Fertility Transition and India's Economic Transformation: A Demographic Perspective

11

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Abstract

India has experienced a significant demographic and economic transformation since the early 1990s, driven by changes in population growth, fertility patterns, labour force expansion, and sustained economic development. This study examines the relationship between demographic transition and economic transformation in India during the period 1992–2025 using trends in population, fertility, labour force, and Gross Domestic Product. During the study period, India's population increased from 0.902 billion to 1.46 billion, while the total fertility rate declined from 3.9 to 2.0 births per woman, indicating a transition towards replacement-level fertility. Simultaneously, the labour force expanded from 0.324 billion to 0.617 billion, supporting higher productive capacity and economic growth. India's GDP also increased substantially from US$288.21 billion in 1992 to US$3960 billion in 2025, reflecting rapid structural transformation and economic progress. The analysis highlights that declining fertility and an expanding working-age population have created favourable conditions for a demographic dividend, while challenges such as employment generation, skill development, informal employment, and population ageing continue to influence long-term development. In conclusion, demographic transition has been a major

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contributor to India's economic transformation, and its long-term benefits depend on effective investment in human capital, productive employment, and inclusive policies that promote sustainable and balanced economic growth.

Keywords: *Demographic Transition, Economic Transformation, Labour Force, India.*

Introduction

Demographic change is one of the most fundamental forces shaping the economic and social transformation of nations. Changes in fertility, population growth, and age structure influence labour supply, human capital formation, consumption patterns, savings, and the overall direction of economic development. Among these demographic processes, the fertility transition represents a critical stage of development, reflecting the shift from high fertility and rapid population growth to lower fertility and changing population dynamics. Understanding these changes is essential for analysing the relationship between demographic transition and economic transformation.

India's demographic transition has emerged as a significant component of its broader economic transformation since the early 1990s. Following the economic reforms initiated in 1991–92, the country experienced rapid economic expansion alongside major demographic changes, including a substantial decline in fertility, continued population growth, and the expansion of the working-age population. The total fertility rate declined from 3.9 births per woman in 1992 to approximately 2.0 in 2024, reflecting improvements in education, healthcare, urbanisation, rising incomes, women's empowerment, and greater awareness of family planning. Despite declining fertility, population momentum increased India's population from 0.902 billion in 1992 to approximately 1.46 billion in 2025, resulting in significant changes in the country's demographic structure.

The expanding working-age population contributed to a substantial increase in the labour force, which grew from 0.324 billion in 1992 to 0.617 billion in 2025. This demographic shift strengthened productive capacity, supported domestic demand, and contributed to sustained economic growth. During the same period, India's Gross Domestic Product (GDP) increased from US$288.21 billion to approximately US$3.96 trillion, highlighting the close relationship between demographic transition and economic development.

In conclusion, India's demographic transition has played a pivotal role in shaping its economic transformation. Fertility decline, continued population growth, and labour force expansion have created significant opportunities for economic growth while also presenting challenges related to employment generation, skill development, and future population ageing. Understanding these demographic changes is therefore essential for evaluating India's development trajectory and formulating policies that promote sustained, inclusive, and long-term economic growth.

India's Population Growth and Demographic Transition

Growth of Population Size

India has experienced a significant expansion in its population size during the period 1992–2025. The population increased from 0.902 billion in 1992 to 1.46 billion in 2025, representing an addition of more than half a billion people over three decades. The population growth was continuous throughout the period, rising from 0.902 billion in 1992 to 0.960 billion in 1995, 1.08 billion in 2001, 1.24 billion in 2010, 1.39 billion in 2019, and reaching 1.46 billion in 2025.

The increase in population reflects the impact of population momentum, where a large proportion of the population entered reproductive ages despite declining fertility levels. Although the total fertility rate declined from 3.9 births per woman in 1992 to 2.0 births per woman in 2024, population growth continued due to the existing demographic structure. This indicates that India has been undergoing a transition from a phase of rapid population growth towards a more stable population pattern. The expansion of population has significantly increased India's demographic scale and strengthened its position as one of the largest population centres in the world. A large population has contributed to the expansion of the domestic market by increasing demand for goods and services. The growth of the consumer base has supported economic activities, encouraged investment, and provided opportunities for businesses across different sectors.

Changing Pattern of Population Growth

India's population growth pattern has changed considerably between 1992 and 2025. During the 1990s and early 2000s, population growth remained relatively high, with the population increasing from 0.902 billion in 1992 to 1.08 billion in 2001 and 1.14 billion in 2004. This period reflected the continuation of earlier demographic trends characterised by

higher fertility and a growing population base. However, after 2010, the pace of population growth gradually slowed. The population increased from 1.24 billion in 2010 to 1.30 billion in 2013, 1.34 billion in 2016, and 1.41 billion in 2021 before reaching 1.46 billion in 2025. The slower growth rate was closely associated with the decline in fertility levels, which reached the replacement level of approximately 2 births per woman by 2024. This transition indicates India's movement towards population stabilisation. The decline in fertility, combined with improvements in education, healthcare, and living standards, has changed the demographic structure of the country. The increasing share of the working-age population has created conditions for a potential demographic dividend.

