

Economic Implications of Changes in Demographic Dividend in India: An Analysis

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Abstract

The Economists and Demographers are debating for a long on the Population Change and Economic Growth nexus that whether population growth promotes, hinders or nothing doing in the development process. In the population dynamics, the changing in the age structure has a number of socio, economic and political implications and hence policymakers with a broad view of development and the complex relation between economic and human development must factor these effects of changing age structure into decisions about their countries' future. In most of the developing and emerging economies whose mortality and fertility rates are beginning to fall, there is an opportunity for governments to capitalize on the consequent demographic transition, where the number of working age adults grows large relative to the dependent population and potentially acts as a major economic spur. The demographic dividend is the consequence of the demographic transition, this phenomenon occurs when the birth rate begins to decline and the age structure shifts to the working-age group. Number of empirical studies indicates that the overall effect of an ageing national population on total labour productivity is quite small compared to the influence of other factors such as education and institutional support. Generally, a youthful and dynamic population brings fresh ideas and energy to the economy, fostering innovation and entrepreneurship. Additionally, a growing working-age population stimulates consumer demand, fuelling domestic production and creating new job opportunities. A larger share of working-age individuals compared to dependents can also ease the financial burden on social services and government support systems. By harnessing these positive outcomes, developing economies can accelerate economic growth further, improve living standards for all and enhance global competitiveness. Based on these observations, a modest attempt is made to study the implications of Demographic Dividend and Economic Growth relations in India through the data published by various Government Institutions as Reports and Statement like Population Statistics, RBI Bulletin, World Bank Report, Economic Surveys, etc. It is advocated that the government can intervene to realize the country's ongoing demographic dividend by increasing the rate of productivity growth by investing in human capital via educational policies, worker training, entrepreneurial skill and health programs; further, encouraging research and development will also result in a higher rate of productivity growth. The findings could lead to better-targeted population strategies, more effective public policies, and a deeper academic understanding of socio, economic and environmental implications of demographic dividend in the context of an increasingly complex demographic structure at macro level.

Keywords: Demography, Demographic Dividend, Fertility Rate, Vital Rate, HDI

Rationale

Empirical works witnessed that there is complex and contradictory relationship between the population growth and economic growth. Studies of Darrat and Al-Yousif (1999), Furuoka(2009), Furuoka and Munir(2011) and Furuoka(2013) found that population growth has a positive effect on economic growth. Julian Simon (1982) argued that countries can benefit from indefinite numbers of people; the more people, the more production. Underlying all this in its contemporary expression is a profound if implicit faith in human ingenuity. Simon(1990) who echoed that greater population growth would result in a larger “stock of useful knowledge”. Mankiw, Romer, and Weil (1990) add human capital accumulation which enhances the quality of the labor force. Sethy and Sahoo (2015) and Tumwebaze and Ijjo (2015) found that population growth has a positive impact on per capita economic growth in India and the Eastern and Southern Africa region. Economist Kuznets (1966; 1967; 1975) viewed that population growth brings new labour force into cities in early industrialization and also increases demand. He shows the association of economic growth with population growth and its urban concentration, which in the early days provided both the masses of workers and the mass market for their product. Further he comments on the desirability of reducing fertility to accord with contemporary low mortality, but expresses no fear of population increase. Population growth in low-income, agricultural societies slows growth in per capita income due to diminishing returns to the growing labour force making more intensive use of a fixed resource base while a growing population in high-income, urban economies may give rise to greater income growth as a result of increasing returns from greater specialization and growth in investments in human capital (Becker et al.,1999).

