

Demographic Trends Cloud China's Long-Term Economic Outlook



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China's economic transformation over the past three decades is arguably the single most dramatic event in the annals of modern global development. Between 1979 and 2009, by the reckoning of the World Bank, China's GDP grew at an average of 10% per year. No country in history has ever managed to sustain such a high rate of growth for such a long time. And given China's sheer size, this extraordinary performance has perforce shifted the world economy's center of gravity. By 2009, China overtook Germany as the largest exporter of goods (its export volume that year was twice as great as Japan's). In 2010, it breezed past Japan to claim title to the world's second largest economy, behind only the United States – at least for now.

Can China's dizzying, historically unprecedented pace of economic growth continue into the future? Many well-informed world decision-makers are confident that it can. Not least important, Beijing's own leadership subscribes to this view. The Chinese authorities project another quadrupling of GDP by 2030. Outside China, many financial and corporate chieftains are equally effusive about China's economic prospects.

But are such expectations realistic? It is always hazardous to envision the future as a linear extrapolation of trends from the recent past – and perhaps especially so for a country whose recent record of economic success has been so clearly exceptional. One obvious and hardly trivial problem with such optimistic extrapolations is that they do not seem to take demographic fundamentals into account.

Over the past generation, China's population trends broadly abetted the nation's economic rise. But China's demographic future promises to be very different – and far more troublesome. Impressive as China's economic accomplishments over the past generation have been, these new demographic realities may ultimately force us to

revise today's received wisdom about the future of "China's rise."

Glimpse at China's Demographic Profile in 2030

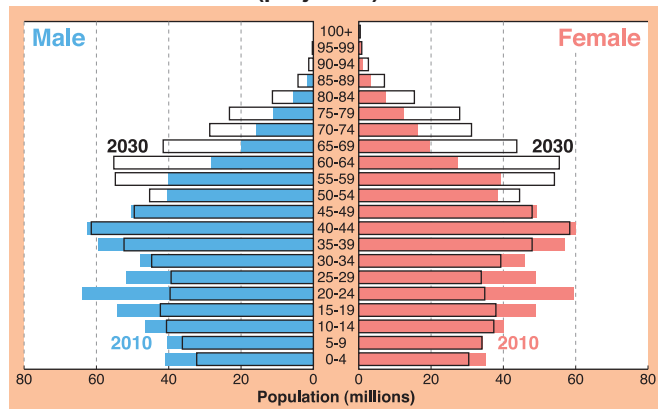
Surprising as it may sound, we already have a reasonably clear picture of China's population picture 20 years hence. This is so, quite simply, because the overwhelming majority, roughly 80%, of the people who will inhabit China in 2030 are already alive, living there today. We can already tell that China's future demographic profile will differ strikingly from its current population situation. This coming transformation is the inevitable – and by now inexorable – consequence of a revolution in childbearing patterns that has already taken place.

Population specialists believe that China became a sub-replacement fertility society about two decades ago; the birthrate has fallen far below the replacement level since then. The US Census Bureau, for example, believes that China's current total fertility rate (TFR, a measure of births per woman per lifetime) is now down to about 1.5 – which is to say, more than 30% below the level required for long-term population stability. In much of China, moreover, fertility levels fall well below this national average. For urban China as a whole, TFRs hover around 1.2 (45% below replacement), and in China's major metropolitan centers, like Shanghai and Beijing, they are reportedly 1.0 or lower (well under half the replacement rate).

Persistent – and now extreme – sub-replacement fertility portends a future that will be quite unlike anything in the recent past. China's population grew steadily over the decades just completed; by contrast, given current trends, US Census Bureau projections anticipate a peaking of the total Chinese population in 2026 – just 15 years from now – and a continuing national depopulation thereafter.

