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HUMAN CAPITAL AND ENDOGENOUS GROWTH IN INDIA: WHERE DOES INDIA FAIL TO CAPITALISE ITS HUMAN POWER?

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Abstract:

This paper presents an analytical understanding on the role of human capital in economic growth, focusing on India's growth pattern and human capital formation. The fundamental questions which try to answer here are- is India a failure to convert its favorable population size into a productive human capital? What are the factors that pull back the country in successful formulation of its human capital? How India can harness its demographic dividend for potential future growth? The essay begins with an outline of a basic theoretical foundation of the presumed macroeconomic role of human capital on economic growth. It is followed by the discussion on the current empirical findings and the major flows in it. The remaining sections focus on the problem of human capital in India, and exclusively deals with the aforementioned questions we try to answer. The essay concludes with the policy recommendations for successful human capital formation in India.

Key Words: Human Capital in India, Endogenous growth, Demographic dividend, Brain Drain, Education in India, Skill development

1.0: INTRODUCTION:

The world has witnessed the remarkable economic growth of China and India, two demographic giants, in the past few decades. The strong and sustained output growth of China in the past 35 years has driven the unprecedented transformation of a rural, command economy into a global economic superpower. Having made the transition from an upper-middle-income

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economy to one of high-income status, China is now striving to develop more technologically sophisticated industries. Economic growth in India began to accelerate dramatically once economic reforms and open-trade policies were initiated in the early 1990s. The economic miracle witnessed in China as well as India is attributed to the expansion and effective utilization of their abundant human resources, in addition to market reform and outward-oriented policies (ADB Report, 2015).

China after having experienced large-scale expansion and productive utilization of their young population has to now witness the gradual ageing of its population, while India will continue to experience a growth in its young population in the next 2-3 decades before its population starts to age. In the past few decades China has successfully improved their stock of human capital in terms of educational attainment and skill development, achieving critical improvements in literacy- the basic determinant of the quality of life and that of the labour force. Recent studies show that between 1987 and 2008, strong growth in labor productivity in individual sectors has been a salient feature in the growth of the Chinese economy, and structural changes due to labor movements toward the manufacturing and services sectors also made a significant contribution to the overall growth of labor productivity (ADB Report, 2015). The unprecedented growth performance of China, is undoubtedly say, a result of highest emphasis on its human capital development. Now the demographic window of opportunity is turn towards India, and its productive utilisation is going to be a decisive factor in India's economic growth and its position among the leading economies.

India's demographic dividend has been a global talking point for quite some time. While the whole world is ageing, India has a significant percentage of population in the young age category. This has heightened the prospects for not just India but the entire world. While India sees the demographic resource to aid its economic development, the world sees it as a huge market and potentially global workforce. The critics however say that India's demographic potential is highly over-emphasised. They point to the abysmal standards of education, human development, and job creation in the country. According to them, it is not demographic dividend but a 'demographic disaster' waiting to happen. While the critics concerns may be genuine, none can discount the potential of India's demographic resources.

This paper presents an analytical understanding on the role of human capital in economic growth, focusing on India's growth pattern and human capital formation. The

fundamental questions which try to answer here are- is India a failure to convert its favorable population size into a productive human capital? What are the factors that pull back the country in successful formulation of its human capital? How India can harness its demographic dividend for potential future growth? The essay begins with an outline of a basic theoretical foundation of the presumed macroeconomic role of human capital on economic growth. It is followed by the discussion on the current empirical findings and the major flows in it. The remaining sections focus on the problem of human capital in India, and exclusively deals with the aforementioned questions we try to answer. The essay concludes with the policy recommendations for successful human capital formation in India.

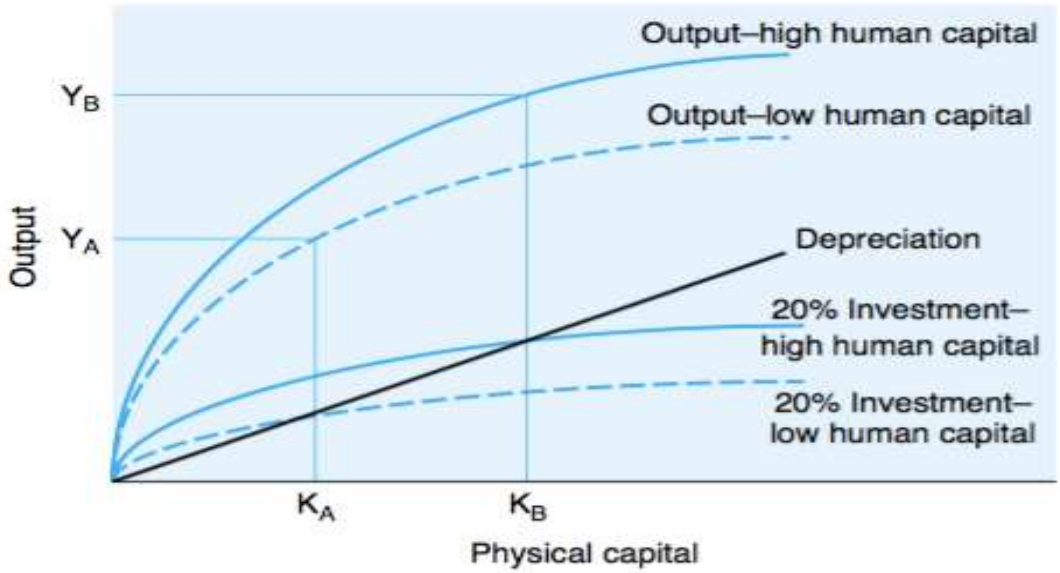
1.1: THE CONCEPT OF HUMAN CAPITAL:

