



Indian Population Overtaking China: Opportunities and Threats

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ABSTRACT

India and China, the two most populous countries in the world, have long been engaged in a population race. Recent projections suggest that India is on track to overtake China as the most populous nation by 2027. China's population is older than India's and beginning to age rapidly, which may limit economic growth, while an increasing percentage of India's population will consist of working-age people through 2030, has given India an important demographic advantage. The impact of this demographic shift on economic growth will depend on many factors, including the infrastructure, education system, and health care systems in each country and how well other country integrates women into its workforce. While this milestone signifies a significant demographic shift, it also brings forth a range of opportunities and threats for India. This article examines the implications of India's population surpassing China, highlighting both the potential advantages and challenges it may face.

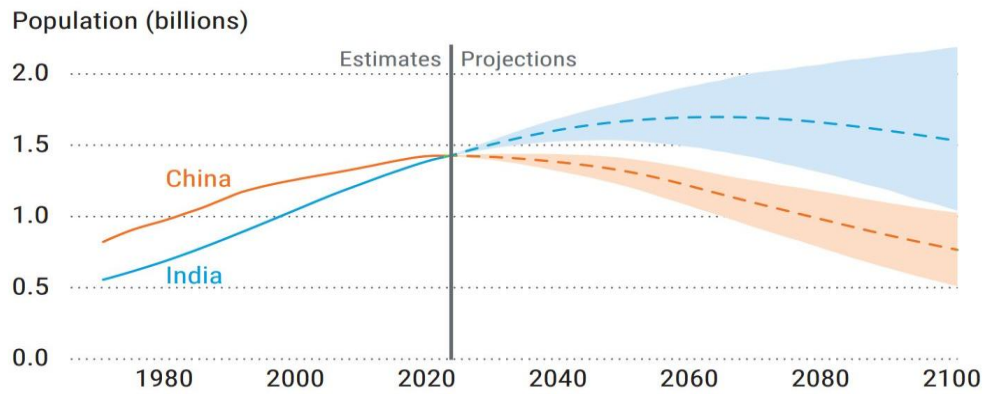
Key Words: *India, Economy, Population, China, Demographic dividend, Fertility rate, Economic Growth, Labour Force.*

1. INTRODUCTION

In the realm of global population dynamics, a significant and historic shift is underway as India, the world's second-most populous nation, gradually surpasses China to become the most populous country. This momentous transition holds profound implications for various aspects of society, including economic development, geopolitics, environmental sustainability, and social welfare. As India's population trajectory continues its upward climb, it is crucial to examine the opportunities and threats that arise from this demographic shift.

By population surpassing 1.3 billion people, India has been on a steady growth trajectory for decades. The latest estimates and projections of global population from the United Nations which indicate that China will soon cede its long-held status as the world's most populous country. In April 2023, India's population is expected to reach 1,425,775,850 in April 2023, equaling or exceeding the population of mainland China (Figure 1).

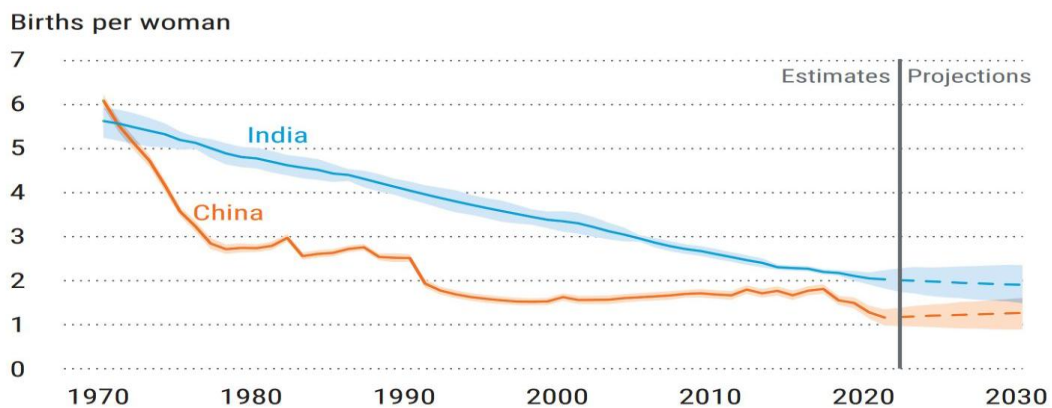
Figure 1: Trends in total population for China and India, estimates for 1970-2022 and projections for 2023-2100 (with 95 per cent prediction intervals)



Source: United Nations, *World Population Prospects 2022*, <https://population.un.org/wpp/>.

