The Impact of Population Aging on China's Economic Growth

Jianan Wu

Beijing Royal School, Beijing, China

wujianan@st.brs.edu.cn

Abstract. China's population aging has accelerated mainly because of the continuous decline in fertility and the increase in average life expectancy. Since the implementation of the family planning policy in the 1970s, the overall population fertility has been comfortably below the replacement generation level and, at present, has dropped to 1.0-1.2. In contrast, improved medical and living standards have enabled the average life expectancy of the populace to be comfortably more than 78 years and will continue to climb. Its characteristics are a large and growing population of the old, high aging rate, and "rich before old." The impact of population aging on economic growth is threefold in nature, reducing the supply of labor, changing the pattern of consumption, and contributing to the social security and finance burden. The aim of this paper is to investigate the impact of population aging on China's economic development, discuss its roles in supplying labor, enhancing labor productivity, and study its impact on the consumption pattern and industrial upgrade. And put forward national measures, like boosting labor productivity, improving the social security system, guiding the industrial development, etc., in face of challenges posed by aging, to achieve steady economic growth.

Keywords: Population Aging, China's Economic Growth, Labor Supply, Consumption Structure, Social Security.

1 Introduction

In recent years, China's population aging problem has become increasingly prominent and has been one of the major challenges facing social and economic development. According to data from the National Bureau of Statistics, as of 2023, China's population aged 65 and above reached over 216.76 million, accounting for 15.4% of the total population. This proportion surpassed the 7% aging society standard set by the United Nations and reached the moderate aging stage. The population of people over the age of 60 is projected to exceed 400 million, or more than 30% of the population, by approximately 2035, entering the severe aging stage [1,2].

The accelerated population aging process in China is largely determined by a number of factors, and the ongoing decline in fertility rate is one of the most critical reasons. Since the introduction of family planning policy during the 1970s, the total fer-

P. S. Borah et al. (eds.), *Proceedings of the 2025 5th International Conference on Enterprise Management and Economic Development (ICEMED 2025)*, Advances in Economics, Business and Management Research 346,
https://doi.org/10.2991/978-94-6463-811-0_115

tility rate has continued to fall below the required 2.1 to guarantee the replacement between generations. Today, China's birth rate has dropped to 1.0-1.2, even lower than that of some developed countries. China ranks fourth from the bottom with 1.01 children per couple on average [3]. Low birth rates have led to a decline in the working-age population and the increase in the percentage of the ageing population, thus speeding up the ageing process. The increase in average life expectancy has catalyzed the aging of development. After improvements in medical levels and living standards, the average life expectancy of Chinese people has exceeded 78 years and will continue its upward trend [4].

The aged population of China has significant characteristics [5,6]. The number of the elderly is large and still growing. China is not only the world's second populous country, but also the country with the highest number of aged individuals. Such a trend will become more evident in the decades ahead. Secondly, the pace of aging is rapid. Compared with developed countries, China's aging is more rapid. This type of accelerated aging requires society to make complete shifts in many domains such as health care, aging care, and social security systems within a fixed period, posing tremendous challenges. Furthermore, the aging of China has the characteristic of "growing old ahead of growing rich.". Compared with the developed Western countries, the per capita GDP of China was relatively low when it entered a profound period of aging, and the social security system was not yet perfect, thus making the aging pressure on economic development more severe [7].

The impact of population aging on China's economic growth is all-round and complex. On the other hand, aging decreases the working-age population, the labor supply is not enough, and cheap-labor-based growth model cannot be sustained. Firms lack labor and experience higher labor costs, which will also affect the growth of labor productivity and suppress economic growth; aging also increases the burden of social security, and fiscal expenditure in the form of pensions and medical insurance rises at a high level, affecting fiscal sustainability, which will reduce government investment in infrastructure, education and other sectors, and reduce the social savings rate, constrain the supply of investment funds, and affect economic growth [8].

