

July 24, 2023

## China's Collapsing Population

In early 2020, we published a detailed, multi-part analysis of global demographic trends (see our [Weekly Geopolitical Report from February 10, 2020](#)). That report showed how falling birth rates and rising life expectancies have led to slower population growth, population aging, and weaker economic activity in countries ranging from China and India to the United States and Japan. These demographic trends will have big implications for economic growth, price inflation, interest rates, and relative military power in future years.

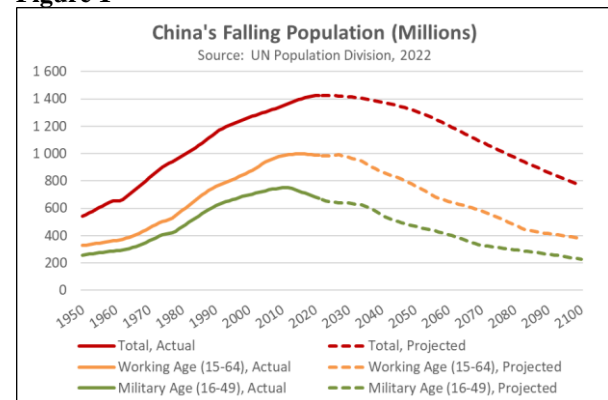
In this report, we take a deep dive into China's worsening demographics, based on the UN Population Division's updated projections from late last year and other recent revelations. As we show, China is now facing what could be considered an outright demographic collapse. We also discuss the many negative implications of this demographic collapse for the Chinese people and for global investors.

### Falling Birth Rates, Falling Population

[In its 2022 update, the UN estimated that China's population currently totals 1,425.671 million people](#), down slightly from its peak of 1,425.893 million in 2021. That means China has lost its long-held status as the world's most populous country as India's population has slightly surpassed it. Many other negative trends are apparent in China's current demographic data. For example, because of a cultural preference for males and the availability of

technologies that allow parents to choose the sex of their children, females now make up just 49.0% of China's population. Since only women can bear children, that alone would point to weaker total birth rates and slower population growth going forward. The dearth of new children means China's younger age groups are shrinking even faster than the overall population (see Figure 1). In turn, that has boosted China's median age to 39.0 compared with 35.1 a decade ago.

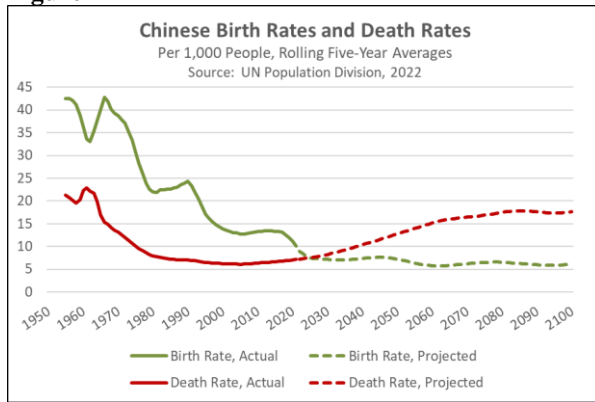
**Figure 1**



As suggested above, one key problem for China is its low birth rate. The UN data show that China's "crude birth rate" (the number of births over a period divided by the person-years lived during that time) fell steadily in the years after the People's Republic of China was founded in 1949. At the start of the period, China's birth rate was extremely high, as was often the case among poor countries at the time. The birth rate was also much higher than China's death rate, leading to fast population growth. Over time, however, the birth rate fell in response to famine, the disruptions of the Great Leap Forward, the government's infamous one-child policy from 1980 to

2016, and changing social and cultural values as the country became richer. The UN now believes that China’s birth rate is close to bottoming out, at least in part because the government has ended its one-child policy (see Figure 2). Nevertheless, the millions of people born in the mid-20<sup>th</sup> century are now so old that they are pushing the death rate higher, leading to a falling population.

