Research Paper Economics

Demographic Dividend-Its Implications to India

* Dr.Nagaraj V.Gudaganavar ** Dr.Rajashri S.Gudaganavar

* Associate Professor in Statistics, Anjuman Arts and Commerce Degree College, PG Centre of Commerce Dharwad

** Associate Professor &H.O.D.in Economics, C.S.Bembalagi Arts, Sha.M.R.Palaresha Science & G.L.Rathi Commerce College

ABSTRACT

Every fast growing Asian economy in recent years has accelerated as it underwent a demographic transition. All societies at one time or another move from a near equilibrium condition of high mortality and high fertility towards a presumed low fertility and low mortality equilibrium termed as 'demographic transition'. The census data of 2011 shows that India's youth bulge is now sharpest at the key 15-24 age group, even as its youngest and oldest age groups begin to narrow. The data shows that India's working age population is now 63.4% of the total population. But demographic advantage does not mean more people but more prosperous and productive people. In order to reap the benefits of demographic dividend there is need to increase productivity of work force. Hence, the workforce needs to be educated, equipped with required skills and healthy. The dreams of huge income flow and resultant economic growth due to demographic dividend could be realised only when we inculcate the required skills in the work force to make it as competent as its counterparts in the developed world

Keywords : Demographic transition, working age, prosperous, productive, work force, competent.

Introduction:

Demography is the statistical study of human populations. It can be a very general science that can be applied to any kind of living population, i.e. one that changes over time or space. It encompasses the study of the size, structure, and distribution of these populations, and spatial and / or temporal changes in them in response to birth, migration, aging and death.

'Demo' means 'the people' and 'graphy' means 'measurement'. Institutionally, demography is usually considered a field of sociology, though there are a number of independent demography departments. Formal demography limits its object of study to the measurement of population processes, while the broader field of social demography population studies also analyze the relationships between economic, social, cultural and biological processes influencing a population.

All societies at one time or another, move from a near-equilibrium conditions of high mortality and high fertility towards a presumed low fertility and low mortality equilibrium termed as 'demographic transition'. There is need to investigate the impact of demographic changes on social economic and political structures of nations Demographic transition consists of five components: mortality decline, natural increase in population size, fertility decline, urbanization and population aging. The demographic trends which describe the historical changes in demographics in a population over time can be known by demographic analysis.

DEMOGRAPHIC DIVIDEND

Demographic dividend refers to a period-usually 20-30 years-when fertility rates fall due to significant reductions in child and infant mortality rates. This fall is often accompanied by an extension in average life expectancy that increases the portion of the population that is in the working age group. This cuts spending on dependents and spurs economic growth. As women and families realize that fewer children will die during infancy or childhood, they will begin to have fewer children to reach their desired number of off spring, further reducing the proportion of non-productive dependents.

However, this drop in fertility rates is not immediate. The lag between produces a generational population bulge that surges through society. For a period of time this "bulge" is a burden on society and increases the dependency ratio. Eventually, this group begins to enter the productive labour force. With fertility rates continuing to fall and older generations having shorter life expectancies, the dependency ratio declines dramatically. This dramatic shift initiates the demographic dividend.

MATERIALS AND METHODS

The data required for the study was collected from the secondary sources. These data have been collected from various sources. IMF working paper 2011 have been accessed to collect the data about the Demographic dividend. The census of India 2001 provides projections through 2026, while the UNDP and the International Data Base [IDB] of the US census Bureau provide projections through 2050

DEMOGRAPHIC DIVIDEND IN INDIA

In 1952, the Indian government was one of the first in the world to formulate a National Family Planning Programme to promoting a small family norm and support population control and development programmes. But the family planning programme failed to achieve the objectives it was destined to, and population continued to increase in 1960s 70s and 80s exponentially due to the little decrease in the birth rates. This failure of India on the population front and success of other countries now turning into an opportunity for India, often termed as demographic dividend.

Thanks to the unsuccessful family planning programme in the 20th century. Here comes India whose working age pop-

ulation will surge to maximum between 2020-2050. India is amongst the youngest nations in the world and even in next 15 years, half of India's population will be below the age of 30. According to the official data, India's labour force, which was 475 million in 2006, is expected to be around 526 million in 2011 and will reach 653 million in 2031. It is note worthy that the growth rate of labour force will continue to be higher than that of the population until 2021. According to the Indian Labour Report, 300 million youth would enter the labour force by 2025m and 25% of the world's new workers in the next decade will be Indian because 10 lakh new Indians will join the labour force every month. The Demographic Dividend as calculated by IMF is given in the following table-1 and table-2 .

