Is India *'getting older before getting rich'*? Beyond demographic assessment

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Abstract

This paper analytically points out the challenges that India will have to face in the process of reaping anticipated demographic dividend rather than intriguing a pessimistic or optimistic perspective. Both empirically and theoretically there is nothing automatic about the link from demographic change to economic growth. Bulging of population in the working ages merely generates the potential for economic growth and hence window of opportunity created by the population bulge may remain underexploited. Based on a conceptual framework this paper tries to understand the critical mechanism of reaping demographic dividend and examines this process for India. Evidences show that the widow of opportunity period for India is probably lasting in between the years 2015 and 2040, though it is not exactly satisfying UNDP definition of windows of opportunity. A two percent increase in working population will be accompanied by 13 percent increase in old age population from 2005-2050. The ratio of number of jobs to working age population has increased from 1:17 to 1:25. Disease adjusted life expectancy is only 53.5 years and poor nutritional status makes early physical setback. Low adult literacy and decreasing public sectors employment poses socio-economic security problems. These will altogether lead to an early initiation of aging in the life course. A comparative assessment with other countries shows that projected economic status of India is well below other developed and developing countries. India will have to negotiate on these issues circumspectly to catch up with the economic standard set by countries such as USA and China; otherwise, India will get old before getting rich.

Key Words: Windows of opportunity, demographic dividend, demographic nightmare, old and rich

1. Introduction

'Getting old before getting rich' is one of the most imperative features of the population aging in India. This phrase usually refers to the question whether India will be able to reap its demographic dividend by increasing its employability and quality of labour force given the fact that 100 million people of India are projected to join the global workforce by 2020, which is expected to account for 25 percent of the global workforce. However, the projected decline in the dependency ratios sharply contrast with the demographic trend in the industrialized countries and also with China (UN world population prospects, 2006 revision).

In United States it will take approximately 70 years for the percentage of population 65 years and older to rise from seven percent to 14 percent. Such doubling is expected to occur in India in only 25 years. The proportion of older population (60 plus) has increased from six percent in 1950 to eight percent in 2001; this is expected to increase further to 20 percent by 2050. The median age is

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currently 25 years and is expected to increase to 39 years in 2050 (UN World Population Prospects, 2006 revision). This has led to an apprehension among the population and development analysts that the fertility decline in India is not a natural process, since the demographic transition, epidemiological transition; and development are not going hand in hand (Eleventh five year plan document, 2010).

In India, the major decline in fertility is an outcome of rigorous family planning programme where illiterate and poor women have also contributed to fertility decline by using contraception (Arokiasamy, 2009). Hence, even without socio-economic development, states like Andhra Pradesh has already achieved below replacement level fertility. On an average, the country is also moving towards low fertility without any significant progress in socio-economic conditions (IIPS & Macro Internationals, 2005-06). Consequently, India is entering prematurely into an aging society, which is difficult to bear for a country already facing multiple burdens like unemployment, poverty, hunger, illiteracy and compound diseases (IHDS report, 2005).

The perception of the availability of demographic dividend evidently pre-supposes appropriate development policy, favorable socio-economic and politico environment so as to harness the potential of demographic dividend (Bloom *et al.* 1998, 2007; Economist 2002; Mason and Lee 2006). In this context, an important question arises: Is India currently having adequate and appropriate mechanism in place to absorb the potential gains in the form of demographic dividend or is India getting older before getting rich? An empirical insight is necessary to seek answers to this question. This warrants us to address the following research questions:

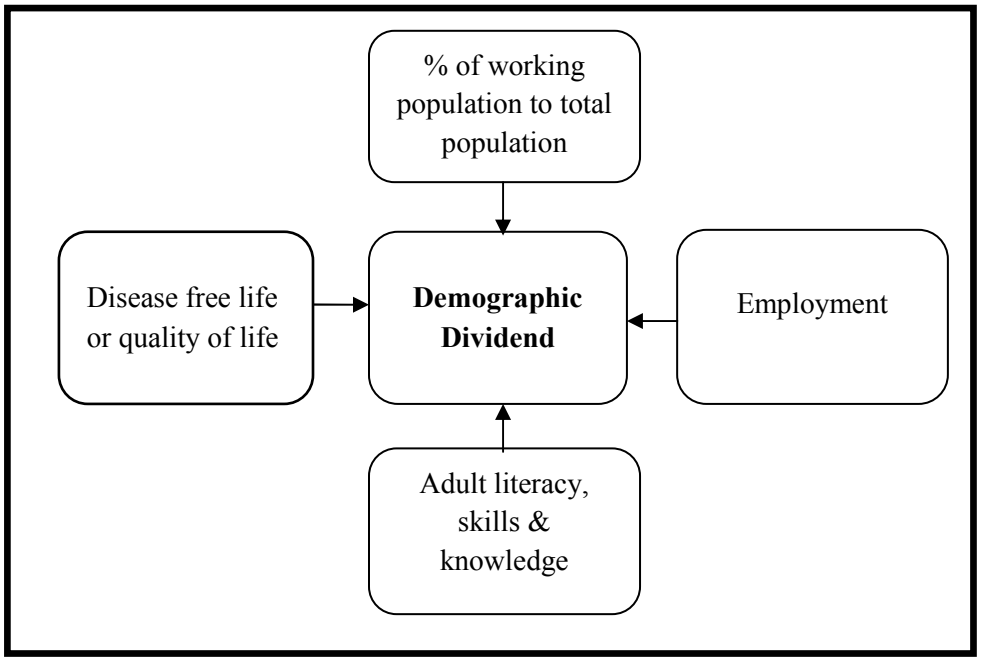
1. Demographic windows of opportunity period: where it starts and how long it continues for India?
2. Can India reap its demographic dividend by raising employability, health and educational standards of labour force or is she wasting away her productive years?
3. What do we mean by rich? Will India be able to achieve the per capita income, living and health standards at par with developed world before she gets old?
4. How far is the policy environment conducive for exploiting the advantage of the window of opportunity provided by a relatively large and young workforce?

2. Data source and Methodology

The present paper used data from **1.** Actual and projected population provided by UN world population prospects, 2006 revision. **2.** Census population (1911-2001) provided by Census India. **3.** Employment data provided by the Directorate General of Employment and Training, Ministry of Labour & Employment, Government of India. **4.** Compiled data from the statistics released by: Institute of Applied Manpower Research. **5.** Gross National Capital Formation data provided by Central Statistical Organization **6.** Health and wellbeing indicators provided by World Health Organization (2007), National Family Health Survey (2005-06). **7.** Summary development measures for cross country comparison from Human Development Report (HDI), 2007-08; United Nations Population Division and World Development Indicators database, World Bank, 7 October, 2009.

Conceptual Framework: Before probing into the phenomena of '*India getting older before getting rich'* there is a need to understand two aspects. First, what factors determines that a country is in a position to reap its demographic dividend? Second, what is the position of India in those indicators which determines the demographic dividend? To understand this verity, the present paper uses the following conceptual framework which indicates the determinants of demographic dividend.

