Chapter 6 Ageing Population and Sustainable Development: Evidence from China



Yi Liu, Zhen Liu, Shuang Hu, and Qun Wang

Abstract For many decades China enjoyed its demographic dividend with an abundant supply of young workers that enabled the country to grow into a world superpower. This vibrant economy, however, could be damaged by China's ageing population, with a projection of over 345 million people aged 60 years or above by the end of 2030, and this number is expected to increase rapidly beyond 2030s. The demographic shift towards an ageing working population could hamper China's economic growth and create social challenges - including building an adequate social welfare system, strengthening health care services, and sustaining long term employment. These circumstances prompt a question: how can the Chinese government and its corporations operate along the principles of sustainable development in a society where the population is ageing rapidly. This chapter employs a qualitative and quantitative approach through the use of a stratified sampling method, to assess the effects of policies and strategies that were initiated by the governments and implemented by businesses, and non-profit organisations. The chapter discusses ways to reduce the impacts of the ageing workforce in China in the context of SDG 8 – sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Keywords Ageing population \cdot China \cdot Employment \cdot Sustainable economic growth

6.1 Introduction

Demographic conditions play a fundamental and key role in the implementation of a sustainable development strategy. The United Nations refers to population ageing as being measured by the proportion of the population aged over 65 years, and an aged society is where the population over 65 accounts for 14% of the total population (United Nations 2019). Since the 1980s, the United Nations has held two

Y. Liu (\boxtimes) · Z. Liu · S. Hu · Q. Wang

School of Innovation and Entrepreneurship, Shandong University,

Qingdao, People's Republic of China

e-mail: liuyi969@sdu.edu.cn; hushuang@sdu.edu.cn; 201884900078@sdu.edu.cn

conferences on ageing, regarding ageing as an important topic of previous UN General Assembly sessions and reminding member states to keep in mind that the ageing of society in the twenty-first century is unprecedented in the history of mankind, and it is a major challenge for any society (Lunenfeld and Stratton 2013; WHO 2015), calling on all member states to develop comprehensive strategies at the national, regional and local levels to incorporate ageing issues into national development plans (WHO 2017). At present, the challenges associated with an ageing population in the world are serious, and all countries need to pay more attention to and find solutions to these challenges. This chapter explores and analyses the background of population ageing worldwide, explores China's current situation, and proposes targeted solutions according to China's demographic conditions.

The World Health Organization (WHO) predicts that most countries will enter an ageing society in 2050, including almost all European countries. Canada and China especially will face severe population ageing. Standard & Poor's "Global Ageing 2010" analysis report pointed out that 'the fact that the world's population is ageing at an irreversible rate will become a decisive factor in the health of the national economy in the future, and there is no other force to compare it' (Standard and Poor 2010). China has the largest population globally. A critical understanding of the realities, characteristics and influence of population ageing in China, and minimising the possible negative impacts of population ageing on sustainable development, will be important in addressing the relationship between population ageing and sustainable development.

In this chapter, problems associated with the development of the ageing population along with action plans or strategies to tackle this issue in China are presented. The rapidly ageing population is likely to have a significant implication for sustainable development, and consequently, this chapter aims to provide historic views of the ageing related policies and priorities in general, particularly in the Chinese context. This chapter uses existing public data and literature to address the above issues. Through the official channels of open data, academic papers and other materials, combined with both an explanatory and critical theory of literature research, this chapter discusses the current situation of the ageing society and its challenges, and sets out policy actions to address the associated challenges.

6.2 Population Ageing in China

In 2000, China began to enter an ageing society which has continued over the past 20 years, and the trend is irreversible. A large population base and rapid development are typical characteristics of China's population ageing (China's Development Report 2020). According to publicly available data from the National Bureau of Statistics, by the end of 2019 the population over 60 years old in China had reached 254 million, and the population over 65 years old had risen to 176 million, representing 18.1% and 12.6% of the total population respectively (Guo 2020).