TABLE-1
DEMOGRAPHIC DIVIDEND; SELECTED STATES

		1960s	1970s	1980s	1990s
Demographic Dividend	Leaders [South & West]				
	Tamil Nadu	-0.1	0.8	2.2	2.7
	Karnataka	-0.3	0.9	2.4	3.2
	Gujarat	-0.2	1.5	2.6	3.0
	Simple Average	-0.2	1.0	2.4	3.0
	Laggards [Heart land]				
	Bihar	-0.3	-0.2	0.8	0.0
	Madhya Pradesh	-1.7	-0.4	0.7	0.3
	Uttar Pradesh	-0.9	-0.6	0.4	-0.4
	Simple Average	-0.9	-0.4	0.6	0.0
Per capita Income growth Rate	Leaders [South & West]				
	Tamil Nadu	0.4	0.1	4.1	5.1
	Karnataka	2.0	0.7	3.0	6.0
	Gujarat	1.9	0.1	3.1	3.6
	Simple Average	1.4	0.5	3.4	4.9
	Laggards [Heart land]				
	Bihar	0.3	0.6	2.7	-0.1
	Madhya Pradesh	-0.5	0.6	2.2	1.1
	Uttar Pradesh	0.7	0.7	2.6	0.8
	Simple Average	0.2	0.6	2.5	0.6
Per Capita Income growth rate net of demographic dividend	Leaders [South & West]				
	Tamil Nadu	0.5	-0.7	1.9	2.4
	Karnataka	2.3	-0.2	0.6	2.8
	Gujarat	2.1	-0.6	0.5	0.6
	Simple Average	1.7	-0.5	1.0	1.9
	Laggards [Heart land]				
	Bihar	0.6	0.8	1.9	-0.1
	Madhya Pradesh	1.2	1.0	1.5	0.8
	Uttar Pradesh	1.6	1.3	2.2	1.2
	Simple Average	1.1	1.0	1.9	0.6

Source: IMF working paper 2011

The above table illustrates the pivotal role played by the evolution of the age distribution in the economic performance of leaders and laggards among Indian states. Tamil Nadu, Karnataka and Gujarat, among the best performing Indian states in recent times, have also reaped an enormous demographic dividend: in the 1980 s the inclement to PCI growth generated by the age distribution was 2.4% per annum, rising to 3% percent in the 1990s. Meanwhile, the laggards of the Hindi Heartland reaped a meager dividend, averaging only 0.6 percent in the 1980s and zero in the 1990s. This discrepancy explains a substantial part of the divergence between leaders and laggards from 1981-2001, as illustrated by the bottom panel containing growth rates net of the demographic dividend.

Looking ahead, the states in the south and west of India have already undergone the major part of their demographic dividend, while the laggards have not. But considering that the average 2001 working age ratio among the leaders was 62.1% percent versus 53.4 percent in the laggards, it seems very likely that the bulk of the projected large increments to India's working age ratio will come from the laggards. Sustained growth acceleration in India's poorest states may now be feasible.

The demographic dividend for the next five decades, relative to a counterfactual in which the working age ratio stays at its 2001 level is also calculated. Table-2 shows a range of projective for India's age distribution. The census of India 2001 provides projections through 2026, while the UNDP and the International Data Base [IDB] of the US census Bureau provide projections through 2050.

TABLE-2
DEMOGRAPHIC PROJECTIONS FOR INDIA
CENSUS OF INDIA 1/

Age-group	2001	2011	2021	2026
0-14	35.50	29.00	25.10	23.40
15-59	57.80	62.70	64.0	64.30
60 +	06.90	08.20	10.70	12.50

UNITED NATIONS POPULATION DIVISION 2/

Age-group	2001	2010	2020	2030	2040	2050
0-14	35.50	30.80	26.70	22.80	19.70	18.20
15-59	57.80	61.60	53.50	64.80	64.60	62.20
60 +	06.90	07.50	09.80	12.40	15.60	19.60

IDB, US CENSUS BUREAU 2/

Age-group	2001	2010	2020	2030	2040	2050
0-14	35.50	30.10	26.30	23.50	21.40	19.80
15-59	57.80	61.70	63.50	63.30	61.90	60.10
60 +	06.90	08.20	10.20	13.20	16.770	20.10

Source: IMF working paper 2011

1/ All numbers are in percent of total population
2/ Estimates for 2001 are from the census of India.