Figure 1: Key determinants of demographic dividend



Despite the demographic determinism that characterizes the work of those who emphasize the significance of demographic dividend with increasing working population, many of them also admit that the benefits of the "window of opportunity" created by population bulge may remain underexploited (Bloom & Canning, Ladusingh & Bhuyan, 2006; Chandrasekhar, Ghosh & Roychowdhury, 2006; Lee & Meson; 2004). To quote analysts David Bloom and David Canning, "both empirically and theoretically there is nothing automatic about the link from demographic change to economic growth. Changes in age distribution merely create the potential for economic growth. Whether or not this potential is captured depends on the policy environment" (Economist, 2002).

Figure 1 indicates the critical pre-requisites for exploiting the advantages of demographic bonus. Along with large working population, conditions such as adult literacy, employment opportunities and the quality of physical and social life are also needed to ensure demographic dividend. Only rise in working population will not result into demographic dividend, unless this opportunity is used to obtain economic gains by improving the employability and quality of labour force. The real problem lies in the use of the notion of dependency ratio, usually defined as the ratio of the non-working age to working-age population rather than the ratio of non-workers to workers. The difference between the two is determined by the extent of absorption into workforce of the available labour force, which takes into account the unemployment and underemployment. This difference explains why some countries are able to exploit the demographic advantage while others are not (Economist, 2002; David Bloom and David Canning, 2003, 2007). Demographic assessment can only give a vivid picture of age transformation. Therefore, it is necessary to go beyond demographic characteristics, taking into account the socio-economic transformations and policy environment to assess the process of reaping demographic dividend.

3. Results

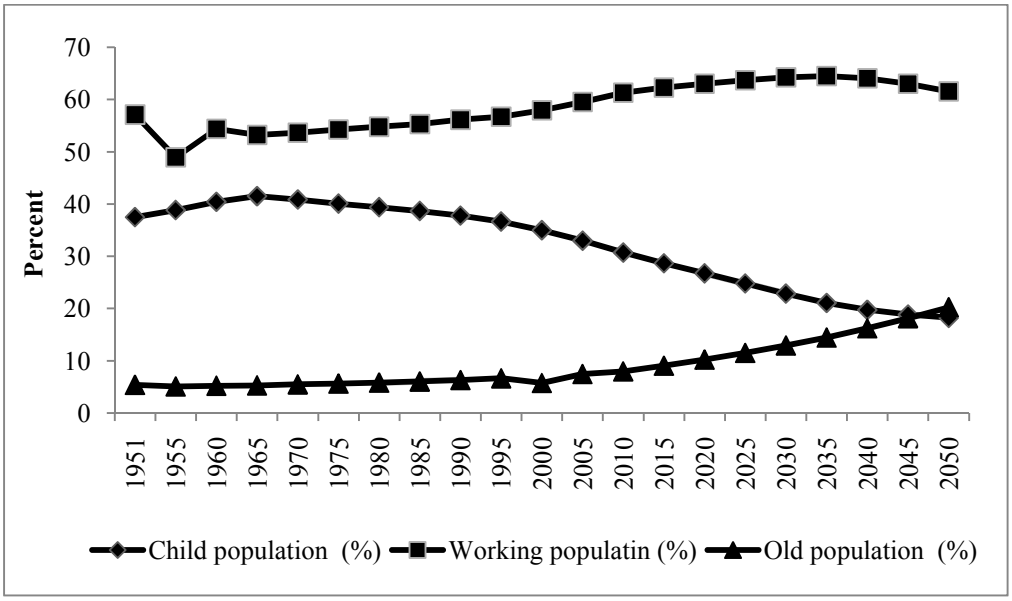
3.1. *Demographic Windows of opportunity in India: where it starts and how long it will continue?*

UN 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'.* In ordered predict the time point where India is entering into the period of demographic window, the basic links between fertility levels, age structure and dependency ratios has been analysed based on UN world population prospects, 2006 revised data

which provides age-sex structure data for all the UN member countries from 1951-2050 at five year interval. For India, until year 2005 it provides actual data and from 2010 to 2050 the projected data.

The trends of population in three age groups in India from 1951 to 2050 are shown in Figure 2. It provides notable findings regarding age structure of Indian population in past, present and future. The child population (0-14 years) is continuously decreasing and after 2045 the old age population (above 60 years) is over taking child population in their size. The working population (15-59 years) is rising up to 2035 and thereafter it is showing a declining trend.

Figure 2: Percentage of child, working and old population in total population, India; 1951-2050



Note: 1951-2005 shows actual values and 2010-2050 shows projected values
Source: United Nations Department of Economics and Social Affairs/ Population Division World Population Prospects: The 2006 Revision, Volume 1: Comprehensive Table

Contrary to recent arguments of the economists and demographers (Chandrasekhar, Ghosh & Roychowdhury, 2006; Lee & Meson; 2004; Ladusingh & Bhuyan, 2006), the UN projections are showing only two percent rises in working population from 2005 to 2050. On other hand, the rise in old age population is almost 13 percent from 2005 to 2050. A comparative analysis of the trends of three age groups shows that the bulge in the working age group for India will start shrinking after 2040**.** Usually demographic transition gives 35 to 45 years of demographic windows of opportunity (UN Commission on Population and Development). However, in case of India it is

offering only 30 years of demographic bonus which largely contradicts the optimistic perspective about the upcoming demographic advantage for India.

The trend of dependency ratios in India from 1951 to 2050 presented in table 1 clearly shows that though the child dependency ratio is decreasing from 55 percent in 2005 to 30 percent in 2050, in the same period the old age dependency is rising from 13 percent to 33 percent. The total dependency, which is decreasing until 2040, starts rising thereafter. However, the definition of demographic dividend pre-supposes the fact that the child dependency and old age dependency should be below 30 and 15 percent respectively. In case of India, until 2015 old age dependency ratio will be under 15 percent but there after it will rise while the child dependency ratios will still be at 46 percent and until 2040 the child dependency will remains above 30 percent. Only after 2040 one can expect child dependency ratio falling below 30 percent. However, by 2040 the old age dependency is rising as high as 25 percent causing an increase in overall dependency ratio. This will create hindrance in reaping the demographic bonus.

However, the age dependency is not a reliable estimate of actual dependency (Bloom & Canning, 2003). It is a crude measure of dependency ratio. In this context, the present paper estimated dependency of workers to non-workers[3]. A comparative assessment of age dependency and dependency of workers to non-workers shows a huge underestimation of dependency in the former because all population in working age groups are not actually earning. The range of underestimation varies from 16 percent in 1985 to 10 percent in 2005 (Table 1).

[3] Based on availability of data on Workers and Non-workers in all age groups, the present study estimated workers to non-workers ratio for only five periods during 1985-2005.

