing economic system is anchored in English language. One such example: Today's internet revolution, supported by technological innovation, is entirely dependent upon the English language. In India, therefore, if we intend to discuss and debate HLE, it essentially means education in English language.

To capture the prevalence of English-medium higher education in India, the authors have estimated percentage currently enrolled with English as a medium of instruction from out of all currently enrolled according to place of residence (rural/ urban), gender and SRCs for each of the regions identified for this analysis. There are considerable cost differentials between English-medium and other types of HLE.

Difference in prevalence of English-medium HLE according to place of residence is extremely large in all regions except for Southern India, where the difference is relatively low (Figure 7). As much as 83 per cent of the HLE students, who are residing in urban Southern India are studying in institutions where the medium of instruction is English. This proportion in the rural counterpart is also quite high (67 per cent) which is much higher than the share of English-medium higher education in Northern India, Western India, Central India, and North-Central India's urban sector (64, 63, 42 and 41 per cent respectively). Since the English-medium higher education is qualitatively better and bears higher returns (Azam et. al, 2013) and also essential for cultivating global competence amongst the current and next generations of India, the situation is much worse in rural areas of all the regions, except for Southern India (67 per cent). The penetration of English HLE is only 42 per cent in Northern India where about 30 per cent or fewer students pursue higher education in English compared to Southern India. North-Central states collectively are at the bottom in terms of offering English-medium education in both rural (7.6 per cent) and urban areas (41 per cent). Southern states seem outliers (while compared with other regions) by showing high preference to English language in HLE across both rural and urban areas. Further, English-medium education is more accessible to both the genders in Southern India.

The difference between Southern India and the rest of regions in terms of English-medium educational accessibility is very huge for both genders (Figure 7). As the case of rural and urban areas, North-Central India is at the bottom for both the genders too (less than 24 per cent for both males and females) and Southern India is at the top with a huge margin (about 75 per cent for both genders). For those who pursue higher education, the difference in proportion of English-medium education for the two genders within each region is not as high as the difference in rural and urban sectors.

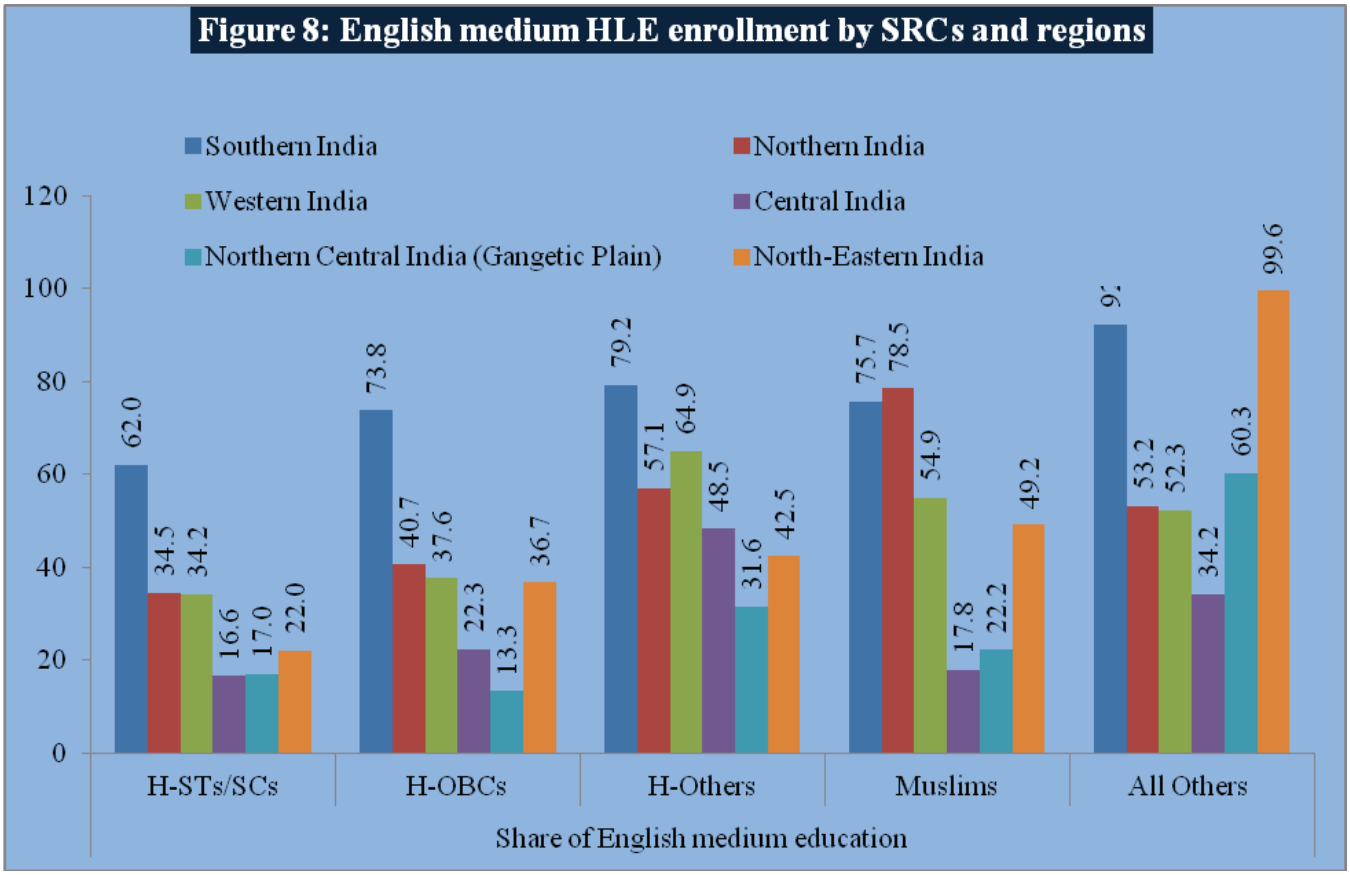


Source: Authors' estimates using NSS 64th round (2007-08) survey data

HLE in English Language According to SRCs

As expected, English-medium HLE is more accessible to all SRCs in South India and the accessibility is more or less equal for all the socio-religious groups. But the difference between Southern India and the rest of the regions in terms of English-medium educational accessibility is quite high for select SRC when compared across the regions.