Implications of Population Growth

India's population growth has generated both opportunities and challenges for economic and social development. A major implication of population expansion is the increasing demand for employment opportunities. The growth of population has been accompanied by a rise in the labour force, which increased from 0.324 billion in 1992 to 0.617 billion in 2025. This expansion provides a large workforce that can contribute to economic production and growth if supported by adequate employment opportunities and skill development. The growing population has also increased demand for infrastructure, including housing, transportation, healthcare, education, and urban services. Rapid population growth places pressure on natural resources such as land, water, and energy, requiring effective planning for sustainable development.

At the same time, India's large population provides significant economic advantages. The expansion of the consumer base has supported domestic demand and contributed to economic growth. This demographic advantage has coincided with India's economic expansion, with GDP increasing from US$288.21 billion in 1992 to US$3960 billion in 2025. Therefore, population growth has acted as both a development challenge and an opportunity, depending on the country's ability to transform demographic potential into productive economic outcomes.

Fertility Transition in India

Decline in Total Fertility Rate

Fertility transition has been one of the most important demographic changes experienced by India during the period 1992–2024. The total

fertility rate (TFR), which represents the average number of births per woman, declined significantly from 3.9 births per woman in 1992 to 2.0 births per woman in 2024. This decline reflects a major transformation in reproductive behaviour, family size preferences, and demographic patterns. During the early 1990s, India was characterised by relatively high fertility levels, with a fertility rate of 3.9 births per woman in 1992. However, fertility gradually declined over the following decades, reaching 3.7 in 1995, 3.3 in 2001, and 3.0 in 2004. The decline continued during the 2007–2019 period, with fertility falling from 2.8 births per woman in 2007 to 2.1 births per woman in 2019. By 2021 and 2024, the fertility rate had reached approximately 2 births per woman, indicating a transition towards replacement-level fertility. The decline in fertility occurred alongside continued population growth due to population momentum. India's population increased from 0.902 billion in 1992 to 1.46 billion in 2025, despite the reduction in fertility levels. This demonstrates that fertility decline influences long-term population stabilisation rather than causing an immediate reduction in population size.

Factors Behind Fertility Decline

The decline in fertility in India has been driven by several interrelated social, economic, and institutional factors, including:

- **Expansion of Education:** Increased educational attainment, particularly among women, has improved awareness of reproductive health, encouraged delayed marriage, and promoted informed family planning decisions.
- **Improvement in Healthcare:** Better access to maternal and child healthcare services, improved reproductive health facilities, and declining infant and child mortality have reduced the need for larger families.
- **Urbanisation-** Rapid urbanisation has changed lifestyles, increased the cost of living, and encouraged a preference for smaller family sizes. Urban areas also provide better access to education, healthcare, and employment opportunities.
- **Family Planning Programmes:** Government initiatives and greater awareness of contraceptive methods have enabled couples to make informed decisions regarding the timing and number of children.

- **Economic Development:** Rising incomes, improved living standards, and changing economic aspirations have encouraged households to invest more in the quality of life and education of fewer children.
- **Changing Social Values:** Increasing female participation in higher education and the workforce, changing family structures, and shifting attitudes towards marriage and childbearing have contributed to lower fertility levels.
- **Women's Empowerment:** Greater economic independence, decision-making power, and access to education have enabled women to exercise greater control over fertility and reproductive choices.

Economic and Social Effects of Fertility Decline

The decline in fertility has produced several important economic and social effects in India-

- **Reduction in Dependency Burden:** Lower fertility has reduced the proportion of dependent children, enabling households and the government to allocate more resources to education, healthcare, and social development.
- **Change in Age Structur**e: The decline in fertility has increased the share of the working-age population, creating favourable conditions for demographic transition.
- **Expansion of Labour Force:** As the working-age population increased, India's labour force expanded from 0.324 billion in 1992 to 0.617 billion in 2025, strengthening the country's productive capacity.
- **Demographic Dividend:** A larger working-age population has created opportunities for higher productivity, increased savings, greater investment, and faster economic growth.
- **Human Capital Development:** Smaller family sizes have enabled greater investment in education, healthcare, and skill development, improving the quality of human capital.
- **Higher Productivity and Economic Growth:** An educated and skilled workforce has contributed to increased labour productivity and sustained economic development.
- **Population Ageing:** Continued low fertility, combined with rising life expectancy, is gradually increasing the proportion of elderly

people, creating future challenges for healthcare, pension systems, and social security.

