

*Indian Demography and  
Capitalization of its  
Demographic  
Dividend: A Comparative  
Assessment*

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## ABSTRACT

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*History has witnessed many debates on economy and its variants. One of the important topics of discussion has been the relationship between population and economy. Tracing back to the late 18<sup>th</sup> century when the Reverent Thomas Malthus published the famous Malthusian Theory of Population and the various Neo-Malthusian theories that followed, the controversial theories were nevertheless equally highlighted in study of macro-economics. In the earlier stage, with the focus on size of population and the economic development of a nation, it led to eventual study of impact of composition of population on the economic growth. Hence evolved the concept of “demographic dividend”.*

*Various researchers have claimed that industrial countries have largely completed the phase of “demographic transition”, also described as transition phase when society transforms from a large agrarian one to a predominantly urban industrial society. Studies reveal that this phase of transition for developing countries in East and South Asia (India being one of these) , has begun off late while the countries like China, which are considered to be quite developed, have already completed their initial phase of transition.*

*This paper is a comparative assessment of the effects of demographic change observed in these economies, as analyzed through various researches and surveys. It is this topic which initiates the defining of relation between the social elements like age structure, sex ratio, child health, literacy rate, a few more to list and the economic growth rate. This topic actually serves as basis for the entire project of Gender Budgeting in India.*

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*Keywords:* Demographic Transition, Demographic Dividend, Age Structure of Indian Population, HDI, Demographic Dividend for India, Harnessing the Indian Demographic Dividend

### *Research Methodology*

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It is a review literature. Secondary data available from Research Papers, Census data, reports of various Institutes and reviews of renowned economists has been used to interpret the data.

### *Objectives*

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- ✓ An overview of Indian Demographic Dividend
- ✓ Comparison with China’s Statistical Data
- ✓ Determining options available to harness the demographic dividend

## 1. *Understanding the Demographic Dividend*

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A critical demographic variable which is often ignored while talking about demography of any nation or place is the *Age Structure* of the Population. When age structure changes, during the *demographic transition*, it can cause a drastic change in the National economy too. This is the effect of the “Demographic Dividend”. Simply stated, the demographic dividend occurs when a falling birth rate changes the age distribution.

The Demographic Dividend is said to be like a window. Like any window opens to something bright, the so called ‘dividend’ works like “window of opportunity” in the development of a society or nation. This window is considered to open up with Demographic Transition<sup>[1]</sup>.

During Demographic Transition, as the fertility rate declines, it is followed by significant reduction in child and infant mortality rates. Gradually increase in average life expectancy is observed. While fertility rates are continuing to fall and older generation shaving shorter life expectancies, the dependency ratio declines dramatically. This demographic shift initiates the demographic dividend. These changes or transition can lead to faster economic growth and human development, when combined with effective policies.

Thus, summing up, *Demographic Dividend* refers to a period, when a greater proportion of people are young and in the working age-group. This cuts spending on dependants, spurring economic growth.

### [1] DEMOGRAPHIC TRANSITION

IT REFERS TO THE TRANSITION FROM HIGH BIRTH AND DEATH RATES TO LOW BIRTH AND DEATH RATES AS A COUNTRY DEVELOPS FROM A PRE-INDUSTRIAL TO AN INDUSTRIALIZED ECONOMIC SYSTEM.

Source: Wikipedia

## APPRAISAL- I:

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**“What Is the Demographic Dividend?”- By Ronald Lee and Andrew Mason**  
(F&D, IMF Quarterly Magazine, Volume 43)

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Certain characteristics of Demographic Dividend as mentioned in this news article are as follows:

- Industrial Countries have already completed the ‘demographic transition’
- **Early Stage-**
  - fertility falls
  - fewer mouths to feed
  - the labor force temporarily grows more rapidly than the population dependent on it
  - resources are freed for investment in economic development
- It has been called as “*the First Dividend*”
- This Dividend phase lasts quite long, i.e. five decades or more
- **Later Stage-**
  - Lower fertility reduces further growth in labour force
  - continuing improvements in old-age mortality speed growth of the elderly population
  - the First Dividend turns negative

However, this article talks about possibility of 'Second Dividend'. It quotes, "a population concentrated at older working ages and facing an extended period of retirement has a powerful incentive to accumulate assets." It is considered that such assets when invested in, will yield certain results. This will result in earning income. Hence, National Income will increase.