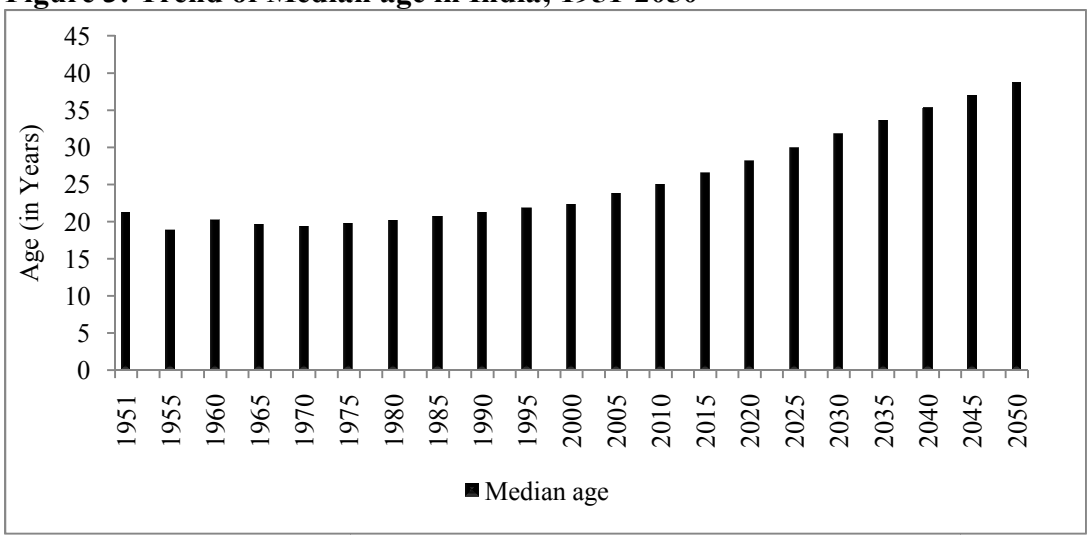
Table 1: Trends in Child dependency ratio, Old dependency ratio and Total dependency ratio in India, 1951-2050

Years	*Child dependency ratio*	*Old dependency ratio*	*Total dependency ratio*
1951	65.6	9.4	75.1
1955	79.4	10.4	89.8
1960	74.3	9.6	83.9
1965	78.0	9.9	87.9
1970	76.1	10.2	86.3
1975	73.9	10.4	84.2
1980	71.9	10.6	82.5
1985	69.9	10.9	80.8(96.9)
1990	67.3	11.2	78.5 (91.0)
1995	64.6	11.7	76.3(85.5)
2000	60.4	9.9	70.3(80.4)
2005	55.4	12.5	67.9(78.9)
2010	50.1	13.0	63.1
2015	46.0	14.5	60.5
2020	42.4	16.2	58.6
2025	38.9	18.0	57.0
2030	35.6	20.1	55.7
2035	32.7	22.4	55.1
2040	30.8	25.3	56.1
2045	29.9	28.8	58.7
2050	29.6	32.9	62.5

Note: the figures in () shows dependency ratio of workers to non-workers adjusted for unemployment rate.
Due data constraint this ratio has not computed prior to 1985.
Source: Estimated United Nations Department of Economics and Social Affairs/ Population Division World Population Prospects: The 2006 Revision, Volume 1: Comprehensive Table. NSSO rounds (1983-2005) information on worker and non-workers has been used as adjustment factors in computation of dependency ratio of workers to non-worker

Evidences show that the median age of Indian population is increasing to 35 years and above after 2040 which strongly argues for the fact that India will become old and come out of her windows of opportunity period after 2040 (Figure 3). All these substantiations make a wakeup call indicating that India should fulfill her dream of becoming an economic super power of the world in the stipulated period of 30 years from now.

Figure 3: Trend of Median age in India; 1951-2050



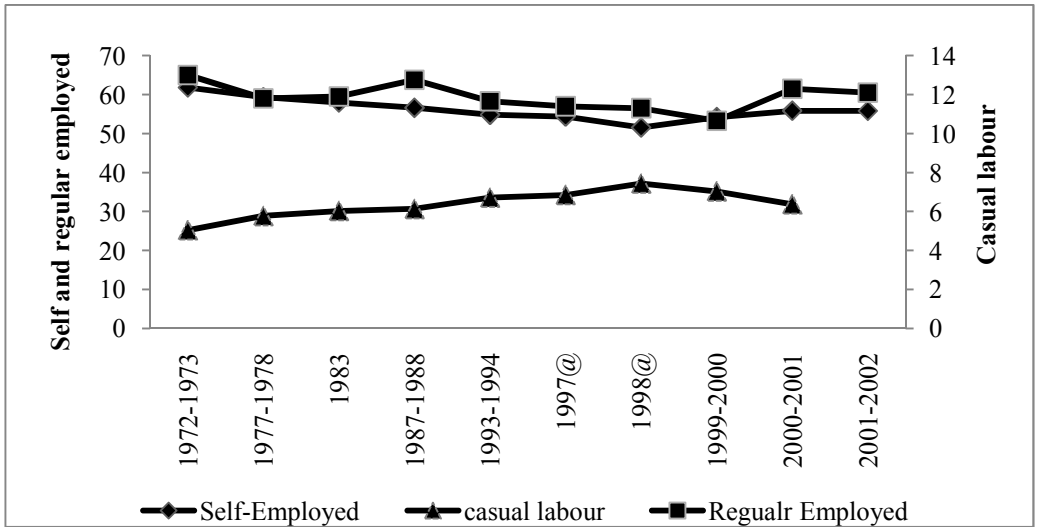
Source: Estimated from table 2

3.2. *Can India reap its demographic dividend by increasing employability, health and educational standard of labour force to the working population or is she wasting away their productive years?*

The concept of demographic dividend mainly connotes the gains in economic growth as result of the increase in the share of working age population relative to their non-working counterparts. The conceptual framework discussed earlier in this paper points out some of the important determinants of demographic dividend; such as percentage of working population to total population, employment rate, adult literacy rate and disease free life expectancy. The future of the Indian economy mainly depends on the progress of these indicators. Detailed examination of these indicators is crucial to predict 'whether India is going to harvest her demographic dividend or is she wasting away the productive years'?

3.2.1 *Employment scenario*: Employment, one of the critical determinants of demographic divided has been assessed for India in this section. It is evident from the results that all the three status of employment (self and regular employed and causal labour) have not shown any significant rise until 2000-2001 and have actually registered a downward trend in the recent year (2001-2002). The noticeable point in this analysis is that over the years the causal labour has not increased much and after 1990-2000 it is significantly coming down along with the regular fall in self and regular employed (Figure 4).

Figure 4: Status of percentage of self and regular employed and casual labour in India: 1972-73 to 2001-02

