Dusk, Dawn, and High Noon
Demographic Trends Forecast Next Phases for China, India, and the United States

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Much has been written since October about the world's population having passed 7 billion, but little attention has been paid to the implications of recent demographic changes for the world's nations and regions relative to one another. In this article, we turn our focus to the demographic futures and related economic prospects facing China, India, and the United States over the next several decades. The trends in these countries reflect just some of the shifts in power to which the world has already, literally, given birth. How the countries respond will determine their ultimate fates.

China's population is expected to peak at 1.4 billion in 2026 and to decline thereafter, whereas India's population will likely keep growing through mid-century, surpassing China's no later than 2025 and topping 1.65 billion in 2050, according to the U.S. Census Bureau's International Data Base (see Figure 1). More importantly, by 2035, China's population will skew heavily toward older age groups, while India's largest cohorts will still be in the age groups below 50.
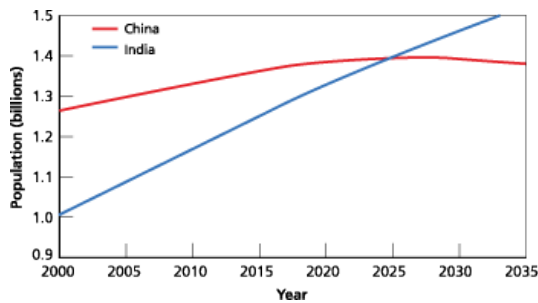
Right now, as of 2012, China is entering an era in which its rapidly aging population could constrain its economic growth. India, in contrast, will enjoy a substantial demographic advantage until around 2030, when the ratio of working-age Indians to dependents will likely be at its highest.

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A crowd gathers at a shopping center in Chongqing, China, in November 2010.

Figure 1 — India Will Likely Surpass China in Population by 2025

SOURCE: *China and India, 2025*, 2011.

Alone among the world's large affluent nations, the United States will see modest increases in its working-age population through 2050; meanwhile, the working-age populations of Europe and Japan are projected to fall steeply through 2050. These demographic and economic trends alone may mean the United States will be the predominant global power for at least the next half-century. If anything, the United States could become even more dominant in the alliances it leads.

A World Reborn

Forty years ago, one could confidently assert that the rich got richer and the poor had babies — and lots of them. Women in almost all developing countries averaged four to seven surviving children over their lifetimes. Women in developed countries averaged two to three.

Since then, fertility rates in the richer lands have continued to fall and now range from just over one child per woman (in Hong Kong, South Korea, and Taiwan) to just over two children per woman (in the United States). In Communist and former Communist countries, the rates have fallen even farther than in many richer countries, either from fiat (such as China's one-child policy) or from the aftereffects of the collapse of Communist rule. Births in the middle-income lands — Latin America, northern Africa, Turkey, Lebanon, Iran, formerly Soviet Central Asia, southwestern India, and Southeast Asia — have also fallen sharply to somewhat above two per woman or lower.

The swath between Afghanistan, Pakistan, and the Ganges Valley is still adding population. Fertility rates there average above three and a half children per woman. Sub-Saharan Africa, between the tropics of Cancer and Capricorn, is adding population even faster. Fertility rates in most of those countries have been generally falling for 30 years, but the declines have stalled in some during the past decade.

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The consequence of what has already taken place in the world's maternity wards (and home nurseries) will unfold over the next 20 to 40 years, as follows.

First, the *working-age* population of India (defined as people between the ages of 20 and 59) will likely overtake that of China by 2030, with a projected 841 million working-age Indians outnumbering an estimated 783 million working-age Chinese in that year. Today, China's working-age population is just under five times larger than the U.S. working-age population. By 2050, it may be only three times larger. Conversely, the ratio of India's working-age population to that of the United States will evolve in the opposite direction: just over three times larger today, but five times larger in 2050.

Second, the United States will continue to see modest increases in its working-age population, thanks to replacement-level fertility rates and a likely return to vigorous levels of (mostly legal) immigration. At the same time, the working-age populations of Europe, Japan, and the Asian Tigers (South Korea, Taiwan, Singapore, and Hong Kong) are projected to fall by as much as 10 to 15 percent by 2030, and by as much as 30 to 40 percent by 2050. The United States will account for a larger percentage of the population of its Atlantic and Pacific alliances. To put it another way, the capacity of traditional alliances to multiply U.S. demographic power is likely to decline, perhaps sharply, through 2050.

