

Research On the Impact Mechanism of Population Aging on China's Economic Growth and Corresponding Strategies

Zheqi Wang

Shaoxing NO.1 High School, Shaoxing, Zhejiang, China

Abstract: The study on the influence mechanism and coping strategies of population aging on China's economic growth aims to deeply analyze how population aging affects China's economic growth through various ways, and explore the corresponding policies and strategies to cope with this challenge. The study points out that the aging of the population has a profound impact on economic growth mainly by affecting labor supply, consumer market structure, upgrading of industrial structure and social security system. The study proposes corresponding coping strategies. First of all, the government should adjust the population policy, encourage fertility, and strengthen the investment of human capital to improve the quality of labor force. Secondly, adapting to the evolving needs of the aging population necessitates the promotion of industrial structure upgrading and innovation. In addition, we will strengthen the reform of the social security system and establish a long-term care insurance system to reduce the financial pressure. At the same time, enterprises and individuals should also take active measures, such as improving production efficiency, optimizing product mix, and strengthening health management, to meet the challenge of an aging population. The aging of population has many effects on China's economic growth, but through reasonable policy adjustment and market mechanism innovation, this behavior can effectively respond to this challenge and achieve sustainable economic development.

Keywords: Policy; Demand; Influence; Mechanism; Market

1. Introduction

Population aging refers to the process in which the proportion of the elderly population aged 60 and above in the total population keeps increasing. In recent years, with the

improvement of living standards, the progress of medical technology and the decline of fertility rate, the speed and scale of population aging is unprecedented. The China Statistical Yearbook 2024 states that China's Population Situation Report 2024 released by the National Bureau of Statistics, the number and proportion of the elderly population in China are growing rapidly. In 2023, the number of people aged 65 and above in China has reached 216.76 million, accounting for 15.4% of the total population, and the old-age dependency ratio is 22.5%, that is, every 4.4 working-age population will bear one elderly person. At the same time, the elderly population aged 60 and above is 296.97 million, accounting for 21.1% of the total population, marking that China has officially entered the "moderate aging" society. It is expected that around 2030, China will enter the super aging society accounting for more than 20%, the elderly population will reach about 36.2% in 2050, and by 2084, half of the total population will consist of the elderly[1].

The swiftness and scope of aging are staggering. It took 24 years for Japan, 40 years for Germany, 40 years for Germany, 126 years for France, and only 21 years for China. It is expected that from deep aging to super aging, China will take about 20 years, much faster than other countries. In addition, the aging of the elderly population is becoming increasingly prominent. In 2022, China had approximately 40 million individuals aged 80 and older, which represented roughly 2.7 percent of the entire population. It is expected that in 2030,2050,2100 will reach 3.7%, 11.0%, 1050,2070 and 3 0.4% respectively[2]. The regional differences in aging are also significant. In 2022, the proportion of Tibet aged 65 and above is less than 7%, and the age structure of the population is relatively young; while the elderly population in Liaoning, Shanghai, Chongqing, Sichuan, Jiangsu is obvious. For example, the dependency ratio of the elderly population in Liaoning reached 30.6%, that is, every 3.27 working-age

population will bear one elderly [3]. The impact of population aging on China's economic growth is affected in many aspects, mainly including labor supply, household savings and consumption, human capital and so on. Labor force is one of the most important factors in economic growth. With the acceleration of the aging process, the working-age population is decreasing, and there is a shortage of labor supply, which directly affects the potential of economic growth. From 2010 to 2022, the size of the working-age population aged 15-64 dropped from 1 billion to 960 million, with the proportion falling from 74.5% to 68.1%, and is expected to drop to about 58% by 2050. The decline of labor force leads to higher production costs, especially in some labor-intensive industries; the population aging also affects economic growth by affecting household savings and consumption behavior. Unlike the young, the elderly have a higher demand for services such as health care and health care, and such consumption tends to contribute less to economic growth. At the same time, the decrease of the elderly income and the decline of saving ability reduce the supply of funds in the capital market, which is not conducive to investment and economic growth. Human capital is one of the core drivers of economic growth. As population aging intensifies, the availability of skilled labor decreases, hindering advancements in scientific and technological innovation as well as industrial transformation. The increasing elderly population has led to a heightened demand for services such as elderly care and healthcare. Consequently, there is an expanded expenditure on social security from limited fiscal resources, which in turn crowds out the space for human capital investments in education, health, and other sectors, ultimately hindering the long-term economic development [4].