In contrary, studies of Dao (2013); Darrat and Al-Yousif (1999); (Baker, Delong, & Krugman, (2005); Yao, Kinugasa, and Hamori (2013); and Banerjee (2012) have found a negative effect of population growth upon economic growth; while some others argue that population growth has been and will continue to be problematic as more people inevitably use more of the finite resources available on earth, thereby reducing long-term potential growth (Linden, 2017). Some other studies found that no evidence of any relationship between population growth and economic growth (Dawson & Tiffin (1998); Thornton (2001); and Singha and Jaman (2012). Kelley and Schmidt (2001) and Mierau and Turnovsky (2014) argue that population growth stemming from declining mortality rates stimulates economic growth while population growth resulting from fertility increases will tend to slow it. The reason for these contrasting effects is that declines in mortality provide incentives for people to save more which stimulates growth while increases in fertility have a negative impact on aggregate savings. From the above discussion, it is very obvious to observe that the demographic variables have significant economic, social and environmental implications. Moreover, the populations of nearly all countries are experiencing growth in size and proportion of older individuals, leading to changes in consumption and production patterns that present challenges for the economy. Many lower-income countries, especially in sub-Saharan Africa, will also see a significant increase in their young working-age populations. This presents a unique opportunity to be better prepared for the inevitability of population ageing in the immediate foreseeable future. The transition to sustainable and equitable societies, a process fuelled by the demographic transition, has now become a major concern for governments, organisations, businesses, and intellectuals. Therefore, the evolution of the age structure poses a new challenge for demographers and economists. Although this evolution is happening in developing nations, there is a

difference between the developed and developing countries in the process of demographic transition in terms of its pace and timing (Ahmad – Khan, 2019). A demographic dividend, if realized, would boost economic growth through heightened productivity, greater savings and investment, and a surge in consumer demand.

The demographic transition takes place in various ways across the world due to changes in the historical, geographic, institutional, socioeconomic, political, and cultural impacts of the society in one side and it causes for these techno economic changes reciprocally. In high-income countries, even as the influence of productivity and of working age population size on GDP per capita growth declined, rates of employment and of labour force participation have supported per capita growth; In low-income countries the contribution from working age population growth to total economic growth has increased, but this hasn't been enough to offset the fall in productivity these countries have experienced in the recent past; For lower middle-income countries, growth in the working age population has occurred as productivity growth remained strong. As with low-income countries, declines in the labour force participation rate have generally offset these gains, highlighting the importance of labour market policies and outcomes that can prevent such erosion. But, generally, a youthful and dynamic population brings fresh ideas and energy to the economy, fostering innovation and entrepreneurship. The empirical analysis on the implications of Demographic Dividend at various of regions of the world implies that in the

East Asia, with its mix of Advanced and Developing Economies, the East Asian “Economic Miracle” offers some of recent history’s most compelling evidence of the “Demographic Dividend.” The East Asian demographic transition occurred with relative rapidity, over a 50–75-year period, the fastest demographic transition to date. Modern transitions are faster because countries gain the benefit of knowledge, experience, or technology developed by others.

Japan is perhaps the world’s most rapidly aging country, with life expectancy the highest in the world. Japan is approaching the end of its demographic transition, having enjoyed the economic successes of its demographic dividend, combined with strong policies.

The developed world (North America, Western Europe, Australia, and New Zealand) has reached an advanced stage of the demographic transition. Fertility rates are below replacement level in many countries in Europe, and populations are growing at a slow pace. North America continues to grow largely because of its high rates of net in-migration and large population of childbearing age, while Western Europe’s population has plateaued and will begin a slight decline in a few decades. It is a striking feature to note that the demographic transition in the developed world began in the 19th century. The region, Eastern Europe and the Former Soviet Union is likely to be best served by focusing on health, social well-being, and the economy as a means of reaching long-term demographic stability and positioning itself to cope with an aging society

In the MENA (Middle East and North Africa) countries People are naturally enterprising, provided their opportunities to work are not stifled by bureaucracy, uncompetitive environments, lack of available capital for investment, or an absence of skills. It is believed combined efforts of strengthening human capital formation measures with decreasing fertility, then the Middle East and North Africa could benefit from its demographic dividend; if it doesn't, it will increasingly face the problems that Saudi Arabia is struggling to resolve today.

