

China's Population Aging: Economic Problems, Solutions and Prospect

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Abstract: China's aging population, primarily driven by the family planning policy, increasing life expectancy, and declining fertility rates, poses significant economic challenges for the nation. This paper investigates the implications of this demographic shift on the labor force and productivity, retirement, pension and healthcare systems, and savings and investment behaviors, and provides policy recommendations to address these challenges. The research demonstrates that a shrinking labor force may lead to reduced productivity and wages, impacting the overall economy and China's competitiveness in the global market. However, technological advancements and automation may help mitigate these challenges. In terms of retirement, pension, and healthcare systems, the aging population places considerable pressure on their sustainability. Policy changes, such as delaying retirement age, reforming the pension system, and investing in healthcare infrastructure, may help alleviate these pressures. Regarding savings and investment behaviors, the paper highlights the differences between older and younger individuals, with potential implications for the financial market's stability and growth. The significance of this research lies in its comprehensive analysis of the economic challenges posed by China's aging population and its innovative suggestions for policy changes to address these issues. Key policy recommendations include encouraging technology adoption and innovation, implementing pension system reforms, gradually increasing the retirement age, investing in healthcare infrastructure and professional training, and developing financial products and services tailored to the aging population's needs. These proactive policy changes and adaptations can help China successfully navigate the demographic shift, ensuring continued economic growth and stability for its citizens.

Keywords: aging population, economic challenges, labor force, pension system, healthcare infrastructure

1. Introduction

Demographics play a crucial role in shaping a country's economic growth and development, as they influence labor markets, consumption patterns, savings and investment behaviors, and the demand for public services. Understanding demographic trends is essential for policymakers to develop appropriate strategies and adapt to the changing needs of society.

Since the founding of the People's Republic of China, the country's population structure has experienced significant shifts. Initially, rapid population growth driven by high fertility rates and

declining mortality rates led to a large and youthful labor force. However, the introduction of the family planning policy in the late 1970s, aimed at controlling population growth, coupled with increasing life expectancy and declining fertility rates, has resulted in an aging population. The proportion of elderly citizens has risen dramatically, with forecasts from the International Labour Organization suggesting that by 2050, over 26% of the population will be aged 65 or older, and by 2100, the number will increase to over 31% (please see Figure 1) [1].

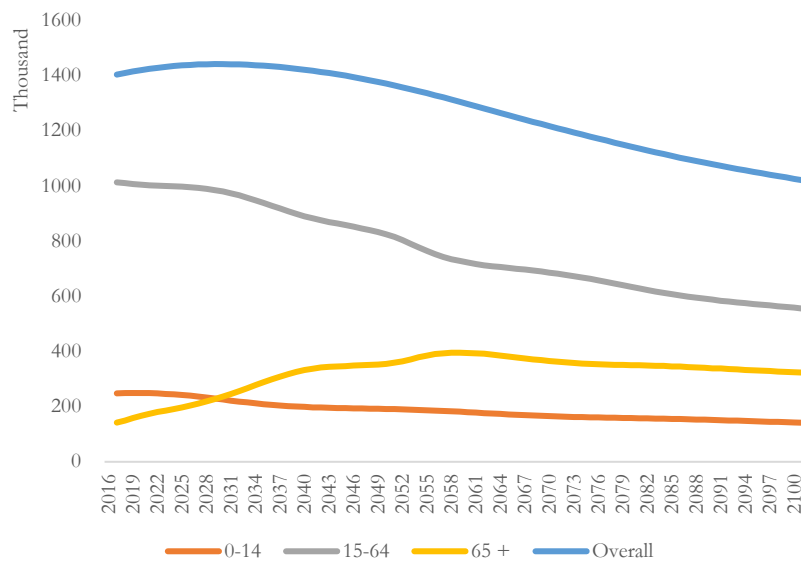


Figure 1: China's population forecast.

Data source: International Labour Organization, www.ilo.org [1]

Photo credit: Original

China's population structure is facing considerable changes as the aging population continues to grow, while the working-age population declines. The imbalance between the young and old population will become more pronounced, leading to potential strains on the labor force, social security systems, and public services.

This paper examines the major economic impacts of China's changing population structure, focusing on its implications for the labor market, pension system, and overall economic growth. The analysis aims to provide insights into the challenges posed by the aging population and offer policy recommendations to address these issues effectively.

2. Labor Force and Productivity

2.1. Labor Size Decrease: Reason and Status

China's aging population is resulting in a decrease in the size of the labor force. The primary reasons for this decline include the family planning policy, which limited the number of children born to each family, as well as increasing life expectancy and falling fertility rates [2, 3]. As the elderly population grows and the working-age population shrinks, China would have to face the challenge of maintaining a sufficient labor supply to drive its economy.

According to data from the National Bureau of Statistics of China, the country's working-age population (ages 15-64) has been on a downward trend since 2012. From 1007180k to 965260k in 2021. With elder population (ages 65 and above) doubled the size from 2003's 96920k to 2022's 209780k, and a significant decreasing trend on younger age population (ages 0-14) from 2003's

285590k to 2021's 246780k [4]. The shrinking labor force is likely to become more pronounced in the coming years as the number of elderly citizens continues to rise and less new born child adding into the population.