Third, the working-age populations of most middle-income developing countries (such as Chile and Thailand) are likely to level off, or even decline, by or just before 2030. And fourth, barring catastrophe, many of the world's most populous countries will be in Africa: Nigeria, Ethiopia, Congo, Sudan, and Tanzania. It is also possible that Pakistan could supplant the United States as having the world's third-largest working-age population by 2050, behind India and China.

China is likely to become the most important economic contender over the next 40 years in terms of its national resource base. If it achieves Japan-like levels of productivity by 2050, its gross domestic product (GDP) will be double America's. If China's economy begins to level off as it approaches the productivity levels characteristic of South Korea today, then China's economy will be somewhat larger than the American economy. If, however, the many challenges China faces — pollution, corruption, and financing the elderly — are not met, China may reach an economic inflection point earlier rather than later and fail to surpass U.S. GDP levels. Demographic trends suggest that if China's economy cannot surpass that of the United States by 2050, it might never do so.

Dividends and Drags

China and India will remain the world's two most populous countries through 2050. But India's current rate of population growth is more than twice that of China (1.34 percent annually versus 0.49 percent for China, according to the latest U.S. Census Bureau estimates). As suggested above, India's *total* population is projected to equal China's by 2025 (about 1.4 billion in each country), thereafter exceeding China's.

From the standpoint of economic competition between the two countries, though, the age composition of their populations is more significant than their aggregate size. If the working-age population is slightly redefined as those between 15 and 64, then India's *working-age* population will overtake China's in 2028. Moreover, the *percentage* of the population that is of working age in India will surpass that of China in 2030 (see Figure 2).

Indeed, the two countries will experience very different patterns in their overall dependency ratios — that is, the ratio of the young and the elderly to those of prime working age. The dependency ratio implies that, on average, people aged 15–64 produce more than they consume, while the opposite is true for those younger and older. Rising dependency ratios are generally viewed as an impediment to economic performance, while falling ratios are generally considered an advantage. Although India's overall dependency ratio is currently higher than China's, the ratio will be rising rapidly in China in the next two decades, while it will be declining in India.

SOURCE: *China and India, 2025*, 2011.

An increasing proportion of the population that is of working age provides an opportunity to reap a "demographic dividend," through both a brute force increase in the numbers of potential workers and an accelerated accumulation of capital due to reduced spending on dependents. Demographic dividends are estimated to have accounted for 25–40 percent of East Asian per capita GDP growth in the late 20th century. China's demographic window of opportunity is rapidly closing; India's will remain open until at least 2030.

Though growth in the working-age population provides an opportunity for a country to reap a demographic dividend, the extent to which this occurs depends on the socioeconomic and policy environment. Currently, the population of China is better educated than that of India. In 2002–2003, the most recent year for which data are available, China had higher rates of school enrollment at all levels and a considerably higher adult literacy rate than did India (91 percent versus 61 percent). Furthermore, the data suggest that the quality of schooling is better in China: In 2002–2003, China had a far lower average pupil-per-teacher ratio in primary schools than did India (17.6 versus 40.2) and spent more money per student, especially on secondary education.

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Another significant determinant of future economic growth in both countries will be the degree to which women participate in the formal economy. In 2006, 69 percent of women in China participated, while in India the rate was only 34 percent. Females lag behind males in literacy and educational attainment in both countries, but this is particularly so in India.

The contrasting composition of each nation's population indicates that issues related to youth, such as education, will be more prominent in India, while issues regarding the elderly, such as pensions and geriatric health care, will be more prominent in China. It is not clear whether China has dedicated the resources necessary to support larger numbers of the elderly with fewer workers. The state-owned enterprises that traditionally funded social programs for workers and their families have largely collapsed, and no national social welfare system has yet replaced them.
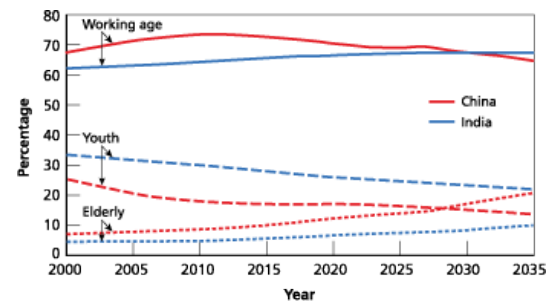
Whether India's demographic advantages — increasing numbers, younger age cohorts, declining dependency ratios — will be a dividend or drag on its economic growth will depend on the extent to which productive employment opportunities emerge from an open, competitive, innovative, and entrepreneurial Indian economy. Conversely, whether China's demographic disadvantages — fewer workers, a rapidly aging population, rising dependency ratios — will be a drag or a dividend will depend on the extent to which these circumstances provide a stimulus to improving technology and to raising the skill and productivity of a shrinking labor force.

