The Impact of Demographic Changes on Chinese Economy¹

DU Yang
CF40 Guest Member
Deputy Director of the Institute of Population and Labor Economics, CASS

Abstract: In this paper, the author points out the three features of China’s demographic trends, namely ultra-low fertility rate, rapid ageing, and the fact that the total population will peak in the near future. He calls for attention to these trends as they are not only important determinants of the potential economic growth in the future, but also possible triggers of short-term economic fluctuations.

Population is the most fundamental national condition of a country, and the most basic and important factor in economic development. In recent years, China’s rapid demographic transition has exerted a significant impact on its economic and social development. Demographic factors will continue to influence economic development in various aspects. Therefore, economic policies should keep a close eye on the macroeconomic fluctuations caused by demographic changes.

I. The Seventh National Population Census confirmed China’s demographic changes

The Seventh National Population Census produced the most authoritative and comprehensive results about China’s demographic trends as follows:

First, China has entered an era of ultra-low fertility. Although demographers had already reached a consensus on this, authoritative data on fertility rate was not available. Previous population forecasts frequently turned out to be higher than the actual figures, largely because this important parameter was overestimated. The confirmation of this

¹ This article first appeared on CF40’s WeChat blog on June 1.
low fertility rate is of great significance for predicting the future trend of population development.

**Second, population ageing is at a high level and is likely to accelerate.** The annual population data for 2019 came from a 1% population sample survey. According to this survey, the total number of elderly people aged 65 and over in 2019 was 176 million, accounting for 12.6% of the total population. According to the Seventh National Population Census, the number of elderly people over 65 in 2020 reached 191 million, accounting for 13.5% of the total population. Clearly, previous data have considerably underestimated the extent of China’s population ageing. **Data of the Seventh National Population Census shows that China will soon enter a moderately ageing society.**

Population ageing is an important factor affecting China’s social and economic development. For this reason, the 14th Five-Year Plan has proposed a national strategy to actively cope with this trend. Compared with other countries, China’s population ageing has the following three features. **Getting old before getting rich.** At the time when China reaches a moderate level of population ageing, the per capita GDP in the country will stand about 10,000 US dollars, which is lower than that of most countries when they entered this stage. **Rapid ageing.** Although the absolute level of population ageing is not high at present, the pace of ageing in the next three decades will be the fastest among the world’s major economies. **Super large elderly population.** The population of 65 years old and above in China accounts for more than a quarter of the world's population of the same age group. In this sense, population ageing must be considered as an economic development issue.

**Third, the working-age population continues to decline, and the total population will soon peak.** The rate of decline in working-age population may exceed previous estimates. Census data show that the proportion of the population aged between 15 and 59 in the total population has dropped by 6.79 percentage points compared with 2010. This means that the previous statistical results based on sample surveys may have underestimated the rate at which the working-age population is declining. In addition, the number of newborns plummeted further in 2020, with only 12 million births registered during the year. All of these indicate that China’s total population is about to peak.
II. Demographic changes will have a more prominent impact on economic development

Demographic changes characterized by ultra-low fertility rate, rapid ageing and the fact that total population will soon peak are exerting or about to exert a significant impact on China’s economic development: it is not only an important determinant of the potential economic growth in the future, but also a possible trigger of short-term economic fluctuations. Demographic factors have an impact on economic development in the following aspects.

First, rapid population ageing could deal blows to economic growth. According to theories on economic growth, output growth is derived from increase of labor force and improvement in per-capita output (or labor productivity), while the latter depends on increase in the capital output ratio and the total factor productivity (TFP). Population ageing could affect overall economic performance through its effect on any of these factors, and this is exactly how population ageing usually impact economic growth. Many studies have shown that population ageing is a direct cause for the shrinkage in working-age population and the labor market as well as slowed economic growth; although its negative impact on the capital output ratio is modest, it severely arrests the TFP and thus the potential economic growth.

Moreover, population ageing could take an even bigger bite out of economic growth when it accelerates. An empirical study of 122 middle- and high-income economies over a period of 25 years has shown that population ageing will have more obvious adverse effect on economic growth after it reaches a certain threshold. Considering the fact that population ageing in China will be faster than in most other countries, we estimate, based on relevant parameters and forecasts, that with other factors unchanged, rapid population ageing alone will pare down China’s annual economic growth by around one percentage point over the next five years.

