

Productive Employment and Empowering Education:

An Agenda for India's Youth

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ABSTRACT

Until very recently and despite human capital's pre-eminent and empirically established contribution to economic growth, Indian policymakers planning for economic development concentrated largely on issues of capital, labour and, to a lesser extent, technology. This paper argues that India's demographic dividend with 65 per cent of the population in aged 15-24 in 2012 is ideally suited to embark on a path of sustained high rate of economic growth for the foreseeable future if India can reap the benefits of rapid human capital accumulation. It finds, however, that both in the area of education and in labour markets considerable effort is needed to facilitate such rapid and sustained growth.

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“A man educated at the expense of much labor and time...may be compared to one...expensive machine ...The work which he learns to perform... over and above the usual wages of common labor will replace the whole expense of his education” (Adam Smith, 1904[1776],p.101)

“The most valuable of all capital is that invested in human beings” (Alfred Marshall, 1961 [1890] edition, p.564).

I. Introduction

At least since 1776 economics has placed a premium on education. It was one of the central pillars of the work of Adam Smith and was underscored in good measure by the leading economist of the 19th century, Alfred Marshall. It is one of the sharpest ironies of modern economic history that the pre-eminent growth models of the 20th century, including those in the Harrod-Domar and neoclassical traditions, diluted if not eliminated the emphasis on human capital. It was only in the late 1980s and early 1990s when economists started realizing the inadequacy of the then extant growth models with their emphasis on labour, capital and technology in explaining differences in cross-country growth rates and per capita incomes that models of human capital in economic growth became popular. As the Nobel Laureate Robert Lucas (1988) remarked “Once one starts to think about [economic growth], it is hard to think about anything else.” For a text book exposition of the new theories of economic growth see Romer (2006).

Empirical research accompanying this theoretical re-orientation came in thick and fast.

Almost first off the block Barro (2001) showed for a sample of almost 100 countries over the period 1965 to 1995 that educational attainment had a strongly significant impact on the growth of per capita GDP. In particular, this human capital variable had a stronger impact than traditional investment conceived of as net accrual to the capital stock. An additional year

of schooling leads to an increase of 0.44 per cent in the growth rate of per capita GDP¹ and investment in education has a social rate of return of 7 per cent. Further, science and mathematics education had particularly strong impacts and much more need to be done to adequately equip women with per human capital. The “empirics” of economic growth rapidly became a key area of research and the consensus in favour of the importance of education for hastening economic growth remained a dominant theme. The basic message is clear. Adam Smith and Alfred Marshall were right: from the point of view of medium to long term economic growth investment in education is at least as important as investment in capital.

After India’s independence the process of planning for economic development largely reflected this intellectual disregard for human capital accumulation and concentrated largely on issues of capital, labour and, to a lesser extent, technology.

The time has come for Indian planners to view education expenditure as investment for speeding economic growth. In addition, to boosting economic growth an aggressive program of education with emphasis on science and technology would empower India’s burgeoning youth population and lay the true foundations of sustainable high rates of economic growth for the medium to long terms.

II. India’s demographic dividend

With this as background it is pertinent to ask how much of a boost an aggressive program of educating India’s youth yield. While quantitative estimates are not forthcoming, in view of

¹ The estimated contribution of human capital to per capita GDP growth is sizable in view of the fact that average per capita GDP growth in India over the period 1951-52 to 2012-13 has been 5.0 per cent (computed from RBI data).

the burgeoning youth population of India, the social rate of return is likely to be higher than 7 % estimated by Barro (2001) and last well into the future.

Table 1 summarizes the much-discussed “demographic dividend” India currently enjoys. It compares India’s current position and potential with that of China, some countries that had similar (to India’s) per capita GDP in Purchasing Power Parity dollars in 2009, the world and some major country groups.

Table 1 about here.

In 2012 65 per cent of India’s population was in the working age group 15-64. Given current population trends this proportion is likely to surpass that of China. Also India already has the smallest dependency ratio (old as percentage of working age population), which implies that, over time, if the youth is productively engaged India’s private financial savings and physical capital investment are likely to boom. Also in contrast to China, India’s population will continue to grow well beyond 2025 so that these trends are likely to persist well into the future by which time India can be a high-income or high middle-income country.²

Arguably, no country currently faces such fortuitous circumstances; indeed very few countries ever have. It is for Indians to seize this opportunity.