It is observed that Demographic Dividend is an opportunity which needs to be vouched on. There is no guarantee of economic growth unless steps are taken to harness this opportunity. Just presence of this 'window' is not enough. Attempt to look beyond it is essential. In order to formulate policies to avail advantage of the Demographic Dividend of our nation, it's necessary to understand its demography and the age-structure.

## 2. *Indian Demographic Dividend*

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### APPRAISAL- II :

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#### *"India's Demographic Dividend" - By Dr. Kaushik Basu*

(Senior Vice President and Chief Economist, World Bank.

Professor of Economics, Cornell University)

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- What really is the demographic dividend for India?
  - In the year 2004, in India 672 million people were in the age-group 15 to 64 years. This is usually treated as the "working age population".
  - Total population was 1,080 million
  - The remainder, that is, 408 million people, was categorized as the "dependent population".
  - A nation's "dependency ratio" is the ratio of the dependent population to the working-age population. In the case of India this turns out to be 0.6.
  - However, on this score India did not look too different from many other developing countries. Bangladesh's dependency ratio was 0.7, Pakistan's 0.8, Brazil's 0.5.
  - "What is different about India is the prediction that it will see a sharp decline in this ratio over the next 30 years or so. This is what constitutes the demographic dividend for India.", cited Dr. Basu
- How this Demographic dividend has formed and how it is expected to work?
  - India's fertility rate - that is, the average number of children a woman expects to have in her life time - used to be 3.8 in 1990, 3.11 in 2000, 2.85 in 2004.
  - It has fallen to 2.59 births per woman in 2011 and expected to fall further.
  - Due to earlier high fertility rates, now India has a sizeable number of people in the age-group 0-15 years.

- Some 10 or 15 years down the road, this bulge of young people would have moved into the working-age category.
- Due to this, the India's dependency ratio would be lower.
- Few key 'Benefits' of this demography:
  - (i.) Direct benefit- a rise in the relative number of bread-winners.
  - (ii.) With fewer children being born, more women will now join the work force; so this can give a further fillip to the bread-winner ratio.
  - (iii.) Effect on Savings:

*"Human beings save most during the working years of their lives. When they are children, they clearly consume more than they earn, and the situation is the same during old age.*

*Hence, a decline in the nation's dependency ratio is usually associated with a rise in the average savings rate."*

➤ Beyond this:

Dr.Basu has mentioned that beyond these few things we can actually list down, much depends on how the nation performs on primary and secondary education (to make sure that the larger working-age population conferred by the demographic dividend are an educated lot) and the manufacturing sector (which is needed to create job opportunities for the larger labour force).