CHART 1

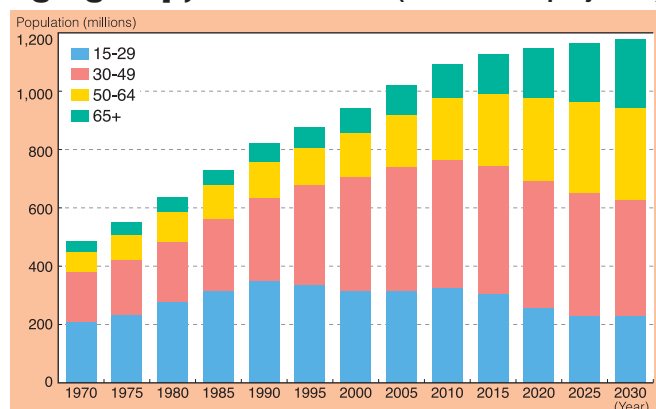
China's population structure, 2010 vs. 2030 (projected)



Source: US Census Bureau International Data Base
<http://www.census.gov/ipeds/www/widb/informationGateway.php>, January 2011

CHART 2

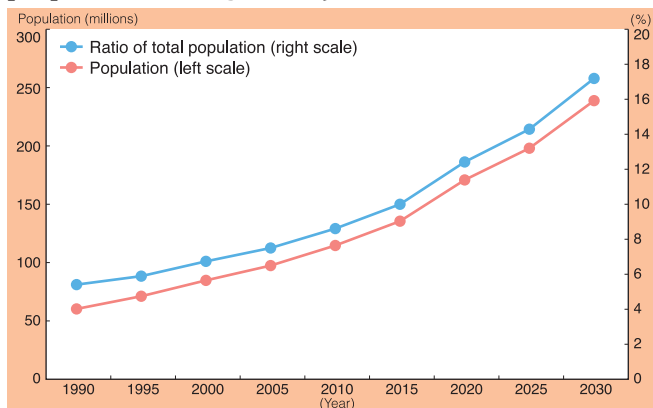
China's adult population (aged 15+) by age group, 1970-2030 (estimated & projected)



Source: 1970-2005 = "World Population Prospects: 2008 Revision," Population Division, Department of Economic & Social Affairs, UN Secretariat; 2010-2030 = "medium variant" projections, US Census Bureau International Data Base

CHART 3

China's estimated & projected population (aged 65+), 1990-2030



Source: 1970-2005 = "World Population Prospects: 2008 Revision," Population Division, Department of Economic & Social Affairs, UN Secretariat; 2010-2030 = "medium variant" projections, US Census Bureau International Data Base

To get a visual impression of the scope and scale of China's impending demographic changes, we can contrast China's current (2010) population profile with its projected profile for 2030 in [Chart 1](#). By these projections, China's total population two decades from now would be barely larger than today's (increasing by just 4% between 2010 and 2030). But the composition of China's population would be markedly different. In this future China, there would be fewer people under the age of 50 than in China today – and far fewer Chinese in their 20s and early 30s. On the other hand, there would be many more elderly Chinese than today – vastly more, in fact, in their 60s, 70s and 80s.

This profound shift in China's population profile has four major economic and social implications for the years immediately ahead.

End of Manpower Growth for China

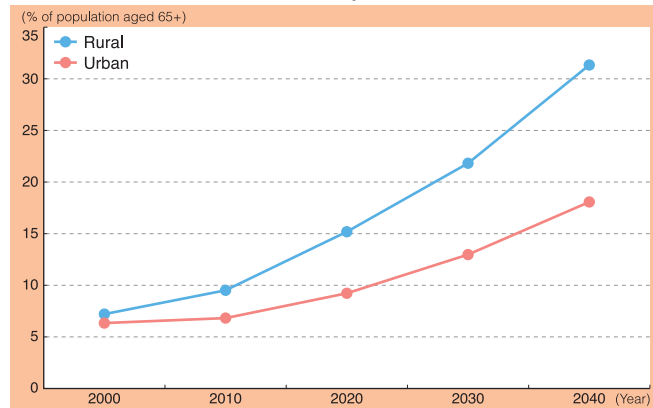
The first is the end of labor force growth. Over the past three decades of hyper-rapid development in China (1980-2010), the country's working-age population (15-64 years) rose by more than two-thirds – growing an average 1.8% a year. Over those same years, China's working-age population shot up from 60% to 72% of the total population. During this period, China enjoyed what economic demographers sometimes call a "demographic dividend" – but that "demographic dividend" has already been cashed.

From 2010 onward, the fraction of China's total population comprised by men and women of working age is set to decline more or less indefinitely, or at least, as far as a demographer's eye can see. Further, the absolute growth of China's working-age population promises to be *negative* between 2010 and 2030 ([Chart 2](#)). By US Census Bureau projections, China's working-age manpower is set to peak in 2016 – just five years from now; by 2030, it stands to be shrinking by almost 1% a year.