All projections show rapid growth in India's working age ratio

from 2001 through 2021, as the reduction in country's population of children outstrips the increase in the ranks of the old. The census of India shows a further increase in the working age ratio through 2026, and the UNPD through 2030. The IDB shows the working age ratio levelling off in 2030. From this point on, there are no further projections from the Indian Census. The UNPD projects a levelling off of the ratio through 2040 and then a decline in the decade leading to 2050, while the IDB shows the decline starting from 2030 onwards.

In the near future India will be the largest individual contributor to the global demographic transition. A 2011 IMF working paper found that the substantial portion of the growth experienced by India since the 1980s is attributable to the country's age structure and changing demographics. The US census Bureau predicts that India will surpass China as the world's largest country by 2025, with a large portion of those in the working age category. Over the next two decades the continuing demographic dividend in India could add about two percentage points per annum to India's per capita GDP growth. Extreme actions are needed to take care of future basic minimum living standards including food, water and energy. As per population Reference Bureau India's population in 2050 is projected to be 1,692 billion people.

MECHANISMS FOR GROWTH IN THE DEMOGRAPHIC DIVIDEND

During the course of the demographic dividend there are four mechanisms through which the benefits are delivered.

1. Labour Supply: The first is the increased labour supply However, the magnitude of this benefit appears to be dependent on the ability of the economy to absorb and productively employ the extra workers rather than be a pure demographic gift.

2. Increase in savings: The second mechanism is the increase in savings. As the number of dependents decreases individuals can save more. This increase in national savings rates increases the stock of capital in developing countries already facing shortages of capital and leads to higher productivity as the accumulated capital is invested.

3. Human Capital: The third mechanism is human capital. Decrease in fertility rates results in healthier women and fewer economic pressures at home. This also allows parents to invest more resources per child, leading to better health and educational out comes.

4. Increase in Demand: The fourth mechanism for growth is the increasing domestic demand brought about by the increasing GDP per capita and the decreasing dependency ratio.

DEMOGRAPHIC DIVIDEND AT ITS PEAK

If there was ever a time for the demographic dividend that India is banking on to start paying off, it is now. Census data released shows that India's youth bulge is now sharpest at the key 15-24 age group, even as its youngest and oldest age groups begin to narrow. The data shows that India's working age population [15-64 years] now 63.44% of the total, as against just short of 60% in 2001. The numbers also show that the 'dependency ratio'- the ratio of children [0-14] and the elderly [65-100] to those in the working age-has shrunk further to 0.55. "Even as western world is ageing, these new numbers show that India's population is still very young".

As fertility falls faster in urban areas rural India is younger than urban India; while 51.73% of rural Indians are under the age of 24, 45.9% of urban Indians are under 24. However, urban India still has a higher proportion in the key 15-24 age group than rural India.

Table-3 reports the calculations. The demographic dividend is projected to peak over the next two decades adding about 2 percentage points to annual per capita income growth over the period. Subsequently, the dividend should begin to decrease gradually [though remaining positive] based on the UNPD projections, and decrease rapidly according to the IDB projections. The calculations also suggest that over the current decade, the increment to per capita income growth from demographic change has been between 1.5 to 2 percent points per annum.

TABLE-3
INDIA'S COMING DEMOGRAPHIC DIVIDEND BY DECADE 1/ [IN PERCENT]

	2000s	2010s	2020s	2030s	2040s
Using Projections from					
Census of India 2001	02.02	02.04	02.16	-	-
UNPD	01.60	01.95	02.27	02.10	01.17
US Census Bureau	01.62	01.93	01.69	01.15	0.57
Average	01.74	01.98	02.04	01.62	0.87

Source: IMF working paper 2011

1/ Calculates the increment to annual per capita income growth relative to a counterfactual in which the working age ratio stays fixed at eh 2001 level.

2/ 2021-2026 for projections from the census of India

The level and the growth rate of the working age ratio have both exercised a large impact on India's economic growth. There have already been considerable gains from changes in the age structure and that a substantial part of India's growth acceleration since 1980s can be attributed to demographic change. Looking ahead, the continuing demographic transition will yield a growth dividend of about 2 percent per annum over the next two decades.

AFTER THE DEMOGRAPHIC DIVIDEND

There is a strategic urgency to put in place policies which take advantage of the demographic dividend for most countries. This urgency stems from the relatively small window of opportunity countries have to plan for the demographic dividend when many in their population are still young, prior to entering the work force. During this short opportunity, countries traditionally try to promote investments which will help these young people be more productive during their working years. Failure to provide opportunities to the growing young population will result in rising unemployment and an increased risk of social upheaval.

