Research Brief

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China and India

The Asian Giants Are Heading Down Different Demographic Paths

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China and India, the world's most populous nations, have much in common: Each has more than 1 billion residents; each has sustained an annual gross domestic product (GDP) growth rate over the past decade that is among the world's highest—9 percent for China and 7 percent for India; and each has been among the world's most successful in weathering the storm of the recent global recession. Yet a closer look reveals stark demographic contrasts between the two nations that will become more pronounced in the coming decades. These differences hold implications for China's and India's relative economic prospects and point to sharply different challenges ahead for each nation to sustain and build on recent economic growth.

Abstract

Demographic contrasts between China and India will become more pronounced in the coming decades, and these differences hold implications for the countries' relative economic prospects. China's population is larger than India's, but India's population is expected to surpass China's by 2025. China's population is older than India's and beginning to age rapidly, which may constrain economic growth, whereas an increasing percentage of India's population will consist of working-age people through 2030, giving India an important demographic advantage. How much these demographic changes affect economic growth will depend on several other factors, including the infrastructure, education system, and health care systems in each country and how well each country integrates women into its workforce.

Contrasting Demographic Trajectories

Two differences between China's and India's demographic paths bear most directly on each country's future prospects: trends in population growth and changes in population age distribution.

India's Population Is Growing More Rapidly Than China's

India's population is currently smaller than China's, but its current rate of population growth (1.55 percent annually) is more than double China's (0.66 percent). In 2025, India's total population is projected to equal China's (about 1.4 billion in each country) and to surpass China's thereafter, making India the world's most populous nation. India's population is expected to continue increasing through at least 2050, whereas China's is expected to peak at about 1.4 billion in 2026 and to decline thereafter (Figure 1).

These contrasting growth rates are driven primarily by differences in fertility. China's fertility rate has been lower than India's for many years, in part because of China's One-Child Policy. In 2010, the total fertility rate in India was estimated at 2.65 children per woman, compared with 1.54 in China. This difference means that, on average, each Indian woman is currently having, over the course of her lifetime, more than one more child than each Chinese woman is. Total fertility rates in India are expected to decrease very gradually to "replacement level"—the level needed for population stabilization in the long run (approximately 2.1 children per woman)—by 2035 (Figure 2). By contrast, the total fertility rate in China has been below replacement level since 1991.

China's Population Is Older Than India's and Is Beginning to Age Rapidly

The two countries' population-age distributions also differ substantially and are undergoing

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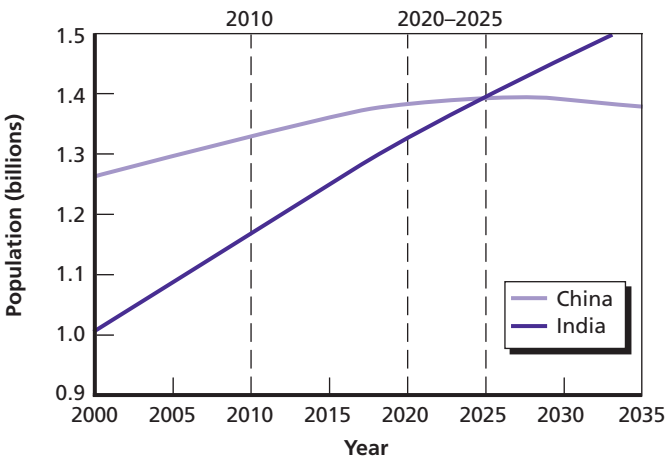
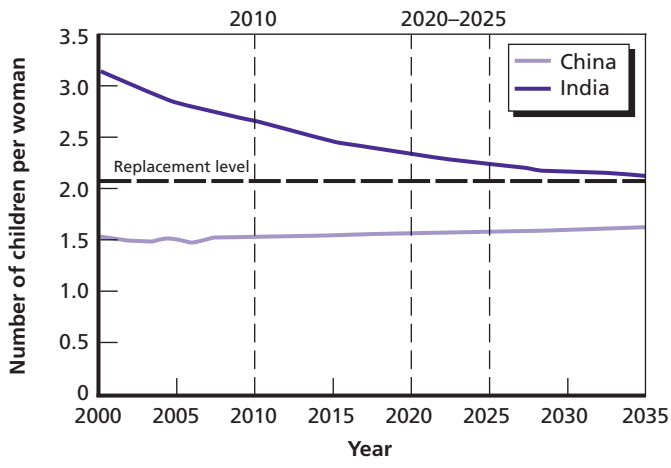
Figure 1
Total Population Sizes, China and India, 2000–2035



SOURCE: U.S. Census Bureau, International Data Base, 2010.