It is evident from Figure 8 that attaining English-medium HLE is more of a place of residence (rural or urban) and geographical region-based phenomenon than a gender or SRC-based one. The difference in English education's share in total higher education across regions and across rural and urban parts of any and all regions is much higher than the difference across two genders and SRCs of any individual region. If a person (of any gender) resides in a rural area and gets enrolled in higher education his/her probability of attaining education in English is quite low as compared to the probability of that person residing in an urban area. If a female is attaining higher education in an urban institution, she is as likely as a male to have access to English-medium education in any region of India. If a person (of any gender belonging to any SRC) is enrolled in higher education in Southern India, his or her probability of having enrolled in English education is high while, on the other hand, if he or she is located in North-Central India, the probability falls sharply.



Source: Authors' estimates using NSS 64th round (2007-08) survey data

Cost of English-medium Education

Higher education in English is provided for a premium in India, and as expected there is a vast cost differential with education imparted in other mediums of instruction (Table 5). The average cost for HLE in Indian languages ranges between about Rs. 1,200 and Rs. 3, 000, with the exception of Northern India, where the cost is somewhat higher than other regions. English medium HLE on the other hand costs 6-8 times higher (ranging between about Rs 8,000 and 15,000 per student per annum) than HLE in Indian languages, the western region showing high costs–around Rs. 15, 000 per annum. Note also that the cost of even regional-language HLE is the highest in the North and, therefore, the cost difference with English-medium HLE appears low in the northern region. It is expected that English-medium education is often offered by the private sector with the aim of not only cost recovery but also with a profit motive. Over all, the respective cost of HLE is high in urban areas and the Hindu-Others (General) and other Minorities show higher expenditures. This cost difference appears partly due to relative differentials in quality of education, but the available data and evidences are not sufficient to substantiate this assertion. There is a need to collect more comprehensive information on cost of HLE in India.

Table 5: Annual HLE expenditure by medium of instruction (Mean Rs. per enrolled student)

Region	Medium of Instruction	Total	Rural	Urban	Male	Female	H-STs/SCs	H-OBCs	H-Others	Muslims	All Others
SI	English Medium	10620	9320	11544	11002	10137	7244	10676	12938	7712	12031
	Other Mediums	1218	1116	1564	1261	1171	886	1269	1780	1142	1480
	Ratio*	8.7	8.4	7.4	8.7	8.7	8.2	8.4	7.3	6.8	8.1
NI	English Medium	11808	8101	15374	12061	11459	8268	13455	14185	5396	12720
	Other Mediums	2857	2632	3420	2983	2702	1721	3178	3617	1605	3459
	Ratio*	4.1	3.1	4.5	4.0	4.2	4.8	4.2	3.9	3.4	3.7
WI	English Medium	14484	15993	14190	15641	12896	7942	11144	17461	11527	12601
	Other Mediums	1847	1206	3171	2007	1656	1334	1506	2977	1398	1537
	Ratio*	7.8	13.3	4.5	7.8	7.8	6.0	7.4	5.9	8.2	8.2
CI	English Medium	11291	6022	12774	11513	10896	9149	8408	13603	7263	12572
	Other Mediums	1423	1108	2950	1611	1174	913	1585	2337	1471	1529
	Ratio*	7.9	5.4	4.3	7.1	9.3	10.0	5.3	5.8	4.9	8.2
NCI	English Medium	10996	5817	12959	10939	11088	10717	7502	14037	7971	11787
	Other Mediums	1536	1231	3373	1624	1424	1222	1304	2756	1284	1468
	Ratio*	7.2	4.7	3.8	6.7	7.8	8.8	5.8	5.1	6.2	8.0
NEI	English Medium	4806	3620	7143	4981	4606	5320	6449	6515	7280	3588
	Other Mediums	1653	1527	3059	1651	1657	1569	2076	2444	1049	1208
	Ratio*	2.9	2.4	2.3	3.0	2.8	3.4	3.1	2.7	6.9	3.0
All India	English Medium	11180	8326	12834	11586	10618	8209	10030	14268	7504	10195
	Other Mediums	1595	1277	2904	1710	1452	1128	1449	2729	1297	2225
	Ratio*	7.0	6.5	4.4	6.8	7.3	7.3	6.9	5.2	5.8	4.6