2. Influence

2.1 Labour Market

The most immediate consequence of an aging population is a decrease in the labor force supply. As the share of the elderly grows, the percentage of the working-age population correspondingly diminishes. According to the National Bureau of Statistics, China's working-age population aged 15-59 will decrease from 896 million in 2019 to 689 million by 2050, and its share of the

population will also fall from 64.3 percent to 56.1 percent of the total population, as illustrated in Figure 1. With the withdrawal of the elderly labor force, enterprises often need to increase their salary and welfare level in order to attract and retain the young labor force. Being relatively small, young workers are more able to negotiate with companies on wages and benefits. In addition, with the increase of the elderly population, the social demand for pension and medical security is also increasing. In order to cope with this demand, enterprises often need to pay more social insurance fees for employees, which further pushes up the labor cost. The decrease of labor supply and the rise of labor cost have brought great pressure to enterprises. On the one hand, enterprises need to face the problem of labor shortage, which may lead to labor shortage in some industries, and thus affect the economic growth rate. On the other hand, the labor force. The rise of costs increases the operating cost of enterprises and reduces the competitiveness of enterprises. In addition, the aging of the population also leads to changes in the structure of the labor force, with the proportion of young people gradually decreasing, and the proportion of the elderly labor force gradually increasing. Such change has a profound impact on the vitality of the labor market. The young labor force usually has higher education level and skill quality, which can bring higher production efficiency and innovation ability to enterprises, while the older labor force, although experienced, may have difficulties in adapting to new technologies and new environments [5].

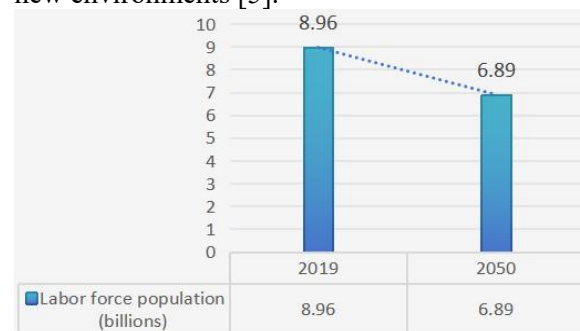


Figure 1. Labor Force Population (Billions)

2.2 Social Security System

With the increase of the elderly population, the social security expenditure also increases, mainly including pension expenditure, medical security expenditure and social assistance expenditure. As the growth rate of the elderly

population exceeds the economic growth rate, the proportion of social security expenditure in the fiscal expenditure is constantly rising, bringing great pressure to the fiscal sector. This pressure could lead to a threat to the sustainability of the social security system, and perhaps even a pension payment crisis. The aging of the population leads to the increasing number of the elderly population and the rapid growth of the demand for pension. The traditional family pension model gradually fails to meet the demand, and diversified pension models such as community pension and institutional pension emerge at the historic moment. However, these new pension models need more capital input and human resources support, which further increases the pension pressure. At the same time, due to the increase of the number of elderly people, the payment pressure of the pension insurance fund also increases, and the government and the society need to take joint measures to deal with it. The elderly population is one of the major sources of medical needs. As population aging intensifies, the medical needs of the elderly are escalating, posing greater demands on the medical security system. Consequently, medical insurance is encountering heightened payment pressures, necessitating collaborative efforts from the government and society to bolster the financing and payment capacity of medical insurance. To accommodate the medical demands of the elderly, medical institutions must continually enhance their service quality and offer more personalized and specialized healthcare services. Additionally, the aging population may reshape the labor market structure. On one hand, as the elderly population grows, the labor market supply may dwindle, pushing up labor costs and undermining enterprise competitiveness. On the other hand, the surge in the elderly population may also alter the labor market demand structure, influencing the demand for specific industries and occupations. This transformation could further exacerbate the pressure on the social security system, as shifts in the labor market could disrupt the balance of the social security fund; the impact of the aging population on the social security system is not only reflected in the financial pressure, pension pressure and medical security demand, but also on the sustainability and fairness of the social security system. For example, with the increase of the elderly population, the coverage and security level of

the social security system need to be continuously improved to meet the needs of the elderly. However, this could lead to a threat to the sustainability of social Security systems, which may be difficult to maintain. In addition, the aging of the population may also raise the fairness problem of the social security system, because of the social security for people of different ages and income levels. Of the needs and contributions may vary [6].

2.3 The Comprehensive Impact of Economic Growth

The primary economic impact of population aging manifests in the decline of the potential growth rate due to the shrinking labor supply. As the elderly population expands, the number of working-age individuals progressively diminishes, the lack of labor supply has become an important factor restricting economic growth. Labor force is one of the important factors of production for economic growth, and the decrease of its quantity directly leads to the decline of social production capacity, and then affects the potential of economic growth. On the supply side, the reduction in labor supply will directly affect the potential of the economy. Labor force is the basic factor of economic growth, and the decrease in quantity and the decrease in labor participation rate will have a negative impact on the potential economic growth rate. In addition, the elderly population may be relatively weak in terms of work ability, health status and adaptability, which may also lead to a decline in labor productivity, further affecting economic growth.