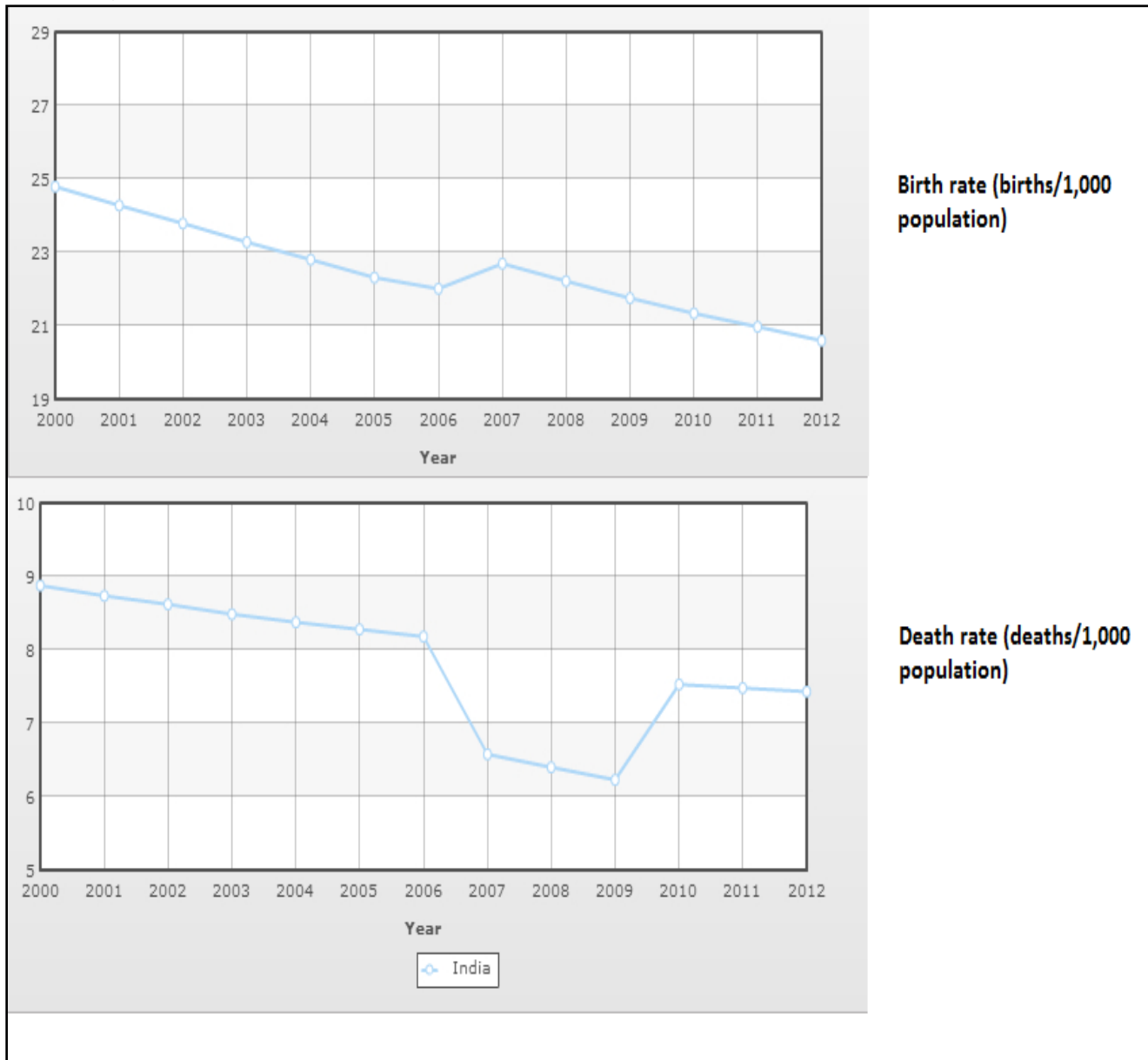
## Understanding the Indian Demographic Transition

The Statistical Data available for World Population gives certain figures wherein India – like Brazil, Turkey and Indonesia, is among the global elite as 50% or more of its population is below the age of 30.

In fact, the median age of the country is 25.7 years, which is about 10 years younger than China (34.9) and the United States (37.0). As a result, growth in India's working age population from 2010 to 2030 is supposed to be positive.

This compares to negative growth for countries like China during the same period.

## Statistics for India



Source: <http://www.indexmundi.com> (primary source: CIA World Factbook)

Further, the Report of the World Population Prospects: The 2012 Revision, Volume II, shows the Age Structure change in Indian Population. It can be clearly interpreted that the statistics for young workforce of India has a mega change observed. This workforce when utilized in the optimum way can lead to higher economic growth of the country.

Also, the population below 15 years of age has reduced. It means the lesser need of meeting the needs of dependent population and so the higher the savings. Hence, faster per capita income growth is expected.

### 3. Comparative Assessment

#### HISTORICAL OVERVIEW- INDIA V/S CHINA

"It is an advantage for India now because the country is entering the demographic dividend phase while China is exiting it," asserts Bikram Sen, a former Indian census board director.

- India had 66% higher income per capita than China in 1980, but by the early 1990s China overtook India.
- In 2008, the situation was reversed, with income per capita in China double that of India.
- This income crossover is due to very different *demographic trajectories* of China and India.