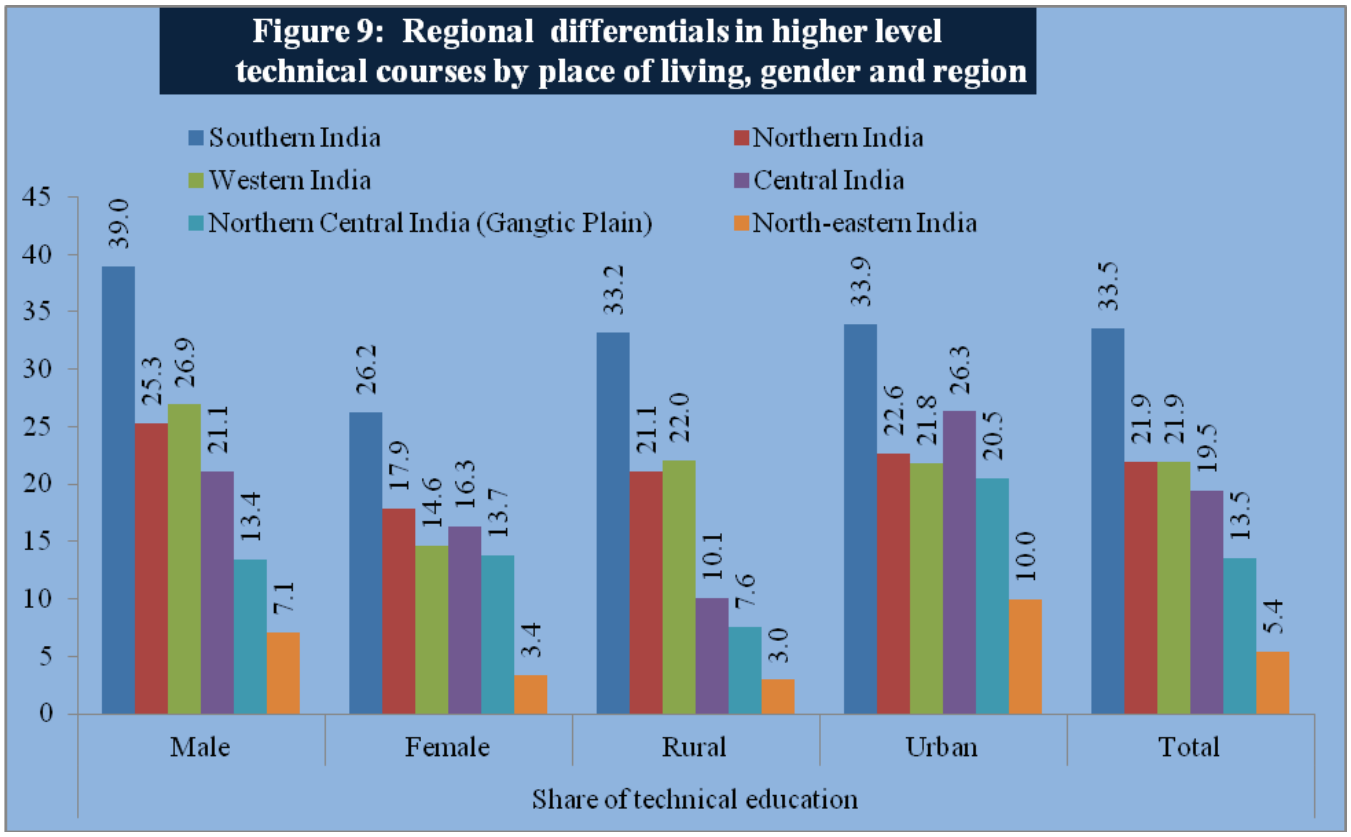
Source: Authors' estimates using NSS 64th round (2007-08) survey data

* Ratio – Ratio of mean expenditures on English-medium education and other mediums of instruction

5. Size of Technical Education

Technical education is generally considered as an add-on or additional dimension of higher-level education; often it is received after having achieved a certain level of regular education in the first place. Normally, technical education is preferred to regular educational courses due to higher probability of the technically educated getting employed in the modern industrial and services sectors. A person reporting to have secured a degree or diploma in technical education is considered as having achieved HLE for the purposes of this analysis.

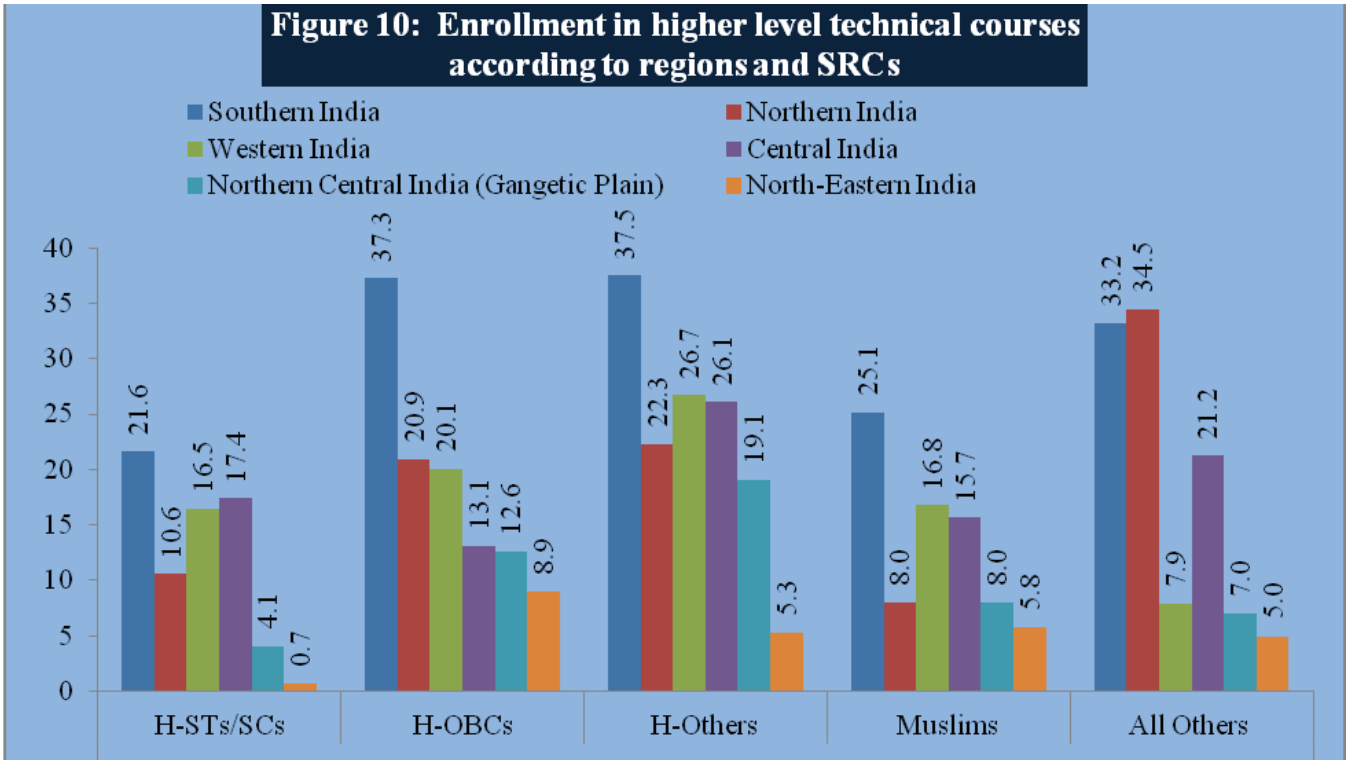
The following two figures (Figure 9 and 10) represent the proportion of those currently enrolled in higher technical education (HTE) as a percentage of total persons enrolled in HLE, for each section of population separately. The share of persons attending technical education is more than 33 per cent of the total enrolled in any higher education in both rural and urban areas of Southern India, which is quite high when compared with other regions. In contrast to Southern India, only 3 per cent of those enrolled in higher education in rural parts of North-Eastern India are enrolled in technical courses and the share of its urban counterpart is also low at 10 per cent as compared with other regions of urban India (Figure 9). This gap in rural sector with Southern India at the top and North-Eastern India at the bottom is wider in nature than the gap in urban sector. Interestingly, unlike other regions, there is no gap in the proportions of rural