Sub-Saharan Africa region has yet to experience the typical demographic transition. While mortality has declined, following the pattern in other areas (infant mortality in the region fell by 43 percent between

1960 and 2000), fertility has not declining desirably, although demographers tend to agree that sub-Saharan Africa will experience a fertility transition, there remain disputes concerning its timing, the reasons underpinning continued high fertility rates, and what the best interventions might be the age composition of population of India and States for 1971 to 2036. South and Southeast Asia have lagged behind East Asia in the demographic transition. However, Southeast Asia has recently begun to benefit from the demographic dividend, and South Central Asia is likely to follow. In this region, Fertility levels are still high, tertiary education is weak, and exports are underdeveloped. The potential is there for the rest of Asia to do as well as East Asia. The region's success will depend on its policymakers. For India, the share of 0-14 population is expected to decrease to 19.8 % by 2036. As of 2021, the share of elderly and children in India's total population is 10.1 and 25.5 per cent respectively. The share of elderly population is higher in Kerala, Tamil Nadu and Himachal Pradesh. It is worth noting here that 30 to 40 per cent of population across States is in 25-49 age groups and is expected to rise until 2031.

Latin America began its demographic transition, but was overly reliant on domestic demand and did not export vigorously. Many of its governments were corrupt, and repeated financial disasters had the effect of making saving ill-advised. There are signs of hope, however, between 1990 and 1995, approximately 70 percent of the region opened up to the world economy, reflecting substantial policy reform. And it could have been worse, of course, with even more unsuitable policies, the baby boomers could have become a heavy burden, rather than an asset, as the unemployed acted as a drag on the economy and damaged the fabric of society. The opportunity to benefit from a dividend is not yet lost. Mortality and fertility rates are still in decline, so Latin America can still benefit, but only if its policymakers act decisively and appropriately

In a nutshell, the East Asian nations have experienced the most success in exploiting the “demographic dividend” made available by reduced fertility. Latin America has undergone a less dramatic transition and has had far less success in creating conditions for economic growth. The Middle East and North Africa are still in much earlier stages of the demographic transition, and indeed many parts of sub-Saharan Africa have seen virtually no decreases in traditionally high fertility rates. Japan, a developed country with an aging population, illustrates the “back end” of the demographic transition: It is facing the issues posed by a declining workforce and an increasing ratio of elderly dependents. Eastern Europe and the former Soviet Union also have aging populations and very low birth rates that will present challenges. Based on the above articulations, a modest attempt is made to analyse the implications of Demographic Dividend and Economic Growth relations in India.

Objectives and Hypotheses

The core objective of this paper is to analyse implications of Demographic Dividend and Economic Growth relations in India at macro level and the specifically this paper makes an attempt to analyse the Changes in general Demographic Structure, to analyse the demographic dividend relations with development process and to provide possible suggestions to utilise the demographic dividend to attain sustainable development in the economy. Based on the observations through reviewing the existing literatures in this field it is assumed that due to enunciation and enactment of number of socio, economic, political and institutional awareness measures there is a strategic shift in the stock of demographic dividend in Indian Economy; and it has close nexus with economic development at macro level.

Methods and Materials

The present article is prepared by using only secondary data relating to Changes in GDP distribution; Population Size, Population Growth, Male and Female Population, Age Structure, Work Force Participation Rate, Unemployment rate, Dependency Rate, Migration level, etc...Which were published by various Government Institutions as Reports and Statement like Population Statistics, RBI Bulletin, World Bank Report, Economic Surveys, etc, Websites have also been used as the source of information.

Analysis and Discussion

The world is undergoing a major demographic upheaval with three key components: population growth, changes in fertility and mortality, and associated changes in population age structure. The world population was 3 billion in 1960; it reached 6 billion around 2000, and the United Nations projects it will surpass 9 billion by 2037. The population growth rate has been slowing, however, from peak annual rates above 2 percent in the late 1960s, to about 1 percent currently, to half that by 2050.

It is found that the total population in India was increased from 44.6 crore in 1960 to 142.8 crore in 2023 with the average size of 9.08 crore, however the world average size of population is 4.03 crore. The average growth rate during the period was 1.88% which was sharply declined from 2.31% to 0.8 %, it is less than the world average of 0.94%. Further it is observed that the male population has increased from 23 crore to 73.6 crore while the female was increased from 21.6 crore to 69.2 crore during 1960 and 2023. The population density was also increased from 136 to 435 while the share of rural population was sharply declined from 82.8% to 63.4% during the period. In India, during the period the share of urban population was increased continuously from 18.5% in 1960 to 36.6 % in 2023 while the rural population has come down from 81.5% to 63.4%. (See Table 1)