#### China

- China's campaign of "later, longer, fewer" and its one-child policy (beginning in 1979) led to a decline in fertility.
- Rapid rise in the ratio of China's working-age to non-working-age population also contributed to its extremely fast economic growth since 1980.
- The corresponding population ratio in India grew slowly.
- It is said that in short run China can take full advantage of its demographic dividend as it has:
  - (i.) more flexible labor markets
  - (ii.) higher rates of female labor force participation
  - (iii.) more highly educated women
  - (iv.) more open attitudes about women working
  - (v.) less illiteracy in general
  - (vi.) better infrastructure
  - (vii.) more internal migration
  - (viii.) a higher degree of urbanization
  - (ix.) more openness to foreign trade
- However, in near future, economic growth in China will be slowed by
  - (i.) rising dependency rate due to a rapidly aging population.
  - (ii.) wealth transfers from working-age populations to the elderly

#### India

- India's over population currently represents only one-fourth the number of its adolescents and young adults
- It will not outnumber the younger group for nearly four decades.
- India will add roughly 9 million people each year to its labour force over the next decade, while China will add virtually none.
- Fertility decline and rising longevity will rise the working-age share creating higher growth rates in India over the next 30 years.
- More than 50% of India's current population is below the age of 25 and over 65% below the age of 35. This makes up the huge working-population of India.

- ✚ **Currently, China's population growth is only 0.47% per year, while it is 1.4% for India**
- ✚ **It is expected that, in 2020, the average age of an Indian will be 29 years, compared to 37 for China.**

- Policies to meet the education and training needs of India's youth can ease the process of caring for growing numbers of older Indians in the future.
- Policy responses to population aging – including higher labour force participation of women, higher savings for retirement, and later age of retirement – suggest that population aging will not necessarily significantly impede economic growth.
- If India adopts policies that allow the working-age population to be productively employed, India may receive a demographic dividend of roughly 1% point growth in GDP, compounded year by year.

### **APPRAISAL- III :**

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***“China and India Continue High-Speed Growth”- By Shujiro Urata***  
(Asia Research Report, 2010)

#### ***2.6 Demographic Structure and Fostering of Human Resources***

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- As of 2009, China and India had more than 1.3 billion and 1.1 billion people, respectively. Their populations are so large that between them they account for more than one-third of the entire world's population.
- China registered population growth of 0.6% per year from 2005 to 2010, while India had a rate of 1.4%
- The differential in the population growth rate has produced large differences in the demographic structures of China and India.
- However, as of date, India's share of children in the population is larger than China's.
- As this population young people grow up over the years to come, its dependency ratio will decline, facilitating economic development.
- China, by contrast, will see a rise in its dependency ratio as its society goes through the graying process, making economic development more difficult.
- India thus has a well-suited demographic structure for realizing economic growth

### **APPRAISAL- IV:**

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***“China and India, 2025: A Comparative Assessment” (RAND Report)***

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- Although India's overall dependency ratio is currently higher than China's, the ratio will be rising rapidly in China in the next two decades, while it will be declining in India.



- For India-

India	China
<ul style="list-style-type: none"> <li>✓ Increasing numbers</li> <li>✓ Younger age cohorts</li> <li>✓ Declining dependency ratios</li> </ul>	<ul style="list-style-type: none"> <li>✓ Rapidly aging population</li> <li>✓ Rising dependency ratios</li> <li>✓ Rising health costs for the elderly</li> <li>✓ Sharp gender imbalances</li> </ul>



