ECONOMIC CONSEQUENCES DEMOGRAPHIC TRANSITION IN INDIA

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Abstract: This study examines the changes in the age structure of India's population by studying in detail the shift in each age distribution from 2002 to 20011.This study is based on the hypotheses that a slow but gradual decline in fertility and a rise in the expectation of life at birth have changed the age-sex composition of India's population; different age-cohorts have different demographic response to the impact of fertility and mortality change in the population, and change in the age-structure is more pronounced in the demographically developed states than demographically under developed states. The data are derived largely from Census 2011 and World Bank indicators 2012. The major inference is that the change in the India's age structure has been rather gradual till recently. The change is more visible in the 0-14 and 60+ than the productive age-group.

Demographic change in India is opening up new economic opportunities. As in many countries, declining infant and child mortality helped to spark lower fertility, effectively resulting in a temporary baby boom. As this cohort moves into working ages, India finds itself with a potentially higher share of workers as compared with dependents. If working-age people can be productively employed, India's economic growth stands to accelerate. Theoretical and empirical literature on the effect of demographics on labor supply, savings, and economic growth underpins this effort to understand and forecast economic growth in India. Policy choices can potentiate India's realization of economic benefits stemming from demographic change. Failure to take advantage of the opportunities inherent in demographic change can lead to economic stagnation.

INTRODUCTION

Population aging in industrialized countries has been identified as a central topic regarding future economic development. It has gained attention in academic research as well as in the public debate .In the theory of under population, over population and optimum population, under and optimum terms have been used in the context of role of population in the overall growth of the national income. And the age-group, which contributes to the growth of the national income, is 15-64, which is also called working age group or 'demographic bonus' or 'window of opportunity'. The age group below and above 15-59 is called dependent population, which produces little but consumes the savings of the working group and lowers the overall saving rates and growth rate.

The world experienced dramatic population growth during the twentieth century, with the number of inhabitants doubling from 3 to 6 billion between 1960 and 2000. India, too, saw very rapid population growth during this period from 448 million to 1.04 billion – and to 1.21 billion in 2010. The effect of past and projected future demographic change on economic growth in India is the main focus of this chapter. Figure 1 plots world population from 1950 to 2050, and shows the share of world population attributable to India; post-2010 data are United Nations (UN) projections. (Fig.1)

Figure 1
India's share of world population

Source: United Nations (2009).
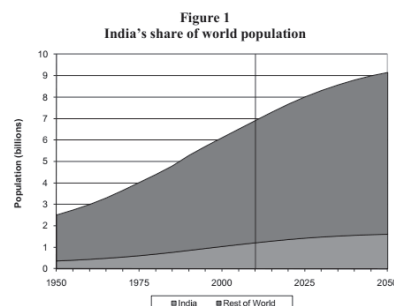
Global population grew at roughly 2% per annum from 1960-2000, a level that is unsustainable in the long term, as it translates into population doubling every 35 years. India's population is currently growing at a rate of 1.4% per year, far surpassing China's rate of 0.7%. The differential between India and China will result in India surpassing China with respect to population size in less than 20 years. While a cause for concern, global population growth has not met Malthus' pessimistic predictions of human misery and mass mortality. During the past few decades, rapid population growth has been accompanied by an unparalleled decline in mortality rates and by an increase in income per capita, both globally and in India.

India, now home to 1.2 billion people, is projected to overtake China in about a decade to become the world's most populous country [1] calls the share of India's population ages 50 and older relatively small at 16 percent, but notes that India will experience rapid growth among this age group. The United Nations Population Division projects that India's population ages 50 and older will reach 34 percent by 2050[2]. Between 2010 and 2050, the share 65 and older is expected to increase from 5 percent to 14 percent, while the share in the oldest age group (80 and older) will triple from 1 percent to 3 percent.

LITERATURE REVIEW

There have been number of studies showing the relationship of changing age structure and its implications on the economic growth. In a paper by K. Navaneetham (2004)[3] on South and South-East Asia, the author argues that since the advent of the "miracle economies" in East Asia, the role of age structure on economic growth has attracted the attention of researchers. Lee et. al. (1997)[4]. have also postulated that the 'demographic gift' has contributed significantly to the economic growth of East Asian countries. A Study by Asian Development Outlook (2012)[5] confirms that the demographic transition in East Asian countries has played a favourable role for rapid per capita income growth. Bloom (1997)[1].indicated that age structure has transitional impact on the economy. Lindh (1999)[6] in his study of the OECD countries found that the age structure of the population affects aggregate saving, which affects growth through investment.