The concept of human capital and its decisive role in economic growth and development has been present even in the seminal works of classical economists like Adam Smith and Alfred Marshall. However, the idea of human capital got wide attention after the mid 20th century that Gary Becker (1962), an economist from the University of Chicago, and Jacob Mincer (1974), an economist at Columbia University, developed a theory of human capital. Human capital is a term, they refer to the stock of knowledge, habits, social and personality attributes, including creativity, embodied in the ability to perform labor so as to produce economic value. This theory, according to which a person's level of education and experience determine his or her (labor) income, was originally envisaged in a microeconomic context, but has substantially been applied to macroeconomics. However, it was the emergence of 'new growth theory' and in particular, the important contribution by Lucas (1988) that really sparked interest in the relationship between human capital and growth.

Many skills make up human capital- ranging from learning accumulated at school, to skills learned in the workplace, and to shared social knowledge and conventions. Levels of human capital differ widely across countries, which helps to explain many growth anomalies. For instance, real GDP per capita differs greatly between the United States and India, as does the capital stock. If the output differences were due onlyto differences in physical capital, it would imply that marginal productivity of capital (MPK) in India was 58 times higher than in the United States due to the low level of the Indian capital stock.If the MPK really was so high in India, then U.S. firms would be investing heavily there. However, we do not see such large levels of investment, which suggests that the return to capital in India is not much different

from that in the United States. We can explain this if we allow for differences in human capital. There is much more schooling in the U.S. population than in India. The marginal product of physical capital increases with the amount of human capital there is in a country—the more educated the workforce, the higher the marginal product of physical capital. Although India has a lower capital stock than the United States (which boosts the MPK in India), it also has a lower level of average human capital. As a consequence, the MPK may not differ much between India and the United States.

Figure 1: Impact of human capital on steady state



A country with a higher level of human capital can produce more output from a given level of physical capital- as shown in Figure 1. Therefore for the same investment rate, the country can support a higher level of depreciation and thus a higher steady state capital stock (K_B rather than K_A). Thus higher levels of human capital should be reflected in higher standards of living (Y_B not Y_A). Countries with low stocks of physical capital will only grow faster than capital rich countries if they have similar levels of human capital.

1.2: THEORETICAL FRAMEWORK:

The traditional neoclassical growth model as invented by Solow (1956) was said to be not overly illuminating on the causes of persistent economic growth. The basic assumption of the Solow model was that factors of production earn their marginal products. For instance, the simplest Solow model predicts that in the steady state, the marginal product of capital is

constant and the marginal product of labor grows at the rate of technological change. Furthermore, income per person should also grow with the rate of technological change.

The Solow model explains international differences in income per person as the result of international differences in capital accumulation. As poor countries have less capital per worker than rich countries, the rate of return to capital should be higher in poor countries than in its rich counterparts. But once the rate of return to capital is higher in poor countries, one should expect a stronger incentive for capital accumulation in poor than in rich countries. Thus, in turn, should lead to a faster growth rate of income per person in poor countries and thus to a cross-country convergence of income per person, at least as long as the determinants of the steady state are held constant.

The main weakness of the Solow model is that it does not consider human capital formation as a separate factor of production like physical capital and labour. Gundlach (1997) argues:

"If-and only if- human capital enters as an additional factor of production, the neoclassical growth model appears to be as extremely useful instrument for studying the international variation in income per person, although it may be a bad choice for studying the ultimate causes of economic growth".

The acquisition of skills- both through schooling and on-the-job training- can also be considered as an important form of capital accumulation. If so, it is justified to take a much broader view of capital which includes human capital. This insight has important quantitative implications for the predictions of the neoclassical growth model regarding the rate of convergence as well as international differences in income per person and rates of return.

Mankiw et al (1992) and Mankiw (1995) illustrate that the introduction of human capital greatly improves the explanatory power of the neoclassical growth model and substantially expands its scope and applicability. Mankiw et al (1992) present a human capital-augmented Solow model in which human capital serves as ordinary production factor: it appreciates at the same rate as physical capital and is produced by the same technology. Due to diminishing returns to scale, as in the original Solow model, an increase in the time devoted to human capital accumulation has only transitory effect on the growth rate which converges to its steady state level afterwards.

It is after the publication of the seminal works of Romer (1986) and Lucas (1988), the so called "new" or "endogenous" growth theory, some new insights have been established on the role of human capital formation in economic development. In contrast to the neoclassical growth theory in which long run growth is exogenously determined by technological change, the so-called new growth theory (Romer 1989) explains the level of growth within the model.

Endogenous growth theory holds that economic growth is primarily the result of endogenous and not external forces. Endogenous growth theory holds that investment in human capital, innovation and knowledge are significant contributors to economic growth. The theory also focuses on positive externalities and spillover effects of a knowledge economy which will lead to economic development. The endogenous growth theory primarily holds that the long run growth rate of an economy depends on policy measures. For example, subsidies for research and development or education increase the growth rate in some endogenous growth models by increasing the incentive for innovation.

Theoretically, seminal papers establishing the positive relationship between human capital and growth are Mankiw et al (1992) as well as Lucas (1988). Empirically, Romer (1989) was among the first to run ad-hoc cross-country regressions with the growth rate of GDP as the dependent variable and incorporating a human capital proxy variable as one of the regressors. He found that adult literacy is positively associated with economic growth. Since then a a large body of literature has investigated various education related determinants of economic growth. Pinning down a robust relationship between variables measuring human capital and economic growth, however, turned out to be a rather difficult endeavour. Often, educational variables are insignificant or even displaying a negative association with growth.