**INDIA'S STRENGTH**

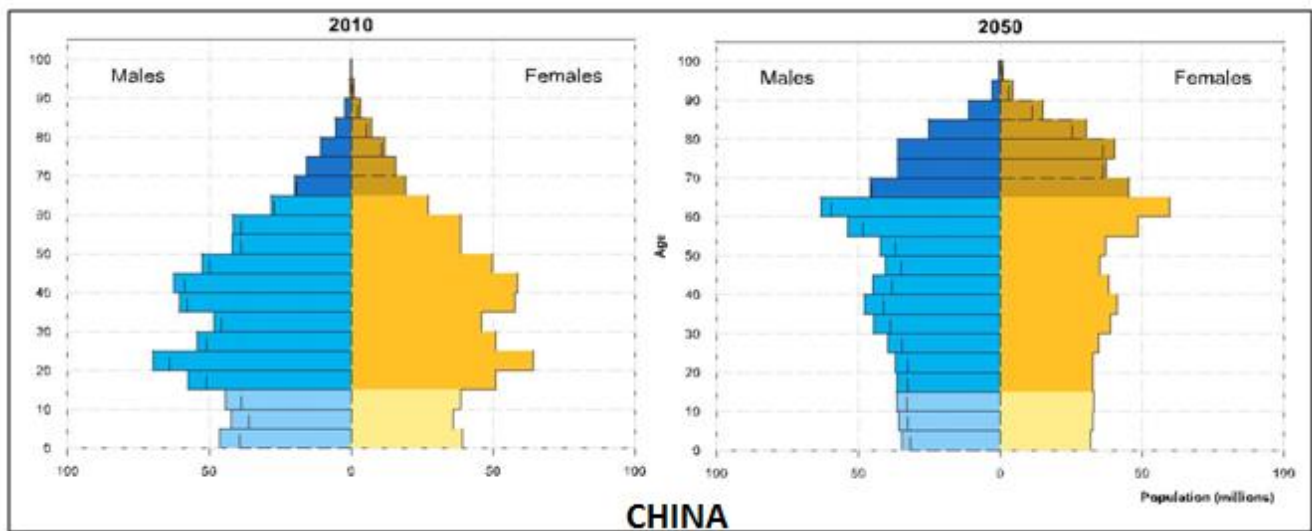
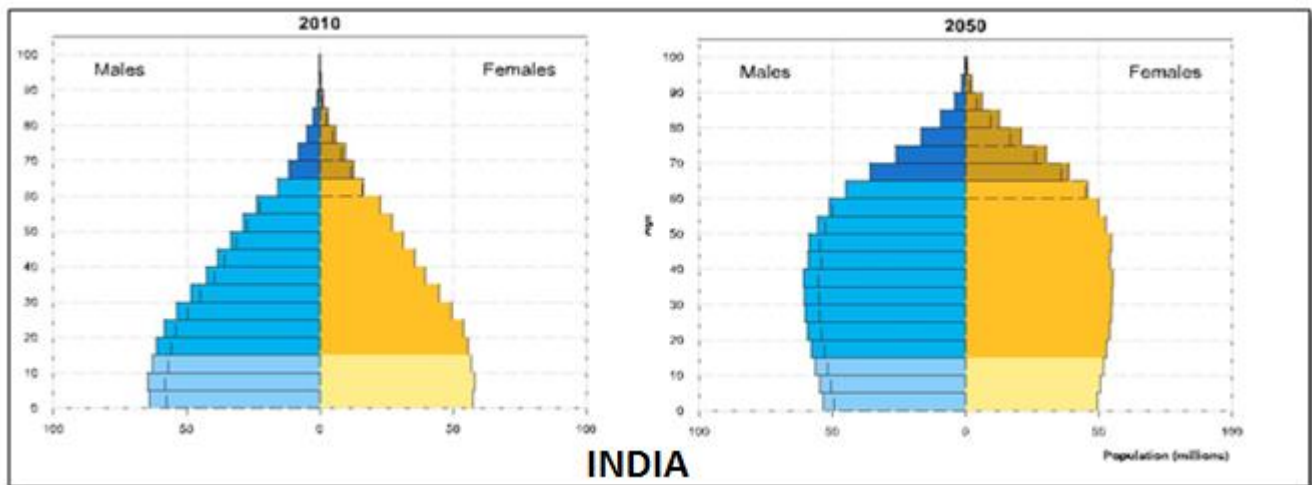