Source: Authors' estimates using NSS 64th round (2007-08) survey data

(33.2 per cent) and urban (33.9 per cent) sectors of Southern India which strongly points towards equal proportion of awareness, of and participation in, technical education in rural and urban parts of Southern India. Similarly, the share of persons attaining technical education is 39 per cent for males (out of total males enrolled in higher education) and 26 per cent for females in South India (at top), and North-Eastern India is at the bottom with very low numbers for both males (7.1 per cent) and females (3.4 per cent). Note also that even regions such as the North and West (unexpectedly) and North Central (expectedly) have shown low penetration of HTE. However, one notices a substantial improvement in HTE penetration in urban-Central region, but this appears to be about non-English based degrees or diplomas.

Figure 10: Enrollment in higher level technical courses according to regions and SRCs



Source: Authors' estimates using NSS 64th round (2007-08) survey data

Of all the regions considered in this analysis, Southern India stands for providing opportunities to all types of SRCS to seek out HTE; and the North-Eastern is on the other side of the spectrum, at the bottom. Even the Hindu-SCs/STs share in technical education (out of total enrolled SCs/STs) in South India, which is 21.6 per cent is the lowest among the other SRCs in South India, but is higher than the shares for H-OBCs in all other regions and even higher than H-General for North-eastern (5.3 per cent) and North-Central (19.1 per cent) India. Similarly, Muslims of Southern India show a higher proportion of technical education (25.1 per cent) in their total current higher education flow than any other SRC of any other region except for other minorities of Northern India (34.5 per cent), Hindu-Others of Central India (26 per cent) and Western India (26.7 per cent) as shown in Figure 10. In a relative perspective, however, Muslims are in league with the SCs/STs in many regions and they are at the bottom in Central and North-Eastern regions where they live in substantial proportions.

Cost of Technical Education: As is the case of English-medium education, relatively speaking, the cost of technical higher education is considerably high compared with the non-technical degrees (Table 6). Over all, HTE is on an average three time more expensive than non-technical education. The cost per annum of technical education ranges from around Rs. 30,000-35,000. Technical education cost burden is slightly lower for the SCS/STs, Muslims, and in rural areas. However, this relative cost difference appears more due to quality of education differential rather than any equity cost concerns. Broadly speaking, the cost of technical education is relatively low in North-Central and North-Eastern regions. This may again reflect the qualitative differentials in education suggesting poor quality HTE in these regions compared to the other regions of India.

Table 6: Annual expenditure on HLE by type of education (Rs. mean per person)

Region	Type of Education	Total	Rural	Urban	Male	Female	H-STs/SCs	H-OBCs	H-Others	Muslims	All Others
SI	Technical Education	31626	25821	37746	31484	31912	15619	31184	36552	28930	40794
	Non-technical Education	10500	8639	12525	10102	10945	7421	10381	14134	7053	13289
	Ratio*	3.0	3.0	3.0	3.1	2.9	2.1	3.0	2.6	4.1	3.1
NI	Technical Education	38348	37859	38741	35514	43144	31496	26722	44549	21287	32954
	Non-technical Education	13043	9782	15907	13617	12419	8447	15168	12965	10283	17418
	Ratio*	2.9	3.9	2.4	2.6	3.5	3.7	1.8	3.4	2.1	1.9
WI	Technical Education	30456	30424	30473	31733	27060	14367	24799	35885	20933	28258
	Non-technical Education	11728	8025	13706	12242	11091	6898	7515	15403	11534	11186
	Ratio*	2.6	3.8	2.2	2.6	2.4	2.1	3.3	2.3	1.8	2.5
CI	Technical Education	31294	18458	34905	31836	29893	19448	27405	37363	18153	42617
	Non-technical Education	8151	6686	9460	8236	7992	6179	7944	9668	7763	7336
	Ratio*	3.8	2.8	3.7	3.9	3.7	3.1	3.4	3.9	2.3	5.8
NCI	Technical Education	22963	11875	27749	21435	25039	36562	20887	23773	14678	13382
	Non-technical Education	7519	5862	9765	7857	7046	8341	5803	8396	7137	15932
	Ratio*	3.1	2.0	2.8	2.7	3.6	4.4	3.6	2.8	2.1	0.8
NEI	Technical Education	21356	19024	22615	20828	22773	5044	21210	15207	42136	15244
	Non-technical Education	7642	7166	8580	7807	7440	8061	8674	7833	4912	7653
	Ratio*	2.8	2.7	2.6	2.7	3.1	0.6	2.4	1.9	8.6	2.0
All India	Technical Education	30654	25727	34031	30566	30831	18732	28665	34704	24531	36670
	Non-technical Education	9715	7418	11964	9785	9623	7454	8374	11720	8005	13075
	Ratio*	3.2	3.5	2.8	3.1	3.2	2.5	3.4	3.0	3.1	2.8