The research objectives of this paper focus on the impacts of population aging on China's economic growth. Explain how population aging affects labor supply, labor productivity and potential for economic growth. Explain the impact of population aging on consumption structure and structural change in industry. Finally, according to China's national situation, put forward policy recommendations for coping with the issue of population aging, like improving labor productivity and improving the social security system.

2 The Direct Impact of Aging Population on Chinese Economy

2.1 Decline in the Size of Labor Supply

The proportion of the aging population has increased, the proportion of the working-age population has decreased, and the size of the labor supply has decreased. The number of people between 16 to 59 years in my nation has declined since 2012. The proportion of the population aged 45 to 64 compared to that aged 15 to 64 has continued to rise from 27.3% in 2000 to 41.91% in 2022, with an average annual growth of 0.66%. More old individuals will retire and fewer youths will enter the labor force in the next few years. Labor-intensive industries have suffered significantly. Previously, China's manufacturing industry relied on cheap and abundant labor to maintain a key position in the international market. Now, the availability of labor decreased and corporations struggle with the recruitment of workers. Because young labor is in short supply in some textile factories along the coast, production in some lines has had to be stopped, affecting the production of companies and lowering the international competitiveness of my country's manufacturing sector [9].

Additionally, changes in labor structure have far-reaching impacts on enterprises. Changes in labor structure bring far-reaching impacts to enterprises. On the other hand, the decrease in labor supply has caused inflation and increased labor costs for businesses. In order to hire and retain workers, companies have to pay more salaries, improve working conditions, and improve benefits. For instance, in the building industry. Workers born during the 1950s and 1960s are gradually quitting, and the migrant workers that are currently in place are not sufficient to replace them. Only salaries can be increased and cost burdens widened. The development of old labor affects the production efficiency and enterprise innovation. Under the decline in physiological and psychological functions, the elderly cannot catch up with the high-intensity and high-speed work, and their efficiency at work is decreased. In addition to this, they have a bad ability to adapt to new technology and new knowledge, which confines enterprise innovation and development. As an example, there are a few technology-dependent enterprises with the majority of the old staff members, and research and development progress of new technology and product innovation slows down, and it's difficult to make responses to changes in the market and affect competition [10].

2.2 Changes in Consumption Structure

With increasing aging, the proportion of the aged increases and their consumption demand attributes dominate shifts in consumption structure. For food, clothing, housing and transportation, the aged pay attention to comfort, warmth and convenience in clothing, and require healthy and digestible food. The demand for housing is illustrated in housing renovation for the aged, such as the construction of barrier-free facilities. The growth in demand for medical, elderly care and health care services is particularly prominent. The physical strength of the elderly is declining, chronic diseases

are becoming more prevalent, and the demand for medical services is broadening from daily check-ups and treatments to rehabilitation services and long-term care. At the same time, there is much demand for health care, such as health products and health management services. In the elderly care service sector, diversified demands such as nursing homes, community elderly care, and home elderly care services continue to evolve.

Furthermore, the increased demand for medical, health care, and elderly care services has prompted the development of related industries. In the field of medicine, the scale of medical organizations has expanded, the level of the services has raised, and secondary industries such as R&D and manufacture of medical devices, and manufacture of pharmaceuticals have flourished. Research and development of drugs for common diseases of the elderly has been promoted, and sales of home medical devices have expanded.

The health care industry has brought about a peak of development. Many enterprises have poured capital into production and research and development, healthcare products are diverse and plentiful, and many health management service agencies have emerged. Elderly care has broad market prospects, the scale of building elderly apartments and nursing homes has expanded, and community elderly care services have quickly developed, providing one-stop services. Related industries such as elderly care property, elderly tourism, and elderly education have also developed rapidly and become a new target of economic growth. Pressured by the aging population, the government and enterprises need to cooperate to counter it. The government has to promote the security system of elderly care, delay retirement, and develop elderly human resources. Enterprises must increase investment in technological innovation, improve automation and intelligence, improve staff training, and improve competitiveness. At the same time, they must seize the opportunities of changes in consumption structure, guide resources to the areas of elderly consumption demand, cultivate economic growth points, and achieve sustained and stable economic development.