**OPPORTUNITY FOR INDIA AGAINST CHINA**



### Population Pyramids- Graphical Representation & Comparison

*Population by age groups and sex (absolute numbers)*



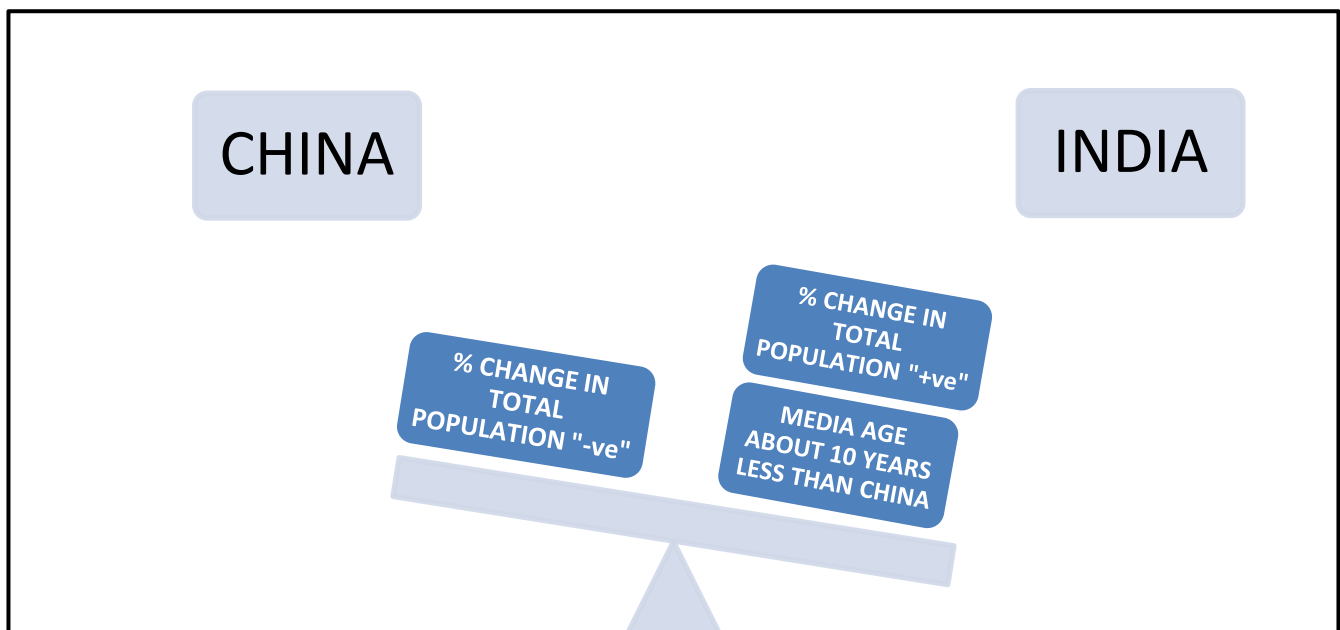
*Note: The dotted line indicates the excess male or female population in certain age groups. The data are in thousands or millions*

**SOURCE:** World Population Prospects: The 2012 Revision, Volume II: Demographic Profiles

## ESTIMATIONS:

Country	2010	2050	Growth
Total Population (in millions)			% Chg
China	1,341	1,296	-3.4%
India	1,225	1,692	<b>38.2%</b>

## THE COMPARISON

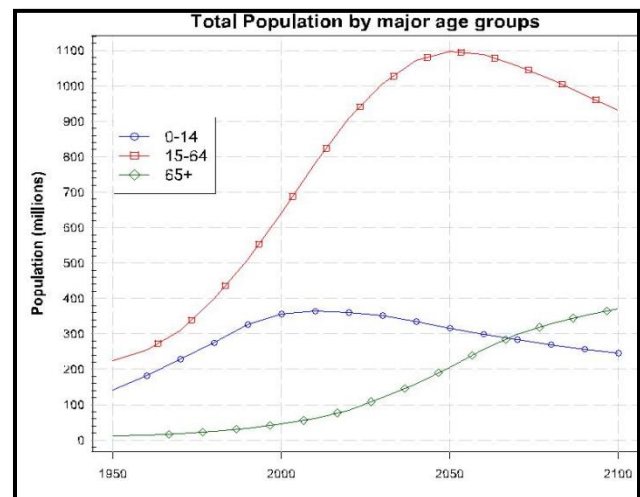


## ANALYSIS in terms of Age-Structure of Indian Population

We can observe that the dependent population has not only reduced, but also a major portion of the total population is above 15 and below 40, i.e. a huge working class of people. KKR GLOBAL MACRO & ASSET ALLOCATION TEAM called it as “the most compelling macro feature”.