Demographic transition involves the shift from negligible population growth characterized by high birth and death rates to one of low growth caused by low birth and death rates. During this period, there is a rapid increase in population due to the demographic gap, caused by the lag of fertility decline as compared to the mortality transition. Declines in mortality and fertility comprise the critical components of population change. During a period of transition, population growth will be faster initially due to early changes in the mortality rate, unmatched by fertility. The decline in the natural growth rate is the result of fertility transition. The Infant Mortality Rate is the most sensitive and widely used summary of mortality rate progress and improvement in population health

Table 1. Demographic Structure Distribution in India

Sl. No	Year	Description					Density
		Population Size (Mn)	Sex		Region		
		Population Size (Mn)	Male (in Million)	Female (in Million)	Urban	Rural	
1	1960	446	230	216	17.2	82.8	136
2	1970	557	288	269	19.8	80.2	170
3	1980	687	361	336	23.1	76.9	212
4	1990	869	449	420	25.6	74.4	265

5	2000	1059	548	511	27.7	72.3	322
6	2005	1154	597	557	29.3	70.7	351
7	2010	1230	641	599	30.6	69.4	377
8	2015	1322	683	639	32.8	67.2	402
9	2020	1396	721	675	34.3	65.7	425
10	2021	1407	744	663	35.4	64.6	428
11	2022	1408	732	676	35.9	64.1	431
12	2023	1428	736	692	36.6	63.4	435

Source: mospi.gov.in

From the secondary data distribution it is clear that the Birth Rate has fabulously reduced from 42.07 in 1960 to 16.75 in 2024 while the Death Rate from 22.48 to 7.47; the IMR from 161.74 to 25.79; TFR from 5.92 to 1.96 which reflects on increasing the Longevity which is sharply increased from 41.13 years to 70.62 years and the Median Ages is from 19.2 years to 28.4 years during the period. The historical trends show that average life expectancy in India has more than doubled since the pre-Independence period. The improvement in life expectancy is closely tied to the control of epidemics and famines and the introduction of better medical technology, along with recent changes in socioeconomic conditions. After independence, India became self-sufficient in food supply leading to further expansion of life expectancy. (Refer Table 2)

Numerous demographic and public health studies have overwhelmingly concluded that declines in IMR in the early phase of the demographic transition are mainly the consequence of complementary progress in modern health care in India. The mortality transition in India conveys a couple of important realities. First, the transition began in the early part of the last century. Second, it is apparent from the timing of the transition that significant improvements in living standards have played only a complementary role rather than a leading role in India's mortality transition, unlike in the case of many developed nations. The transition can be better attributed to the expansion of medical facilities and spread of maternal and child health care services. While infant mortality started to decline in the early part of the last century, fertility rates only began to follow suit in the 1960s, and their pace of decline accelerated in the 1980s. Currently, the country has reached close to the replacement fertility level of 2.1 children per woman, as it currently stands at 2.3. It is also observed from studies that the first major change in India's fertility rate trend was observed in 1976; during that year, fertility declined by almost 20 percent, as such, the year 1976 clearly marked a turning point in the path of fertility progress in India, because fertility remained more or less stable (or had even increased) during the initial period of 1961–66. It should be noted that India was in a period of emergency during 1976, a period often associated with overemphasis on the family planning program. The onset of India's fertility decline in 1966–71 also appears to coincide with a major change in the Indian family planning program.

Table 2. Changes in Demographic Structure in India: Vital Rates

Sl. No	Period	Description					
		Birth Rate	Death Rate	Infant Mortality Rate	Fertility Rate	Longevity Rate	Med Age
1	1960	42.0	22.48	161.742	5.92	41.13	19.2

		7					
2	1970	39.2 3	17.45	141.822	5.62	47.41	18.5
3	1980	36.2 2	13.49	114.743	4.78	53.47	18.4
4	1990	31.8 2	11.01	88.791	4.05	57.66	19.3
5	2000	26.6 4	8.80	66.729	3.35	62.28	21.2
6	2005	24.2 7	8.15	55.755	2.96	64.31	22.2
7	2010	21.5 8	7.59	45.307	2.60	66.43	23.6
8	2015	18.9 4	7.25	36.249	2.29	68.37	25.3
9	2020	17.5 9	7.31	29.848	2.05	69.73	27.0
10	2021	17.3 7	7.34	28771	2.03	6996	28.1
11	2022	17.1 6	7.38	27695	2.01	7019	27.7
12	2023	16.9 4	7.41	26619	1.98	7042	28.2
13	2024	16.7 5	7.47	25.799	1.96	70.62	28.4