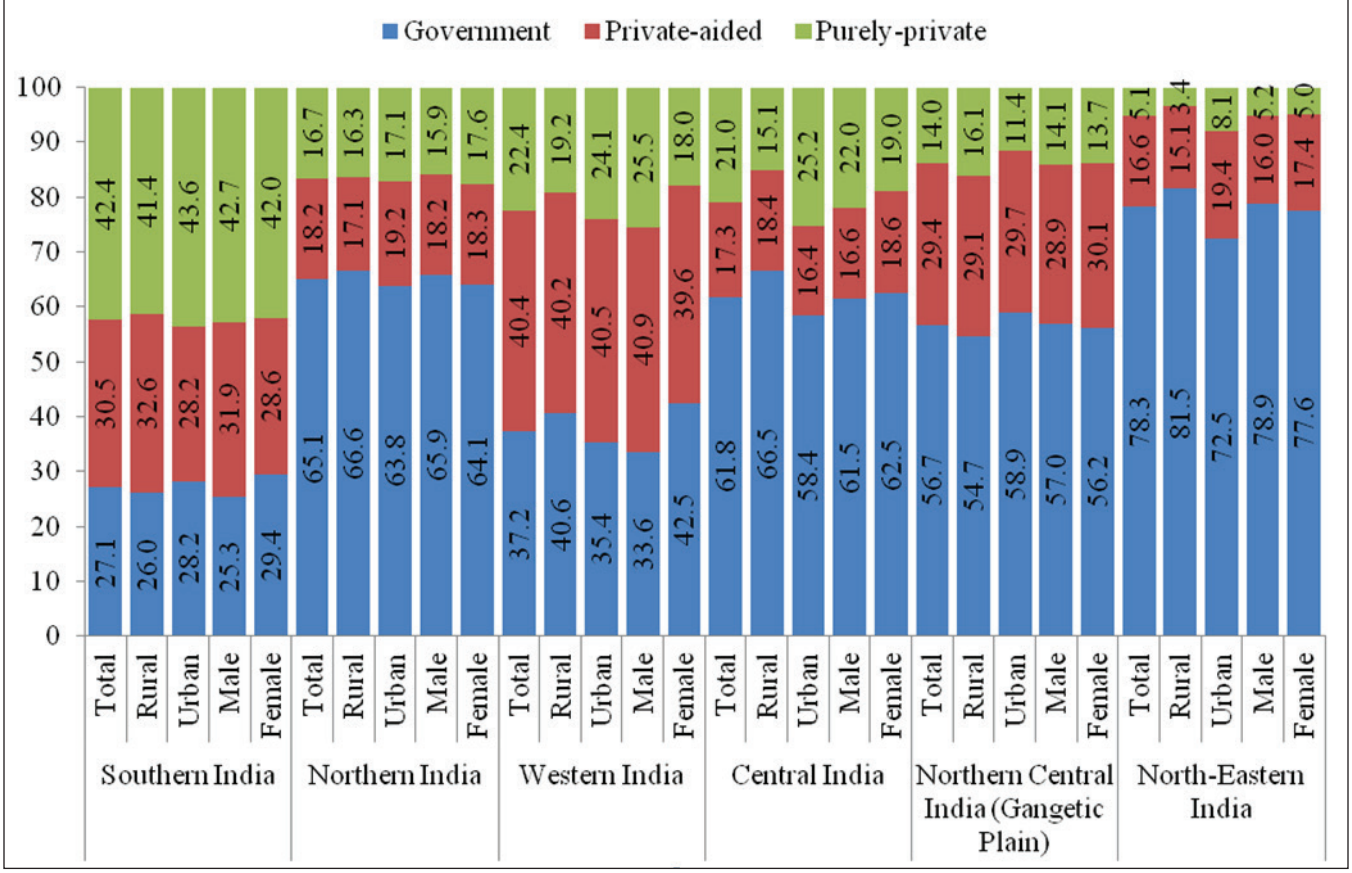
Source: Authors' estimates using NSS 64th round (2007-08) survey data. * Ratio – Ratio of mean expenditure on technical education and non-technical education

This page is intentionally left blank.

6. Public and Private Shares in Higher-Level Education

Given the large base of the Indian youth and fairly consistent distribution across the nation, providing educational infrastructure is a challenge for India. Since India's is a growing population the infrastructural need is growing by the day. People's aspirations are changing fast, which is also boosting the demand for education at levels including the HLE and HTE. Although government has promised compulsory primary and elementary-level schooling for the children of all citizens in India and the sarva sheeksha abhiyan is now an over 25-year old program; a large number of children are still out of school, mostly due to high dropouts caused by a combination of supply and demand factors. Further, educational provision in India is based on a kind loose pyramidal structure which links elementary-level schooling to successively higher levels such as matric, pre-university, university and technical education. While during the early period after Independence the state governments established the HLE infrastructure, the facilities could not sustain and failed to ensure access to all eligible citizens due to demand pressure caused both