The population age distribution of the two countries, India and China, is also very different and varies significantly. Because of China’s declining fertility, the average age of its population is higher than India’s fertility and average age (Figure 2).

Figure 2: Trends in total fertility for China and India, estimates for 1970-2021 and projections for 2022-2030



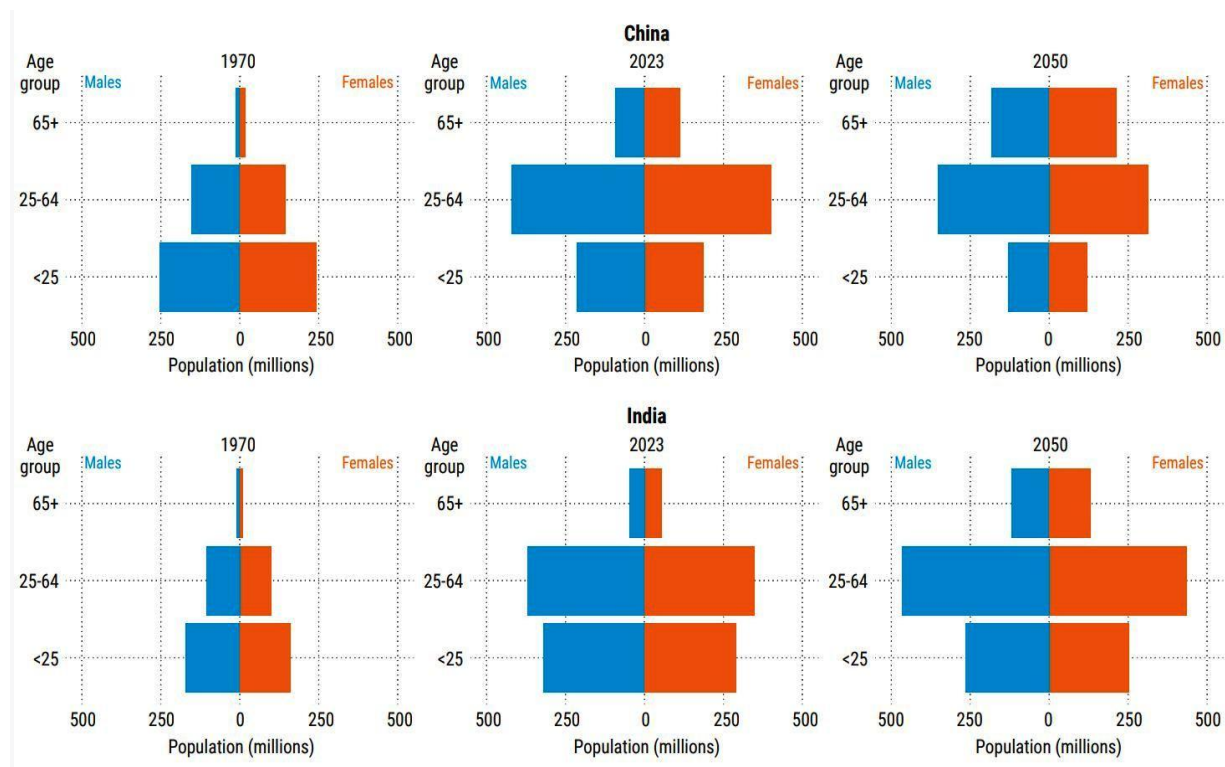
Source: United Nations, *World Population Prospects 2022*, <https://population.un.org/wpp/>.

The fertility rates of India and China have shown distinct trajectories since 1970. As shown in figure 2, both India and China have experienced significant declines in fertility rates since 1970. India's

decline has been relatively gradual, while China's decline was more rapid due to the implementation of the One-Child Policy. However, in recent years, China has faced challenges with low fertility rates, leading to concerns about an aging population and its economic implications. India, on the other hand, still has a slightly higher fertility rate but is also experiencing a declining trend.