Source: Various issues of Economic Survey

The population pressure has close nexus with the economic growth of an economy. An economy, if it routinely grows at about 5 percent or more per year, there is a substantial rate of economic growth. Economic growth of 7-8 percent is extraordinary. From the analysis it could be explored that during 1960 - 2023 the average growth was 5.14 percent with a min. of -5.83 percent in 2020 and a max. of 9.63 percent in 1988. The latest value from 2023 is 7.6 percent which was greater than the world average only 4.20 %. With regard to the GDP growth, the average GDP in India during that period was USD 840200 million (Mn) with a min. of USD 373400 Mn in 1960 and a max. of USD 3550000 million in 2023. The average value GDP per capita for India during that period 1960 – 2023 was USD 627.24 with a min. of USD 83.04 in 1960 and a max. of USD 2485 in 2023. Similarly, the savings has also increased from USD 2.69 billion to USD 1094 Bn while the capital investment has increased from USD 676 Mn to USD 1189 Mn. All these have close demographic implications. From the data distributed in the table, it is obviously observed that the population is negatively attributed with the growth process, i.e, during the period, as the population growth rate declines from 2.31 to 0.80 the GDP increases from USD 37.3 Bn to USD 3550 Bn; GDP Per Capita was merely from USD 83 to USD 2485 (Refer Table 3.).

Table 3. Population and Economy Nexus

Sl. No	Period	Population		Income Variables				
		Size (Mn)	Growth Rate	Change in Real GDP	GDP Bn. USD	GDP Per Capita, USD	Savings Bn USD	Investment Bn USD
1	1960	446	2.31	--	37.3	83	2.69	5.4
2	1970	557	2.23	5.16	62.4	112	7.10	11.7
3	1980	687	2.29	6.74	186.3	267	23.29	36.7
4	1990	869	2.16	5.53	320.9	369	69.46	67.9
5	2000	1059	1.84	3.84	468.4	442	113.9	120.3
6	2010	1230	1.39	8.50	1675.6	1351	574.2	666.7
7	2015	1323	1.19	8.00	2103.6	1590.2	682.7	675.6
8	2016	1339	1.19	8.26	2294.8	1714.3	707.5	692.4
9	2017	1354	1.16	6.80	2651.5	1958.8	840.7	821.5
10	2018	1369	1.09	6.45	2702.9	1974.4	849.0	874.2
11	2019	1381	1.03	3.83	2835.6	2050.2	842.2	853.4
12	2020	1396	0.96	-5.83	2674.9	1916.2	761.6	768.2
13	2021	1408	0.80	9.05	3167.3	2250.1	887.8	983.7
14	2022	1407	0.68	7.00	3353.5	2366.6	1010.0	1054.7
15	2023	1428	0.81	7.58	3549.9	2485.0	1094.0	1189.0

Source: Various issues of RBI Bulletin

There is a complex relationship witnessed between ageing and growth at macro level, the evidence indicates that the overall effect of an ageing national population on total labour productivity is quite small compared to the influence of other factors such as education and institutional support. Ageing may lead to lower demand for certain types of businesses, however the effect on investment in machinery and equipment is less clear. New technologies such as digitalization and automation can be used to increase output per worker and per capita, but this depends on the availability of financing for firms to make the necessary investments. India is also currently witnessing a change in its age distribution with the proportion of adults increasing and the proportion of children falling. In our country, the percentage of the population in the age up to 14 was declined from 41.44 % in 1960 to 25.06 % in 2023 with the average of 36.05 %, while it was increased from 3.29 % to 6.70 %, more than doubled in the age above 65 with the average of 4.47%. The percentage of the population belonging to the working age group of

15–64 was 55% and it reached over 65 percent in 2015 and it has gone up further to 68.1. Similarly, the average of dependency rate in India during that period was 68.78 percent and it was declined from 81.08 in 1960 to 47.00 in 2023. However the India's average rate is comparatively higher than the world average of 58.67 percent. (See Table 4).