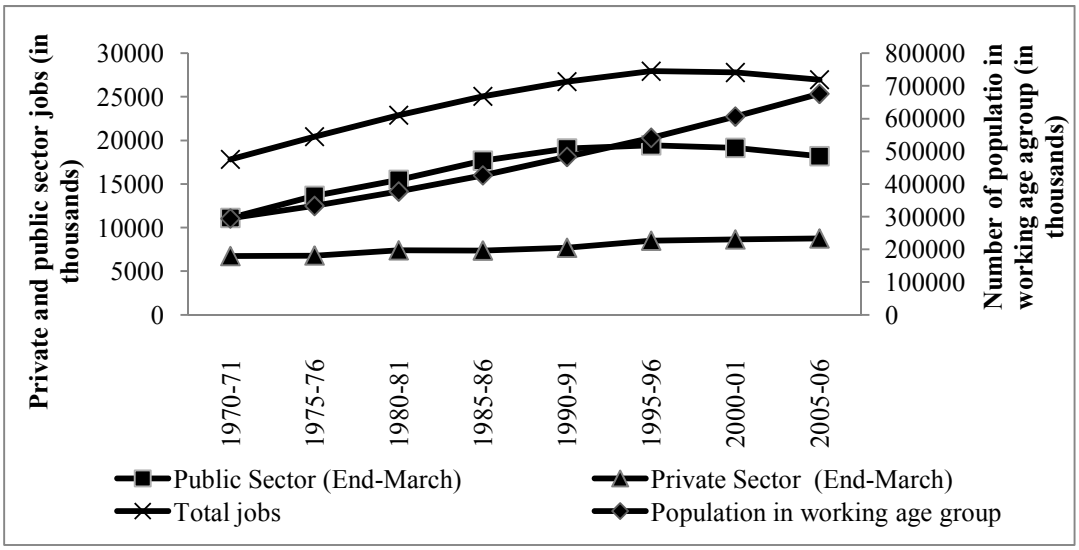


Note: figures relate to usual status of individual workforce covers those involved in gainful activity regularly +those gainful activities occasionally.
@: The results of 1997, 1998, 2000-01 & 2001-02 (53rd, 54th 56th & 57th Rounds respectively) are based on these samples.
*: The estimates correspond to the period January-June, 1998.
Source: Compiled from the statistics released by: Institute of Applied Manpower Research

The employment in public sector which increased up to 1995-96 has not changed much over the past three decades. Private sector has also not experienced any significant growth in employment; it shows only two percent rises in the last three decades. The employment opportunities available in both the sectors have failed to absorb the population in working age groups which increased by almost 10 per cent in the same period (Figure 5). The trend line of jobs in public sector has a curvilinear shape; increasing up to 1990-91, and registering a declining trend thereafter. The tendency of total job availability in private sector also illustrates the same relationship; except that the declining trend started little later in 1995-96. It was expected that after Liberalisation, Privatisation and Globalisation (LPG) policies in 1991[4] the rise in jobs in private sector would compensate for the decline in public sector jobs but the private sector has virtually failed to accommodate the growing labor force in India.

[4] It was claimed that the LPG policies of deregulation and opening up of the economy to foreign capital and commodity imports, accompanied by a process of privatization and withdrawal of the state to make *way* for the "efficient" private sector, would unleash the inherent dynamism of the economy and that rapid growth, greater employment will follow.

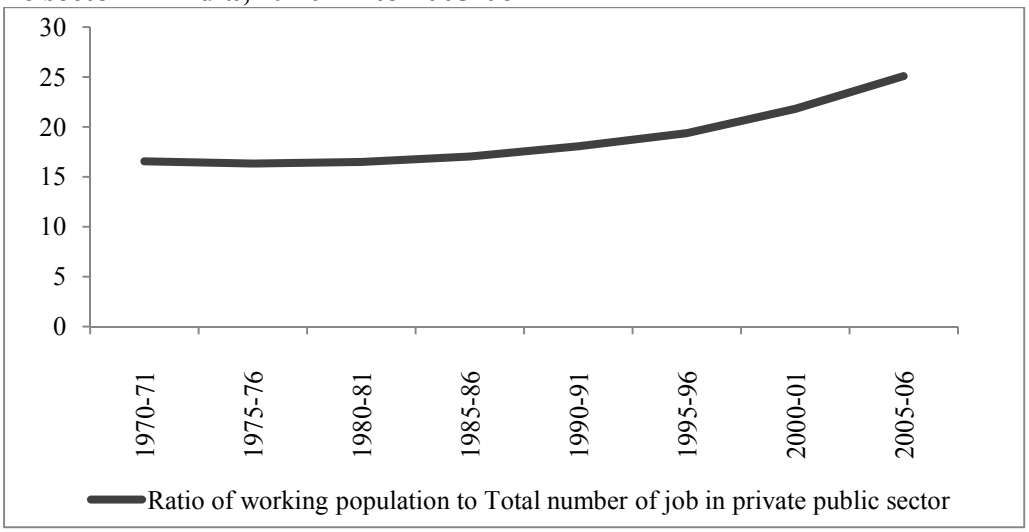
Figure 5: Trends of working age group population and public and private jobs in India; 1970-71 to 2005-06



Note: Data from 1990-91 to 1998-99 and for 2002-03 onwards are based on Quarterly Employment Review.
Source: Directorate General of Employment and Training. Ministry of Labour & Employment, Government of India

The ratio of working population to the number of jobs available is estimated for a better understanding of the relationship between jobs available in private/public sector and working population (Figure 6). There is a reverse curvilinear relationship between these indicators. The ratio of available jobs to working population which was 1:17 in 1970-71 rose to 1:25 in 2005-06. This is expected to rise further because the Agriculture sector is projected not to generate any increase in employment during the eleventh plan period (Eleventh Five Year Plan Document, 2010). The employment in establishments covered by Employment Market Information System (EMIS) of the Ministry of Labour also shows that the employment in organized sector which grew at 1.2 per cent per annum during 1983-1994 decelerated to -0.3 per cent per annum during the recent round of National Sample Survey (NSS) in 1994-2004, mainly due to the slump in public sector jobs.

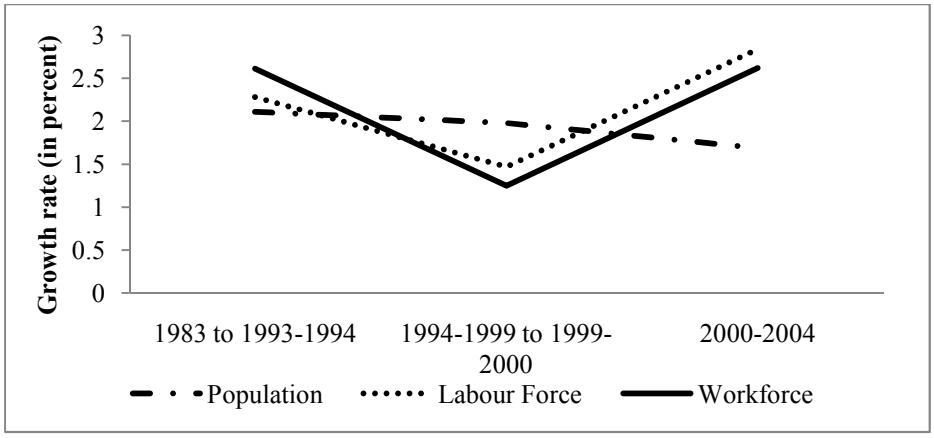
Figure 6: Trends of ratio of working population to total number of job in private and public sector in India; 1970-71 to 2005-06



Source: Estimated from figure 6

The graphical representation of the relationship between growth rate of labour force and work force in India from 1983 to 2004 clearly indicates that the work force which was higher than the labour force until 1994 has dropped subsequently. On the other hand, from 1994 onwards the labour force has quickly risen above the work force (Figure 8). Since then the work force is unable to catch the rising labour force. This is an obvious indication that India is failing to accommodate her rising labour force into work force.