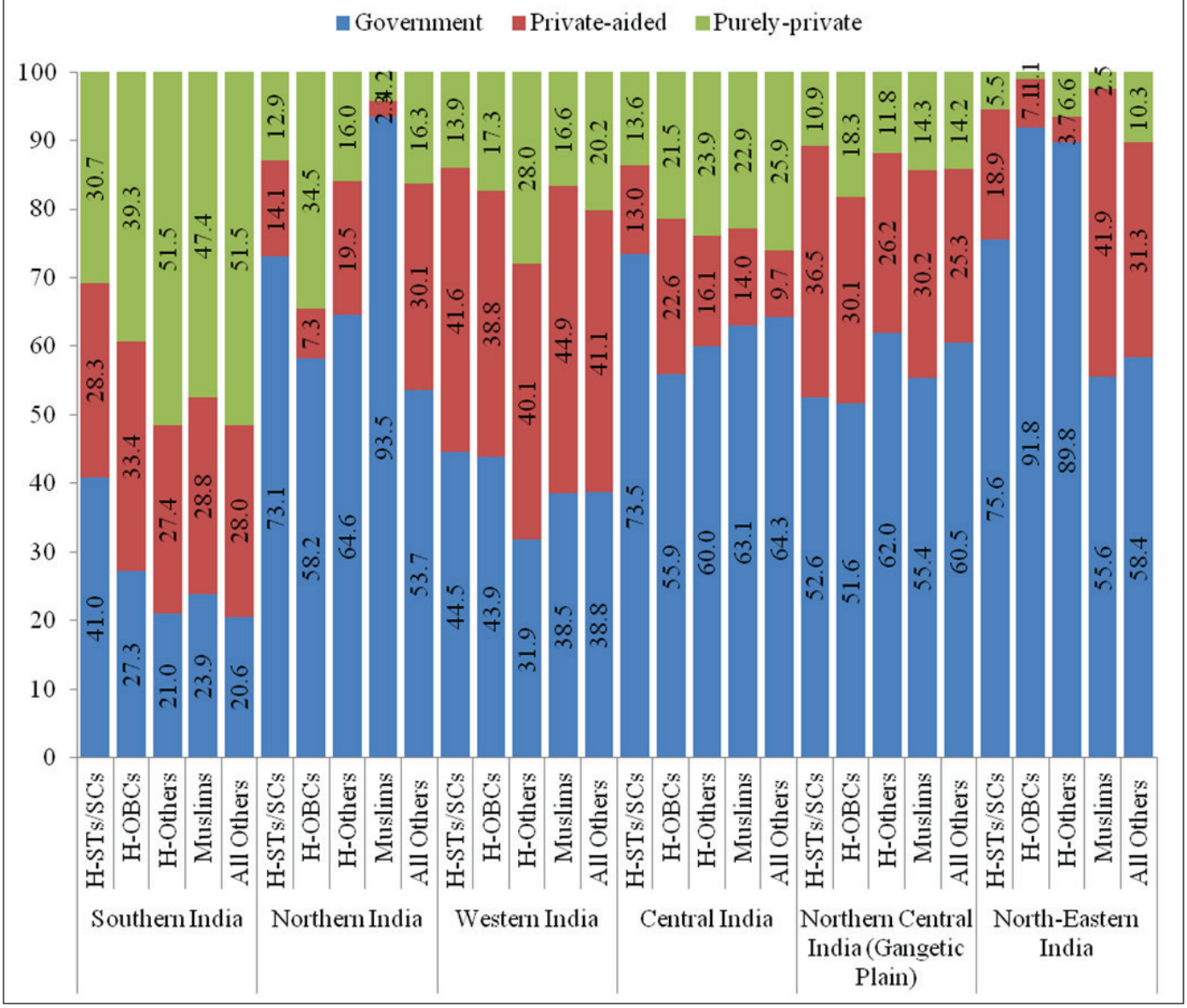
Figure 11: HLE shares according to types of institution, place of living and gender



Source: Authors' estimates using NSS 64th round (2007-08) survey data

by an increase in youth population and also increasing higher-level educational aspirations. There has, therefore, been a proliferation of private educational infrastructure at higher level across India, but while being costly they seem to often impart low-quality education compared with the standard government-run institutions. Private institutions thus fill the demand-supply gap in higher-education industry. However, one advantage of private HLE institutions has been that they offer a variety of skill-promoting courses, which are not usually included in the curriculum offered by government-run institutions. Therefore, the private institutions imparting higher education needs to be supported by creating enabling and promotional role of government with a strong regulatory mechanism to set the standard of education (Mahajan, 2012; Basant and Mukhopadhyay, 2010). In the following we present the public and private shares of HLE across regions and other characteristics. Often private education is chosen in the hope that it provides qualitatively better education and often such education is imparted in English language. However, in this analysis it was not possible to address the quality of HLE issue according to type of institutions. The NSSO data classified the type of educational institutions based on a combination of funding and management criteria into five categories, namely, government, local body, private-aided, private un-aided and, not known. The

Figure 12: HLE shares by types of institutions and SRCs



Source: Authors' estimates using NSS 64th round (2007-08) survey data

authors recoded them into three broad categories, viz., government (government and local body institutions together), private-aided and purely private institutions which includes private un-aided and not known together and the shares of those institutions in higher education have been carried out. These shares by region and for sector, gender and SRCs are presented below in Figure 11 and 12.

The proportion of males and females across both rural and urban parts of Southern states which are attaining HLE from government institutions is the least, followed by the Western region compared with all other regions in India. Further, while the relative share of purely private HLE is high in the South, the Western region reports of relatively higher private-aided model of HLE. All other regions, including Northern, North Central, Central and North-Eastern depend dominantly on government-provided HLE infrastructure.

Surprisingly, however, one finds little variation based on place of living and gender in the type of HLE institutions within each region; which indicates towards the fact that pursuing higher education from a government, private-aided or purely private institution is entirely a regional phenomenon. Almost an equal percentage share of males and females in total males and females enrolled in higher education is observed in each type of institution, which suggests that no discrimination exists between males and females on choice of institutions.

The presence of government institutions providing higher education is much lower in South and West as compared with other regions while private-aided institutions in Western India and purely private institutions in Southern India dominate with their highest shares in higher education. Purely private institutions' presence is very low in higher education across all the regions except for Southern India (Figure 11).

Access to HLE by Type of Institutions and SRCs

Given broad differentiation that private HLE is relatively more prominent in South and West compared with other regions, it is interesting to note SRC differentials in access to HLE by type of institutions. Over 72 per cent of all SRCs excepting the SCs/STs, have attained higher education in a private (either purely private or private-aided) institution in South India, except for H-SCs/STs. Even the SCs/STs have recorded 59 per cent share in private which is high even compared with all the SRCs living in other regions (Figure 11). Access to private HLE infrastructure is also fairly high, next only to the South, in the Western Region.