The urgency to put in place appropriate policies is magnified by the reality that what follows the "demographic dividend" is a time when the dependency ratio begins to increase again. Low fertility initially leads to low youth dependency and a high ratio of working age to total population. However, as the relatively large working age cohort grows older, population aging sets in. Inevitably the population bubble that made its way through the most productive working years creating the "demographic dividend" grows old and retires. With a disproportionate number of old people relying upon a smaller generation following behind them the "demographic dividend" becomes a liability, with each generation having fewer children population growth slows, stops or even goes into reverse. This is currently seen most dramatically in Japan with younger generations essentially abandoning many parts of the country. Other regions, notably Europe and North America, will face similar situations in the near future with East Asia to follow after that.

China's current independence ratio of 38 is unprecedentedly low. This represents the number of dependents children and people over 65, per 100 working adults. This implies that there are nearly twice as many working age people as the rest of the entire population combined. This historically low dependency ratio has been extremely beneficial for China's unprecedented period of economic growth. This dramatic shift was brought about largely in part due to China's one-child policy. As a result china is currently aging at an unprecedented

rate. China will be older than the United States by 2020 and by Europe by 2030. Combined with the sex-selective abortions widely practiced as a result of one-child policy-China will have 96.5 million men in their 20s in 2025 but only 80.3 million young women-China's future demography holds many challenges for the communist party.

DEMOGRAPHIC DIVIDEND AND GROWTH

Every fast growing Asian economy in recent years has accelerated as it underwent a demographic transition. In India itself, Aiyar and Mody [2011] document that the high growth states [Tamil Nadu, Karnataka and Gujarat] in the period 1991-2001 had a dependency ratio which was 8.7 percentage points lower than that of the low growth states [Bihar, Madya Pradesh and Uttar Pradesh] and an average annual growth rate that was 4.3 percentage points higher. Looking ahead, they argue, the low growth states will benefit more from the demographic dividend, as higher incomes and lower fertility alter demographics. Indeed, over the period 2001-11, the hither to lagged states have growth at an average of around 5 percent annually. The difference between their growth and the growth of the leaders in the period 2001-11 is just 1.5. Percentage points. So demographic transition seems to be correlated with growth, some reasons to believe that causality flows both ways-lower dependency ratios increase growth and higher growth reduces fertility and consequently dependency ratios.

There is another reason to enjoy the positive benefits of demographic dividend for growth Cross-country evidence suggests that productivity is an increasing function of age, with the age group 40-49 being the most productive because of work experience [Feyrer 2007]. Nearly half the additions to the Indian labour force over the period 2011-30 will be in the age group 30-49, even while the share of this group in china, Korea and United States will be declining. That India will be expanding its most productive cohorts even while most developed countries and some developing countries like china will be contracting theirs in the coming decades can be another source of advantage.

Growth optimists are confident in Indian's demographic dividend the fact that India's dependency ratio, as measured by the share of the young and the elderly as a fraction of the population, will come down more sharply in the coming decades. More working age people will mean more workers, especially in the productive age grapes, more incomes, more savings, more capital per worker, and more growth. Also because demographic change is associated with fertility declines, the transition period may be accompanied by greater female participation in the labour force. (Bailey, 2006)

LIMITATIONS IN SEIZING THE DEMOGRAPHIC DIVIDEND

Demographic advantage does not mean more people but more prosperous and productive people. A larger workforce translates into more workers only if there are productive jobs. An unemployed, uneducated or unskilled Indian can't reap the benefits of demographic dividend. Currently, most of the Indian workforce is unskilled while the future jobs originating from the developed world will be skilled me. Therefore, to gain the benefits of demographic dividend, India must impart required skills to its workforce. Its workforce needs to be educated, equipped with required skills and also healthy.

The largest part of Indian's schools is of poor quality. Teachers are inadequately prepared, weakly motivated, poorly paid, and frequently absent. The situation in higher education is even more problematic for India's participation in the global knowledge economy. The overall quality of the higher education system is well below global standards and it has shown no significant sign of improving. High-tech employers complain that a large majority of engineering and other graduates are inadequately trained and must be re-educated at considerable expense, by their employers or not hired at all. India now educates only 10% of the age group in higher education. Dropout rates among that 10% are high.

Another problem with regard to education and skill development is that, a growing numbers now attends often low-quality colleges and other institutions that are not funded by the government, some of which are little more than teaching shops and degree mills. Current plans to raise the participation rate to 15% by 2015 seem inadequate when compared to other emerging economics. Public spending on education is yet to reach 6% of GDP, a demand which Indian nationalist kept before British government in pre- independence years is still not fulfilled.