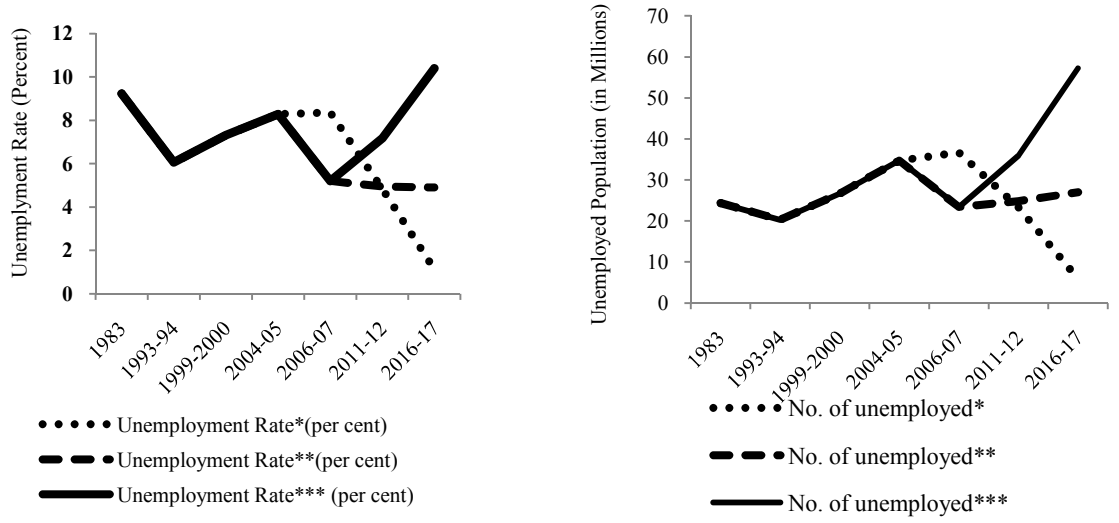
Figure 7: Growth rate of population, labour force and workforce (in percent), India; 1983-2004



Source: 11th five year plan estimate of Employment and Unemployment in million person years (By CD basis) for NSSO rounds 1983, 1993-94, 1999-2000, 2000-2004

Figure 8 presents actual and projected estimated of unemployed population and unemployment rate in India during 1983-2017. Actual estimates unemployment rate shows a decreasing trend from 1983 to 1993-94, rises thereafter until 2004-05. However, projected estimated with different variants of Gross Domestic Product (GDP) growth are showing different scenarios. With lower variant of GDP growth unemployment increasing dramatically but with higher variant of GDP growth rate the unemployment decreases. This indicates that if India can able sustain 7 plus GDP growth rate; can curtain the employment rate. However, projected employment estimates based on GDP growth rate are much realistic and reliable because increasing capital intensive industries may not absorb expected level labour force. Currently in absolute number, more than 35 million working population in India are unemployed which amounts to as high as eight percent of the total working population. This number is very high as compared to other developed and developing countries (World Bank, 2007).

Figure 8: Unemployment rate and unemployed population in India; 1983-2017

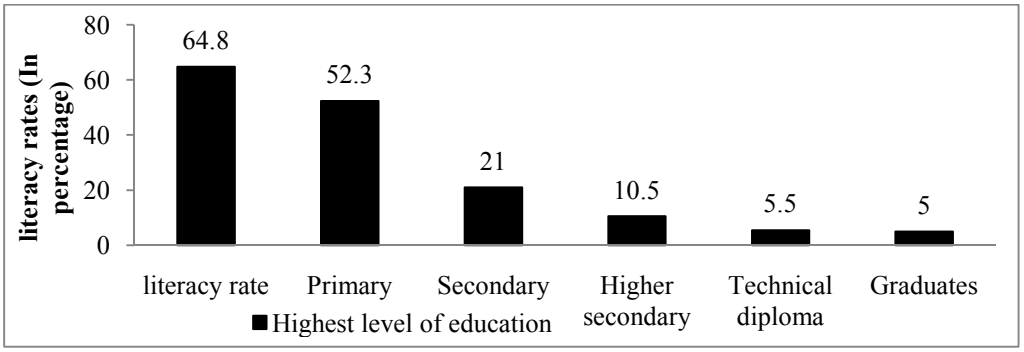


Note: Variants are *9 percent; **7 percent g; *** 5 percent growth in GDP
Source: 11th five year plan estimate of Employment and Unemployment in million person years (by CDS basis) based on data from NSSO rounds 1983, 1993-94, 1999-2000, 2000-2004. Planning Commission estimates of employment and unemployment (projected) based on GDP growth rate, 2011-12, 2016-17.

3.2.2 *Adult literacy:* India is poised on the edge of a precipice - our undeniably unique demographic situation can either be an unparalleled dividend or absolute disaster. And the pivot upon which the fate of the nation hangs in balance is Literacy rate. As mentioned in earlier

sections that adult literacy[5] is an important pre-requisite for reaping demographic dividend. Appendix 2 shows estimates of percentage of literates from census data of 1961 to 2001. Here, our main focus is on literacy rate of working age population, rather on the literacy rate of all age group population. Reports published by Census Commission of India shows that the literacy rate in the age group 15 years and above in 2001 is only 61 percent which is very less as compared to East Asian countries that benefited from demographic advantage (HDR, 2007). Detrimental situation is that in the same year, the literacy rate of age group 35 years and above is only 49.9 percent. This population will be an impediment for economic growth, both as a working population and aged population for more than next three decades, however, by that time India will be passing out from demographic window period.

Figure 9: **Literacy Rates by highest level of education, India; 2001**



Source: Computed from Registrar General and Census Commission India, Census, 2001

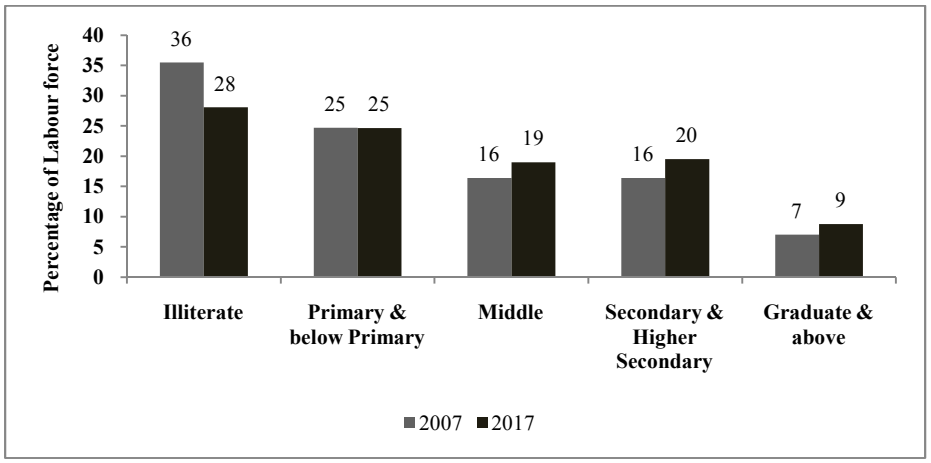
Additionally, the deplorable educational status of India in clearly indicated in Figure 9, where 52 percent of total literacy rate (64.8 percent) belongs to primary level. Primary and secondary comprises more than 73 percent, however, until senior secondary education, Indian education curriculum do not have skill and vocational learning (MoHRD, 2009). The level of vocational skills of labor force in India is less as compared to other countries (World Bank, 2007). Only five percent of the Indian labour force in the age group 20-24 years has vocational training as compared to 96 percent in Korea and varying between 60-80 percent in other industrialized countries (skills2020.team-for-iti.org/.../BlueBook_CreatingSkillsForIndia.pdf 2009). Result indicates that only 21 percent have more than secondary level of education, out of which 10.5 percent have

[5] Adult Literacy is defined as the literacy in 15 to 59 years which plays an important role in transforming the youthful population into productive workforce.

completed senior secondary, 5.5 percent technical training, and diploma and five percent are graduates.