In the short term, when compared with India, China seems to have more of the preconditions to take advantage of its demographic window of opportunity and to deal with demographics when they become a potential drag: more-flexible labor markets; higher rates of female labor force participation, more highly educated women, and more-open attitudes about women working; less illiteracy in general (especially for women); better infrastructure; more internal migration (though much of it "illegal"); a higher degree of urbanization; more openness to foreign trade; and slightly higher rates of coverage by public pensions. It is for these reasons that, on balance, China is likely to remain "ahead" of India at least until 2025.

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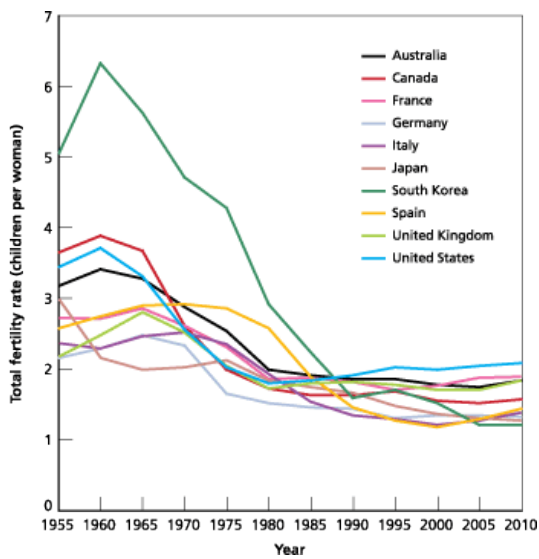
In the long term, however, China's prospects may be hindered by its demographics. An aging population without an established safety net will create demands for new types of services (particularly health care), reducing the disposable income of the working population through wealth transfers to the elderly and laying claim to the large national savings pool that China has built up during the boom years.

Whether India is able to reap a demographic dividend will depend on successful government implementation of an ambitious economic development agenda. Improving infrastructure, health, education, and the role of women while maintaining social peace in a society that is increasingly stratified by income requires national consensus with a long-term outlook. Whether such a course is possible in a large, diverse, parliamentary democracy such as India's is hard to predict.

In general, however, demographic changes are likely to be relatively more favorable to India than to China. From a developmental standpoint, demographic changes promise a dividend for India and portend a drag on the progress of China.

Still Alone at the Top

Worldwide, the most prominent feature of demographics over the past few decades has been the sharp fall in the fertility rate in almost every country on earth. In rich countries, the break-even fertility rate is an average of 2.1 births for each woman over her lifetime — the rate needed for the population size to stabilize over time. In poor countries, because mortality — notably infant mortality — rates are higher, the fertility rates must be correspondingly higher to produce enough women of childbearing age to maintain overall population levels.

Fertility rates of many countries have fallen below the break-even, or replacement, rate. The U.S. fertility rate is just at the level that presages natural replacement in the long run, before immigration is factored in (see Figure 3). Israel is the only country among the world's affluent nations whose fertility rate is more than high enough to reproduce its population. All other rich countries will experience inevitable declines in their native cohorts if current fertility rates continue. Moreover, because these rich states have had below-replacement fertility rates for well over a generation, the

SOURCE: *Global Demographic Change and Its Implications for Military Power*, 2011.

🔍 View enlarged version of this figure.

size of their child-bearing cohort has been correspondingly reduced, which means that even a return to relatively high fertility rates is unlikely to restore native population levels anytime soon.

China's total fertility rate has fallen to below 1.5 children per woman, according to the Population Reference Bureau. This rate, which is quite low for a country in which most people are still poor, is widely considered to be a consequence of China's one-child policy, as if to indicate that the lifting of such a policy would result in an immediate rebound in births. Yet other factors cannot be ruled out. Taiwan and Hong Kong, which, admittedly, are affluent places but do not have a one-child policy, nevertheless have the world's lowest fertility rates: 1.1 and 1.0, respectively. Neighboring countries in Southeast Asia, such as Vietnam and Thailand, also lack China's one-child policy but have fertility rates at or below replacement level: 2.1 and 1.8, respectively. Current data suggest that urban Chinese simply do not want to have many children.

When global immigration is factored in, there are net "winners" and "losers." The United States is the largest winner, adding roughly 1.6 million people on net through immigration (minus emigration) per year. Indeed, the United States accounts for 40 percent of all net immigration worldwide. The other countries with annual net-immigration levels exceeding 100,000 are Canada, Australia, Britain, Germany, and Italy. The largest country of net emigration is Mexico, whose 400,000 emigrants correspond to only a quarter of all U.S. gains. Other countries with high levels of net emigration include China, India, Indonesia, the Philippines, Pakistan, Bangladesh, Peru, Iraq, Kazakhstan, and Morocco.