Figure 2
Total Fertility Rates, China and India, 2000–2035



SOURCE: U.S. Census Bureau, International Data Base, 2010.

significant change. Because of China's declining fertility, the average age of its population is higher than India's. As shown in Figure 3, in 2010 China's largest age cohorts consisted of people aged 20–24, 35–39, and 40–44. 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. By 2035, China's population will skew heavily toward older age groups, whereas India's population will have its largest cohorts in the age groups below 50.

Reflecting this changing age composition, the two countries will experience different patterns in the percentage of population that is of working age (customarily ages 15–64). In China, this percentage peaked in 2010, at 73 percent, and is beginning to decline; by 2035, it is expected to fall to 60 percent. By contrast, India's working-age population as a share of the total population is gradually increasing. From its 2010 level of 65 percent, the percentage of people of working age is expected to increase gradually; to crest at about 68 percent around 2030—the same year that India will surpass China on this statistic; and then to decline slowly.

Demographic Dividend or Drag? What These Differences Imply for Each Country's Future Economic Prospects

When a growing share of a country's population reaches working age, conditions may be ripe for that country to reap a "demographic dividend"—that is, to realize income growth and savings because a higher proportion of its population is able to contribute to the economy. From this standpoint, for the next several decades, China's demographics will not be more favorable for supporting economic growth than they are now. A high ratio of working-age people to dependents contributed significantly to China's economic growth in the past two decades, but China's proportion of working-age people is at its peak and will soon begin to decline.

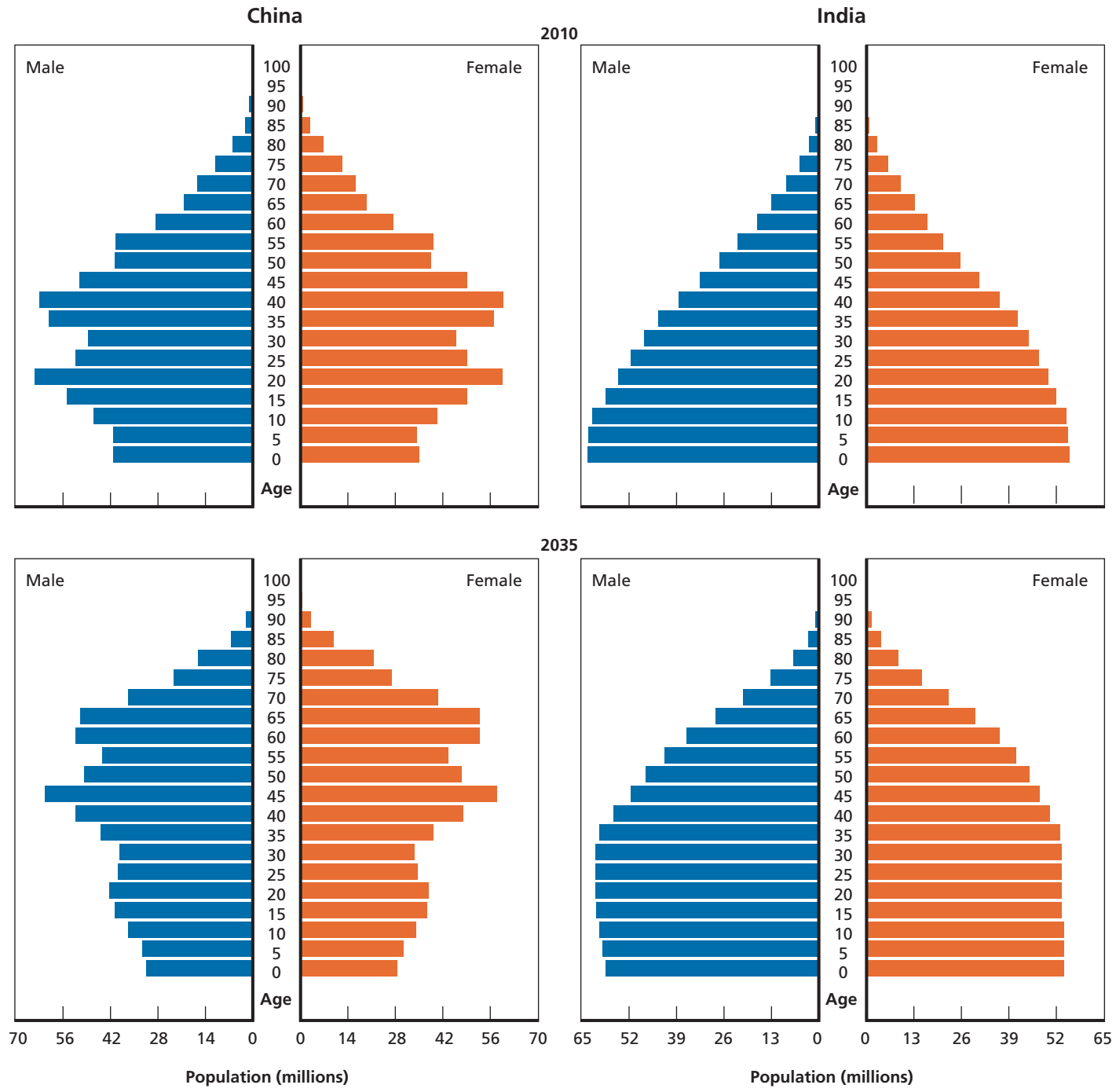
Moreover, China is now entering an era when its rapidly aging population—leading to rising ratios of dependents to workers and rising health costs for the growing cohort of elderly—could constrain economic growth. Savings rates may fall as a larger fraction of the population begins to use savings for retirement, thus reducing the flow of private capital into investments, while the government also diverts more of the budget from public investment to pension and health payments. In addition, the elderly in China (as well as in India) traditionally rely on family members to care for them in old age. If adult children divert more of their time and money toward taking care of their elderly parents rather joining the modern labor force, the forecasted rates of economic growth may not materialize.