3 Indirect Impact of Population Aging on the Chinese Economy

3.1 Impact on the Social Security System

On the basis of population aging, the aging population still increases, thereby continuously expanding the expenditure scale of pension insurance. pension insurance in my nation is primarily on the pay-as-you-go system, i.e., the working age generation pays for the retired age generation. But with aging, the proportion of the working-age population has declined, a relatively lower number of people paying pension insurance, and an increasing number of older people receiving pensions. According to relevant statistics, the elderly population dependency ratio aged 65 and above in my country was 10.1% in 2000, and as of 2023 the ratio had increased to 20.8%. This means the ratio of older persons who need to be cared for per 100 people of working age has increased tremendously. The burden on pension payment will, in the long run, contin-

ue increasing. In order to maintain the payment of pensions at full level, the government could be forced to increase the rate of pension insurance contribution continuously or utilize fiscal resources to subsidize, which undoubtedly imposes a huge burden on the social security system. With declining physical function and high illness rates, the elderly need medical services much more than people in other age groups. The population aging has led to a sharp increase in the scale of medical insurance expenditure. On the one hand, there is a large number of people suffering from chronic diseases, i.e., hypertension, diabetes, cardiovascular disease, etc., among the older population, which require treatment for years by medical service and drugs; on the other hand, when individuals become old, the older population is in a higher risk of suffering from all types of acute diseases and hospitalization increases accordingly. Taking 2022 as an example, the proportion of the elderly medical cost in my country to the total medical cost of the country is more than 50%. With the aging of the population going further, this proportion will become even higher. The increasing expenditure pressure of the medical insurance fund may lead to a gap between the income and expenditure of the medical insurance fund and affect the sustainability of the overall medical insurance system.

3.2 Impact on Government Finances

Enlargement of the Scale of Fiscal Subsidies for Pensions. In order to ensure timely and complete payment of pensions, the government needs to enlarge fiscal subsidies for pension insurance. In the early stage of population aging, fiscal subsidies were mainly used to cover the expenditure and revenue shortfall of pension insurance funds in some regions. As the scope of aging expands, pension insurance funds in progressively more and more regions fall short, and the scope and magnitude of fiscal subsidies are persistently expanding. According to statistics, in recent years, the amount of fiscal subsidies for pension insurance from the central and local governments in my nation increased every year from 195.4 billion yuan in 2010 to more than 1 trillion yuan in 2022. This huge fiscal spending placed great burden on the government's finance and reduced the space for capital input in other public services.

Increasing Fiscal Burden of Medical Insurance. Apart from pension insurance, the government's fiscal expenditure on medical insurance has also increased tremendously with the aging of the population. The government not only has to bear the fiscal subsidy burden for basic medical insurance, but also has to provide financial support for some of the medical aid and special medical programs among the elderly. With the increasing medical needs of the elderly, the government needs to keep increasing investment in medical insurance to improve the level of medical insurance among the elderly. For example, with a view to supporting the trial of the system of long-term care insurance, the government has invested a huge amount of capital in system construction and subsidies. These rising budgetary expenses on medical cover have also further increased the financial burden of the government.

Rising expenditure towards the construction and maintenance of public service centers Rising population of elderly people has also resulted in increased need of public service centers, e.g., old age homes, activity centers for old people, barrier-free centers, etc. A vast amount of money has to be incurred by the government towards their construction and maintenance. At the same time, in order to meet the transportation needs of the elderly, the public transport system needs to be adapted for the use of the elderly, and this will also require government fiscal support. The growing construction and maintenance costs of these public service facilities for the aging have contributed further to the pressure on government fiscal spending in infrastructure construction and public services. Population aging has had an indirect, multi-dimensional impact on China's social security system and public finances, causing tremendous pressure and challenges. To address these issues, the government needs to actively manage fiscal policy, improve the rationality of fiscal spending structure, and pursue diversified pension and medical insurance models to ensure that the social security system is sustainable and that the government finance develops healthily, in an effort to better accommodate the impact of population aging on economic and social development.