The indirect impact of population aging on economic growth is more complex, which mainly affects the quality of economic growth by influencing technological progress, capital formation and income distribution. An ageing population may curb technological innovation and increased labor productivity. On the one hand, the elderly population may be relatively slow in terms of the acceptance and application of new technologies, which may affect the speed of overall technological progress. On the other hand, as the elderly population increases, political power and social resources may become more inclined to elderly employees, which may make society more conservative and in turn inhibit innovation momentum. However, an aging population may drive technological innovation in certain areas. For example, to meet

the needs of the elderly population, technological innovation in medical care and pension care may be accelerated to meet the needs of the elderly population. However, whether these innovations are sufficient to offset the negative impact of population aging on overall technological progress requires further observation and research; population aging may reduce the savings rate and capital formation rate, thus the potential economic growth. The elderly population is usually more inclined to save to cope with future uncertainties (such as illness, pension, etc.), which may lead to a decrease in the overall propensity to consume and an increase in the savings rate. However, a rising savings rate does not necessarily mean higher capital formation rates. With the increase of the elderly population, social spending on pension, medical care and other fields increases increase, which may crowd out the resources originally used for investment, resulting in declining capital formation rate; the aging population may also have an impact on income distribution. On the one hand, with the increase of the elderly population, social security spending such as pensions will also increase accordingly. These expenditures usually come from government revenue, and thus may lead to reduced government spending in other areas, which will affect the overall distribution of social welfare. On the other hand, the elderly population may be relatively less competitive in the labor market, which may lead to their relatively low income level. This inequality in income distribution may further exacerbate social contradictions and economic problems [7].

3. Coping strategies

Although the aging population has brought challenges to economic growth, it also breeds new development opportunities. For example, the development of the aging industry requires a large number of nursing staff and elderly care service personnel, creating new employment opportunities. With the increase of the elderly population, the demand for elderly care services and products continues to increase, which promotes the development of the elderly care industry. The demand of the elderly population for health care, health care, leisure and entertainment and other aspects has given birth to new consumption areas and promoted the upgrading of the consumer market. At the same

time, we need to improve the medical level and service quality, and the elderly population provides medical services. At the same time, the government should formulate comprehensive policies for aging, from old-age security, medical security to participation in social activities, to consider the needs of the elderly. At the same time, strengthen international cooperation, learn from the successful experience of other countries in dealing with aging, and jointly deal with the problem of population aging [8].

3.1 Establish Sound Elderly Security System

We will improve the pension system and raise the pension level to ensure the quality of life of the elderly. At the same time, we will develop the elderly care service industry, improve the service quality, and provide more convenient and high-quality elderly care services for the elderly. We will adopt appropriate policies to delay the retirement age to enable the elderly labor force to continue to participate in social labor, expand the size of the labor force, and reduce the financial burden of the government endowment insurance. At the same time, the "experience value" of the elderly population should be fully explored, and the retirement age should be extended by industry. Encourage active engagement of older adults in society, improve the social adaptability of the elderly by carrying out education for the elderly, popularize the knowledge of geriatric psychology and sociology, guide the elderly to position the elderly life with a positive attitude, and be active practitioners and participants in the promotion of national strategies [9].

3.2 Develop the combination of smart medical care and nursing care

The Internet, big data, artificial intelligence and other modern information technologies are used to provide more convenient and efficient elderly care services for the elderly. We will introduce intelligent medical equipment, promote telemedicine services, improve the efficiency of health management for the elderly, and provide personalized medical services. At the same time, we will strengthen the capacity of community elderly care services, establish a more perfect community support system, and provide daily life care, health care and psychological support for the elderly at home.[10].

4. Conclusion

As a major social phenomenon facing China in the 21st century, oral aging has a profound and complex impact on economic growth. It not only changes the supply and demand pattern of the labor market, and causes unprecedented pressure on the social security system, but also has a broad impact on the quality of economic growth by affecting key economic factors such as technological progress, capital formation and income distribution. However, challenges and opportunities coexist, and the aging of the population has also given birth to new industrial development, providing new impetus for economic growth. From the perspective of the labor market, the decrease of labor supply and the rising labor cost caused by the aging population have brought great pressure to enterprises and the economy. Labor shortages and rising costs may restrict the development of some industries, especially labor-intensive industries. However, it also encourages enterprises to increase the investment in technological innovation and automated production lines, and improve the production efficiency, so as to alleviate the problem of labor shortage to a certain extent. At the same time, the experience and technical advantages of the elderly labor force are still irreplaceable in some fields, through the rational development and utilization of the elderly power resources, can create more value for enterprises and society; in the social security system, the aging population leads to increased social security expenditure and increased financial pressure. The traditional family pension model gradually cannot meet the demand, community support Old-age, institutional pension and other diversified pension models emerged at the historic moment. However, the promotion and implementation of these models require more financial input and human resources support. Therefore, the government should increase the support for the elderly care service industry, and promote the professional, standardized and intelligent development of the elderly care service. Additionally, efforts should be intensified to reform and enhance the social security system, ensuring its long-term sustainability and fairness, and ensure that the elderly can enjoy due social security treatment; in the comprehensive impact of economic growth, population aging reduces the potential growth rate, and affects the quality of economic growth by influencing factors such as technological progress, capital formation and