It is expected that by 2025, India will have over 65% population under working class. As per study of C P Chandrasekhar (EPW, Dec 9, 2006), higher the proportion of workers to non-workers, the larger would be the surplus.

Thus, there is a unique window of opportunity for India to deploy its resources and reap the maximum benefits.



## Another Parameter of Growth- HDI

HDI is a simple average of three dimension indices, each of which measures average achievements in a country with regard to 'A long and healthy life', 'Knowledge' and 'A decent standard of living'

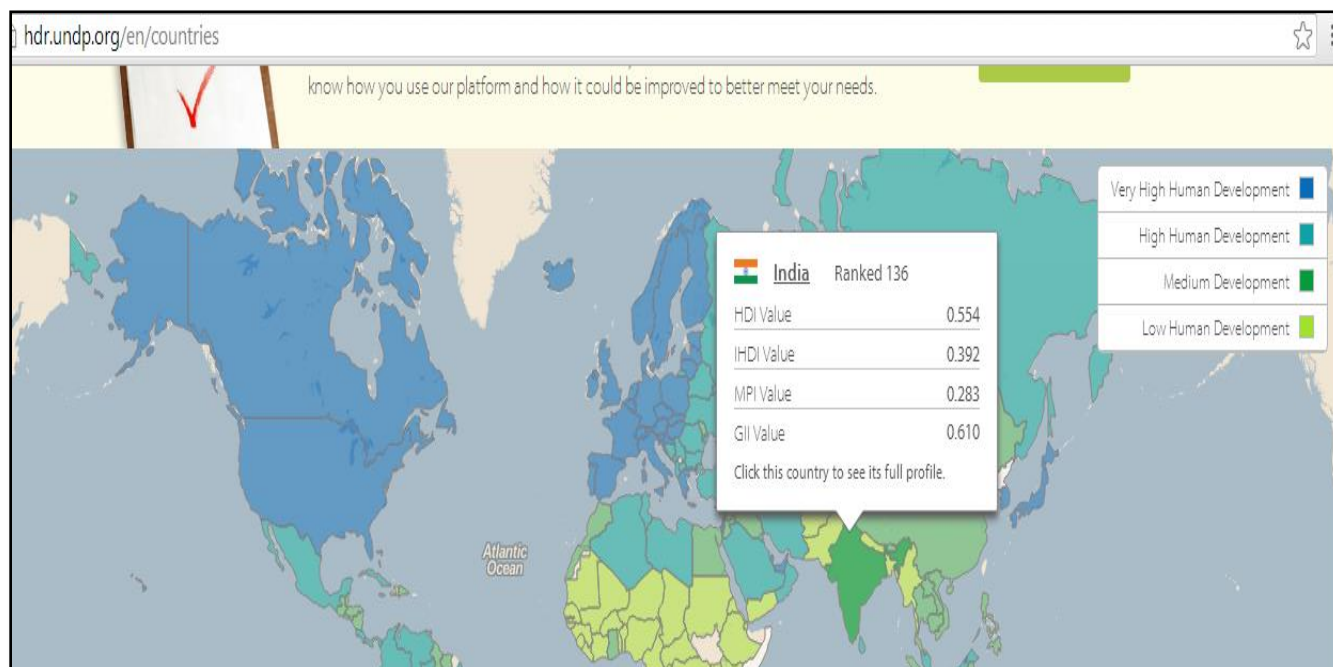
The Human Development Index (HDI) is a composite statistic of life expectancy, education, and income indices used to rank countries into four tiers of human development. Amartya Sen was one of its creators.