China's manpower pool will not only be shrinking over the next two decades; it will also be graying, and rapidly. Today, China's manpower pool has more than three prospective young workers (aged 20-29) for every two of their older counterparts (55-64); 20 years from now, that ratio will be inverted. What is more, China's older manpower is much less educated than their more youthful successors: nearly half of today's 50-64 age group has not completed primary school. Though

CHART 4

Projected population (aged 65+): urban & rural China, 2000-2040



Source: "Projection of Family Households & Elderly Living Arrangement in the Context of Rapid Population Aging in China - A Demographic Window of Opportunity Until 2030 & Serious Challenges Thereafter," Zeng Yi, Zhenglian Wang, Jiang Leiwen & Danan Gu, 2008; GENUS - An International Journal of Demography, Vol. 54, No. 1-2 (2008), pp. 9-36.

educational attainment for older Chinese will improve in the years ahead, they will remain the least educated stratum of the Chinese manpower pool, but they will account for a steadily increasing share of the working-age population. With a smaller and much grayer Chinese workforce on the horizon, sustaining the growth rates of the recent past could be an increasingly counterintuitive proposition.

China's Population-Aging Problem

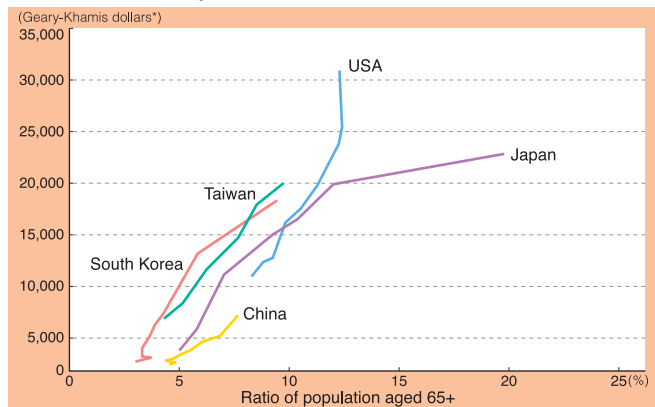
Secondly, there is the broader issue of rapid and pervasive population aging. Though Chinese authorities may have clamped down on births for three decades, the country will be experiencing a population explosion of senior citizens over the next 20 years as the progeny of the pre-population control era become seniors. In 2010, about 115 million Chinese were 65 or older; by 2030, the corresponding number is projected to approach 240 million – meaning China's cohort of senior citizens would be soaring at an average rate of 3.7% per year. Over just those 20 years, the fraction of Chinese 65 or older is set to double from 8.6% to 17.2% ([Chart 3](#)).

The trajectory of population aging that China can expect to experience over the next two decades is virtually unprecedented in human history – until now, only Japan has undergone such a rapid tempo of graying. But Japan was rich before it grew old and China will have to do things the other way around. When Japan registered the same percentage of 65+ population that China does today, its per capita income level was twice as high as China's is now. ([Chart 4](#)) Today and in the future China will confront pervasive population aging on much lower levels than Western economies or newly industrialized Asian economies such as Taiwan and South Korea have relied upon in meeting those challenges.

To complicate the aging outlook still further, China is a country of vast regional disparities; and, as fate would have it, China's very poorest regions – in the countryside – are already generally also its grayest since younger rural men and women have been moving to cities for better-paying jobs. Roughly speaking, income in the Chinese countryside is only a third as high as in China's cities. In the years ahead, China is set to experience an ever-growing divergence in age profiles between the city and the countryside, with rural areas

CHART 5

Ratio of population (aged 65+) vs. per capita GDP: China & selected other economies, 1950-2005



Note: Taiwan data from 1980-2005 only

*Purchasing power parity (PPP), 1990. Geary-Khamis dollar, also known as the international dollar, is a hypothetical unit of currency that has the same purchasing power as the US dollar in the United States at a given point in time.

