

Strategic Analysis Paper

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Demographic Changes in China to 2030

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Key Points

- An ageing population will decrease the purchasing power of China's labour force, thereby increasing food and water insecurity unless tax, pension and savings reforms are made.
- An imbalanced gender ratio will potentially be detrimental to the labour force and decrease productivity unless gender diversity is encouraged.
- The rising middle class will create increased demand that needs to be tackled through more efficient production methods.
- Changing migration patterns present an opportunity to better utilise rural-urban migrants. Foreign immigrants could supplement the shrinking workforce, but increased urbanisation will reduce arable land and require more efficient water supply.

Summary

For decades, China has been one of the world's most rapidly developing countries. The dynamism that has characterised its development has been the focal point for most analyses discussing China's rise both economically and politically to the position it now holds on the world stage. In recent years, the confidence that China has built after successive years of record-high growth rates has been reduced slightly as growth has slowed and China's economic priorities have gradually shifted. At the same time, the shift in demography, driven by economic development, is starting to become evident. Changes to Chinese demographics including an ageing population, an imbalanced gender ratio, a rising middle class, and changing patterns of migration will undoubtedly have profound effects on Chinese food and water security. This paper will address these effects using careful analysis of demographic shifts and their causes, and will make policy recommendations accordingly.

Analysis

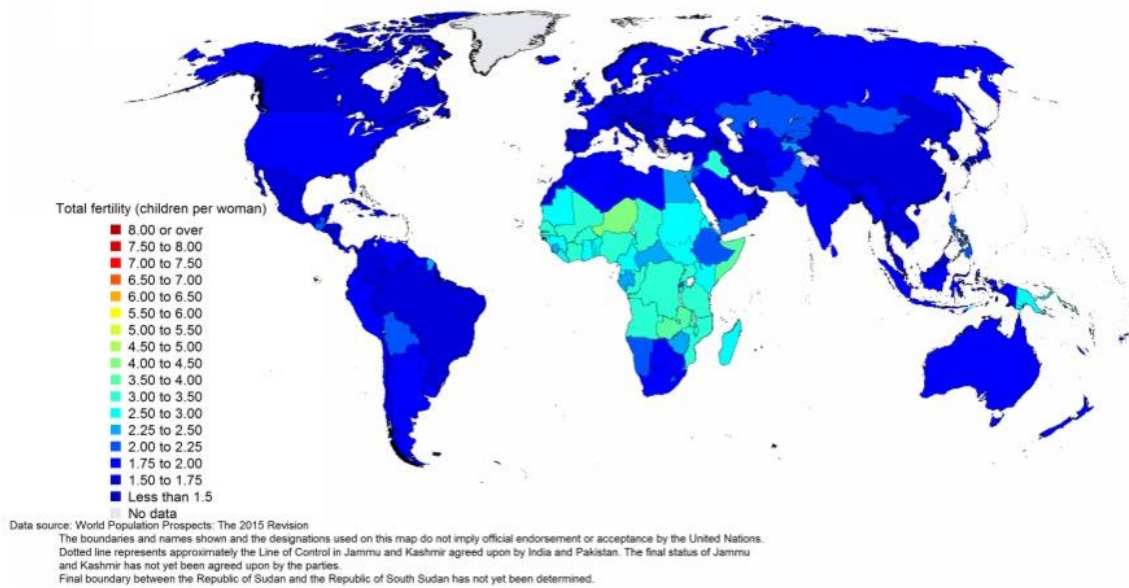
Ageing Population

Given China's current trajectory, its population will be the only one among the world's major economies to grow old before it grows rich. The ageing trend becomes increasingly evident in statistics put forward by the United Nations (UN), which outline the stark division between young and aged populations predicted by 2030. Firstly, members of the population aged 20-24 will [decrease](#) by 40 per cent to just 67 million, and will represent about five per cent of the predicted population. On the other hand, the number of people aged over 60 is predicted to increase to 360 million, representing 27 per cent of the predicted population. The speed and severity of this demographic shift has been phenomenal, and is likely to become more apparent in future, as the size of China's population as a whole, not simply the proportion of its youth to elderly, is also predicted to decline. Despite being a positive sign of decreased mortality and enormous economic development, China's ageing population will produce a multitude of social, economic and political issues.