- **Need for Policy Support:** Maximising the benefits of fertility decline requires policies that promote productive employment, human capital investment, and preparedness for an ageing population.

Expansion of India's Labour Force and Economic Growth

India's labour force expanded substantially between 1992 and 2025, reflecting the country's demographic transition and growth in the working-age population. The labour force increased from 0.324 billion in 1992 to 0.617 billion in 2025, an increase of approximately 90.43 %. This growth was driven by declining fertility and continued population expansion, which increased the proportion of economically active individuals and strengthened India's productive capacity. The steadily growing workforce created favourable conditions for industrialisation, higher productivity, and sustained economic development.

The expansion of the labour force enabled India to benefit from a demographic dividend. Fertility declined from 3.9 births per woman in 1992 to 2.0 in 2024, reducing dependency while increasing the working-age population. Simultaneously, India's population grew from 0.902 billion to 1.46 billion, creating one of the world's largest labour and consumer markets. These demographic changes supported higher production, increased household income, expanded domestic demand, and rapid GDP growth from US$288.21 billion in 1992 to US$3.96 trillion in 2025.

Despite these gains, important challenges remain, including insufficient employment generation, widespread informal employment, skill shortages, and relatively low female labour force participation. Addressing these issues through job creation, education, vocational training, and greater workforce participation by women is essential for transforming India's demographic dividend into sustained, inclusive, and long-term economic growth.

Demographic Transition and Economic Transformation

India's demographic transition has played a crucial role in shaping its economic transformation over the past three decades. Changes in population size, fertility levels, and labour force composition have influenced economic growth, productivity, and development. While India's population increased from 0.902 billion in 1992 to 1.46 billion in 2025,

the total fertility rate declined from 3.9 births per woman to 2.0 births per woman by 2024. The decline in fertility reduced the dependency ratio and increased the proportion of the working-age population, thereby creating favourable conditions for economic expansion.

The interaction between these demographic variables has contributed to improvements in productivity and economic performance. A larger working-age population has increased labour availability, supported industrial and service sector growth, and strengthened domestic demand. During the same period, India's GDP increased substantially from US$288.21 billion in 1992 to US$3960 billion in 2025, reflecting the combined effects of demographic transition, economic reforms, technological progress, and investment. Although demographic change alone does not guarantee economic growth, it provides an important foundation for enhancing productivity when supported by appropriate policies.

Opportunities and Challenges

India's demographic transition presents both significant opportunities and important challenges. The expansion of the working-age population offers a demographic dividend that can accelerate economic growth through higher labour productivity, increased savings, and greater consumption. Investments in education, healthcare, and skill development can improve human capital and enable the workforce to contribute more effectively to national development.

However, realising these benefits requires the creation of adequate employment opportunities and improvements in job quality. Persistent unemployment, underemployment, and skill mismatches may limit the potential gains from demographic change. In addition, declining fertility and increasing life expectancy are expected to result in gradual population ageing, placing greater pressure on healthcare systems, pension programmes, and social security. Therefore, India's long-term economic transformation will depend on its ability to utilise its demographic dividend while preparing for the challenges associated with an ageing population and evolving labour market demands.

Conclusion

India's demographic transition between 1992 and 2025 has played a significant role in shaping the country's economic transformation. During this period, India experienced substantial changes in population growth,

fertility patterns, labour force expansion, and economic performance. The population increased from 0.902 billion in 1992 to 1.46 billion in 2025, while the total fertility rate declined from 3.9 births per woman to 2.0 births per woman, indicating a transition towards replacement-level fertility. These demographic changes altered the age structure of the population and increased the proportion of the working-age population. The expansion of the labour force has been one of the most important outcomes of this demographic transition. India's labour force grew from 0.324 billion in 1992 to 0.617 billion in 2025, providing a strong foundation for economic growth. Supported by economic reforms, technological advancement, and increased investment, the expanding workforce contributed to a remarkable rise in India's Gross Domestic Product (GDP), which increased from US$288.21 billion in 1992 to US$3960 billion in 2025. This demonstrates the close relationship between demographic changes and economic development. However, demographic transition alone cannot guarantee sustained economic progress. The successful utilisation of the demographic dividend depends on productive employment, quality education, skill development, improved healthcare, and greater participation of women in the labour force. At the same time, declining fertility and increasing life expectancy indicate that India will gradually face the challenges of population ageing, requiring long-term planning in social security and healthcare.

Overall, India's experience demonstrates that demographic transition has been a key driver of economic transformation. By effectively investing in human capital, employment generation, innovation, and inclusive development, India can maximise the benefits of its demographic dividend while ensuring sustainable and balanced economic growth in the years ahead.

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