2.2. Passible Impact on Productivity and Wages

A smaller labor force can have several implications for productivity and wages. Obviously, with fewer workers available, employers may struggle to fill job vacancies, leading to labor shortages in certain industries, hence lead to a decreased productivity in a short run. However, a decreased labor force may push firms to invest more in technology and automation to maintain productivity levels. This could result in higher labor productivity, as fewer workers may be able to produce the same output as before. For example, in the last two decades, computer control technology has gradually become widespread in China. With the development of industry, industrial automation computers will become a necessary pillar for industrial production, which will greatly improve production efficiency and reduce production costs [5]. Therefore, if consider the improvement of technology, the productivity may not drop or at least drop significantly.

On the wage side, if assume marginal productivity does not change, less labor supply will lead to increase of price level, which will reduce demand and ultimately shrink the market size. This will lead to a higher real wage but a larger unemployment rate. However, marginal productivity is likely to increase due to the improvement of technology, meanwhile, improved technology will cause job replacement, especially labor-intensive industries which would create a larger unemployment rate and rise the wage even more.

2.3. Effect on Overall Economy

The shrinking labor force in China could have consequences for the overall economy. A decline in the working-age population can lead to a slowdown in economic growth, as fewer workers may result in lower aggregate output. This could impact living standards and the ability of the government to provide public services and social security benefits.

Additionally, a smaller labor force might also affect China's competitiveness in the global market. As labor shortages become more acute, the country may struggle to maintain its position as a major global manufacturing hub. For example, Foxconn, a multinational electronics manufacturing company headquartered in Taiwan, which has 44 factory fields built in mainland China, is trying to transfer the factories to India and Southeast Asia due to the lower labor wage and global development strategy [6]. This could prompt multinational companies to shift their production bases to countries with younger, more abundant labor forces, further impacting China's economic growth.

However, consider the long run may have a different result. Technology improvement can solve most of the labor force shrinking problem. In the future, China would not need as many labors as for today, less labor supply than today may not be an issue after the next major technology innovation.

3. Retirement, Pension and Health Care Systems

3.1. Retirement Delay: Reasons and Result

Since 1978, China's retirement age is 60 years old for male and 55 years old for female. Some suggest that the policy has set the retirement age too young compared to western countries [7]. As China's population ages, the government may consider delaying the retirement age to counteract the shrinking labor force and alleviate pressure on the pension system. By extending working years, the government can ensure that a larger portion of the population remains economically active and contributing to social security funds.

The reasons for considering a retirement delay are twofold. First, the increased life expectancy means that people are living longer, healthier lives, and may be able and willing to work beyond the traditional retirement age. Second, by delaying retirement, the government can mitigate some of the financial strain on the pension system, which must support a growing number of elderly citizens.

As a result, delaying retirement age can ease the pressure of the shrinking labor force. It extends the contribution period for workers and delaying the commencement of benefits. However, it may only be able to affect mental labor jobs such as managing and education. Elder people can provide more experience than energy and creativity. Therefore, delay retirement age will not help manual labor. It mostly helps to lighten the pressure of pension.

3.2. Will Pension able to Stay at the Same Level or Broke?

China's aging population would impact the pension system significantly. According to National Bureau of Statistics of China, population that receive pension have been increased rapidly in the last two decades. Meanwhile, population that pay pension is in a decreasing trend [8].

As of today, pension insurance balance is starting to have a decreasing trend. Consider the population structure change, there is a high probability to have a pension gap soon (please see Figure 2) [9]. To maintain the current level of pension benefits, the government would need to increase contributions from the working population or divert resources from other areas of the economy, which may not be feasible.

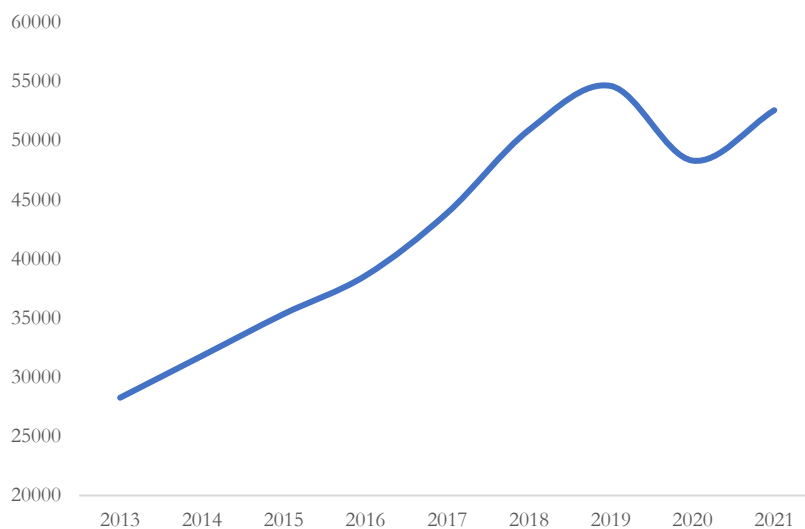


Figure 2: China's pension insurance balance (0.1 billion).