Table 4. Changes in Age and Dependency Distribution in India

Sl. No	Period	Description			
		Population Age- Above 65	Population Age- 15-64	Population Age-Up to 14	Dependency Rate
1	1960	3.29	55.27	41.44	81.08
2	1970	3.81	56.28	39.91	77.00
3	1980	3.93	57.36	38.71	72.00
4	1990	4.00	58.00	38.00	66.00
5	2000	4.40	60.20	35.40	66.10
7	2010	5.50	63.70	30.90	57.10
8	2015	5.64	65.62	28.63	52.15
9	2016	5.84	65.97	28.12	51.41
10	2017	6.04	66.33	27.60	50.68
11	2018	6.25	66.65	27.09	50..02
12	2019	6.47	66.94	26.59	49.40
13	2020	6.67	67.24	26.11	48.78
14	2021	6.80	67.55	25.69	48.13
15	2022	6.90	67.81	25.31	47.50
16	2023	6.70	68.02	25.06	47.00

Source : www.statista.com

Table 5. Labour Force Participation Rate Distribution

Sl. No	Period	Description					
		L F P R Ages 15-24			L F P R Ages 15-64		
		Total	Male	Female	Total	Male	Female
1	1991	45	58	30	60	86	32
2	1995	46	65	29	61	86	33
3	2000	44	63	24	62	87	36
4	2005	46	64	28	62	85	37
5	2010	37	52	19	57	82	30
6	2015	31	50	15	55	81	28
7	2020	29	43	12	54	79	28
8	2021	28	43	12	56	80	30
9	2022	29	43	13	57	80	32
10	2023	32	45	18	58	81	34

India has witnessed a complex trend in the Work Force Participation Rate which is not favourable to inclusive growth process over the period of time. For the case of Labourers belong to the age group of

15-24, the Total LFPR has come down from 45 to 32, of which Male LFPR was from 58 to 45 while Female LFPR was from 30 to 18; in the age group of 15-64, the Total LFPR has slightly come down from 60 to 58, of which Male LFPR was from 86 to 81 while Female LFPR was slightly increased from 32 to 34. This may be due to higher economic engagement, declining unemployment, and more educated women entering the workforce.

Table 5 Demographic Dividend and Growth Nexus

Sl. No	Period	Description				
		Population Growth Rate	Population Age- 15-64 (%)	Dependency Rate	GDP Bn. USD	GDP Per Capita, USD
1	1960	2.31	55.27	81.08	37.03	83
2	1970	2.23	56.28	77.00	62.42	112
3	1980	2.29	57.36	72.00	186.33	267
4	1990	2.16	58.00	66.00	320.9	369
5	2000	1.84	60.20	66.10	468.4	442
6	2010	1.39	63.70	57.10	1675.6	1351
7	2015	1.19	65.62	52.15	2103.6	1590.2
8	2016	1.19	65.97	51.41	2294.8	1714.3
9	2017	1.16	66.33	50.68	2651.5	1958.8
10	2018	1.09	66.65	50.02	2702.9	1974.4
11	2019	1.03	66.94	49.40	2835.6	2050.2
12	2020	0.96	67.24	48.78	2674.9	1916.2
13	2021	0.80	67.55	48.13	3167.3	2250.1
14	2022	0.68	67.81	47.50	3353.5	2366.6
15	2023	0.81	68.02	47.00	3549.9	2485.0

Source: data.worldbank.org.

The concept of the age structure of any country is crucial for economic growth because people in different age groups behave differently with different economic consequences. The demographic dividend can help to improve the living standards of the individuals through increasing capital, improving the quality of the labour force, increasing the female participation in labour force, slowing unsustainable fractionalizing of landholdings and increasing demand for goods and services. Hence, in this paper the demographic dividend and GDP, GDP Per Capita, Savings and Investment have also analysed. With regard to the GDP growth, the average GDP in India during that period was USD 840200 million (Mn) with a min. of USD 373400 Mn in 1960 and a max. of USD 3550000 million in 2023. The average value GDP per capita for India during that period 1960 – 2023 was USD 627.24 with a min. of USD 83.04 in 1960 and a max. of USD 2485 in 2023. Similarly, the savings has also increased from USD 2.69 billion to USD 1094 Bn while the capital investment has increased from USD 676 Mn to USD 1189 Mn. All these have close demographic implications. From the data distributed in the table, it is obviously observed that the population is negatively attributed with the growth process, i.e, during the period, as the population growth rate declines from 2.31 to 0.80 the GDP increases from USD 37.3 Bn to USD 3550 Bn; GDP Per Capita was merely from USD 83 to USD 2485.