III. Potential and Performance-Education

² A caveat needs to be added here. India’s demographic dividend is also associated with a deteriorating gender balance – a problem that is only going to get worse with higher education and incomes (Chaudhri and Jha, 2013).

Central to capitalizing on India's demographic dividend are mass education of youth, particularly in science and mathematics and their gainful employment in productive jobs. I briefly comment on both.

Table 2 reports on key education statistics for India in comparison to the rest of the world.

Table 2 about here.

In average years of schooling of adults India ranks 65th out of 100 countries. In fact except for duration of compulsory education and houses of instruction for pupils aged 9 India's performance is lacklustre. Of particular concern is the fact that India with its burgeoning youth population has so few universities in the top 100 and ranks last out of 22 countries.

Although the idea of spending at least 6 per cent of GDP on education was mooted soon after independence India spent only 4.1 per cent. Some authors have categorised the 1980s and 1990s as lost decades for Indian higher education (Pushkar, 2013). Indeed Table 2 is a vivid portrait of the gross neglect that India's higher education sector has faced over the years. The 11th Five Year Plan (2007-2012) substantially raised expenditure on higher education as did the 12th Plan (2012-2017). However, there are a number of obstacles to realizing the full potential of this higher expenditure (Pushkar, 2013). In particular, both central and state governments have a say in higher education is managed. Sometimes, the relation between them in this area is less than co-operative with consequent turf wars.

Table 3 provides some further evidence for primary and secondary education. In 1999 only 63 % of male students and 60 % of female students who had begun grade 1 reached grade 5, which is lower than the rate for lower middle-income countries. Even if we ignore the quality

of such education and the inequality of access across segments of income³ these statistics should set off alarm bells.

Table 3 about here.

IV. Potential and Performance-Employment

Unemployment data for India and several other countries is sketchy. Even so according to the World Development Indicators 2013 youth unemployment during 2008-11 for India was 10 % for men and 12 % for women. For the same period 12 % of those with primary education were unemployed. The corresponding figures for those with secondary and tertiary education were 42 % and 23 %.

Table 4 sheds more light on the structure of employment, particularly youth unemployment over a decade. India's employment to population ratio for those over 15 was only 58 % in 1991 and actually fell to 54 % in 2011. Youth participation in the labor force was lower, even lower than low-income and low and middle income countries. Unpaid family work formed a huge proportion of total employment, particularly for females and although GDP per person growth picked up during 2009-11 as compared to 1990-92 it was still lower than that in China and low and middle income countries.

Table 4 about here.

V. A Final Word

³ Far too often government agencies have tended to treat child poverty separately from child education. The fact is that the proportion of children that are poor is higher than the proportion of adults who are poor. There should be an integrated approach to both issues as argued by Chaudhri and Jha (2013). The Right to Education Act has too often meant a right to poor quality education, badly delivered and imperfectly absorbed. Jha (2014) has shown that the problem of inadequately targeted subsidies extends to welfare programs in general.

If nothing else this essay has underscored the importance of aggressively increasing education and employment opportunities for Indian youth. How to accomplish this is a task well beyond the scope of this paper. However, some basic points can be made. First, there must be enhanced public and private investment (both human (teachers) and capital) in education across the spectrum: primary, secondary, tertiary, professional, vocational. Such investment should come from both domestic sources as well as FDI. Particular emphasis should be placed on science, engineering and mathematics education. The structure of education may have to be responsive to these transformations. A regulatory mechanism to facilitate rapid expansion of education needs to be set up and central and state governments should be involved in cooperative federalism.

Similar conclusions are warranted for employment. India has recently enjoyed high economic growth but this has largely been jobless economic growth which is unsustainable. The plethora of labor and product market regulations (for large and small businesses) that inhibit labor mobility and adaptation to domestic and global market requirements must be addressed.

Perhaps the most significant change required is attitudinal among policymakers – both in the public and private sectors. The current fixation with growth and poverty is understandable but the realization that neither high growth in the medium term nor sustained poverty reduction is possible without a paradigm change in our approach to education and employment of youth must become the centerpiece of India's development philosophy.