Lucas (1988) seen human capital as a factor of production. He defines human capital as skills that are to some extent rival and excludable, that is they are part of a physical person. Romer (1990) defines human capital as 'knowledge' and 'ideas' that are non-rival and partly excludable. In Lucas (1988) human capital is labour-augmenting and characterised by constant returns to scale which entails self-sustained growth driven by human capital accumulation. Yet in Romer (1989), the steady state growth rate depends additionally on the human capital stock. In his model, the skills of the workforce are the key determinants for the generation of new ideas.

Empirically, the difference between the two theories is that endogenous growth in the theory of Romer (1990) is caused by accumulating technology (or knowledge) and thereby he establishes a relation between the level of human capital and economic growth. In the theory of Lucas (1988) it is the human capital formation itself that, by non-decreasing marginal returns, creates endogenous growth.

1.3: ROLE OF HUMAN CAPITAL IN INDIA:

India is going through a very favourable situation of population composition as it is very beneficial for its overall growth and development. More than 50 percent of our population is in the age group of 15-59 years (Census of India, 2011). With such a young population, we have a huge demographic dividend waiting to be capitalised. This "demographic dividend" means that as compared to other large developing and developed countries, India has a higher proportion of working age population vis-à-vis its entire population. This places India at a huge strategic advantage against other developed nations and a huge window of opportunity for fueling economic growth.

Demographic dividend is the economic benefits that derive from demographic change or a demographic transition. It is a population bulge in the working age category. It occurs when a falling birth rate changes the age distribution of a population so that fewer investments are needed to meet the needs of the youngest age groups and resources are released for investment in economic development and family welfare. At this stage, there are relatively more adults in the population of the productive labour force. By demographic dividend, we mean a rise in the rate of economic growth due to a rising share of the working age population. It may occur only once during a demographic transition and lasts for just a few decades.

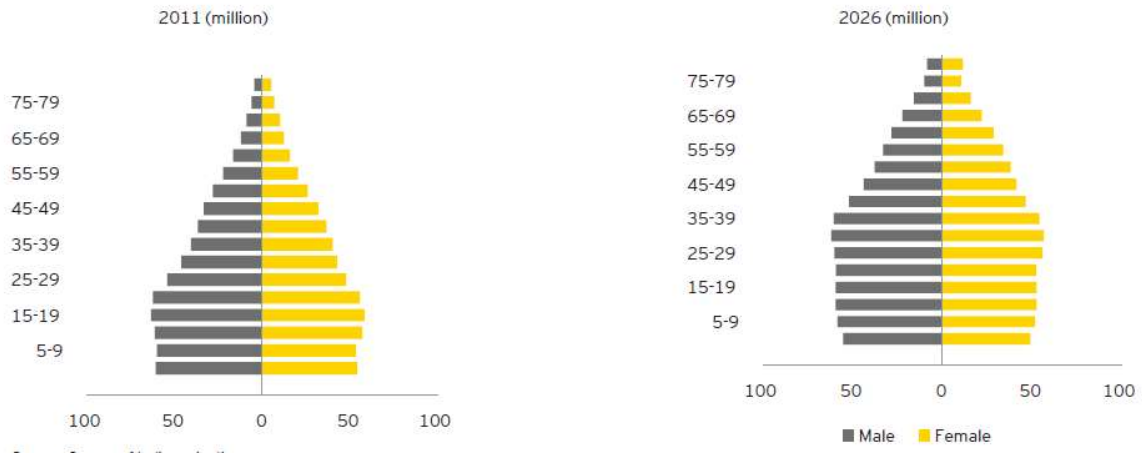
India has been experiencing a positive demographic transition since the last decade, while the socio-economic and political setup of the country has not yet organized to harvest those benefits. Preparations from the part of the government to invite the potential youth bulge from the demographic transition were futile. Even though the demographers forecasted this positive transition in population decades back, the arrangements in the form of ensuring food availability, better health facilities, education, skill empowerment, employment, housing facilities to accommodate more youth, etc. are still in its startup stage (Aneesh, 2016).

Demographic window of opportunity is defined to be that period of time in a nation's

demographic evolution when the proportion of population of working age group is particularly prominent. This occurs when the demographic structural design of a population becomes younger and the percentage of people able to work reaches its height. United Nations population department has defined the windows of opportunity as 'period when the proportion of children and youth under 15 years falls below 30 percent and the proportion of the people 65 years and older is still below 15 percent'. Typically, the demographic windows of opportunity last for 30-40 years depending upon the country.

Now a demographic window of opportunity has wide opened for India. The population pyramid of India in 2011 census and the 2026 projection are presented in the below figure.