Figure 2



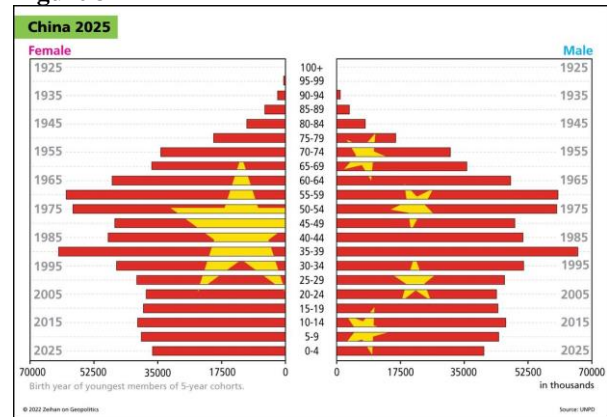
**But It’s Even Worse Than That**

As dire as these figures sound, it’s important to remember that they are based on China’s official statistics. Independent analysts have presented convincing arguments that actual demographic trends are even worse than the government admits. [For example, the widely followed geopolitical analyst Peter Zeihan has produced his own independent estimates of China’s population that show many age cohorts are even smaller than the official statistics indicate, suggesting the country’s population is in a state of collapse.](#)

Adding up the number of living Chinese males and females by the five-year period in which they were born (i.e., 1925-1929, 1930-1935, etc.), we can see a distribution of the Chinese population by age range. Since people will move up the age scale over time, the resulting chart can give us a good sense of how China’s population is likely to trend going forward. Focusing on

the UN’s “median variant” projections for 2025, we can see in Figure 3 that China’s most populous cohort in the coming years will be those aged 35-39, closely followed by those aged 50-59. Whether you focus on males or females, each younger age cohort is dramatically smaller. That means that as today’s biggest cohorts get older, they will be replaced with smaller cohorts. Barring the unlikely event of massive immigration, that means China’s population is destined to shrink further over time.

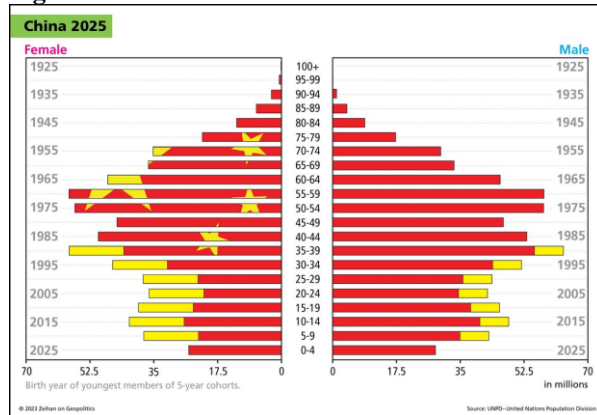
Figure 3



That factor alone bodes poorly for China, but Zeihan’s analysis suggests the reality is even worse. Zeihan’s analysis indicates China has over-reported its births over many years, especially for females. In Figure 4 (next page), he represents those “phantom” citizens in yellow, leaving the remaining actual cohort numbers in red. Focusing on the adjusted red figures, we see that the cohort aged 35-39 in 2025 will no longer be China’s largest. Instead, the cohort aged 50-59 will be biggest. The center of gravity for China’s population will be those nearing retirement age. Even more concerning, almost all the cohorts aged 39 and below will be significantly smaller, meaning that as the older cohorts age and die, there will be far fewer people to replace them. Finally, Zeihan’s analysis shows the shortfall in young females will be especially sharp. Indeed, the number of young females in

China will only be about half the number of pre-retirement females. The implication is that China's birth rate must necessarily collapse over the coming decades.

**Figure 4**



### **Economic, Military, and Social Costs**

Although the UN data suggest China's birth rate is close to stabilizing at a low level, Zeihan's analysis suggests it will continue to fall sharply, leading to further population declines and rising average ages. In this section, we examine how that will affect President Xi's plan to make China a global power again as part of his "great rejuvenation of the Chinese people."

**Economic Costs.** At a high level, it's easy to understand that as China's population falls, it will be harder to boost its overall economic output. Companies serving the domestic market will have fewer customers, making it harder to boost sales and find economies of scale. Even if they enjoy some growth in demand because of increased productivity, rising wage rates, and higher incomes, or because of export growth, Chinese companies will also likely face severe labor shortages and even higher employment costs. By the end of this decade, the UN figures suggest China's total population will be 0.7% smaller than its peak in 2021, but its working-age population will be 1.4% smaller (see Figure 1, first page). Adjusting for the likely over-

counting of China's younger age cohorts, the working-age population (the country's potential workforce) could drop even more than that. The result is likely to be weaker revenue growth, higher wage rates, and shrinking margins.