In India, by contrast, the demographic window of opportunity is still wide open. India will have an important demographic advantage—an increasing percentage of working-age people—that will produce favorable conditions for a demographic dividend until around 2030, when the ratio of working-age people to dependents is expected to peak.

Other Factors That Will Affect Economic Growth

Whether China is able to sustain economic growth in the face of its demographic changes and whether India is able to reap its demographic dividend in the coming decades will depend on the socioeconomic and policy environments in each country. The clearest prerequisite for translating demographic opportunity into sustained economic growth

Figure 3
Age-Sex Structure of the Populations of India and China, 2010 and 2035



SOURCE: U.S. Census Bureau, International Data Base, 2010.

or sustaining growth in the face of unfavorable demographic change is a demand for available labor, along with conditions enabling that labor to be productive. These conditions include the following:

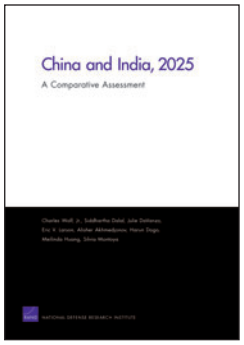
- **Education.** People need the skills and training to make them productive workers. China's population has higher average levels of literacy and education than India's. If India invests in human capital, it may be able to overcome its current educational disadvantage through productive employment of its growing pool of younger workers.
- **Population health and the health care system.** People also need good health and access to quality health care to work productively. China's population is generally healthier than India's, and China has the benefit of a

more developed health care system. On the other hand, China's population is aging more rapidly than India's, and therefore health care costs for this population are likely to pose a growing burden.

- **Women in the workforce.** Women can be productive contributors to the economy. An important spur to future economic growth in both countries will be the degree to which women participate in the workforce. In both countries, women are less likely than men to participate in the formal economy (that is, to work outside the home in wage-earning positions), but the difference is much greater in India. In China in 2009, 67 percent of women aged 15 or older participated in the labor force, compared with only 33 percent in India. In addition, the gender gap in education is smaller in China than in India. As a consequence, China is currently better positioned than India to benefit from women's participation in the workforce. Nonetheless, India's situation can also be viewed through the prism of women as an untapped segment of society whose inclusion in the labor market can dramatically expand the labor force and create a rapid expansion of the GDP growth rate.
- **Infrastructure.** A well-developed infrastructure can reduce transaction costs, enable economic efficiency, increase the productivity of labor, and ease the limitations of societal aging by extending productivity into later years. Building such infrastructure can also provide employment opportunities. As a result of recent, systematic investments, China ranks considerably ahead of India on many dimensions of infrastructure, especially those related to communications and energy.
- **Openness to foreign trade and a sound financial system.** Other factors that contribute to economic growth include openness to trade, which adds productive and rewarding jobs, and a sound financial system to promote savings and investment. China ranks ahead of India on these dimensions also.

Conclusions

From an economic perspective, China's demographic characteristics are currently optimal for supporting economic growth, but in coming decades China will have to cope with a rapidly aging population and a shrinking working-age population. By contrast, India has two more decades before its demographic window begins to close (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 meet the challenges of improving its educational system and closing gender gaps in education, improving its health care system, enhancing its infrastructure, and incorporating more women into the workforce. India has one of lowest female workforce participation rates in the world, and one of the least educated populations in Asia. Increasing educational attainment and women's involvement in the workforce would give India's economy an additional impetus for growth by expanding the labor force at a rate that exceeds the rate of population growth, while also improving its quality. ■



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