Figure 2: India's Population Pyramid: 2011 Vs 2026



Source: Census of India Projections

It is very clear from the figure that India has a very young population; a majority comes under the age of 35-39 according to the 2011 census. As per the 2026 projections, population structure will be more favourable to the working age population, ensuring more demographic dividend to the economy. Generally, the opportunities are open in the following fields:

a. Supply of Manpower: The country's economic boom depends on a young and productive manpower. The women population is not confined now to their home only. They are better educated and employed in jobs outside of the home. So they are productive in the labour force. This force plays a pivotal role in helping any country's economy to take off.

b. Increased Savings: The demographic transition affects the savings, which in turn affects the prospects for investments and growth. Working-age adults tend to earn more and can save more money than the very young. Personal savings grow and serve as a partial resource for industrial investments that fuel economic growth. As the number of dependents decreases individuals can save more. This increase in national savings rates increases the stock of capital in developing countries and leads to higher productivity as the accumulated capital is invested.

c. Improved Human Capital: The demographic transition begins with changes in mortality that results in a population that lives longer and stays healthier. A longer life expectancy causes fundamental changes in the way that people live. Decreases in fertility rates result in healthier women and fewer economic pressures at home. This also allows parents to invest more resources per child that leads to better health and educational outcomes. Participation of women in the labour force enhances their social status and personal independence. A society, which is experiencing a demographic dividend, is certain to experience deep-rooted changes in its culture, as its people become more valuable assets.

d. Increasing domestic demand: The increasing domestic demand is brought about by the increasing Gross Domestic Product (GDP) per capita and the decreasing dependency ratio. This will help to widen the economic prospects of the country.

1.4: EMPIRICAL EVIDENCES AND CRITIQUES:

Gundlach (1997) argues that the wide range of empirical macro studies on human capital suffer from measurement problems due to a very narrow concept of human capital focusing on formal education. On a wider scale, the determinants of human capital encompass a wide range of variables other than formal education, like, quality of education, the experience of the workforce, and the health and the nutritional status of the population. What seems to be a relatively reliable procedure for the construction of physical capital stocks is in fact more complicated for the case of human capital stocks. This is because of the time lag between investment (school enrolment) and addition to the human capital stock (entry into the labour force), as well as because of the presumed longer durability of human capital compared to physical capital.

Existing empirical literature shows that human capital plays an important role in

driving economic growth in India. The growth accounting estimates confirm human capital as an important factor of economic growth contributing directly to annual gross domestic product per worker growth in both countries as follows: 1961–1980: about 21 percent in India and 16 percent in China; 1981–2010: about 22 percent in India and 2.4 percent in China (ADB Report, 2015). Cross-country regression results confirm that human capital has also contributed to economic growth by facilitating technology adaptation and innovation.

As the experience of economies that have transitioned to high-income economies (e.g., Japan and Korea) shows, beyond the level of human capital investments, both quality and equity matter (World Bank 2012). Empirical evidence suggests that more than educational attainment, the quality of educational output is a stronger determinant of economic growth (Hanushek and Woessmann 2007).

Empirical results based on growth accounting exercises, however, show that the contribution of human capital, measured by the improvement of educational attainment for labor force, to gross domestic product (GDP) growth is smaller when compared to growth in either physical capital per worker or total factor productivity (TFP). For instance, estimates by Bosworth and Collins (2008) show that during 1978– 2004, education had a positive, but small, contribution of about 0.3–0.4 percentage point in the annual growth in output per worker of both countries. This represents around 12 percent of annual growth in output per worker in India, but only about 4 percent in China, which had a higher output per worker growth during this period.

Recent literature shows that there is a positive impact of human capital on technology development. Gundlach (1997) argues that very often correlations between measures of human capital and measures of economic development turn out to be statistically insignificant. The evidence at the macro level is largely based on measures of formal education as proxy for human capital formation. But one has to keep in mind that not all education produces human capital, and, even more importantly, not all human capital is produced by education (Knight, 1996). What has been neglected so far are, e.g., international differences in the quality of education, the impact of learning on the job (experience) as compared to formal schooling, and the role of nutrition and health as precondition for a successful accumulation of human capital. Once systematic international evidence on these factors become available, it should be possible

to improve the estimates of the macroeconomic role of human capital in economic development.

1.5: PROBLEMS IN HUMAN CAPITAL FORMATION IN INDIA:

The Global Competitiveness Report 2013 of 148 economies worldwide ranks China at 29th place and India at 60th place. The report highlights the importance of a set of factors (termed as "pillars" in the report) that are mutually enforcing in determining the productivity of a country across different stages of development. These development pillars that serve as the bases for assessing the global competitiveness and ranking of countries include (i) basic requirements for development and competitiveness, including institutions, infrastructure, macroeconomic environment, and health and primary education; (ii) efficiency enhancers, such as higher education and training, goods and labor market efficiency, and technology readiness; and (iii) innovation and sophistication factors. Since these development pillars are mutually enforcing, weakness in one pillar has negative consequences in others.

Still considered a factor-driven economy, India competes based on its factor endowments-mainly abundant human and natural resources (Schwab and Sala-i-Martín 2013). However, India is not performing well in most of the basic drivers of global competitiveness (i.e., institutions, infrastructure, macro-environment, and basic services), which are crucial especially in its current level of development. Despite steady improvements, public health and education levels (102nd) remain poor and are considered a prime cause for the low productivity in India (Schwab and Sala-i-Martín 2013). In addition, the supply of transport, information and communication technology, and energy infrastructure in India does not meet the needs of the economy (85th). The macroeconomic performance of India is also lagging behind most economies (110th).

The relatively poor infrastructure in India, as well as institutional and macroeconomic environment, has important efficiency implications on its goods (85th) and labor markets (99th). Better governance, incentives and institutional capacity, stable macroeconomic environment, as well as extensive infrastructure, are all required to encourage a favourable business and investment climate that will attract investment and fuel the development of efficient goods and the expansion of a flexible labor market.