6.2.1 Population Ageing Is Accelerating

According to the prediction of the National Bureau of Statistics, China will enter an aged society from an ageing society around 2022, when the population over 65 years old will account for more than 14% of the total population. The United Nations reports that from 1950 to the end of the 1990s, the number of elderly people in the world increased by 176%, and the number of elderly people in China increased by 217%. In the next 25 years of the twenty-first century, the number of elderly people in the world will increase by 90%, and the number of elderly people in China will increase by 111% (Song 2013). As shown in Fig. 6.1, the fastest periods of growth in China's elderly population will occur in the 2020s, 2030s and 2040s, with an average annual growth rate of more than 4% for those over 60 years old and that will exceed 5% for those over 65 years old. Every 12-13 years, the number of people over 60 years old will increase by 100 million. The rapid ageing of China's population has changed the pattern of ageing in the world. By 2025, China's elderly population will be close to 300 million, and by 2035, there will be 400 million elderly people in China. According to current trends, it will only take about 20 years for the percentage of the ageing population to increase from 20% to 30%.

6.2.2 Characteristics of Ageing Are Becoming Increasingly Prominent

Data from the *China Population and Employment Statistics Yearbook* show that from 2000 to 2018, the proportion of the low-age, middle-age, and senior-age people in the total population increased from 6.16%, 3.34%, and 0.96% respectively, to 10.73%, 5.03%, and 2.08%. The average growth rate is the highest for the

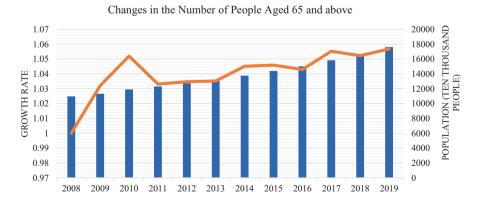


Fig. 6.1 Changes in the Number of People Aged 65 and above. (Source: National Bureau of Statistics of China (2019) and China's Development Report (2020))

senior-age population. In 2020, there were about 180 million people over 65 years old in China, accounting for about 13% of the total population; in 2025, there will be more than 210 million people over 65 years old, accounting for about 15% of the total population; by 2035 and 2050, China's elderly people over 65 will reach 310 million and 380 million, accounting for 22.3% and 27.9% of the total population, respectively. If 60 years of age and older is used as the standard for the elderly, the number of elderly people in China will be close to 500 million by 2050 (China's Development Report 2020).

6.2.3 Ageing Expectations

China's current ageing rate is 12.0%, ranking 57th in the world, and is expected to be 26.1% in 2050, 33rd in the world (World Population Prospects 2019). Due to the improvement of China's public health and security capabilities and the improvement in the physical fitness and health of the population, the ageing challenges continue to increase (Zhang and Wang 2020). The life expectancy of the population in 2016 was 76.3 years, ranking 68th in the world. However, if the Chinese population develops according to current trends, the ranking will rise to 39th by 2040, with an average life expectancy of 81.9 years. In 2019, China's ageing trend and statistics show that by 2020 the elderly population will reach 248 million; the ageing level will reach 17.17%; and the number of those over 80 years old will reach 30.67 million; in 2025, the population over 60 years old will reach 300 million, making China a super-aged country. Following changes to the family policy program in the 1970s, it is estimated that China's population ageing process will reach its peak in 2040, and then it will enter a deceleration period (China's Development Report 2020).

6.3 Impacts of China's Population Ageing

From 1998 to 2007, the ageing trend of China's population was not obvious, and gross domestic product (GDP) maintained rapid growth. But after 2010, as the ageing problem became apparent, economic growth began to slow down (Xing 2019; Zhang et al. 2018). With the ageing of the population, labour productivity and total social output declined (Huang and Wang 2014; Mu and Pei 2020). The reasons include the following:

6.3.1 Increased Pressure on Social Security

The increase in the ageing population will increase the direct and indirect costs of living as well as medical and social insurance, which will affect national fiscal expenditure and investment orientation (Dang 2015; Han 2015). The proportion of

social insurance benefits for retirees in China as a percentage of national income has risen from 1.4% in 1980 to 3.7% in 1993 (Wu 2017: p. 1). It is estimated that it will exceed 10% in 2025-2030 and account for 30% of total wages. The international community generally sets 10% of national income or 29% of total wages to pay for old-age pensions and other expenses as the "warning line", and exceeding the line will cause difficulties for the country's financial and economic development (Wu 2017), resulting in labour shortages and affecting sustainable economic development. In the mid-1990s, the per capita medical expenditure of those over 65 years old in China was 2.7-4.8 times that of the young. In recent years, the medical expenditure of those over 60 years old is about 6 times that of the young (Huang and Chen 2011). Moreover, fiscal expenditures "alienated" by the ageing population are biased towards non-productive health and welfare expenditures, and will also dampen the development of the economy. This means that the reallocation of public expenditure towards supporting an ageing population will have a negative impact on the state's investment in production and other facilities and harm economic development (China Research Center on Ageing 2011).

6.3.2 Insufficient Labour Supply

The ageing of the population will eventually bring about the ageing of the labour force, which will lead to labour shortages. Some researchers believe that the ratio of the working-age population to the elderly population of 3:1 is the limit of social development, otherwise it will seriously affect economic development and social stability (Wang 2000). Figure 6.2 shows that since 2012 the number and proportion of the working-age population (age 16-59) in China have dropped for seven consecutive years; the population aged 15-44 has decreased by 45 million between 2010 and 2015 (Zhang 2016); the working-age population in 2015 has dropped to 911 million (Peng 2015), and will decrease at an average annual rate of 7.6 million people after 2030. At the macro level, one of the consequences of the intensified population ageing is an increase in the dependency ratio of the population and the suppression of the growth of the working-age population. At the micro level, the number of individuals who withdraw from the labour market has increased. At the same time, as a result of the lower birth rate, the number of individuals entering the labour market and the number of exits gradually become imbalanced over time, resulting in a slowdown in the growth rate of the total labour force (Tong 2014; Zhang and Qiu 2019). In order to minimise the impact of an insufficient labour supply, the Chinese government put forward new policies such as the two children policy. For example, the "two children policy" introduced in 2015 by the Communist Party's Central Committee of China with the hope of increasing the fertility rate has the potential to see demographic dividends in the coming decades. Subsequently, in May 2021 China announced the three child policy to respond to the challenges of the ageing population (Birtles 2021; Ni 2021).

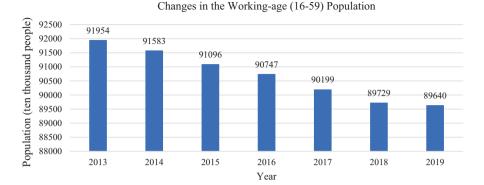


Fig. 6.2 Changes in the working-age (16–59) population. (Source: National Bureau of Statistics of China (2019) and China's Development Report (2020))

6.3.3 The Burden of Pensions Has Increased

As the age structure of China's population continues to change, the ratio of the labour force to the dependent population is undergoing important changes, and the pressure on pensions is increasing. In 2005, every 6.1 workers in China supported one elderly person. By 2025, this dependency ratio will become 2.5:1 and by 2050 it will become 1.6:1. Although China's social elderly care is still in its infancy, the miniaturisation and decentralisation of families have been very prominent, and the family's elderly care function has been significantly weakened, which has further increased the pressure on state provision of elderly care. Determined to address this challenge, the Chinese government has started to reform the pension system for state organs and institutions. For instance, on January 14, 2015, the decision of the State Council on the reform of the Pension Insurance System for Employees of State Organs and Public Institutions (No 2. [2015] of State Council) was formally introduced in China. The document requires that the reform of the pension insurance system for organs and public institutions be implemented from October 1, 2014, and each unit is supposed to establish occupational pensions as supplementary pension insurance for all the staff. On April 6, 2015, a more specific document, "Measures for the Occupational Annuities of State Organs and Public Institutions" was issued, detailing the regulations on the occupational pension system in terms of the scope of participate, the proportion of contributions, the fund management and the methods for pension payment. On September 28, 2016, the "Interim Measures for the management of occupational pension funds" made explicit provisions for the investment and management of occupational pension funds. In December 2013, the Ministry of Finance, the State Administration of Taxation, and the Ministry of Human Resources and Social Security once issued the "Notice on the Relevant Issues Concerning Individual Income Taxes on corporate pension and occupational pension", which stipulated the taxation models and tax standards for occupational pension. Judging from the above policy path, the nationwide occupational pension system reforms give leverage for the country to limit the potential negative fiscal consequences of an ageing population.