Objectives

This study is being conducted to examine the spatial and temporal changes in the age structure of India's population and to compare the variations in the pattern of age-sex structure.

Sources of Data and Methodology

Data for the present study has basically been obtained from the Census 2001 and World Bank indicators.[7, 8].

For the analysis of the data, simple tables giving percentage figures and other representative figures have been used. Besides, the data have been also represented through graphs such as bars.

RESULTS

Total population in India

The total population in India was last recorded at 1241.5 million people in 2011 from 434.9 million in 1960, changing 185 percent during the last 50 years.[8]. (World Bank, 2012). Historically, from 1960 until 2011, India Population averaged 789.5 Million reaching an all time

high of 1241.5 Million in December of 2011 and a record low of 434.9 Million in December of 1960. The population of India represents 17.99 percent of the world´s total population which arguably means that one person in every 6 people on the planet is a resident of India. (Fig.2).

The Population; total in India was last reported at 1241491960 in 2011, according to a World Bank report published in 2012. Total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship—except for refugees not permanently settled in the country of asylum, which are generally considered part of the population of their country of origin. The values shown are midyear estimates. This page includes a historical data chart, news and forecasts for Population; total in India.
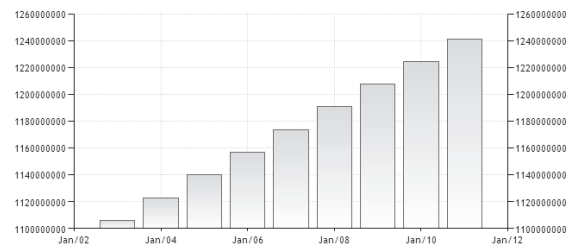
5.2. The Population growth (annual %) in India

The Population growth (annual %) in India was last reported at 1.37 in 2011, according to a World Bank report published in 2012. Annual population growth rate for year t is the exponential rate of growth of midyear population from year t-1 to t, expressed as a percentage (Fig.3).
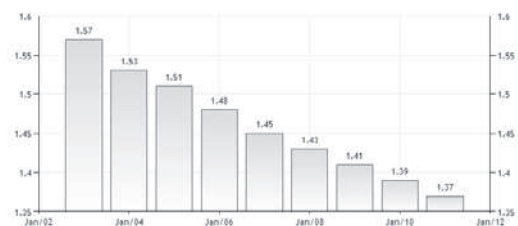

Fig.3

5.3. The Age dependency ratio (% of working-age population) in India

The Age dependency ratio (% of working-age population) in India was 54.34 in 2011[8]. Age dependency ratio is the ratio of dependents of people younger than 15 or older than 64. to the working-age population—those ages 15-64. Data are shown as the proportion of dependents per

100 working-age population. This page includes a historical data chart, news and forecasts for Age dependency ratio (% of working-age population) in India. (Fig.4)

Fig.4

5.4. The Age dependency ratio; old (% of working-age population) in India,

The Age dependency ratio; old (% of working-age population) in India,according to a World Bank report published in 2012 was at 7.71 in 2011, Age dependency ratio, old, is the ratio of older dependents—people older than 64—to the working-age population—those ages 15-64. Data are shown as the proportion of dependents per 100 working-age population. (Fig.5)
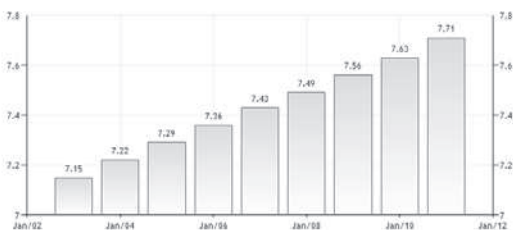
Fig.5.

Age dependency ratio; young (% of working-age population) in India

According to a World Bank report(2012) [8]the Age dependency ratio; young (% of working-age population) in India was at 46.63 in 2011, Age dependency ratio, young, is the ratio of younger dependents—people younger than 15—to the working-age population—those ages 15-64. Data are shown as the proportion of dependents per 100 working-age population. (Fig.6).
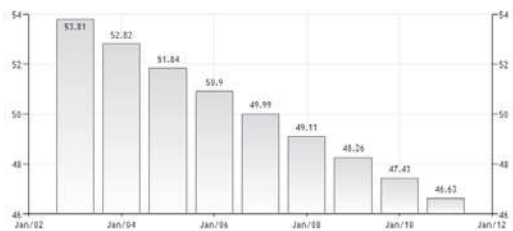
Fig.6.