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Table 1: Population Dynamics: India and Select other countries/Groups

Country/Group	Population millions			Average annual population growth (%)		Population Age Composition 2012			Dependency Ratio 2012		Crude Death Rate 2011	Crude birth rate 2012
	2000	2012	2025	2000-2012	2012-2025	0-14	15-64	65+	Young % of working age population	Old % of working age population	Per 1000 people	Per 1000 people
India	1,042.30	1,236.70	1,418.70	1	1	29	65	5	45	8	8	21
China	1,262.60	1,350.70	1,415.90	1	0	18	73	9	25	12	7	12
Mongolia	2.4	2.8	3.3	1	1	27	69	4	39	5	7	23
Viet Nam	77.6	88.8	95.8	1	1	23	71	7	32	9	6	16
Philippines	77.7	96.7	119.2	2	2	35	62	4	56	6	6	25
Indonesia	208.9	246.9	282	1	1	29	66	5	45	8	6	20
World	6,102.10	7,046.40	8,003.80	1	1	26	66	8	40	12	8	19
Low income	648.2	846.5	1,113.20	2	2	39	57	4	69	7	9	33
Middle income	4,243.30	4,897.80	5,555.00	1	1	27	67	6	40	10	8	19
Lower middle income	2,077.90	2,507.00	2,965.90	2	1	31	63	5	50	8	8	24
Upper middle income	2,165.40	2,390.80	2,589.10	1	1	22	70	8	31	11	7	15
Low & middle income	4,891.50	5,744.30	6,668.20	1	1	29	65	6	44	9	8	21
East Asia & Pacific	1,812.20	1,991.60	2,142.80	1	1	21	71	8	30	11	7	14
Europe & Central Asia	256.5	272.1	281.3	0	0	22	68	10	32	15	9	16
Latin America & Caribbean	500.3	581.4	660.2	1	1	28	66	7	42	11	6	19
Middle East & North Africa	276.6	339.6	413.3	2	2	30	65	5	47	7	6	24
South Asia	1,382.20	1,649.20	1,909.70	1	1	30	65	5	47	8	8	22
Sub-Saharan Africa	663.7	910.4	1,261.00	3	3	43	54	3	80	6	12	38
High income	1,210.60	1,302.10	1,335.60	1	0	17	67	16	25	23	9	12
Euro area	315.1	333.8	331.4	0	0	15	66	19	23	29	9	10

Source: World Development Indicators 2013

Table 2: Global Comparison of Education Statistics for India

Category	Statistics	Year for which data is reported	Rank in the world
Average years of schooling of adults	5.1 years	2000	65 th out of 100
Duration of compulsory education	8 years	1997	8 th out of 12
Duration of Education (Primary level)	6 years	2002	62 nd out of 177
Duration of education (secondary level)	5 years	2002	155 out of 176
Primary Completion rate	90 per cent	2005	71 st out of 124
Education spending (percentage of GDP)	4.1	2002	82 nd out of 131
Hours of Instruction for pupils aged 9	1,051 hours	2000	5 th out of 38
Primary education teachers (% female)	44	2003	112 th out of 135
Primary education ^a teachers per 1000	3.21	2011	104 th out of 134
Public spending per student primary level ^b	7.2	2002	61 st out of 70
Universities top 100 per million ^c	0.00177	2005	22 nd out of 22
<p>a. Teaching staff in primary. Public and private. Full and part-time. All programs. Total is the total number of teachers in public and private primary education institutions. Teachers are persons employed full time or part time irrespective of their qualifications or the delivery mechanism, i.e. face-to-face and/or at a distance. This excludes educational personnel who have no active teaching duties (e.g. headmasters, headmistresses or principals who do not teach) and persons who work occasionally or in a voluntary capacity in educational institutions. Figures expressed per thousand population for the same year..</p> <p>b. Public expenditure per student, primary level is the total reported current spending by the government on primary education, divided by the total number of pupils in primary education, expressed as a percentage of per capita GDP..</p> <p>c. Number of universities in the top 100. Figures expressed per million population for the same year..</p>			

Source: "India Education: Statistical Profile", NationMaster. Retrieved from <http://www.nationmaster.com/country-info/profiles/India/Education>, accessed 28th February 2014,