The U.S. working-age population is projected to keep growing, but at a relatively modest rate of just under 0.5 percent a year (less if the recession that began in 2008 continues to persist and if immigration falls off or reverses itself). Most likely, the size of the U.S. working-age population will keep increasing by roughly 6 percent every ten years. Nearly all of this increase will come from immigration.

In 2005, Germany had the world's 12th largest working-age population; in 2030, it is projected to have the 20th largest, even though it receives net immigration. By 2050, Germany's working-age population will be down by a third. The story in other large European countries is similar, whether one is talking about Italy (dropping 6 percent every ten years), Poland (a 14-percent drop by 2030 and a 40-percent drop by 2050), or France (a 5-percent drop by 2030 followed by a leveling off). Spain manages to retain the size of its working-age population through 2020, only because of expected high immigration levels, but it then falls nearly 20 percent by 2050. The United Kingdom, the exception, might even eke out small increases through 2050.

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As a consequence, the United States is likely to remain an indispensable nation for the protection of international stability and liberal (Western) norms through at least the middle of the century. Among the world's rich countries, no country (apart from tiny Israel) has a higher fertility rate. The countries with higher immigration rates, such as Canada and Australia, have far lower fertility rates than does the United States. As shown in the table, the U.S. working-age cohort is likely to constitute a growing percentage of the total manpower of the Atlantic alliance (essentially NATO) and the Pacific alliances (Australia, New Zealand, Japan, South Korea, and Taiwan).

U.S. Workers Are Likely to Represent Growing Portions of the Manpower of the Atlantic and Pacific Alliances

Nation or Region	Working-Age Population (Ages 20–59) for United States, NATO, and Pacific Rim Countries				
	Total (in millions)			Change (percentage)	
	2010	2030	2050	2010–2030	2010–2050
United States	173	178	195	3%	13%
Other NATO	329	312	289	−4%	−12%
China[1] and North Korea	814	778	631	−4%	−23%
Rich Pacific friends of U.S.[2]	126	112	94	−11%	−26%
Other Pacific friends of U.S.[3]	86	106	118	24%	37%
Pacific swing nations[4]	225	269	258	19%	14%

SOURCES: United Nations Population Division, World Population Prospects, 2010 Revision, medium variant; United States Census Bureau, International Database.
[1] Includes Hong Kong and Macao.
[2] Australia, Japan, New Zealand, Singapore, South Korea, and Taiwan.
[3] Philippines and Thailand.
[4] Brunei, Cambodia, Indonesia, Laos, Myanmar, Papua New Guinea, and Vietnam.

The United States also appears likely to have the demographic and economic resources to retain its global supremacy through at least 2050. Its fertility and immigration rates are high enough to keep its population rising, albeit in the range of 0.5 to 1 percent per year (once the effects of the current recession on immigration rates wear off). The United States, which has 4.7 percent of the world's working-age population today, will still have 4.3 percent by 2050. (If one assumes that the U.S. fertility rate, which, uniquely, is higher than it was in the last generation, stays constant and that illegal immigration continues at rates characteristic of the last ten years, then the U.S. percentage of total world population might not decline at all.) When the relative flatness of the ratio between U.S. GDP per capita and the GDP per capita of most other nations is factored in, the current share of global GDP accounted for by the U.S. economy is likely to stay quite high.

Demographics are not destiny, but they are the next best thing. The accumulation of slow demographic changes inexorably alters nations, especially vis-à-vis one

another — and in ways that are not easy to reverse. In the decades ahead, China and India will have the most to gain or to lose, and the United States will continue to have the most to protect and to defend. ▪

Related Reading

Global Demographic Change and Its Implications for Military Power, Martin C. Libicki, Howard J. Shatz, Julie E. Taylor, RAND/MG-1091-AF, 2011, 170 pp., ISBN 978-0-8330-5177-6.

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"Population Trends in China and India: Demographic Dividend or Demographic Drag?" in *China and India, 2025: A Comparative Assessment*, Charles Wolf, Jr., Siddhartha Dalal, Julie DaVanzo, Eric V. Larson, Alisher Akhmedjonov, Harun Dogo, Meilinda Huang, Silvia Montoya, RAND/MG-1009-OSD, 2011, 170 pp., ISBN 978-0-8330-5042-7.

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