Data source: National Bureau of Statistics of China [9]
Photo credit: Original

Alternatively, the government may need to consider other methods of pension system reforms. Increasing retirement age would be helpful, but it only solves a small part of the problem. Adding personal pension contributions, adjusting the benefit levels, or implementing a more progressive pension system that takes into account the income and needs of the retirees may also change the situation.

3.3. The Impact on Health Care System

Typically, older populations tend to require more healthcare services and long-term care, which can strain healthcare resources and infrastructure. As the demand for healthcare services increases, current healthcare system which built based on demographic dividend may not hold. Consider the lack of medical resources during the COVID-19 period, especially elder patients who need more healthcare services [10]. China's current health care system still far from meeting the requirement of the aging society. The government will need to invest more in healthcare facilities, train healthcare professionals, and expand public health insurance coverage to meet the needs of its elderly population.

The burden of aging on the medical system may be more of a mismatch between the supply and demand of future medical resources. As the elderly population grows and their healthcare needs evolve, the current supply of medical services, infrastructure, and personnel may not be sufficient to meet the increasing demand. To address this challenge, it is crucial for the government and healthcare providers to anticipate and adapt to the changing healthcare landscape by investing in capacity building, workforce development, and innovative healthcare solutions. This will ensure that the healthcare system remains sustainable and resilient in the face of demographic shifts and can continue to meet the needs of China's aging population.

4. Savings and Investment

4.1. Difference Between Older and Younger Individuals on Investment Behavior

Generally, older individuals tend to have different financial priorities compared to younger ones. While younger generations may focus on education, housing, and starting families, older individuals usually prioritize financial security, retirement savings, and healthcare expenses [11, 12]. On the other hand, the two types of individuals tend to have a totally different income structure. Younger population would have more income from salary or business, while elder population normally have pension and investment return.

As a result, older individuals may be more risk-averse in their investment strategies, preferring low-risk fixed-income assets like bonds, savings accounts, and pension funds. On the other hand, younger individuals might be more open to taking risks and investing in higher-return assets such as stocks and real estate.

4.2. How it will Affect the Financial Market

The shift in investment behavior could have several implications for China's financial market. An increase in the proportion of older individuals may lead to a higher demand for low-risk fixed-income assets. This could result in lower interest rates and a reduced supply of capital for riskier investments, potentially stifling innovation and economic growth.

Moreover, the financial market may experience increased volatility as the aging population starts to withdraw their savings to finance their retirement and healthcare needs. This could lead to fluctuations in asset prices and affect the stability of the financial market.

On a positive side, the aging population might also create new investment opportunities in industries catering to their needs, such as healthcare, senior housing, and long-term care services. Companies in these sectors could experience growth and attract investment as the demand for their products and services increases.

5. Conclusion

This paper has examined the various challenges and implications of China's aging population on its economy, focusing on the labor force and productivity, retirement, pension and healthcare systems, and savings and investment behaviors. Driven by the family planning policy, increasing life expectancy, and declining fertility rates, China faces a demographic shift that poses significant economic challenges, with nearly 40% of the population projected to be aged 60 or older by 2050.

The research has demonstrated that a shrinking labor force could lead to a decline in productivity and wages, with potential consequences for the overall economy and China's competitiveness in the global market. However, the adoption of technology and automation may help mitigate some of these challenges by improving labor productivity and compensating for the reduced labor supply.

In terms of retirement, pension, and healthcare systems, the aging population places considerable pressure on the sustainability of these systems. The paper suggests that policy changes such as delaying retirement age, reforming the pension system, and investing in healthcare infrastructure and services may help address these challenges and ensure long-term support for the elderly population.

Regarding savings and investment behaviors, the paper highlights the differences between older and younger individuals in their income, financial priorities and risk tolerance. An aging population may result in a shift toward low-risk fixed-income assets, potentially affecting the financial market's stability and growth. However, new investment opportunities in industries catering to the elderly population's needs, such as healthcare and senior housing, may arise.

Based on the research conclusions, the following policy recommendations are proposed: (1) Encourage technology adoption and innovation across industries to boost productivity and maintain competitiveness in the face of a shrinking labor force; (2) Implement pension system reforms, such as adopting a multi-pillar pension system that combines state-funded pensions, occupational pensions, and individual savings, to ensure long-term sustainability; (3) Gradually increase the retirement age to alleviate pressure on the pension system and maintain a larger economically active population; (3) Invest in healthcare infrastructure, professional training, and public health insurance coverage expansion to meet the growing healthcare needs of the elderly population; (4) Develop financial products and services tailored to the aging population's needs, supporting both their financial security and the growth of industries catering to their requirements; (5) By addressing these challenges through proactive policy changes and adaptations, China can successfully navigate the demographic shift and ensure continued economic growth and stability for its citizens.

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