5.5. The Birth rate; crude (per 1; 000 people) in India

The Birth rate; crude (per 1; 000 people) in India was at 22.17 in 2010, according to a World Bank report published in 2012[8]. Crude birth rate indicates the number of live births occurring during the year, per 1,000 populations estimated at midyear. Subtracting the crude death rate from the crude birth rate provides the rate of natural increase, which is equal to the rate of population change in the absence of migration. (Fig.7).

5.6. Completeness of birth registration

Completeness of birth registration is the percentage of children under age 5 whose births were registered at the time of the survey. The numerator of completeness of birth registration includes children whose birth certificate was seen by the interviewer or whose mother or caretaker says the birth has been registered. (Fig.8).
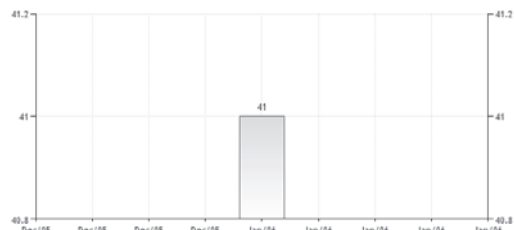
Fig.8.

5.7. Completeness of birth registration (Rural)

Completeness of birth registration is the percentage of children under age 5 whose births were registered at the time of the survey. The numerator of completeness of birth registration includes children whose birth certificate was seen by the interviewer or whose mother or caretaker says the birth has been registered. (Fig.9).
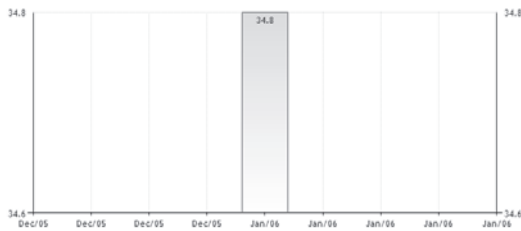
Fig.9

## 5.8. Completeness of birth registration (Urban)

Completeness of birth registration is the percentage of children under age 5 whose births were registered at the time of the survey. The numerator of completeness of birth registration includes children whose birth certificate was seen by the interviewer or whose mother or caretaker says the birth has been registered. (Fig,10).
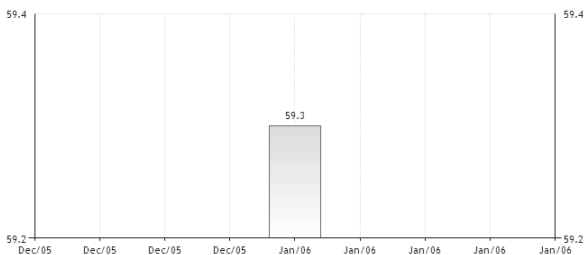
5.9. The Death rate; crude

According to the World Bank report (2012) [8]the Death rate; crude (per 1; 000 people) in India was at 8.04 in 2010. Crude death rate indicates the number of deaths occurring during the year, per 1,000 populations estimated at midyear. Subtracting the crude death rate from the crude birth rate provides the rate of natural increase, which is equal to the rate of population change in the absence of migration. This page includes a historical data chart, news and forecasts for Death rate; crude (per 1; 000 people) in India. (Fig.11)
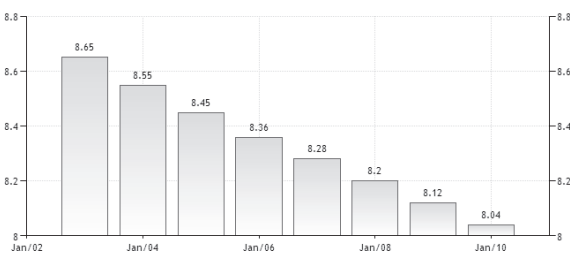
5.10. The Population ages 15-64 (% of total)

The Population ages 15-64 (% of total) in India was at 64.79 in 2011[8]. Population ages 15 to 64 is the percentage of the total population that is in the age group 15 to 64. Population is based on the de facto definition of population.

5.11. The Population ages 65 and above

The Population ages 65 and above (% of total) in India was at 4.99 in 2011[8]. Population ages 65 and above as a percentage of the total population. Population is based on the de facto definition of population. (Fig.12).