Source: "World Population Prospects: 2006 Revision" & "World Urbanization Prospects: 2005 Revision," Population Division, Department of Economic & Social Affairs, UN Secretariat; "Historical Statistics for the World Economy: 1-2006 AD," Table 3; "Statistical Yearbook of the Republic of China (Taiwan)," Table 10

graying even more rapidly than the country as a whole. According to projections by Chinese demographers, more than 22% of rural China's population will be 65 or older by 2030 (Chart 5). By way of comparison, in aged Italy and Germany, Western Europe's grayest countries, the 65+ group still accounts for less than 21% of the population. Today's income disparity between Germany and rural China may be on the order of a factor of 15.

How China's coming tidal wave of senior citizens, many of whom will be extremely poor despite the country's economic progress, is to be supported remains an unanswered question. As yet, China has no national public pension system, and the country's existing limited patchwork arrangement of pension systems, which covers only a small fraction of the country's workforce (mainly privileged employees from cities and state-owned enterprises) is shockingly underfunded from an actuarial standpoint, making a comprehensive national pension reform all the more difficult. As for healthcare, only the most rudimentary of public provisions are available in rural areas. Absent a wholesale overhaul of the country's old-age support policies, the burden of providing for China's growing cohort of senior citizens will fall to their families' ever-shrinking numbers of adult children. Confucian tradition and strict current laws against parental abandonment notwithstanding, it is not self-evident in the decades ahead that all Chinese charged with the obligation of taking care of their parents will be willing to accept it or be capable of doing so.

Suffice it to say that, irrespective of the arrangements ultimately devised for the support of the country's elderly, meeting the needs of China's rapidly growing senior population will almost certainly place economic and social pressures on China that no country of a comparable income level has ever before had to face.

China's Coming "Marriage Squeeze"

Third, China will have to deal with a growing army of essentially unmarriageable young men. At the moment, China embraces a norm

of universal marriage and over the past generation almost all adult men and women have been able to expect that they would eventually find a spouse and have children. In the decades immediately ahead, however, China will see the emergence of a growing host of essentially unmarriageable young men.

This outcome will be the all but inescapable consequence of the gender imbalance that has accompanied the country's "One Child Policy." While human populations regularly and predictably report 103 to 105 baby boys for every 100 baby girls, China's officially reported sex ratio at birth (SRB) has risen steadily, and eerily, during the era of the "One Child Policy," it was almost 120 boys for every 100 girls by 2005 (Table 1). This imbalance between the numbers of little boys and little girls in China has set the stage for a "marriage squeeze" of monumental proportions in the decades just ahead.

Calculations by Chinese researchers suggest the dimensions of the future dislocation that may await (Chart 6). In 2000, all but 5% of Chinese men in their late 30s were married; by 2030, their projections suggest the corresponding proportion of never-married men in their late 30s may be more than 25% nationwide. Those same projections suggest the levels will be even higher in the Chinese countryside by 2030 – well above 30% for rural men in their late 30s and early 40s – since the poor, uneducated and the rural will be more likely to lose out in the coming competition for brides.

In contemporary Japan, many younger people today are ending up both unmarried and childless, but as a result of personal preferences and voluntary choices. China, by contrast, faces the prospect of a mass phenomenon of involuntary bachelorhood and childlessness – this occurring in a Confucian culture that has long stressed the primacy of the son's filial and ancestral duty to continue the family lineage.

How will China fare with a growing army of unmarriageable, underprivileged and quite possibly deeply discontented young men in its midst? It is impossible to know for now, but it is difficult to see how this could prove a plus for either economic performance or social cohesion.

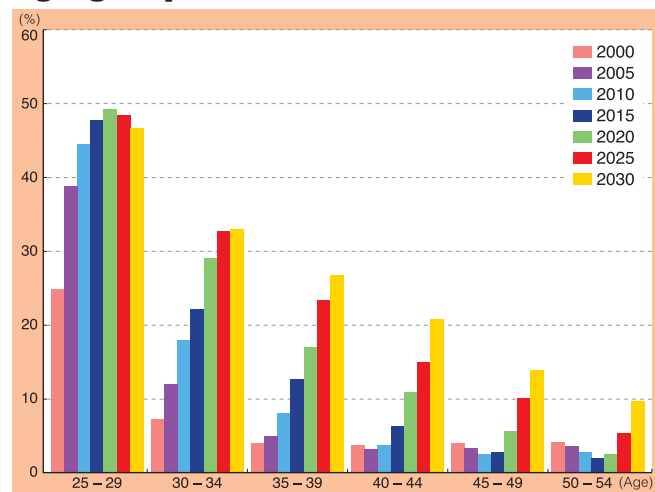
Rise of "Kin-less Family"

Finally, China faces the prospect of truly revolutionary changes in family structure, especially in its ultra-low-fertility urban areas. A "new family type" is in the making in China today: only children begotten of only children.