The North-Eastern region is on the other side of the spectrum. All SRCs have very low access to non-government HLE institutions; even the Hindu-General have only about 10 per cent access followed by the Hindu-OBCs with about 8 per cent. Thus, practically all education in North-East is government supported.

However, an interesting analysis is found in the Northern region where the penetration of private HLE is low, yet one finds a kind of puzzle when most of the SRCs have some access to private HLE. However, it is the Muslim community which is entirely dependent upon government HLE infrastructure. Up to 40 per cent of the Hindu-OBCs and around 30 per cent of the SCs/STs and the Hindu-General have reported access to private HLE, whereas this percentage is negligible in case of Muslims. It would be worth probing this issue further to find out if this differentiation has occurred due to high cost and affordability issue or a different type of discrimination at work.

Cost of HLE According to Type of Educational Institution

As a matter of routine the cost of education indeed differs according to the type of institution (Table 7). Government provided institutions are relatively cheap, and often the average annual expenditures range between less than Rs 1,000 to around Rs 1,500 across India, excepting in North and South India, where the average is above Rs 2,000. Secondly, it is often expected that private-aided facilities should be costing less than the purely private institutions. Broadly, this appears to be true; yet in many situations this broad logic does not stand. In a number of situations cost of education is higher in private-aided institutions compared with the purely private ones. Such cost differences reflect highly complex structure of the cost of HLE in India.

There is what is known as capitation fees and hoards of other types of costs associated with HLE in India. But suffice it to state that India is facing a sort of a crisis in the

wake of multiple types of dual pricing: English education costs are very high compared with education in local language; technical education costs are very high compared with regular degrees, and private and private-aided education costs are high. Given such cost differentials and also associated differentials in quality of education, it appears that the relatively poor and deprived are trapped in low-quality education. Without reforms in educational system there is no hope for the deprived communities in India. Although free education is provided at school level by government, at the levels above the school, free or low cost education is almost non-existent. NSSO data have not yielded any cost of education differentials according to consumption expenditure quartiles, thus even the poorest households (Bhattacharya, 2012) incur the same absolute expenditure which amount to a highly differentiated expenditure as proportion of household income.

Table 7: Annual expenditure on HLE by type of institution (Rs. mean per person)

Region	Type of Institute	Total	Rural	Urban	Male	Female	H-STs/SCs	H-OBCs	H-Others	Muslims	All Others
SI	Government Institution	1089	843	1955	1100	1077	705	1113	1774	1144	1739
	Private-aided Institution	6030	5243	6963	6925	4966	3679	7641	7527	4101	3645
	Other Institutions	9894	7904	11684	9958	9813	6532	9075	12301	7293	15797
NI	Government	2854	2184	4674	3044	2631	1637	2475	3845	2482	3514
	Private-aided	12813	12287	13198	12604	13088	7616	6946	15977	6705	11001
	Others	9303	6858	12098	9387	9178	6604	8274	11123	5966	8801
WI	Government	1606	991	3284	1702	1500	984	1171	3072	1370	1998
	Private-aided	4635	2657	6570	4936	4252	3012	3031	6772	3951	4155
	Others	12114	12150	12105	12536	11383	6710	8322	15202	7992	14737
CI	Government	1061	745	3174	1146	953	700	1026	2526	914	900
	Private-aided	5940	3907	7954	6495	5039	4997	5083	8982	3432	5542
	Others	5621	3636	7698	6080	4869	3777	4481	8565	4004	8858
NCI	Government	1343	975	4102	1382	1295	1002	1013	2779	1181	2007
	Private-aided	4531	2907	7199	4635	4386	4249	3333	7036	3154	8551
	Others	3850	2296	7343	4102	3465	3123	2661	7184	2665	6269
NEI	Government	1817	1599	3714	1797	1842	1574	2341	2649	1072	1770
	Private-aided	5005	3803	7289	5190	4786	6028	7150	4348	3655	5205
	Others	6609	5300	8555	6360	6999	4727	6947	8455	7625	5580
All India	Government	1400	1010	3351	1460	1329	918	1122	2822	1272	2273
	Private-aided	5580	3991	7437	5962	5079	3887	4931	8075	3745	5472
	Others	7124	4672	9976	7321	6830	4575	5473	10440	4641	10845

Source: Authors' estimates using NSS 64th round (2007-08) survey data

7. Conclusions and Discussion

In India, research and analysis of HLE is rather rare and far in between, mostly due to want of data. However, the NSSO during its 64th round survey in the reference year 2007-08 canvassed a special module of questions namely 'Participation and Expenditure in Education'. This survey covers a total of 445,960 sample persons living in 63,318 rural and 37,263 urban households facilitating fairly robust estimates. These data have given analysts an opportunity to investigate in detail accessibility to HLE across India; six contiguous regions are created to have a meaningful comparative discussion. Further, the structure of HLE itself needs to be understood better. The data provided an opportunity to estimate, for example, the prevalence of HLE amongst people of different age groups so as to trace the improvements over time. Two broad age groups were created reflecting different generations, one aged 22 - 35 years (current generation) and another group of 36 years and older identified as the past generation. Structurally, it is possible from these data to find out what proportion of all higher-level educated are technically educated such as diploma and degree in engineering, medical and so on. In India, there is an association between the medium of instruction and quality of education. Any HLE imparted in English language is likely to be relatively better qualitatively and also expected to yield higher wages in the employment market, often over thirty times higher. For the first time in India, through these data it was possible to estimate the penetration of English-medium HLE across the many regions. Another unique structural issue is the growing privatization of HLE. Estimates of HLE infrastructure according to management type and funding model in terms of government, private-aided and purely private are also presented in this analysis.