Drèze and Sen (2013), assert that India needs a better- educated and healthier labor

force, combined with an increased use of technology and better quality control, to catch up with China. Bhagwati and Panagariya (2013) argues, perceiving that the growth of India in human resources and demographic dividend can place it on the same growth trajectory in the next few decades as China had in earlier years, they point out poor quality of basic, as well as higher education to be a hindrance to long-term growth.

Table 1: Expenditure on social capital

Year	Social Exp. (In Crore Rupee)	Percentage of GDP
1990-91	30972	5.28
2000-01	114005	5.23
2007-08	259030	5.19
2008-09	333624	5.92
2009-10	413968	6.39
2010-11	495105	6.36
2011-12	561642	6.23
2012-13	657768	6.61
2013-14	712535	6.34
2014-15 (RE)	853103	6.85
2015-16 (BE)	942156	6.88

Source: Indian public finance statistics 2016-17

Human Development Index (HDI) values reflect the poor quality of human capital in the country. India's HDI value for 2014 is 0.609, which puts the country in the medium human development category, positioning it at 130 among 188 countries in 2014 in Human Development Report 2015. The country's rank was 135 according to the 2014 report. Between 1980 and 2014, India's HDI value increased from 0.362 to 0.609, an increase of 68.1 percent or an average annual increase of about 1.54 percent.

Jobless Growth

India's jobless growth is undermining its ability to reap the demographic dividend. The last quarterly survey of the Labour Bureau showed that India has never created so few jobs, since the survey started in 2009, as in 2015: only 1.35 lakh jobs compared to more than nine lakhs in 2011 and 4.19 lakh in 2013 in eight labour-intensive industries the only ones that are surveyed.

These figures are particularly alarming since almost one million new people enter the job market every month. The Indian economy today needs to generate 115 million non-farm jobs over the next decade to gainfully employ its workforce and reap its demographic dividend. But that is not the direction in which India is going. In fact, the Economic Survey 2015-16 showed that during the last decade (2001-2011), the growth rate of the labour force (2.23 per cent) was significantly higher than the growth rate of employment (1.4 per cent), which itself was several-fold less than the growth rate of the economy. According to Census 2011, the average growth rate of the economy was 7.7 per cent per annum, when it was only 1.8 per cent for employment.

This jobless growth, which has been more dramatic in the last two years, is probably the main issue of the Indian economy today. This phenomenon is not because of automation, but because of poor industrial and agricultural policies that are not creating infrastructure development, manufacturing and services jobs. The employability in government sector is also witnessing a decline as the public sector itself is shrinking in the era of neoliberalism: government jobs, which were 19.5 million in 1996-97, are about 17 million today.

Jaffrelot (2016) explaining the jobless growth in India in two ways. First, the employability problem. While the services can rather easily recruit skilled white-collar workers (IT engineers, English-speaking people for the call centers, etc.), the industry cannot transform peasants into factory workers so quickly. Such a transition requires basic training, which is missing. Second, the neglect of the small and medium enterprises (SMEs), which have around four times higher labour intensity than that of large firms. SMEs, which employ 40 per cent of the workforce of the country and which represent about 45 per cent of India's manufacturing output and 40 per cent of India's total exports, are in a better position to do so- but they are not treated well.

In India, the share of non-farm employment in total employment also expanded as 67 million new non-farm jobs were added (MGI 2012). However, the growth in non-farm jobs

was just enough to keep pace with the growth in labor force and not sufficient for more workers to shift into more productive jobs. Hence, while the share of farm jobs in total employment declined in 2000–2010, the number of farm workers remained steady at about 240 million (MGI 2012).

In India, according to the 66th round of the employment–unemployment surveys of the National Sample Survey (NSS),the share of the manufacturing sector in employment remained at 11 percent in 2000–2010. In the same period, the share of the manufacturing sector in total output declined from 16.2 percent to 14.5 percent (World Bank 2014). Although the services sector in India has grown rapidly, underdevelopment of labor-intensive manufacturing has been a significant barrier to job creation and sustained economic growth. India would need to promote labor-intensive manufacturing industries while improving the agriculture and services sectors.

Table 2: Employment elasticity in India

Sector/Sub-sector	FY2000 – FY2005	FY2005 – FY2010
Agriculture	0.84	-0.37
Non-agriculture	0.58	0.18
Manufacturing	0.76	-0.21
Mining and Quarrying	0.83	0.55
Electricity, gas, and water supply	0.56	-0.11
Construction	0.78	1.19
Non-manufacturing	0.92	1.26
Services	0.45	0.06
Total	0.44	0.01

Source: ADB Report 2015

As shown in Table 2, except for the non-manufacturing sector and some sub-sectors (e.g., construction, banking), the employment elasticity of output is below 1 for most sectors and sub-sectors in India. Having an employment elasticity of less than 1 means that for every 1

unit of increase in output in these sectors and sub-sectors, employment expands disproportionately, or even contracts for some sub-sectors (those with negative employment elasticity), suggesting jobless growth.

Brain Drain

Brian drain refers the situation when highly qualified and trained people leave a country to permanently settle in some other country. It is also referred to as 'human capital flight'. Highly educated professional people immigrate to other advanced countries for better opportunities and a comfortable life style.

After independence India is engaged in difficult struggle against poverty. But struggles cannot be launched in papers; they require armies of trained personnel – the scientists, technical knowhow and specialists in the field of planned development. If, instead of contributing to the prosperity of India, the Indian scientists, research scholars, engineers, doctors and economists immigrate to other countries, it is difficult to see how India can implement her development plans and attain her goal of prosperity. In last decade, brain drain from India is happening at an alarming rate, and the statistics will open your eyes more clearly.