It is commonly believed that "replacement level fertility" – the average number of children born per woman required to maintain population levels - is roughly 2.1, depending on other factors such as mortality rates. According to UN statistics, China's total fertility rate decreased from around five to the replacement level of 2.1 in just under two decades, whereas it took Western European countries around 75 years to achieve the same result. China's fertility rate fell below replacement level for the first time in the 1990s and has continued to decrease. [Currently](#), the fertility rate stands at 1.55 births per woman, and is [predicted](#) decline to 1.44 by 2030. The prolonged and fundamental changes to the composition of Chinese society as the population ages can largely be considered an effect of the low fertility rate that China has been subject to for the past two decades.

Policy choices have contributed greatly to the lower fertility rate. Beginning in the 1970s, the "wǎn, xī, shǎo" (late, sparse, few) family planning policy was implemented, reflecting a sense of [panic](#) among the political elite that China would not be able to develop as a country if it also had to race against its rapidly growing population. The later addition of the infamous "One Child Policy" solidified intentions of the Chinese Communist Party (CCP) by enshrining in law that most families were only allowed a single child. There are many proponents for the claim that China's One Child Policy is the sole cause of decreased fertility across China, and there is no doubt it played a large role, however, the increasing socio-economic status of China's population as growth continues into the 21st century will certainly continue to hold significant sway over this trend. Decreased fertility as countries grow rich is common among most major economies, due to the "fertility trap" phenomenon, which maintains that having children is disadvantageous in a highly competitive economy. As the world continues to grow richer, fertility is predicted to drop significantly by 2030. In the case of China, this worldwide trend has certainly been rendered [more severe](#) by short-sighted family planning policy.

Total fertility, medium projection, 2050-2055



Now, with an understanding of the nature, history and causes of China’s ageing population, the vast and varied implications of China’s decreased fertility on food and water security may be assessed. Importantly, the ratio of workers to retirees is predicted to fall from about 5:1 today, to 2:1 by [2030](#), creating a **“4-2-1” family structure** as a result of this shift. This is an inverse pyramid reflecting what has become the common social phenomenon of one working “child” forcibly assuming financial responsibility over their four grandparents and two parents. This means that despite increased socio-economic status among China’s younger generations, their income is supporting a larger number of people. Many individuals may find the 4-2-1 family structure unfeasible, possibly creating conditions for the replication of scenarios seen elsewhere in East Asia, such as South Korea, where 50 per cent of citizens over 60 years old live in a state of poverty. Whichever way families deal with this issue, purchasing power will fall for many of them, putting them at risk of massive decline in socio-economic status, and increased food and water insecurity.



“Ageing China: Changes and Challenges” (BBC News)

The CCP must respond with a robust and comprehensive pension system and public savings campaign. According to the [International Monetary Fund's](#) 2013 report on China's demography, only 26 per cent of Chinese employees currently contribute to the pension system, and a cautious expansion of the system is necessary for future social stability. The next challenge the CCP must address is the diversification of its tax base, otherwise the tax burden on each worker will have to increase by around two and a half times by 2030 to maintain the government's current revenue levels. The shift in the Chinese economy towards a services base will, of course, mean the implementation of taxes on the growing industry. The diversification and adaptation of the tax base must be done in accordance with the ageing population, which is likely to put increased pressure on government revenue. Finally, the CCP must focus on more specialised education of its workforce to account for frictional employment issues arising from skill disparities between China's new university graduates and the increasingly specialised requirements of employers, otherwise it will not maximise the potential of its ever-shrinking workforce. If the measures above are not taken, China's ageing population may constrict the future economic success of the country. The expansion of domestic savings, steady diversification of government revenue sources and optimisation of the labour force will be important in maintaining Chinese citizens' purchasing power and avoiding helplessness against the effects of increasing food and water demand.