income distribution. However, with the increase of the number of the elderly population, the demand for elderly care services and products is also increasing, which promotes the development of the elderly care industry and the upgrading of the consumer market. At the same time, the demand of the elderly population for health care, health care, leisure and entertainment has also spawned new consumption areas for economic growth. As a major social phenomenon facing China in the 21st century, aging has a profound and complex impact on economic growth. It not only changes the supply and demand pattern of the labor market, and causes unprecedented pressure on the social security system, but also affects technological progress, capital formation and income distribution key economic factors, to have a wide impact on the quality of economic growth. However, challenges and opportunities coexist, and the aging of the population has also given birth to new industrial development, providing new impetus for economic growth. Facing the challenge of the aging population, governments, enterprises and individuals should adopt active coping strategies. The government should formulate comprehensive policies for aging, improve the pension system and old-age service system, and promote the development of social participation of the elderly and the combination of intelligent medical care and nursing care. At the same time, we should strengthen international cooperation, draw lessons from the successful experience of other countries in dealing with aging, and jointly deal with the problem of aging population. Enterprises should increase the investment in technological innovation and automated production, improve the production efficiency, and optimize the product structure to cope with the challenges of labor shortage and rising costs. Individuals should strengthen health management and improve their own quality and skill level to adapt to the changes and selection in the labor market.

To sum up, the impact of population aging on China's economic growth is multifaceted, with both challenges and opportunities. Through reasonable policy adjustment and market mechanism innovation, the society can effectively respond to this challenge and achieve sustainable economic development. The government, enterprises and individuals should take active actions to jointly deal with the

challenge of population aging, providing new impetus for the construction of a harmonious society and the realization of economic prosperity. Facing the challenge of the aging population, governments, enterprises and individuals should adopt active coping strategies. The government should formulate comprehensive policies for aging, improve the pension system and old-age service system, and promote the development of social participation of the elderly and the combination of intelligent medical care and nursing care. At the same time, we should strengthen international cooperation, draw lessons from the successful experience of other countries in dealing with aging, and jointly deal with the problem of aging population. Enterprises should increase the investment in technological innovation and automated production, improve the production efficiency, and optimize the product structure to cope with the challenges of labor shortage and rising costs. Individuals should strengthen health management, improve their own quality and skill level, in order to adapt to the changes and challenges of the labor market, and contribute to the construction of a harmonious society and the realization of economic prosperity.

References

- [1] State Statistical Bureau. (2024). China Statistical Yearbook2024. China Statistics Press.
- [2] Du Peng & Yang Hui. (2009). China has an aging population compared with other Asian countries. *Population and Development* (02), 75-80.
- [3] Wu Cangping, Wang Lin, Miao Ruifeng. (2004). The process, prospect and countermeasures of population aging with Chinese characteristics. *The Population Study* (01), 8-15.
- [4] Du Yang & Feng Yonggang. (2021). The impact of the rapid aging of the population on economic growth. *Economic Research* (02), 71-88.
- [5] Tong Yufen. (2014). Characteristics and challenges of China's labor supply in the process of population aging. *Population study* (02), 52-60.
- [6] Zheng Gongcheng. (2021). The construction of social security system with Chinese characteristics in 2035-Based on goal-oriented theoretical thinking and policy suggestions. *Social Security Review* (01), 3-23.
- [7] Hu Angang, Liu Shenglong & Ma Zhengu. (2012). Population aging, opulation growth and economic growth-Empirical evidence from inter-provincial panel data in China. *Population study* (03), 14-26.
- [8] Du Peng. (2023). Chinese population aging status and the development of social security system. *The Social Security Review* (02), 31-47.
- [9] Zhang Yungang. (2005). Population aging and China's endowment insurance system reform. *Journal of Sichuan Normal University (Social Science Edition)* (02), 18-23.
- [10] Li Changchang. (2018). The comparative advantages, constraint factors and promotion strategies of the community home medical care service model. *Ningxia Social Science* (06), 161-167.