The report of the National Science Foundation — Immigrants' Growing Presence in the US Science and Engineering Workforce: Education and Employment Characteristics in 2013 — released this month said that of all the immigrant scientists and engineers in the United States in 2013, 57 percent were born in Asia. Among the Asian countries, India continued its trend of being the top country of birth for immigrant scientists and engineers, with 9,50,000 out of Asia's total 2.96 million. India's 2013 figure represented an 85 percent increase from 2003. From 2003 to 2013, the number of scientists and engineers residing in the US grew from 21.6 million to 29 million. An important factor in this growth has been immigration. In 2013, 18 percent (5.2 million) of the scientists and engineers residing in the United States were immigrants whereas in 2003, 16 percent (3.4 million) were immigrants.

India's high educated unemployment rate is the most important reason for this alarming human capital flight from India. Jobs are not matching the growth in population, and lakhs of graduates remain unemployed every year, and they have no option to fly to foreign in search of job. Though the government has been implementing industrial 15 iberalization policies since 1991, most of the fiscal and industrial policies are still a pulling factor of the

entrepreneurs back from starting a new venture in India. The rampant corruption and no value of talent is the another factor for brain drain in India. Better life style and currency difference also make thinking the talented youngsters roost to foreign countries.

Educational Attainments

Higher enrolment rates had resulted in a dramatic decline in the proportion of the population aged 15–24 years with no schooling in both countries between 1970 and 2010. It went down from 16.3 percent to only 0.1 percent in the PRC, and from 52.3 percent to 7.1 percent in India. Enrolment gains are high both at the secondary and tertiary levels in the PRC, but mostly at the secondary level in India. But still 33.2 per cent of Indian population aged between 15-64 years do not have any schooling. It is alarmingly high compared with China, where it is only 5.4 per cent. And the average years of schooling of the same population is only 6.24 compared to 7.51 in China (Barro and Lee, 2013).

Table 3: Gross Enrolment Ratio (GER)

Year	Primary (I-V) 6-10 years	Elementary (I-VIII) 6-13 years	Secondary (IX-X) 14-15 years	Senior Secondary (XI-XII) 14-17 years	Higher Education 18-23 years
2001-02	95.7	81.6	NA	NA	8.1
2005-06	109.4	94.9	52.2	28.5	11.6
2010-11	115.5	103.9	65.2	39.4	19.4
2011-12	106.5	97.4	66.6	45.9	20.8
2012-13	106.0	97.0	68.1	40.8	21.5
2013-14	101.4	97.0	76.6	52.2	23.0
2014-15	100.1	96.9	78.5	54.2	24.3

Source: GOI, Educational Statistics at a glance, 2016

Table 4: Drop-out rate in school education

Year	Classes I-V	Classes I-VIII	Classes I-X
2000-01	40.7	53.7	68.6
2005-06	25.7	48.8	61.6
2010-11	27.4	40.8	49.2
2012-13	21.3	39.0	50.4
2013-14	19.8	36.3	47.4

Source: GOI, Educational Statistics at a glance, 2014

In India, in the population aged 15–64 years,41.5 percent have secondary education and 8.5 percent have tertiary education. Interestingly, while the share of the labor force in India with secondary education is only about 60 percent that China, India has a greater stock of workers with tertiary education (7.1 million) than China (4.9 million). However, one-third of the working-age population in India has no schooling. This is very high compared to only 5.4 percent in China. Along with this comparatively poor educational attainments, pervasive educational inequalities between genders, and across different social groups and economic strata make the target of potential human development illusive in India.

The high dropout rate across various levels of education in India is indicative of the poor quality of education, especially at the lower levels. About 35 percent of students who start school do not reach grade 10 (Sabharwal 2013). Of the 26 million who take the grade 10 exit examinations, 10 million do not pass. Eight million of the 16 million who take the grade 12 examinations fail to clear them. Only 5 million of the 8 million who successfully go past grade 12 examinations go on to attend college.

However, overall, the quality of education in India remains poor (Panagariya 2008). Furthermore, substantial disparities in quality of basic education across different areas and social groups are a persistent challenge.

Poor Investment in Education

The idea of "education endorses economic development and growth" is the driving force of many developed and developing economies to invest in the educational sector.

Unfortunately, the outlay for higher education sector in India's recent budgets showing government's neglect to that sector though the country has the 3rd largest higher education system in the world in terms of enrolments after China and the US.

Table 5: Percentage of total expenditure on education and research of the centre& states

Year	Percentage of Total Expenditure		Percentage of Capital Expenditure	
	Education	Research	Education	Research
1990-91	11.12	0.86	1.15	0.49
2000-01	11.45	0.76	0.79	0.77
2006-07	10.71	0.83	1.52	0.69
2007-08	10.13	0.83	1.45	0.67
2008-09	10.51	0.85	2.08	0.82
2009-10	11.04	0.86	1.73	0.81
2010-11	11.75	0.84	1.76	0.77
2011-12	11.89	0.74	1.46	0.65
2012-13	12.08	0.67	1.68	0.67
2013-14	12.06	0.66	1.90	0.74
2014-15 (RE)	11.38	0.63	2.40	0.60
2015-16 (BE)	11.72	0.70	2.74	0.77

Source: Indian public finance statistics 2016-17

In this context, the minuscule increase in the share of education in the 2015-16 budget, from 3 to 3.1 per cent, will hardly make any significant difference. The fact that the government seems to rely on private initiatives in this domain also stands in stark contrast to an obvious reality: No country has developed without a robust public education system.