Functional literacy and skill development are crucial for reaping demographic dividend. However, evidences reveal that proportion of unskilled labour force in India is one of the highest in the world (World Bank, 2007). Figure presents actual and projected estimates of labour force by educational levels. From the results it is clearly evident that between 2007 and 2017 there will not be any significant improvement in the higher educational status of labor force in India. More importantly, even by 2017 the proportion of illiterate labor force in India will remain as high as 28 percent. It is this dimension of the problem that would make the demographic dividend arising from an increase in the share of working age population into demographic burden if not a disaster. To metamorphose this demographic burden has into demographic dividend; India's policy makers must undertake properly conceived and well-designed policy interventions for improving functional literary and skill formation.

Figure 10: Percentage distribution of Labour force by educational level in India, 2007-2017

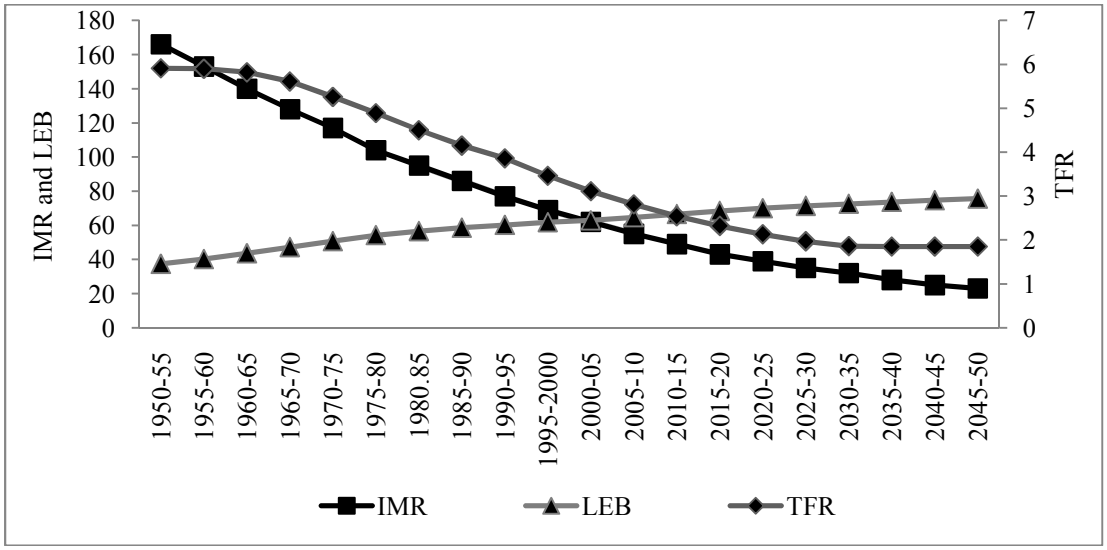


Source: Computed and Projected by National Commission for Enterprises in the Unorganized Sector; Ministry of Small Scale Industries, Government of India, 2007

3.2.3 *Health status:* Health status is an important determinant of quality of life, which is a critical pre-requisite for obtaining demographic dividend for any country. An increase in life expectancy which is regarded as a proxy for population health has a number of potential economic effects. By 2020 India will be reaching the replacement level fertility; however there will not be substantial

achievement in case of Infant Mortality Rate (IMR)[6] and Life Expectancy at Birth (LEB)[7], which are reaching 39 and 70 respectively (Figure 10). UN projections (2006) also indicate that India's fertility reaches the club of low fertility nations[8] by 2030-2035. However, these estimates also suggest that by 2050, the progress in LEB will stabilize around 75 years which is very low as compared to other developed countries. The progress in IMR which is reaching 20 in 2050 is also not satisfactory as compared to the developed countries (HDR, 2007).

Figure 11: Trends in IMR, Life Expectamcy at Birth and TFR in India; 1950-55 to 2040-50



Source: United Nations Department of Economics and Social Affairs/ Population Division World Population Prospects: The 2006 Revision, Volume 1: Comprehensive Table

Table 2 presents the assesment of the health status in selected[9] health indictors for middle and old age population of India. The unadjusted life expectancy for India is around 65 years which drops

[6] IMR is a sensitive indicators often used for measuring health status of the any given population. It is one of the critical Millennium Development Goal.

[7] LEB is an indicator of health often used as a representative of average health status of the population and is termed as summary measure of health.

[8] By 2030-2035, India's fertility will be less than 2 with medium variant projection estimations and even reaching 1.5 with low variant projection estimations of United Nations Population Prospects 2006.

[9] Health status indicators have been selected based on prolonged illness. Long lasting diseases are potential hindrance for economic growth and creates economic burden for households. Barely an increase in length of life (life expectancy) may not truly be beneficial for economic growth. Therefore, recent health policy prospective not only focuses on increasing life expectancy but also on quality of life and healthy life expectancy.

down to 54 years after adjusting for the years wasted in disease and ill health. It clearly indicates that the degenerated diseases which mostly effect middle and old ages of human life are important in analyzing the quality of life and workforce. The lesser the effect of these diseases, higher will be the quality and efficiency of the work force. However, India is having a huge burden of these diseases. High prevalence of long lasting disease like HIV/AIDS, T.B., Asthma, diabetes among the population in working ages is certainly going to adversely affect the quality of workforce in the country which in turn will jeopardize the process of harnessing demographic dividend.

Table 2. Selected health status indicators, India

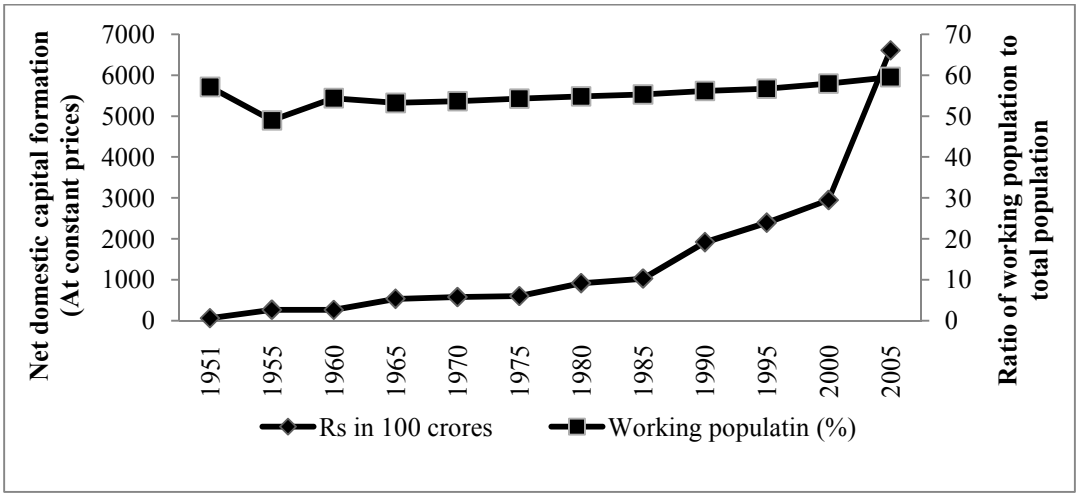
Health Indicator	Status
Life expectancy (SRS;2007)	64.8
Healthy life expectancy (HALE) WHO; 2004 estimate	53.5
Estimated adult HIV prevalence rate (aged 15-49 years), WHO; 2007 estimate	0.3
Estimated number of people (all ages) living with HIV, (thousands), WHO; 2007 estimate	0.24
TB prevalence per 100000 (aged 15-49 years), NFHS-3; 2005-06	445
Asthma per 100000 (aged 15-49 years), NFHS-3; 2005-06	4977
Diabetes per 100,000 (aged 15-49 years), NFHS-3; 2005-06	2669