Fig.12

5.12. Employed Persons

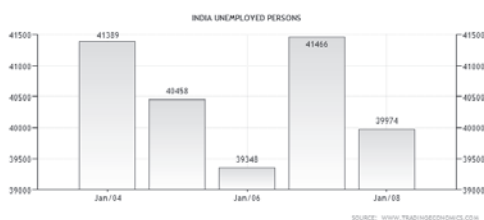Historically from 1971 until 2010, India Employed Persons averaged 24961.76.But employed Persons in India now increased to 28708 Thousand Persons in 2010 from 28172 to 28708. (Fig.13)

5.13. Unemployed Persons

Unemployed Persons in India is historically from 1985 until 2007, averaged 36801.3.But now it is decreased to 39974 Persons in December of 2007 from 41466 Persons in December of 2006. Thousand Persons reaching an all time high of 41750.0 Thousand Persons in December of 2001 and a record low of 24861.0 thousand Persons in December of 1985.(Fig.14).

Fig.14.

5.14. Unemployment Rate

Unemployment Rate in India decreased to 3.80 percent in 2011 from 9.40 percent in 2010. [9].The economist). Historically from 1983 until 2011, India Unemployment Rate averaged 7.6 Percent reaching an all time high of 9.4 Percent in December of 2009 and a record low of 3.8 Percent in December of 2011. In India, the unemployment rate measures the number of people actively looking for a job as a percentage of the labour force. (Fig.15).

6. Discussion

Changes in fertility rates and mortality rates have led to changing population structures. The child dependency and old-age dependency ratios are two summary measures of the population age structure. The population dynamics fueling India's growth and changing age structure are rooted in the combined impact of increasing life expectancy and declining fertility. Life expectancy at birth in India climbed from 37 years in 1950 to 65 years in 2011, reflecting declines in infant mortality and survival at older ages in response to public health improvements[10]. While declining fertility even below the replacement level triggers increases in the mean age of a certain population and slows down population growth, decreasing old age mortality allows individuals to enjoy the benefits of retirement for longer time periods.

The support ratios will decline such that fewer and fewer workers will have to carry the burden of financing more and more retirees [11].but overall productivity levels will change because workers have age-specific productivity

profiles and the age decompositions of societies will shift. The current dependency ratio for India is 7.4. which somewhat high. That means for every 10 working adults, there are 7.4 people that need to be supported, be it through social security or childcare. Therefore, a lower dependency ratio is better for economic growth. Not only does it mean more people in the workforce are contributing to national productivity, but also that more resources can be directed towards investments in growth initiatives. On the other hand, in Japan and the Republic of Korea, labour productivity growth contributed the most to real GDP growth in 1990-2010. In Japan, the working age population growth fell during 2000-2010 and dragged overall real GDP growth down. In the future, these ageing countries cannot rely much on working age population growth and will have to increase labour productivity growth. These ratios reflect the number of dependents relative to the working age population. Results show that the old-age dependency ratio in India is low.

The change that has taken place in the India's age structure indicates a very slow trend. The time-lag of the change in different age-cohorts is much higher than some of the developed countries. India was one of the first countries in the world to implement family planning programme, but its effect has been rather gradual. Over the next five to ten years, watch for India to catch up to China in terms of economic growth. Without the one-child policy, it's better positioned to take advantage of a favorable work-age ratio.

There is indeed an increase in the proportion of old age population. Overall, the growth in the proportion of sixty plus population is moderate. The change in the productive age-group is of prime importance in the study of any age structure. It has been seen that the proportion of productive age group, remains more or less stable at fifty-five percent.

CONCLUSIONS

My analysis regarding the effects of demographic change on long-run economic growth perspectives have been the following:
·   decreasing mortality positively affects long-run growth
·   (b) decreasing fertility negatively affects long-run growth
·   (c) the negative effects of decreases in fertility are overcompensated by the positive effects of decreases in mortality in the case of the Romer (1990)[12] model.

·   (d) population aging is beneficial for long-run economic growth in the Romer (1990) case, whereas it depends on the relative change between fertility and mortality whether it is associated with increasing or

decreasing long-run economic growth in the Jones (1995)[13] case.

· (e) my main conclusion is that currently ongoing demographic changes do not necessarily hamper technological progress and therefore economic prosperity. Simultaneously decreasing birth and death rates can even lead to an increase in the economic growth rate.

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