In this year's budget, the FM announced an allocation of Rs 72,394 crore compared to Rs 68,963 crore for last year, which is 4.9 per cent increase in the education budget. In last year budget Rs 42,219.5 and Rs 26,855 crore was allocated for school sector and higher

education sector respectively. In this budget, Rs 43,554 crore (approx. 3 per cent increase) is allocated for school education and Rs 28,840 crore (approx. 7.3 per cent increase) is allocated for higher education. Increase in the education budget is a welcome step, however, if you consider inflation and GDP growth rate, education budget may come down to lower than the last year allocation (as % of GDP). Even after this increased allocation, education sector budget remains far from 6 per cent of the GDP, which is desired by the education sector.

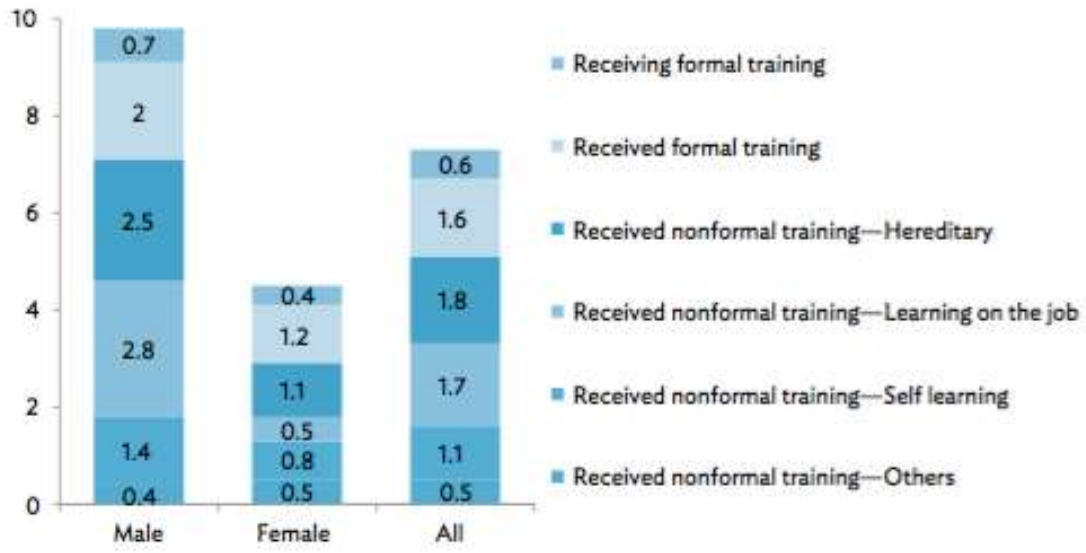
Lack of Skilled Manpower

The 2015 Economic Survey assessed that "6.8 per cent persons aged 15 years and above are reported to have received/ be receiving vocational training". These data reflect a larger problem: Primary and secondary education, where the dropout rate remains very high, provides a poor education.

Unlike in most developed countries, over 90 percent of the labor force in India lack any form of skills training (Government of India 2011a). Overall, only around 43 million, or less than 10 percent of the labor force, in India had vocational training in 2009–2010 (Government of India 2012a). Most of them have only non-formal vocational training, and only less than 2 percent of the total labor force in India has formal training. As shown in Figure 3, the proportion of males (aged 15–59 years) who are either receiving or have received any vocational training is twice as much as females. Some 33 percent of workers with vocational training are in the services sector, 31 percent are in manufacturing, 27 percent are in agriculture, and the rest are in non-manufacturing and allied activities (Government of India 2012a).

Although 90 percent of employment opportunities in India require vocational skills (Okada 2012), skill formation among young people who constitute the largest and a rapidly growing segment of the demographic structure is low. The student participation in formal technical and/or vocational courses at the secondary level in India is very low compared with that in the PRC, other developed countries in Asia, and the United Kingdom. The level of skill formation varies across states in India. In Kerala, 15.5 percent of youth aged 15–24 received formal skills training; in contrast, only less than 1 percent of those in Bihar were formally trained.

Figure 3: Labour force with vocational training (% of population aged 15-59)



Source: ADB Report 2015

Every year, 12.8 million young people enter the labor market (Government of India 2012b). However, with only 2.5 million vocational training seats available in the country (Government of India 2012b), most of these young people remain unskilled and, often, they find work in the informal sector (Okada 2012). The shortage of skilled workers creates serious constraints to the production and innovation capabilities of Indian industries and their competitiveness in the global economy (Okada 2012). It reflects the capacity constraints in India in terms of skills development. While India has well-institutionalised public vocational education and training systems, they are not large enough to accommodate large numbers of school graduates and are inadequately prepared to equip the young workforce with skills that industries need to meet the changing skill requirements of today, which are a result of rapid globalisation and technological innovation (Okada 2012).

Poor Quality of Health-care

Spending on health care in India was an estimated five percent of gross domestic product (GDP) in 2013 and is expected to remain at that level through 2016. India's public health care system is patchy, with underfunded and overcrowded hospitals and clinics, and inadequate rural coverage. Reduced funding by the Indian government has been attributed to historic failures on the part of the Ministry of Health and Family Welfare (MHFW) to spend its

allocated budget fully. This is despite increasing demand, due, in part, to growing incidence of age- and lifestyle-related chronic diseases resulting from urbanisation, sedentary lifestyles, changing diets and rising obesity levels, etc. India's health care sector witnesses close to 50 percent spend on in-patient beds for lifestyle diseases, especially in urban and semi-urban pockets. The World Bank estimates that India is one of the highest ranking countries in the world for the number of children suffering from malnutrition. The 2015 Global Hunger Index (GHI) Report ranked India 20th amongst leading countries with a serious hunger situation. Amongst South Asian nations, it ranks third behind only Afghanistan and Pakistan with a GHI score of 29.0 (GHI, 2015).