India is one of the medium developed countries in terms of HDI. It ranked 136 in world, as per data of 2013. The HDI has been improving over period of time. It is, thus, an indicator of growth in India, in terms of Life Expectancy and Education in India.

### HDI & GDI for India - 2006 and 1996

Year	Human Development Index	Gender Development Index
2006	0.605	0.590
1996	0.530	0.514

Source: <http://wcd.nic.in>



HDI-Human Development Index

#### 4. Capitalization Of Indian Demographic Dividend

In India the scenario of a huge workforce and the so-called 'demographic window' is very encouraging, yet its wide range of issues hindering its growth still stand strong. There are several attractive ways available with India to play with the fresh demographic dividend, including healthcare, education, communication, employment and few more to list.

#### Transmission Mechanism for the Demographic Dividend

- **Labor:** The young dependent population can convert into independent working population only when effective policies are available to educate and train them.
- **Economic policies:** Government policies that lead to stable macroeconomic conditions are associated with the growth of productive and rewarding jobs.
- **Women workforce:** Women workforce relieved of child caring responsibilities shall be free to enter the labour market. Also, having fewer children enhances the health of women. The participation of women in the labor force gives them an independent status in society. They tend to have more energy and contribute both to their families and to the society.
- **Savings:** Capacity to save is more in working age adults than the very young. This growth in personal savings can lead to higher economic growth, as the savings ultimately lead to investments.
- **Good Governance:** In many countries, necessary steps to vouch on the benefits of demographic dividend requires proper governance in terms of strong rules of law, improved development plans (Five-Year Plans in case of India) and reduced corruption is must.

“When the participants at the Indian Economic Summit wrestled with just how the demographic dividend could be reaped they could only point to the need for better educational training for the assembly line in manufacturing, or in high tech. But with poverty as the common thread binding most of the young, the idea of positive spin-offs from a large young population has been a broken myth from the outset.”

**-ASHOAK UPADHYAY, Business Line**

## Harnessing the Demographic Dividend

▪ Large number of Indian young crowd can amount to a huge potential workforce and economic benefit for the country, but once adequate facilities are made available to this population and proper investment made in their health and education, it's only then that new economic opportunities can be stimulated.

▪ Wikiprogress cites that less children means family income can be spent on better quality food for infant and young children as well as education resources and towards the prolonging of education for children to improve their life prospects.

Its important to remember here that this young generation, being talked about, makes up for the working population in near future.

However, very little is being done for this. India's food supply is in a worse position. In 2005–07, the average Indian consumed only 2,300 calories per day — below the defined poverty line in rural areas of 2,400 calories a day. Hence, policies to improve this situation are required.

▪ 'While one would expect rapid economic growth to encourage female labor participation, it seems likely that at least some of the increase was due to the availability of contraception and women's increased freedom to choose between working and rearing children.' (Bloom and Canning, 2004)

In India, Family Planning still remains an issue to be addressed. Uncontrolled Population growth exerts pressure on the economy and the resources. This needs to be tackled with more concern. Effective family planning can potentially enhance the economic benefits and lift the nation out of a cycle of poverty.

**As the CII and Boston Consulting Group study suggests, India will have a "talent gap" of five million in two years because the educational system is not equipped to fill it.**

▪ Our Government intends to reduce poverty by 10 per cent during the 12th Five-Year Plan. Yet the proper implementation of this plan has to be assured.

▪ Although India's primary asset is its outsized and youthful population, the current level of skill, education and training is low relative to many other countries. China's literacy rate is 96%, whereas Indian literacy is still far from universal at just 74%. This is a big obstacle on India's path to progress. Estimated spending on education in India is barely 3% of GDP while its 3.3% in China while 5.4% in United States.

▪ Access to education especially for girls helps delay marriage and first pregnancy. Women who are educated are also more likely to work, increasing the size of a country's labor force and the potential for economic development.

▪ One of the reasons for the low literacy rate is the absence of adequate school infrastructure and inefficient teaching staff. Even the absence of proper sanitation in most school affects it somewhere.

▪ Evidence suggests that better health facilitates improved economic production, and it points to the importance of policies to promote health during the initial phase of demographic dividend.

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