As shown in Figure 3, China's largest age cohorts consisted of people aged 25-64, and 65+. By contrast, India's age structure more closely resembles the classic "pyramid" shape, in which the youngest cohort is the largest and each succeeding age cohort is slightly smaller than the next younger one.

Figure 3: Population size by age and sex in China and India, estimates for 1970 and projections for 2023 and 2050



Source: United Nations, *World Population Prospects 2022*, <https://population.un.org/wpp/>

By 2050, China's population will skew heavily toward older age groups, whereas India's population will have its largest cohorts in the age groups below 65. Reflecting this changing age composition, the two countries will experience different patterns in the percentage of population that is of working age



(customarily ages 25–64). While both India and China are grappling with population aging, they are at different stages of the demographic transition. India is currently benefiting from the demographic dividend, while China is facing the consequences of an aging population. Leveraging the demographic dividend effectively and adapting to the challenges of population aging will be critical for both countries to ensure sustainable economic growth and social well-being in the future.

2. EMPIRICAL EVIDENCE

Evidence supports the claim that the working-age population and the increase in the working age population have a positive effect on economic growth. James (2008) confirmed the relationship between working age and per capita income from his data (1971-2001). However, the author did not isolate the difference between overall population growth for each age groups including the working age once and demographic dividend where population growth is only in the working age groups (15-59) years. Kumar (2010) overcomes this deficiency by presenting a variable for growth in share of working age populations. The authors' findings conclude that the Indian states with higher ratio of working age populations grew faster than the others.

In their article titled "Evidence for Population Dividends from Indian States" (2011), Shekhar Aiyar and Ashoka Mody examine changes in age-structured populations in 22 Indian states and data for a 10-year period from 1961 to 2001. After adjusting for the interstate migration it were found that there is large and significant impact of the label and growth of the working age ratio on per capita economic growth. The results showed that demographic dividend could add up to 2% per year to India's per capita GDP growth over the next two decades. Vasundhara Thakur (2012) in her paper titled "the demographic dividend in India: gift or curse?" found that the growth in the working generation has a negative impact on the per capita economic growth in India. Saibal Ghosh (2016) in her article "Estimating the demographic dividend: Evidence from Indian states" calculates the control variables for the system such as health, education, and financial infrastructure as well as the direct and indirect demographic dividends totaling 1.6 percent points. The findings conclude that the share of worker age and its development have a positive and statistically significant impact on the growth of the economy.

There are literature gaps in the empirical research papers where most of the papers on demographic dividend consider working age population between (15-59) years instead of (25-59) years this is questioned because (15-25) years majority of the youth population is either pursuing secondary education or higher education and is not a part of the labour force or the working age population.



The opportunities that arise from India's population overtaking China are multifaceted. Firstly, a large population can serve as a valuable resource, fostering innovation and driving economic growth. India's youthful demographic profile presents a potential demographic dividend, where a significant proportion of the population is of working age. With proper investment in education, skills development, and employment opportunities, India can leverage this demographic advantage to fuel economic progress and prosperity.

3. OPPORTUNITIES

Despite the risks associated with population growth, there are also several opportunities that can be harnessed for India's development. One of the key advantages lies in the demographic dividend—the proportion of the working-age population in comparison to dependents. India is currently experiencing a youth bulge, with a large working-age population. If this population is properly educated, skilled, and employed, it can drive economic growth, innovation, and productivity.

3.1 Economic Potential: With a larger population, India can leverage its domestic market potential. The increased consumer base presents opportunities for businesses to expand and thrive. The rising middle class in India will drive demand for a wide range of goods and services, stimulating economic growth and attracting investments. This growth potential can propel India to become an economic powerhouse, fueling innovation, entrepreneurship, and job creation.

3.2 Market Potential and Consumer Demand: With a population of over 1.3 billion people, India's emergence as the most populous nation presents an enormous consumer market. The increased population size and rising middle class create a significant demand for goods and services across various sectors. This presents an opportunity for domestic and international businesses to tap into this expanding market, stimulating economic growth, and generating employment opportunities.

3.3 Skilled Workforce and Human Capital: India's population overtakes brings with it a substantial pool of human capital. With a large and youthful workforce, there is a tremendous potential for innovation, entrepreneurship, and productivity. By investing in education, skill development, and vocational training, India can enhance its human capital and create a highly skilled workforce capable of driving economic growth, technological advancements, and fostering innovation.