3.3. *What do we mean by rich? Will India catch the living and health standards of developed world before she gets old?*

In order to answer this question it is mandatory to know as to what we mean by rich. The probable answer will be achieving the per capita income, living and health standards of the presently developed world. A comparative analysis of India with the selected developing and developed countries in terms of their per capita income, living and health conditions will tell us where India actually stands at present.

The assessment of an association between trends of population growth in working age group and net domestic capital formation shows that although there is no significant improvement in working age population, the domestic capital formation has increased steadily. This reinforces the argument that for economic growth, it is not the size but the enhancement in the quality of working population and technological advancement in production that contributes to the rise in net domestic capital formation.

Figure 12: Trends of net capital formation and ratio of working population to total population, India; 1950-2005



Source: 1. Net domestic capital formation is taken from Central Statistical Organization (CSO)
2. Proportion of working population is estimated from table 2

India has been compared with China and United States of America (USA) in terms of their economic, health and demographic progress to analyse where India actually stands with regards to the standards set by these countries. This comparison will also aid in understanding the strengths and weaknesses of India in harvesting demographic dividend.

Table 3: Selected determinants of demographic dividends in India, China and USA

Selected determinants of demographic dividend	India	China	United States of America
Proportion of working population			
Adult Illiteracy (Percentage) 2007-2008*	39	9.1	0.6
Unemployed population (thousands) 2007-2008*	16,634	8,390	7,007
Growth Rate of Economy (1990-2007)*	4.5	8.9	2.0
GNI PPP (US$, 2007-08)	2960	6020	46970

Source: * Human Development Report (HDI), 2007-08; United Nations Population Division (UNDP)
@: World Development Indicators database, World Bank, 7 October 2009 2

A comparison of India with USA and China in terms of socio-economic and demographic status clearly indicates that India lags way behind the two countries in all the selected indicators. In India as high as 39 percent of adults are illiterate as compared to 0.6 and nine percent in USA and China respectively. The unemployment situation also presents a similar picture. India has two times

higher unemployment rate in comparison to USA and China. The positive prospective for India is its present economic growth. In spite of greater economic growth in India the Gross Nation Income (GNI ppp) is 16 and 2 times less compared to USA and China respectively (Table 3). What the results presented here underline is the uncomfortable fact that India lags behind USA and China in terms of all the selected critical determinants of the demographic dividend and economic progress.

Table 4: Selected summary measures of the development for India, China and USA

Human Development Index rank (HDI)*	134	94	13
Human poverty index (HPI 1) value in percent *	31.3	11.7	15.4
Education development index value (EDI) 2007*	0.64	0.85	0.96
GDI rank (Gender Development Index) 2007*	114	75	19

Source: * Human Development Report (HDI), 2007-08; United Nations Population Division (UNDP)

In human development perspective, the country's richness not only depends on its per capita income but also on wider aspects of development. Table 4 shows comparison of selected summary indicators of the socio-economic and demographic progress between India, China and USA. Evidences suggest that in all the selected summary indexes (Human Development Index, Human Poverty Index 1, Educational Development Index and Gender Development Index) India lags behind USA and China. In order to enter club of developed countries India needs to improve her status in these indicators.

Table 5: GDP Projections for India, China and USA

Name of the country	*(Actual in billion US$)*	*Estimated Projection for (billion US $)*				
	2008	*2009*	*2010*	*2011*	*2012*	*2013*
USA	14,802	14,802	15,173	15,552	15,941	16,339
China	4,717	5,141	5,604	6,109	6,658	7,258
India	1303	1407	1520	1642	1773	1915

Source: IMF, World Economic Outlook Database, October

Table 5 indicates the projected GDP for India, USA and China. Results indicates that the GDP income gap between India and USA; and India and China, which was 1:10 and 1:4 in 2008, is projected to reduce only by one percent by 2013 and become 1:9 and 1:3 respectively. In this context, it is difficult to give a certainty that India will become rich before she gets older, unless, there is some radical shift in policy environment to trap the demographic dividend.

3.4. *How far policy environment is conducive for exploiting the advantage of the window of opportunity provided by a relatively large and young workforce: 11th Five year plan*

For trapping demographic dividend in India, the Eleventh Plan relies not only upon ensuring proper health care but also gives major emphasis on skill development and encouragement of labour intensive industries. It recognizes the need to increase the share of regular employees in total employment and a corresponding reduction in casual employment. The employment generation strategy of the Eleventh Plan is predicated to reduce underemployment and move surplus labour in agriculture sector to higher wage and more gainful employment in non-agricultural sector since agriculture sector is projected to generate no increase in employment during the plan period. Such an effort is necessary to support the employment expansion envisaged as a result of inclusive growth including in particular the shift of surplus labour from agriculture to non-agriculture.

However, same eleventh plan five year plan also spelt out certain deficiencies in the skill development scenario in the country as it exists presently. The staggering shortage of a skilled and educated workforce, which is clearly an educational lag, needs to be urgently addressed particularly when we consider that at this moment India is a young country with majority of its population under 35 years. The gap between the supply and demand of an educated work force is approximately 10 million people and it is set to grow. If our population fails to match the international standards of quality in a knowledge based global economy then we are going to be left aside. Hence it is important to fix the gaps in educational system now, so that India can reap an educational and ultimately economic dividend that will be enough to catapult India to super power status. The growth in various sectors of the economy can be achieved smoothly only if it is supported by appropriate skill development programmes at various levels.

4. Conclusion

Employing the concept of "getting old before getting rich" this paper systematically points out the challenges that India will have to face in the process of reaping anticipated demographic dividend rather than taking either a pessimistic or optimistic approach. The phenomenon is a relative concept which is postulated from the basis of comparison of the levels of socio-economic development between developed and developing countries which are ageing. The phrase serves as a reminder: "getting old before getting rich" call constant attention to current situation of the country as we try to resolve various problems concerning population ageing.

The eleventh plan document rightly points out that if we get our skill development act right, we will be harnessing a "demographic dividend". However, if we fail to create skills and employability we could be facing a "demographic nightmare". In this context this study logically points out the strengths and weaknesses of India in the process of harvesting its demographic dividend.

Great strength of India lies in its working population because in the near future India is expected to account for 25 percent of the global workforce. Low dependency ratio gives India a comparative cost advantage and a progressively lower dependency ratio will result in improving her competitiveness. The decreasing burden of child dependency will also give India a great advantage for reaping demographic dividend.