Adverse Effects of the Sex Ratio

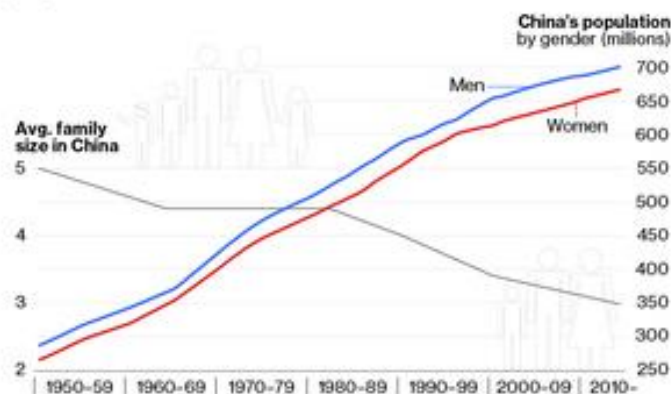
Another legacy of the One Child Policy is the vast gap between the proportion of men and women in the Chinese population. The government enforcement of one child per family (though the policy varied across regions) had the unwanted effect of increasing the proportion of men compared to women, likely as a direct result of selective parenting encouraged by a traditional preference for sons. Today, the [male population](#) stands at around 709 million, while the [female population](#) remains at 667 million, leaving an enormous gap of about 44 million. In terms of the [sex ratio](#), China sits at 1.16 males per female at birth, 0.13 above the world average. The ethical implications of this phenomenon are severe, but they are not within the scope of this report. Rather, the future impact on food and water security of the current situation will be assessed.

The implications of China's gender imbalance [include](#) a decrease in China's population size and working age population; accelerated population ageing; and, exacerbation of the male marriage squeeze. The male marriage squeeze is one implication that may seem unrelated to food and water security at first glance. This refers to the shortage of females resulting in the impossibility for millions of young males to find traditional spouses. Between 2030 and 2045, it is predicted that there will be no potential wives for a fifth of the country's males. Many issues resulting from this phenomenon have already been witnessed through increased prostitution, elevated HIV-infection rates, and renewed trafficking of females. [Some](#) analysts have even gone so far as to say the surplus male population could pose a security risk to the CCP, however, it is more likely that China's ageing population will see a period of conservatism and relative domestic peace. In fact, the biggest effect the gender imbalance will have is in the massive loss of potential births. China's spouseless males may be more engaged in the workforce during their lifetime, but the long term result may be a

massive loss of potential for future children at a time when China desperately needs increased fertility. These lost children would provide the stimulus China's labour force needs to tackle the many issues related to China's ageing population, and therefore increase food and water security for many families.

Unfortunately, this issue has been compounded by worsening [discrimination](#) against women, seen in the description of women over the age of 27 as "left over". This term reinforces the negative connotations surrounding women who have not "settled down" but have focussed their attention on either their careers, or other areas of their lives. Another example lies in the [housing market](#), where up to 70 per cent of women contribute significantly towards purchasing their marital home, but only 30 per cent of marital-home deeds possess the woman's name. This discrimination holds negative implications for the Chinese workforce, which needs to transform into a more inclusive space in light of China's ageing population. Without the active participation of women in the workforce, food and water insecurity is likely to increase for many more families, as leaving women out of the workforce will place greater financial strain on families. Imagine a "4-2-1" family structure in which the "1" is also caring for his spouse's side of the family. This negative shift in social structures must be avoided to ensure food and water security of the shifting Chinese population.

Chinese Demographics



Source: Bloomberg, Chinese National Bureau of Statistics
Graphic: Pekka Aalto

Bloomberg

Rising Middle Class

China's rising middle class has been a popular topic of discussion across a wide range of media in the past decade. The population has become increasingly rich, and results are starting to become noticeable. By 2030, the middle class population of the world is [expected](#) to increase by 40-50 per cent from 2010 levels. A large proportion of this increase is likely to be due to China's contributions, which could result in it having the second largest middle class population in the world, just behind the United States.