3.4 Demographic Dividend: India is currently in the midst of a demographic dividend phase.

The country has a large working-age population, which, if effectively utilized through education, skill development, and job creation, can contribute to significant economic growth. However, realizing the full potential of the demographic dividend requires investment in education, healthcare, and creating adequate employment opportunities.

3.5 Economic Potential: With a larger population, India can harness its demographic dividend and leverage the growing workforce to fuel economic growth. A larger labor force means a larger consumer base, attracting domestic and foreign investment, stimulating domestic demand, and driving economic activities. This can lead to increased job opportunities, improved living standards, and higher per capita income.

3.6 Innovation and Entrepreneurship: A larger population can foster a culture of innovation and entrepreneurship. With a diverse and expanding talent pool, India can tap into the creative potential of its population, leading to technological advancements, start-up growth, and increased competitiveness in various sectors. This can contribute to economic diversification and bolster India's position as a global leader in innovation.

3.7 Diplomatic Influence: India's rise as the world's most populous country could enhance its diplomatic influence on the global stage. As a significant global player, India can play a pivotal role in shaping international policies, addressing global challenges, and advancing its interests in various arenas, including trade, climate change, and security.

3.8 Human Capital: A larger population offers the opportunity to invest in human capital. By prioritizing education, healthcare, and skill development, India can equip its population with the knowledge and skills necessary for economic and social advancement. A well-educated and skilled workforce can attract more investments, drive technological advancements, and enhance productivity in various sectors.

Moreover, an expanding consumer base within India offers immense market potential for both domestic and international businesses. As the middle class continues to grow, the demand for goods and services will increase, opening doors for investment, trade, and technological advancements. This demographic shift may also enable India to strengthen its position on the global stage, as a larger population can enhance its diplomatic influence and geopolitical clout.



However, alongside these opportunities, there are also significant threats and challenges that must be addressed. Rapid population growth places immense pressure on infrastructure, healthcare systems, and social services. Adequate provision of basic amenities, such as housing, sanitation, healthcare, and education, becomes crucial to ensure the well-being and quality of life for all citizens. Failure to meet these needs could lead to social unrest, inequality, and political instability

4. THREATS

4.1 Strain on Resources: The rapid population growth can strain India's already limited resources. The demand for food, water, energy, and housing will escalate, posing challenges in terms of availability, affordability, and sustainability. Addressing resource scarcity will require effective resource management, sustainable agricultural practices, and investment in infrastructure and renewable energy sources.

4.2 Infrastructure Challenges: The surge in population will put immense pressure on India's infrastructure. The need for transportation networks, healthcare facilities, schools, and housing will increase significantly. Ensuring adequate and efficient infrastructure to cater to the growing population will be a daunting task, requiring substantial investments and effective urban planning.

4.3 Environmental Impact: A larger population will inevitably have a greater environmental impact. Increased urbanization, industrialization, and consumption patterns can lead to higher levels of pollution, deforestation, and carbon emissions. Mitigating these environmental challenges will require a focus on sustainable development practices, renewable energy adoption, conservation of natural resources, and promoting environmental awareness among the population.

4.4 Social and Economic Inequalities: The population surge can exacerbate existing social and economic inequalities. Ensuring inclusive growth, reducing poverty, and bridging the urban-rural divide will become even more critical with a larger population. Failing to address these disparities can lead to social unrest, hinder development, and undermine the overall progress of the nation.

4.5 Poverty and Inequality: India already faces significant challenges related to poverty and inequality. The growing population exacerbates these issues, as more people compete for



limited resources and opportunities. Unemployment rates remain high, particularly among the youth, leading to social and economic disparities. Moreover, rapid population growth puts pressure on the government to provide essential services such as healthcare, education, and housing, which can strain the already limited public resources.

5. SUGGESTIONS

To leverage the demographic dividend in India, the government can consider implementing the following suggestions:

5.1 ENHANCING EDUCATION AND SKILL DEVELOPMENT: Emphasize the importance of quality education and vocational training to equip the younger population with relevant skills. Increase investments in education infrastructure, ensure access to quality education, and promote vocational training programs aligned with industry needs.