However, the growing population in working age group may not be resulting into work force unless they are modified into skilled labour and absorbed into workforce. The estimation of the ratio of workers to non-workers clearly points out the huge underestimation in the usual estimates of dependency. India also suffers with few other weaknesses such as growing unemployment, low adult literacy, and very low higher, technical and skilled education. Though the life expectancy of India is showing some improvement, still it is very low as compared to developed countries. Moreover, the healthy life expectancy for India is squat resulting from high burden of disease in older ages. This puts tremendous pressure on younger population physically and financially. Additionally, India faces a major deficit in the areas of education and health which can adversely affect the conversion of growing labour force into an effective workforce.

Based on the results, this paper also raises intriguing questions on the crudeness of UN estimation of dependency in case of developing countries like India. India suffers heavily with poor life expectancy, undernourishment and multiple burden of diseases right from ages less than 50 years. In estimation of dependency, it is appropriate to count it from 55 plus instead of 65 years or 60 plus (UN emphasis), because the healthy life expectancy for India is only 53.5 years as against average life expectancy of 67 years. To this we must add that in India, the poor nutritional status makes early physical setback, low adult literacy and decreasing public sectors employment poses socio-economic security problems, these all together makes an early initiation of ageing burden for India.

Strategies need to be adopted and implemented to exploit the demographic window of opportunity that India would experience from 2015 onwards. In addition, the challenges of meeting a range of goals related to education, employment and health are bound to grow. Before the bulge in age-sex structure of population begins to shrink, it is critical that economy should create productive and sustainable jobs for the young. Focusing on the automatic "gains" to be delivered by the demographic dividend may result in an under-emphasis of the efforts needed to meet the new challenges (aging burden) that are the result of the current phase of the demographic transition. India will have to negotiate on these issues circumspectly; otherwise, India will get old before getting rich.

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Appendix 1: Trends population in different age groups in India; 1951-2050 (In thousands)

Year	*1951*	*1955*	*1960*	*1965*	*1970*	*1975*	*1980*	*1985*	*1990*	*1995*
Age group	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
All ages	371857	405529	445981	493868	549312	613767	688575	771121	860195	954282
0-4	53516	66678	72625	78830	85315	93201	102815	111565	119525	126920
5-9	44238	48374	60865	67082	73696	80616	89052	98787	107847	116069
10-14	41634	42449	46681	59028	65388	72208	79337	87847	97650	106740
Child Population (%)	**37.48**	**38.84**	**40.40**	**41.50**	**40.85**	**40.08**	**39.39**	**38.67**	**37.78**	**36.65**
15-19	38004	40090	41138	45501	57838	64369	71323	78501	87026	96769
20-24	34003	36280	38580	39881	44362	56679	63310	70279	77470	85904
25-29	30033	3271	34659	37187	38708	43321	55606	62252	69215	76286
30-34	26619	28180	30510	33205	35938	37695	42430	54621	61249	68081
35-39	23206	24720	26468	28980	31875	34831	36802	41572	53626	60142
40-44	20361	21286	22951	24875	27572	30666	33800	35864	40621	52448
45-49	16299	18360	19443	21237	23336	26202	29445	32623	34727	39405
50-53	14081	14338	16386	17601	19507	21733	24694	27928	31077	33171
55-59	9812	11960	12389	14390	15695	17640	19911	22806	27954	29003
Working Population (%)	**57.12**	**48.94**	**54.38**	**53.22**	**53.67**	**54.28**	**54.80**	**55.30**	**56.15**	56.71
60-64	8386	7890	9803	10335	12206	13515	15421	17584	20320	23305
65-69	4742	6231	5983	7582	8141	9782	11032	12756	14729	17222
70-74	3555	3156	4259	4191	5434	5955	7316	8384	9841	11532
75-79	2023	2022	1853	2577	2600	3454	3883	4868	5692	6817
80+	1346	1346	1388	1386	1700	1898	2399	2884	3627	4467
Old Population (%)	**5.39**	**5.09**	**5.22**	**5.28**	**5.48**	**5.64**	**5.82**	**6.03**	**6.30**	6.64
year	**2005**	**2010***	**2015***	**2020***	**2025***	**2030***	**2035***	**2040***	**2045***	**2050***
Age group	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
All ages	1134403	1220182	1302535	1379198	1447499	1505748	1554182	1596719	1631920	1658270
0-4	126894	126556	124876	121456	116044	109587	104124	103401	101640	98485
5-9	124494	124552	124624	123284	120150	114970	108703	103475	102755	101077
10-14	122755	123701	123886	124058	122806	119742	114617	108396	103202	102503
Child Population (%)	**32.98**	**30.72**	**28.67**	**26.74**	**24.8**	**22.87**	**21.07**	**19.74**	**18.85**	**18.22**
15-19	114126	121986	123050	123323	123569	122384	119375	114290	108101	102933
20-24	104612	113071	121070	122269	122647	122973	121858	118901	113859	107710
25-29	94067	103234	111853	119984	121329	121817	122232	121188	118296	113320
30-34	82978	92459	101748	110492	118743	120235	120841	121350	120398	117601
35-39	73400	81339	90870	100243	109083	117433	119259	119780	120394	119553
40-44	65196	71731	79701	89264	98687	107605	116020	117768	118610	119340
45-49	57040	63366	69934	77930	87497	96955	105916	114367	116240	117217
50-53	48777	54824	61156	67746	75734	85276	94718	103673	112134	114148
55-59	35403	46011	52000	58300	64862	72792	82225	91569	100460	108892
Working Population (%)	**59.56**	**61.3**	**62.29**	**63.05**	**63.71**	**64.25**	**64.5**	**64.06**	**63.02**	**61.55**
60-64	28206	32141	42433	48269	54436	60884	68635	77811	86936	95667
65-69	22689	24674	28655	37833	43363	49256	55433	62828	71561	80305
70-74	16087	18535	20420	24021	32036	37464	42467	48169	54985	63026
75-79	9858	11840	13894	15559	18589	25122	29411	34082	39053	45006
80+	7820	9889	12365	15169	17924	21561	28459	35671	43296	51486
Old Population (%)	**7.46**	**7.96**	**9.04**	**10.21**	**11.49**	**12.9**	**14.44**	**16.19**	**18.13**	**20.23**

Note: 1951-2005 actual values and 2010-2050 (*) projected values

Source: United Nations Department of Economics and Social Affairs/ Population Division World Population Prospects: The 2006 Revision, Volume 1: Comprehensive Table

Appendix 2: Trends of Percentage of Literates by Age Groups in India

Age group (years)	1961	1971	1981	1991	2001
15-19	38.4	51.3	55.4	65.8	79.29
20-24	33.6	44.7	52	57.8	73.23
25-34	28.5	34.8	45.1	50.8	64.52
35 & above	22.2	25.2	30.3	38.1	49.95
All ages	24	29.5	36.2	52.2	64.84
5 & above	28.3	34.5	41.4	52	64.88
10 & above	30.1	36.8	43.6	51.5	64.3
15 & above	27.8	34.1	40.8	48.2	61.0

Source: Computed From Registrar General and Census Commission India, Census, 1961, 1971,1981,1991,2001