- These challenges are hitting China just as the country faces up to its ongoing problems with excess industrial capacity and extraordinarily high corporate and local government debt. Over time, the economic drag from China's poor demographics will probably exacerbate this "balance sheet recession," and vice-versa. Besides weaker revenue growth and shrinking margins, that will probably lead to lower investment and increased financial stress.
- China's worsening demographics are also playing out against a nasty overhang from the global coronavirus pandemic. Unlike the U.S. and many other developed countries, China's government provided relatively little financial aid to households and firms during the pandemic, even though it imposed strict lockdowns and social distancing measures until late last year. Left to fend for themselves, millions of workers have likely run down their savings and now face their own balance sheet challenges. To rebuild their savings, Chinese consumers now seem to be reining in their spending. In contrast with the U.S., where the pandemic pushed many baby boomers into retirement, many older Chinese workers also have probably had to stay in their jobs to repair their balance sheets. In the context of weak demographics, that has led to two especially important implications.
  - As older workers hang on to their relatively senior positions, there are

fewer opportunities for younger workers to be promoted, and there is a shortfall of entry-level positions for new graduates. That scarcity is probably exacerbating the muted hiring intentions due to weaker growth expectations and mismatched skills. Therefore, China's youth unemployment rate reached a record-high of more than 20% this spring.

- Workers trying to rebuild their savings and prepare for retirement are probably big net savers, i.e., they earn a lot more than they spend. But older workers can't keep working forever. Advanced age will eventually push more of China's older workers into retirement. When that happens, the country's newly retired workers will become net spenders, i.e., they will spend more than they earn. The young workers who will then finally replace them will likely earn less than they did at retirement, but they will also likely be less productive, on average. Because of their limited numbers, their wages may also be relatively high compared to their productivity. In any case, this phenomenon could portend a future problem with price inflation in China.

**Military Costs.** Weak demographics also present challenges for China's armed forces. While the UN figures suggest China's total population will be 0.7% smaller than its 2021 peak by the end of this decade, the figures suggest its military-age population will be 4.9% smaller (see Figure 1, first page). Adjusting for the likely over-counting of China's younger age cohorts, the military-age population could drop off even more than that. China even now faces a potential political problem within the armed forces because of its past one-child policy. Because of that policy, virtually

every Chinese soldier, sailor, and airman today is an only child. In times of war, if thousands or tens of thousands of Chinese families see their only child coming home in a body bag, it could quickly undermine popular support for the conflict. On top of that, China's pool of potential military recruits is even now shrinking by some 600,000 per year, which will likely constrain the armed forces' ability to fill its ranks with top-notch young people.

**Social Costs.** Finally, China's poor demographics will likely lead to growing social tensions that could undermine support for the Communist Party and the government. Even now, the extremely high youth unemployment rate is probably fomenting dissatisfaction. On top of that, China now has only 88.8 females for every 100 males in the 15-39 age group, and that problem will only get worse. In other words, marriage-aged men in China face both tough employment prospects and brutal competition for potential mates, at least for the time being. On top of that, as China's average age increases and younger people have to support more elderly citizens, the young are likely to feel burdened.

### **Investment Ramifications**

Many observers these days have warned that China's economy is likely to grow much slower in the coming years than it did over the last few decades. This report underscores that likelihood based on the headwinds presented by the country's weakening birth rate and falling population. The analysis also shows that weakening demographics will likely produce cross-currents that will be difficult to anticipate and manage. For example, even as China's excess industrial capacity, high debt, and slowing growth will tend to hold down inflation, its declining workforce at some point will likely lead to labor shortages and

higher inflation pressures. Such a complex, chaotic investment environment going forward doesn't appear particularly attractive to us.

Besides that, because of the worsening geopolitical tensions between China and the West, we continue to believe that it's politically risky to invest directly in Chinese assets or in companies dependent on the Chinese market. On any given day, there's simply too great a risk that one government

or the other will impose unexpected new restrictions on cross-border trade, investment, technology flows, or migration. In sum, our analyses tell us that it's becoming increasingly unattractive to invest in China and firms dependent on the Chinese market.

Patrick Fearon-Hernandez, CFA  
July 24, 2023

*This report was prepared by Patrick Fearon-Hernandez of Confluence Investment Management LLC and reflects the current opinion of the author. It is based upon sources and data believed to be accurate and reliable. Opinions and forward-looking statements expressed are subject to change without notice. This information does not constitute a solicitation or an offer to buy or sell any security.*

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