Today, nearly half of Chinese income is spent on clothes and food. The [wealthiest portion](#) of the Chinese population already constitute a large part of global demand for high-end goods, however, it will be the urban mass of blue-collar and migrant workers that will see the largest rise in income by 2030. With this rise, the increased proportion of disposable income

will probably shift spending habits away from necessities toward recreation and wellbeing. Increased focus on wellbeing is already evident today, with spending on personal health care having doubled between 2004 and 2011 and expected to continue increasing into the foreseeable future. Online shopping has also been on the rise in China and is predicted to surpass the spending of all other countries combined by 2018. In regard to China's ageing population, it is essential that overall consumption does not increase so much that it detracts from the savings that will be necessary to secure the future of older generations.

Despite expectations that the Chinese population will begin decreasing overall in coming years, the rise of the middle class is likely to have negative implications for food and water security. Amid steady increase in demand, projections for 2030 see greater demand for more nutritious food. This demand will be constrained by a limited supply of fresh water and a decline in the availability of arable land due to increased urbanisation resulting from growing wealth. Increased demand for meat may also have a devastating impact of food scarcity in China, as meat production inevitably requires more land and resources than producing grains or vegetables, which held a greater presence in the traditional Chinese diet. Today, one-third of China's entire grain crop goes to livestock fodder. Recent [gains](#) have been made to tackle inefficiencies in the system, with Australia and China agreeing to a post-harvest grain bio-security partnership that aims to research grain storage methods to reduce wastage.

To overcome the increasing demands of China's rising middle class, it will be crucial for the Chinese Government and businesses to invest heavily in more efficient methods of food production, or otherwise rely on imports that will be highly costly in a future where the global scarcity of food and water is predicted to worsen.

Changing Migration

Changes in migration patterns will be both a cause and effect of changing demographics in China. By 2030, the current boom of young labour in China will be well and truly over, turning a country that is largely known to be a net exporter of labour into a net importer for the first time in decades. A rapidly shrinking workforce will necessitate a number of actions by the Chinese Government. These could [include](#), but are not limited to:

- **Hukou liberalisation:** The Hukou, or Household Registration system, restricts an individual's rights when working beyond their province of birth. Removing these restrictions would afford greater mobility to the workforce, especially to China's rural population, who still account for some 50 per cent of the total population. Currently, the Hukou system still works to disadvantage China's rural migrants through a points-based system similar to that used in many countries for foreign migrants. Any detrimental effects of the labour shortage could be overcome through reform of this system, and the subsequent empowerment and utilisation of China's "floating population" – disadvantaged rural migrants in urban areas that now stand in excess of 220 million – through giving them rights to welfare and pensions that provide greater personal security, which could provide greater chance for success in their work.

- Greater urbanisation: Considerable efforts have been made recently to develop urban centres in historically rural areas. The development of Chongqing is one successful example. Prior to 1997, it had simply been a remote, sub-provincial city in Sichuan Province, but it is now a highly developed urban centre and one of China's five "National Central Cities". Such development has brought new educational and occupational opportunities to vast numbers of rural workers who, for any number of reasons, had previously been unable to migrate to one of China's large eastern cities. As a result, population pressure on the east coast has been somewhat relieved, and future implications may include a decreased urban-rural divide in income.
- Immigration reforms: Openly inviting greater numbers of foreign labour to assist in China's growth is a path the government is likely to take in the coming years. Increased education of the growing Chinese middle class could help mitigate negative effects of a shrinking labour force by creating greater innovation within China. China analysts have long predicted a shift in production from "Made in China" to "Made by China" that is a likely result of increased innovation. As this shift takes place, foreign workers will help to both facilitate innovation and combat the limitations of China's smaller labour market.

At the same time, the effects of the relatively new "One Belt, One Road" (OBOR) [initiative](#) may cause a shift in China's 2030 demographics by outsourcing much of its labour to infrastructure projects in countries along the OBOR trade route. Over-capacity of steel and other commodities are a great concern for Chinese policy makers, and although this migration of workers to work abroad could affect domestic productivity negatively, the inflow of foreign currency as a result of OBOR initiatives will have a positive effect in the long term, provided China can find the demand in the current fragile state of global markets. One way or another, utilisation of China's enormous "floating population" as well as foreign labour available to it will be crucial in maintaining strong growth through to 2030 and, therefore, crucial in sustaining food and water security for its population.

Any opinions or views expressed in this paper are those of the individual author, unless stated to be those of Future Directions International.