Table 6. Demographic Dividend and Savings and Investment Nexus

Sl. No	Period	Description						
		Population Growth Rate	Population Age- 15-64 (%)	Dependen cy Rate	Savings Bn USD	% of GDP	Investment Bn USD	% of GD P
1	1960	2.31	55.27	81.08	2.69	12	5.4	18
2	1970	2.23	56.28	77.00	7.10	15	11.7	18
3	1980	2.29	57.36	72.00	23.29	19	36.7	20
4	1990	2.16	58.00	66.00	69.46	23	67.9	27
5	2000	1.84	60.20	66.10	113.9	24	120.3	26
6	2010	1.39	63.70	57.10	574.2	35	666.7	40
7	2015	1.19	65.62	52.15	682.7	33	675.6	32
8	2016	1.19	65.97	51.41	707.5	32	692.4	30
9	2017	1.16	66.33	50.68	840.7	32	821.5	31
10	2018	1.09	66.65	50..02	849.0	31	874.2	32
11	2019	1.03	66.94	49.40	842.2	30	853.4	30
12	2020	0.96	67.24	48.78	761.6	29	768.2	29
13	2021	0.80	67.55	48.13	887.8	30	983.7	32
14	2022	0.68	67.81	47.50	1010.0	30	1054.7	33
15	2023	0.81	68.02	47.00	1094.0	31	1189.0	33

Source: data.worldbank.org.

Policy Implications and Conclusion

In the global population growth trajectory, India acquires a unique opportunity rather than a concern. As of 2023, more than half of India's population is under the age of 29, with over a quarter being 14 years or younger, according to government projections. It is noteworthy that India's ongoing population growth is projected to continue for several decades, carrying implications for economic development, employment, income distribution, poverty alleviation, and social welfare measures. Policymakers must harness this demographic dividend by focusing on enhancing opportunities for India's youth rather than viewing it as a demographic burden. Based on the analysis, some of policy measures are suggested for better harnessing and effective utilisation of the potential youth at macro level. India has at most one decade left before the old age dependency ratio starts increasing. The extent of the dividend in the coming years will depend on the ability of the State to create conducive environment today; India can empower its young population to become highly productive contributors to the economy. It is also advocated that the long-term policy requires a stable population consistent with the requirements of sustainable economic growth, social development, and environmental protection. Measures should be taken for Capitalizing on technology to realize demographic dividends by identifying the skills and education necessary to make young workers more employable for the jobs of today and to develop an education system that can prepare future workers for the jobs of tomorrow. Creation of Digital technology platforms and services and Gig-economy technology platforms are needed to strengthen and support the human capital stock; Strengthening education in science, technology, engineering and

mathematics with the support of behavioural sciences and social sciences can help harness the potential impact of technology on innovation and economic growth; For young people that have recently entered the labour force, training must remain relevant to the ever-changing labour market demand; Financial inclusion of young people must be ensured; further, to reap the demographic dividend, policies should go beyond anti-poverty initiatives and focus on childcare, transportation, and removing legal barriers to women's employment. The government's awareness campaign should increase women's autonomy and decision-making power. In order to capitalize the demographic dividend, proactive dynamic comparative advantage, systematic human resource management practices in the public and private sectors should be developed. Decent work is at the heart of a dynamic and sustainable development system. As a result, encouraging decent jobs will boost the employability of the working-age population. Furthermore, a decent work culture for the working-age population should be implemented, which will strengthen rural communities. The government can intervene to realize the country's ongoing demographic dividend by increasing the rate of productivity growth by investing in human capital via educational policies, worker training, entrepreneurial skill and health programs; further, encouraging research and development will also result in a higher rate of productivity growth.

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