Table 3: Educational Attainment: India and Select other countries/group

	Gross Intake ratio in first grade of primary education		Reaching grade 5, male % of grade 1 students		Reaching grade 5, female % of grade 1 students		Cohort Survival Rate		Repeaters in Primary Education		Transition rate to secondary education	
	Male % of relevant age group	Female % of relevant age group					Reaching last grade of primary education, male % of grade 1 students	Reaching last grade of primary education, female % of grade 1 students	Male, % of enrolment	Female, % of enrolment	Male %	Female %
	2011	2011	1999	2010	1999	2010	2010	2010	2011	2011	2010	2010
India	112	114	63	..	60	..	..	..	5	5	88	89
China	109	110	82	..	80	..	..	..	0	0	..	..
Mongolia	106	104	..	92	..	94	92	94	0	0	98	99
Viet Nam	..	..	80	..	86	..	..	..	..	..	..	..
Philippines	130	120	69	75	79	82	72	80	3	2	99	97
Indonesia	110	115	87	..	92	..	..	..	3	3	84	96
World	114	111	..	..	..	..	74	76	5	5	..	..
Low income	134	126	..	60	..	62	58	59	10	10	..	..
Middle income	111	109	..	..	..	..	76	78	4	4	..	..
Lower middle income	115	111	69	..	72	..	68	71	4	4	86	88
Upper middle income	104	106	83	..	81	..	88	88	4	4	..	..
Low & middle income	115	112	..	..	..	..	72	74	5	5	..	..
East Asia & Pacific	106	109	83	..	80	..	88	89	2	1	..	..
Europe & Central Asia	102	101	..	..	..	..	98	99	1	1	99	98
Latin America & Caribbean	115	112	..	..	..	..	81	86	9	8	..	..
Middle East & North Africa	107	105	89	97	90	97	88	86	8	6	..	..
South Asia	122	119	63	..	60	..	61	65	5	5	86	88
Sub-Saharan Africa	120	111	..	66	..	67	58	57	8	9	..	..
High income	101	100	..	..	..	..	96	93	1	1	..	..
Euro area	100	99	..	..	..	..	96	97	1	4	..	..

Source: World Development Indicators, 2013

Table 4 : Vulnerability of Unemployment: India in Comparative Perspective

	Employment to Population Ratio				Vulnerable Employment				Labour Productivity	
	Total (% ages 15 and older)		Youth (% ages 15-24)		Unpaid family workers and own-account workers, male (% of male employment)		Unpaid family workers and own-account workers, female (% of female employment)		GDP per person employed (% growth)	
	1991	2011	1991	2011	1990-1992	2008-11	1990-1992	2008-11	1990-92	2009-11
India	58	54	46	34	..	79	..	85	1	5.2
China	75	68	71	51	..	..	..	..	6.8	9.4
Mongolia	55	59	38	32	..	57	..	52	..	..
Viet Nam	77	75	73	59	..	..	..	..	4.6	3.5
Philippines	60	61	42	41	..	42	..	46	-3.3	2.7
Indonesia	61	63	42	40	..	62	..	67	6.2	3.9
World	62	60	52	42	..	..	..	..	0.6	3.4
Low income	72	72	59	56	..	..	..	..	-3.5	4.3
Middle income	63	59	52	40	..	..	..	..	2.7	5.7
Lower middle income	58	55	43	36	..	..	..	..	0.4	3.9
Upper middle income	67	63	60	45	..	..	..	..	4.1	6.6
Low & middle income	64	61	53	43	..	..	..	..	2.4	5.5
East Asia & Pacific	73	68	66	49	..	..	..	..	6.7	7.9
Europe & Central Asia	55	51	40	32	..	..	..	..	-5.9	4.1
Latin America & Caribbean	57	62	48	46	..	..	..	..	0.8	2.4
Middle East & North Africa	41	41	26	23	..	..	..	..	1.9	0.6
South Asia	59	55	47	37	..	..	..	..	3.1	4.7
Sub-Saharan Africa	64	65	47	47	..	..	..	..	-5.2	2.2
High income	57	56	45	37	..	..	..	..	0.9	1.9
Euro area	50	51	42	34	..	..	..	..	2.3	1.9

Source: World Development Indicators 2013