5.2 PROMOTING ENTREPRENEURSHIP AND INNOVATION: Encourage and support entrepreneurship among the youth by providing easy access to capital, mentorship programs, and business incubators. Foster an environment that fosters innovation, creativity, and risk-taking, which can lead to job creation and economic growth.

5.3 ENCOURAGING EMPLOYMENT OPPORTUNITIES: Create an enabling environment for businesses to thrive, including simplifying regulatory procedures, reducing bureaucratic red tape, and promoting ease of doing business. Focus on labor-intensive sectors such as manufacturing, construction, and services, which can generate employment opportunities for the growing workforce.

5.4 INVESTING IN HEALTHCARE AND PUBLIC HEALTH: Prioritize investments in healthcare infrastructure, ensuring affordable and accessible healthcare services for all. Strengthen the public health system, improve sanitation and hygiene facilities, and promote preventive healthcare measures to address the health needs of the growing population.

5.5 PROMOTING GENDER EQUALITY AND WOMEN'S EMPOWERMENT: Create policies and initiatives that empower women and promote gender equality in all spheres of life. Enhance access to education and skill development for women, encourage their participation in the workforce, and ensure equal opportunities for career growth.



5.6 ENHANCING RURAL DEVELOPMENT: Implement comprehensive rural development programs to bridge the urban-rural divide. Focus on improving agricultural practices, providing better irrigation facilities, promoting rural industries, and investing in rural infrastructure, including roads, electricity, and healthcare facilities.

5.7 STRENGTHENING SOCIAL SECURITY: Establish a robust social security system that provides adequate safety nets for the population, especially the elderly and vulnerable sections. Develop pension schemes, healthcare coverage, and unemployment benefits to ensure a dignified life for all citizens.

5.8 PROMOTING DIGITAL LITERACY AND CONNECTIVITY: Expand access to digital technologies and promote digital literacy among the population. Enhance internet connectivity in rural areas, provide training on digital skills, and encourage the use of technology for entrepreneurship, education, and access to government services.

5.9 ENCOURAGING SUSTAINABLE DEVELOPMENT: Promote sustainable practices across sectors, such as renewable energy, waste management, and conservation of natural resources. Invest in clean technologies and initiatives that mitigate climate change impacts and ensure a sustainable future for the younger generation

5.10 STRENGTHENING GOVERNANCE AND TRANSPARENCY: Foster good governance, transparency, and accountability in all government processes. Implement effective anti-corruption measures, simplify administrative procedures, and promote citizen participation and engagement in decision-making.

These suggestions aim to harness the demographic dividend in India by empowering its youth, creating employment opportunities, improving education and healthcare, promoting entrepreneurship, and ensuring sustainable development.

6. Conclusion:

This study shows that at present, India is currently experiencing a demographic transition wherein its young population dominates the labour force of the country. This rise in the relative share of the working age population in the economy is termed as the 'demographic dividend'. The study presents an empirical analysis to show that the link between higher economic growth and favourable



demographic conditions is not automatic, and that it has to be established through sound institutions, good policies, and investment in healthcare and education, which can be recouped in the long run through higher productivity. In conclusion, Indian population growth is a complex issue that demands a balanced approach. While there are undeniable risks associated with a growing population, it also presents significant opportunities. By effectively managing resources, investing in human capital, and promoting sustainable development, India can transform its population growth into a driving force for progress and prosperity. The prospect of India surpassing China in population presents a mixed bag of opportunities and threats. While the larger population can provide economic potential, diplomatic influence, and opportunities for innovation and entrepreneurship, it also poses challenges related to resource scarcity, infrastructure, environmental impact, and social inequality. Navigating this demographic shift requires strategic planning, sustainable development approaches, and inclusive policies that focus on equitable growth, resource management, and environmental conservation. From an economic perspective China's demographic characteristics are currently optimal for supporting economic growth, but i China has to cope with a rapidly aging population and a shrinking working-age population in the coming years. By contrast, India's population window has twenty years to start closing (and even then, India's window will close very slowly). Whether India will be able to reap a demographic dividend will depend on its ability to improve its education system and address the challenges of closing the gender gap in education, improving its health, strengthening its infrastructure and bringing more women into the workforce. India has one of the lowest female workforce participation rates in the world, and one of the least educated people in Asia. The increase in education attainment and women's labor force participation will expand the workforce faster than population growth, thus enabling further growth of the Indian economy.

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