In health sector too, the public expenditure reached barely 2% of GDP, which is less than adequate to provide health facility access to every citizen in the remotest corner of the country. Majority of the children, future workface, are malnourished. Tuberculosis is endemic to India, and hundreds die every year due to Japanese encephalitis in eastern Uttar Pradesh and Bihar, polio is yet to be eradicated from country, many communicable and non-communicable diseases take heavy toll every year in India. In gist, Indian population can't be called healthy and the healthy population is a necessity for not merely to get benefits from the demographic dividends but also country's own growth.

Thus the dreams of huge income inflows due to demographic dividend in future get shattered once one realizes the stock of educational and health infrastructure of the country and whatever existed particularly in public sector is also known for its poor quality. Thus India needs to really push hard on educational and health fronts and must try its every bit to inculcate the required skills in its workforce to make it as competent as its counterparts in the developed world. It not only needs the suitable strategy to answer the challenges but also a proactive challenge in the execution of these strategies.

If India failed to improve the quality of its workforce, it may find hard to provide gainful employment to such a large chunk of unskilled workforce not just in overseas markets but in India also as most of the future jobs will be of skilled nature in or outside India. Therefore, if India failed to increase the productivity of its workforce, the demographic dividend may eventually turn in to a demographic catastrophe or demographic nightmare.

CONCLUSION

In India inclusive growth has been a focus area of the 11th five year plan and the 12th plan also. The economic survey of 2012 -2013 with regard to Demographic Dividend emphasizes that a good job is the best form of inclusion. India's challenge is to create conditions for faster growth of productive jobs outside of agriculture, especially in the organized manufacturing and in services, even while improving productivity in agriculture. Whether we can reap this demographic dividend to the nation's advantage or let it become a curse depends on two factors _

- Drastic quality improvement in this new workforce by much better education, health and skill development and
- Creating better livelihood opportunities.

The Approach paper of 12th five year plan talks about the need to explore the scope for public private participation (PPP) projects in development of social sectors like health and education. As per the Economic survey 2012-13 "the challenge is to address both quality and quantity issues in skill development and training so as to correct the mismatch between employers who do not get people with the requisite skills and millions of job seekers who do not get employment. To this end, the National Skill Development Mission aims to impart employment oriented vocational training to 8 crore people over the next five years incorporating the private sector and the NGOs.

In this environment company-led apprenticeship programme can play a powerful role in repairing, preparing and up grading the labour force. They can aid five important transitions

that the labour force is currently making;

- From agriculture to non-agriculture,
- From rural to urban
- From the unorganized sector to the organized
- From school to work, and
- From subsistence self employment to wage employment

The industry can enter the education sector not only to make people 'work-ready' after they finish formal education, but also to inculcate a better value system of hard work, discipline, ethically right from childhood. Industry can impart education with skills to raise labour productivity not only in the industry but also in the agricultural sector.

However, if we adopt reforms in infrastructure, education, business and labour laws, we will have faster and more equitable growth with both agriculture and manufacturing sector creating better livelihoods. If the industry can take on the responsibility of educating the new generation, it will benefit both themselves and the nation.

REFERENCES

http://en.wikipedia.org/wiki/Demographic Dividend | Demographic Dividend in India; MBA Rendezrous | Shekhar Aiyar and Ashok Mody: "The Demographic Dividend; Evidence from the Indian states" [http://www.org/externall/pubs/ft/wp/2011/wp 1138.pdf] | http://www.washingtonpost.com/world/asis-pacific/amidpopulation-boom-india-hopes-for-demographic-dividend-but-fears disaster/2011/10/12/glQA.914 nmL-story. Html | Ranjit Goswami; "India's Population in 2050; extreme projections demand extreme actions" [http://www.eastasiaforum.org/2013/04/05/india'spopulation in 2050; extreme projections demand extreme actions] | Population Reference Bureau 2011 world Population Data Sheet, http;//www.prb.org/pdf2011 population data sheet_eng.pdf | Bloom, David E, David Canning and Jaypee Sevilla, 2003, "The Demographic Dividend; A new perspective on the Economic consequences of population change". | http://live.worldBank.org/realizing-demographic-dividend-challenges-and-opportunities-ministers-finance-and-development | "A Tale of Three Islands" The Economist October 22, 2011 | "Demographic Dividend at its Peak"-The Hindu September 7, 2013 | Bailey, M.J.[2006]; "More power to the pill; the impact of contraceptive freedom on women's life cycle labour supply", Quarterly Journal of Economics. | Dr.Shubhada Sabade; "Reaping our demographic dividend". |