In China's cities, according to estimates and projections by Chinese researchers, a large minority of young adults are themselves single children already: as of 2011, the fraction of urban adults of childbearing age (25-49) with no siblings is 24%. By 2025, in these projections, only children would become the majority of urban China's population of childbearing age – and by 2030, it could account for almost three-fifths. (Table 2) Only children of childbearing age is now, and will likely remain, a quintessentially urban phenomenon in China owing to the especially low fertility levels that prevail in Chinese cities; by the projections, adult only children will continue to be atypical and relatively fewer in the countryside in the decades ahead.

CHART 6

Ratio of single (never-married) males by age group: China 2000-2030



Source: Zeng Yi et al., 2008

TABLE 1

Rise in China's gender imbalance (boys per 100 girls, 1953-2005)

Year of census or survey	Sex ratio of births	Sex ratio of population aged 0-4
1953	—	107.0
1964	—	105.7
1982	108.5	107.1
1990	111.4	110.2
1995	115.6	118.4
1999	117.0	119.5
2005	118.9	122.7

Source: "First Impressions of the 2000 Census of China," William Lavelly; unpublished data, Chinese Academy of Social Sciences, Institute for Population & Labor Economics, 2008

TABLE 2

Ratio of single children in China, 2011-2030: adult population aged 25-49 (% projected)

Year	Urban	Rural
2011	24.31	2.73
2015	32.43	4.90
2020	42.50	7.92
2025	53.48	12.25
2030	58.45	16.36

Source: "Birth policy & family structure in the future," Guo Zhigang, Liu Jintang & Song Jian, Chinese Journal of Population Science 2002 (1): 1-11

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Given the projected preponderance of only children of childbearing age in the years just ahead, and the evident preference today of urban Chinese for hyper-low fertility, the "new family type" could possibly become a common, if not predominant, family structure in China's cities within a generation. The children in this new family type would have no siblings; no cousins; no uncles or aunts – only ancestors and descendants.

The emergence of this new family type could have truly far-reaching implications for China – including implications for economic performance. Until now, after all, China has been a "low-trust" society; given the risky environment in which business must take place, people have relied heavily upon trusted social networks (*guanxi*) largely composed of blood relatives. In China's most important economic centers, however, the kinship networks that have lowered the risks and transaction costs of business are rapidly eroding.

Unless China can come up with serviceable institutional substitutes – and quickly – economic performance in China may be adversely affected by this rapid transformation of the urban Chinese family.

Factoring Demographic Risks into China's Outlook

When all is said and done, China still has many potential sources for enhancing productivity in the years immediately ahead. These include: migration of rural workers to more productive urban jobs, wider application of as yet underutilized technical know-how, improved financial intermediation for the country's famously high savings rates, and broader institutional and policy reforms to enhance economic efficiency. Given such still-untapped potential, it is perfectly reasonable to argue that China will enjoy continuing growth in the decades immediately ahead.

But given the confluence of serious demographic challenges China now faces – problems that are not generally as yet appreciated, apparently even by Beijing's leadership – China's growth over the next two decades could be slower than is generally expected today, and possibly, even much slower. China's troublesome demographic trends over the decades immediately ahead, moreover, are by now essentially immutable. Manpower availability trends through the late 2020s, for example, are already basically set because the 15-64 population of 2026 is already alive today. Similarly, all of China's prospective senior citizens in 2030 are already alive – they are today's cohorts of Chinese men and women in their mid-40s and older. And so on. Chinese policy may attempt to mitigate the impact of these demographic realities, but it cannot change them.

China is both a great power and an economic giant, and under almost any conceivable circumstances it will be in 2030 as well. China's actual trajectory over the next two decades, however, may prove to be something of a "surprise" to both Chinese and outsiders if the demographic constraints on China's development prospects are not fully appreciated. Within China itself, such "surprises" could have a bearing on both domestic social and political developments and on the predictability of Beijing behavior both domestically and in the international arena. A keener understanding of these demographic influences on China's future is therefore very much in the interests not only of China but of the entire international community. **US**