1.6: SKILL DEVELOPMENT AND MAKE IN INDIA:

The new NDA Government in India has been giving emphasis on skill development since its formation; a provision of Rs 1,700 crore has been made for setting up 1,500 multi skill training institutes. It has been announced that 10 million youth will be provided skill training under Pradhan Mantri Kaushal VikasYojna (PMKVY) during 2016-20. A Digital Literacy Scheme has also been announced in the budget to cover 60 million additional households. A comprehensive National Skill Development Mission has been initiated to reap the benefits of "demographic dividend" in India, with seven sub-missions to reach the overall objectives. They are: (i) institutional training, (ii) infrastructure, (iii) convergence, (iv) trainers, (v) overseas employment (vi) sustainable livelihoods, and (vii) leveraging public infrastructure.

Make in India is a major national initiative designed to facilitate investment, foster innovation, enhance skill development, protect intellectual property and build best-in-class manufacturing infrastructure. It has launched by the Government of India to encourage multi-national, as well as national companies to manufacture their products in India. India emerged, after initiation of the programme in 2015, as the top destination globally for foreign direct investment (FDI), surpassing USA and China. The major objective behind the initiative is to focus on job creation and skill enhancement in 25 sectors of the economy.The initiative also aims at high quality standards and minimising the impact on the environment.The initiative hopes to attract capital and technological investment in India.

Jaffrelot (2015) argues that, in fact, the Make in India programme is revealing of the jobless growth syndrome: Highly capitalistic multinationals will start factories in India to sell their products to the white-collar middle class but will not create the manufacturing workforce

the country is longing for.

The ambitious 'Make in India' cannot succeed if 'Skill India' does not succeed. 'Skill India' will, in turn, triumph only when several other parameters, including those related to education and research, were developed 'on par with world standards'. Though a handful of ambitious programs are initiated for skill development and expanding employment opportunities, in the real world, the job situation is not a happy one. Macroeconomic parameters too are not showing any hope.

The number of people who apply for work in the job guarantee scheme is a good measure of the employment situation in rural areas. Till March 2016 a staggering 8.4 crore persons had demanded work under Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS). That is a 15 percent increase from the 7.3 crore who demanded work last year. This is a symptom of large scale scarcity of jobs because the wage employment scheme provided only 43 days of work on average in a whole year- instead of the 100 days guaranteed under the scheme and that too manual labour. Of those who applied, nearly 1.6 crore or 19 percent were not given work- the highest turn-back ever seen in this scheme. So, the job situation in rural areas doesn't appear to be very healthy.

Another partial measure of recent employment trends is provided by a quarterly survey of eight industries by the Labour Bureau. The last such survey result was released in March 2016 covering June to October of 2015. After the NDA government took over, just 4.3 lakh jobs have been added between July 2014 and October 2015- lower than the immediately preceding 15 months and the same as the corresponding period of 2012-13 under UPA. Of these, the bulk of jobs have been in IT-enabled services (ITES) and the BPO sector.

Besides these two indicators, some of the big economic indicators too are not presenting a very optimistic picture. The index of industrial production measures how industrial production is changing- if it rises, so does employment, and if it slows, creation of jobs is affected. Between April 2015 and January 2016, the IIP grew by just 2.7 percent. In the previous year, the first year of this government, it had grown by 2.6 percent. For eight core industries like coal, oil, gas and steel, which make up 38 percent of the IIP, the growth from April 2015 to January 2016 was just 2 percent.

Agricultural output has meanwhile sunk with gross value added growing at a mere 1.1 percent in 2015-16, as per latest estimates by the Central Statistical Office. This comes after a decline of 0.2 percent in 2014-15. This is the devastation of two successive droughts. Services sector continued to grow with its output rising by 9.2 percent in 2016. The bottom-line is that jobs remain elusive, and measures to create jobs- through infrastructure development or Make in India- are still to show results.

1.7: CONCLUSION:

India is blessed with its size of human power, but its quality is undoubtedly low due to little attention on skill development, vocational training, research and higher education, etc. by the government. Educated unemployment or under employment, one of the most popular forms of unemployment visible in India itself reflects the failure of the government to better utilise the demographic dividend opens exclusively for India. More preparedness and enthusiasm is required to capitalise India's human power. We need to formulate policies that incentivise private sector to invest in mega infrastructure projects. We need to form an universal healthcare and education for all that will create a large number of jobs. There is an urgent need to reduce disparities in accessibility and improving quality of education. It compasses broadening access to basic education, improving tertiary education, strengthening education financing, etc. Skill development, the ultimate implement to equip the human power into a productive capital should be focussed more intensively and extensively. It required reforming technical and vocational education and training programs to meet the changing needs, strengthening skills training capacity, strengthening school-industry partnerships to bridge school-work transition, etc. Simultaneously there is a need to improve the mobility and flexibility in the labour market to ensure more employment opportunities to the skilled and educated youths in India. The programmes and policies implemented so-far to harness its demographic dividend are still at their startup stages. More focus and proper coordination are required to gain better results.

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