4 Conclusion

Regarding the optimization of labor supply, it is necessary to implement the policy of postponing retirement. The nature of work across different industries is very different. In industries such as education and scientific research, which are knowledge-based, practitioners' experience is crucial. They can take the lead in delaying retirement appropriately and continue to play their professional capital. For sectors utilizing a large amount of physical power in construction and production, opening flexible retirement time allows laborers to decide on their own, based on their physical condition, which not only protects workers' rights and interests, but also alleviates labor shortages. In the meantime, improve elderly workers' vocational skill training. Observe the demand for the market, offer realistic practice such as elderly care and Internet services, help them master new abilities, accomplish occupational transformation, promote labor productivity, and advance employment integration into the labor market. Enhance social security and financial systems also extremely urgently required. Build up a diversified pension security system. Following the integration of the basic pension insurance, use tax incentives and other measures to encourage enterprises to establish annuity mechanisms and stimulate business enthusiasm; raise publicity efforts to guide people in purchasing commercial pension insurance, deepen pension funds in multiple channels, and reduce fiscal subsidy pressure. In fiscal expenditure, the government has to make careful efforts, leverage big data to precisely calculate important needs in medical and elderly care industries, invest in important nodes such as constructing elderly care service facilities and reinforcing the elderly medical service system, strengthen fund oversight, reduce wastage, increase the efficiency of fund usage, and reduce unnecessary administrative expenses. Industrial development directions are also important. Industrial support policies, tax concessions, land conces-

sions, and credit support should be provided by the government in a bid to attract social capital to invest in the health care, medical, and elderly care industries. New elderly care institutions ought to be provided with tax deductions in a bid to reduce running costs; health and medical corporations should be awarded low-interest loans with a view to financing R&D in technology. Enterprises are stimulated to achieve industrial upgrading through technological innovation, make use of artificial intelligence and the Internet of Things to develop intelligent elderly care appliances and telemedicine services, promote service quality and efficiency, give support to the elderly, build new points of economic growth, and achieve steady economic development against the pressure of an aging population.

References

1. Chen, L.Z.: Research on the impact of population aging on labor supply and economic growth in China. Doctoral Dissertation, Huaqiao University (2022).
2. Wu, X.K., Chen, F., Liu, Y.: Trends, impacts and responses of population aging. Finance & Economy (08), 28–36 (2024).
3. Song, R.: Research on the impact of population aging on China's economic growth under the background of automation. Master's Dissertation, Liaoning University (2024).
4. Xu, D., Yang, Z.G.: Research on the optimization of fiscal and tax support policies for personal pensions under the background of a strong financial country. Journal of Jiangxi University of Finance and Economics (02), 47–56 (2025).
5. Zhou, R.Q.: Research on the relationship among population aging, endowment insurance expenditure and high-quality economic development. Price: Theory & Practice (11), 49–54 (2023).
6. Xi, X.Y.: Research on the financial expenditure of China's basic medical insurance. Doctoral Dissertation, Central University of Finance and Economics (2019).
7. Wang, M.Z.: Towards future architecture: Adaptation strategies for population aging. Chinese and Overseas Architecture (02), 94–98 (2025).
8. Mu, H.Z., Zhang, X.Z.: An inquiry into the relationship among population aging, the development of the elderly care industry and economic growth. Population Research 49(1), 85–100 (2025).
9. Han, H.J., Ma, D., Liu, Q.H.: Research on the impact mechanism of China's population aging on the growth of the service industry. Shanghai Economic Research (01), 56–66 (2025).
10. Du, Y.: The impact of population aging on Chinese-style modernization. Chinese Cadres Tribune (12), 11–16 (2024).