In addition, rapid changes in the demographic structure will have structural effects on some of the macroeconomic indicators such as the savings rate and the consumption structure. The Chinese economy has long been characterized by a high
savings rate, which is mainly due to the high proportion of household savings in the national savings. A high savings rate is an important basis supporting investment. Even if the Chinese economy is turning more consumption-driven, adequate investments remain important to boosting technological innovations and the TFP. Therefore, while there are justified reasons behind the decrease in savings rate in China, we do not want to see it decline so fast as to result in structural imbalances. International experience suggests that as the population gets older, the savings rate will decline, and population ageing will become the most explicit factor determining the savings rate. This negative correlation has been proved by empirical studies based on China’s data. Rapid decline in the savings rate as a result of population ageing will induce structural changes in China’s macroeconomic indicators such as savings, investment and the balance of payments, adding to uncertainties in its economic development.

Population ageing will also impact consumer spending, especially on the consumption structure: as people get older, job-related spending on clothes, transportation and communication, and entertainment will fall significantly, while medical expenses will rise sharply. However, it’s the job-related spending that plays a bigger role in driving economic growth. Thus, even if population ageing does not depress the aggregate level of consumer spending, the shifts in the mode of consumption will also have adverse impacts on economic growth.

Third, the peaking of total population will affect aggregate demand. When working-age population (aged between 16 and 59) in China peaked around 2012, it had profound implications for the evolvement of China’s labor market and economic structure. What followed were fast increase in wages, decline of labor-intensive industries, and wider application of labor-saving technologies, among others, and many of the changes happened way faster than we expected. Data from the Census indicate that total population in China will peak very soon, which will be another major shift in the country’s demographic trend. The total population will grow negatively after it peaks; yet, there isn’t much international experience for China to learn from in coping with the socio-economic impacts of a declining population, especially considering that it has an exceptionally huge population and large economy. After total population peaks, growth in household disposable income and the wealth gap will make a
bigger difference to aggregate demand. It’s thus important to deepen reform in related areas to counter the negative influence of demographic changes.

III. China needs to explore an economic development pattern that accommodates its demographic changes

Demographic changes are long-lasting and largely irreversible. Few countries in the world have seen a rebound in their fertility rate. Similarly, population ageing will be a long-term trend in China’s socio-economic development. Therefore, although demographic changes and economic development influence each other, it’s suggested that China forge an economic development pattern that accommodates its demographic trend because it has strong inertia.

Given the fact that population ageing will be the major characteristic in China’s demographic evolvement and is irreversible, the key strategy to cope with it would be to form an economic growth pattern that accommodates the trend through deepened reform. The main challenge in an aged society is one posed by a deteriorating old-age dependency ratio to the social welfare system. Hence, as the population gets older, forging a sustainable economic development pattern on the strength of a working-age population with higher productivity would be the fundamental force driving socio-economic progress.

The rapidness of demographic change in China has significantly shortened the window period for it to reap the demographic dividends. In response, China has to speed up the transformation of its growth model. In contrast, demographic changes in many developed countries happened as a matter of course without policy intervention, and thus all it took for them to find an appropriate path for economic growth was a well-functioning market where the relative prices of capital and labor change as people get older. However, population ageing could deal strong blows to economic growth if it proceeds at a fast and accelerating pace. In that case, structural changes would hardly happen depending solely on voluntary mechanisms, but would inevitably require policy intervention and guidance. That’s why demographic factors must be fully taken into account when formulating economic and industrial policies. In an ageing society, to elevate labor productivity is essentially to improve the TFP, which is
largely decided by technological progress and innovation. That’s why the core of economic development policies should be to facilitate the transformation of the growth pattern from one depending on factor accumulation to one driven by higher TFP.

The direct impact of demographic changes on economic development is a shrinking labor market, and so promoting wider adoption of labor-saving technologies will be critical. One thing to note, though, is that this move will have to be coupled with a sound redistribution system. Otherwise, there will be problems such as a widened wealth gap and population ageing-related poverty.