Over all, it is encouraging to note that the stock of HLE amongst the current generation (22-35 years old) and according to gender, rural-urban and all SRCs is found to be higher than the stock of HLE in the past generation (36 years and older). Although there is regional differentiation in the levels, generally the current generation has better access to HLE. To be specific, in both the past and current generation, HLE stock for men is higher than that of women, higher for urban than rural population and favors the high-caste Hindus and minorities other than the Muslims. SCs/STs and Muslims are found to be most disadvantaged although one notices relative better growth opportunities for the SCs/STs. For example, the per cent difference between the two generations' HLE prevalence is highest for females, SCs/STs and OBCs. This higher difference is because of low prevalence in past generation (low base). However, in case of Muslims while having a low base (low prevalence) in the past generation, the per cent difference or improvement amongst the current generation is the least, suggesting deepening of inequity with respect to the Muslim community of India.

The general trend is that the positive transition and improvements in HLE is favoring the current generation living in urban areas, who are men and belong to high caste Hindu community and other minorities – generally those who were already at the top end during the past generation itself. While the trends suggest catching up is happening in case of women, rural areas and the SCs/STs, the Muslim community has remained deprived and shows no signs of catching up with the speed and direction of the overall current generation.

One of the most dynamic impacts on levels and achievements of HLE and its structure emerges from the geographic location as expressed in six broad regions created for this analysis. Southern India has shown the greatest improvement in terms of HLE prevalence amongst all the social dimensions analysed – according to gender, place of living and amongst all the SRCs. Western and North India follow as the next better regions where HLE is furthering benefits to the current generation. The North Central, Central and North-Eastern regions show lower levels of improvements in HLE favoring the current generation.

The Uniqueness of this paper lies in estimating the share of English-medium HLE across regions and other social parameters. Overall, one finds better access to English education for both genders, place of living and for all SRCs, and most of this positive advantage is emerging from the South, North and Western region. South India stands out as the region which provides the highest level of opportunity for English-medium HLE for the current generation. English-medium education is 3-8 times more expensive

than HLE in local-medium education. It is expected that the cost differentials are mostly due to differentials in quality of education. The cost ratio (English to local languages) is highest in Southern India for almost all the sub-sections of population.

The desire and demand for English education is growing all over India. In spite of high costs one finds the growth in access to English-medium HLE is broad-based, including for women, in rural areas and amongst all types of SRCs, including the SCs/STs and Muslims. But due to infrastructural and institutional constraints, English-medium education is accessible fairly well in South India and followed by reasonable access in Western and Northern India. Other regions have high demand but poor institutional and infrastructural supply of English HLE.

A technical degree or diploma is much sought after as it is considered employment friendly as well as providing for higher wages. Southern India offers better opportunities to secure HTE compared to all other regions in India. This region further provides for equal access to women, rural areas and for all SRCs. Once the technical education infrastructure is present it becomes accessible to all.

However, the cost of technical education is considerably high compared with non-technical education. Yet, high cost is not a deterrent since all sub-sections of population (males, females, all SRCs, rural and urban) are willing to incur high expenditure to seek HTE.

The share of students currently enrolled in purely private institutions is the highest in Southern India and in terms of proportion favors all sections of society. Cost of private education is also the highest followed by private-aided and government institutes (except for North India and Central India where the costliest education is provided by private-aided followed by purely private, government institutes being the cheapest).

Multivariate analyses reconfirm the major findings enunciated above. The HLE enrollment is higher for males, urban residents and the Hindu upper castes have the highest chances of getting enrolled in HLE. The Hindu-OBCs are almost as likely to get enrolled in HLE as the SCs/STs, while the Muslims are least likely, less than the SCs/STs to get enrolled in HLE. As the household MPCE quintile increases, the chances of getting HLE increase sharply. The Southern Indian population has the highest chances of pursuing HLE followed by North-Central India, Central India, Western India, North-Eastern India, North India being at the bottom. The presence of any household member with educational attainment higher than matriculation increases the chances of other household members getting HLE to a very high degree.

English education is an essential condition to yield higher returns on employment. Access to English HLE has similar associations; and the gap in getting English education than in other medium education is wider for rural-urban counterparts than for male-female counterparts. Moving up in MPCE quintiles increases prevalence of English in HLE and it is very high for the top quintile. The SCs/STs are least likely to get HLE in English followed by OBCs and Muslims. As expected, the Hindu-upper castes and other minorities are the most advantaged. It is again the Southern region which offers highest access to English HLE followed by North-Eastern India, Western India and North India, Central India and North-Central India are found on the other side of the scale. The difference in likelihood in getting HLE in English from North-Central India (bottom) to Southern India (top) is very high.

So far as technical education is concerned Hindu-OBCs, Muslims and SCs/STs are found to be most disadvantaged. As expected Southern India is found at the top followed by North, Central and Western regions having almost equal likelihood to get HTE when controlled for non-technical HLE. The laggards again are North-Central and North-Eastern Indian regions. The consumption quintiles show altogether a different pattern. As expected, the top quintile population have highest likelihood of getting technical than non-technical HLE, followed surprisingly by the bottom most quintile and the 3rd quintile being at the bottom. It appears once those in the bottom quintile reach attaining HLE, they are prone to choose technical courses such as some diploma.

It would be appropriate to conclude this paper by emphasizing an extraordinary diversity in access to HLE, English-medium education, technical education, and to publically provided education. However, there is a clear bias against rural areas, women, low-caste Hindus and Muslims and specific regions falling in the Central, North-Central and Eastern parts of India. It is high time that a public policy is ensured eliminating such iniquitous provisioning of HLE and effect equity and equal opportunity of access and achievements in terms of improving labor productivity for all.


US-INDIA POLICY INSTITUTE
DEVELOPMENT • DEMOCRACY • DIVERSITY
REGISTERED AS NON-PROFIT IN 2011 IN WASHINGTON, D.C., USA