6.3.4 The Speed of Scientific and Technological Innovation Has Declined

Population ageing restricts the adjustment of the industrial structure by influencing the absorption of new knowledge and technological innovation through two conditions. First, labour force in an ageing society is not conducive to the adjustment of the industrial structure (Liu 2013). This is manifested in the ageing of knowledge associated with population ageing, which affects national and regional innovation, industrial structure adjustment and technological innovation capabilities. In turn an ageing workforce is not conducive to the development of innovative industries (Han 2015). It is argued that the adjustment of the industrial structure must have corresponding technological development and promotion activities to meet the needs of the new production system, but on the whole, the technological development ability as well as acceptance and adaptability of the elderly to new technology and innovations is diminished.

Second, there are factors restricting the adjustment of the industrial structure through the composition of demand in an ageing society. For example, the consumption habits of the elderly are not conducive to the growth of new industries. In an ageing society, the elderly have formed relatively fixed consumption habits over their lives. They consume the products and services they are familiar with, and are slow to accept new products and services. This in turn could be an obstacle to the development of new industries, new products and new service markets. The ageing population is consistent with the decline in the birth rate and the slowing of the growth rate of the total population. The shrinking population is an important factor affecting the market size of a country. An ageing society restricts the expansion of market capacity due to slow population growth. In particular, the market demand for many durable consumer goods is affected by the ageing population and this will impact on employment, investment, and growth of the market.

6.3.5 Decline in Savings, Consumption and Investment

Ageing will lead to a gradual decrease in the savings rate, followed by a decline in social retail consumption and social investment. The increase in the number of elderly people in Chinese society along with a relatively low birth rate, and the expansion of the demand for funds for pensions, retirement, and medical insurance will also increase national expenses. This means that during the working-age period, people will save for old-age care in order to protect their subsequent consumption.

Once they enter old age and retire, they will use their savings to pay for various necessities of life while their income is reduced, leading to the decline of savings, consumption and investment (Zhao et al. 2017).

6.4 Policies and Their Effectiveness

6.4.1 Financial Support for Pensions

The relevant policies of the Chinese government on financial support for the elderly can be found in the following policy documents – the Several Opinions of the State Council on Accelerating the Development of the Elderly Service Industry and Guiding Opinions on Financial Support for the Accelerated Development of the Elderly Service Industry. Their purpose is to improve the financial support and service capabilities for the development of the elderly service industry (Zhao and Zheng 2020). Although this is conducive to the financial development of the pension sector, the systemic policy coordination faces challenges. On the one hand, there is a gap between national policy aspirations and the effective local implementation of policies. In some regions of China, there is a phenomenon of "government hot, market cold" in cooperation in elderly care services. On the other hand, pension financing policies lack consistency due to different stages of economic development among cities in China. For example, the economic development in the central and western provinces of China lags behind the booming coast regions. Such imbalanced economic development might lead to the construction of financing guarantees and other systems that are relatively lagging in some less economic developed regions, resulting in the slow progress of financial institutions into the pension industry and hindering its development.

6.4.2 Social Medical Security

Although the Chinese government has promulgated the *Several Opinions on Accelerating the Development of the Elderly Service Industry*, it has not issued specific tax and compensation policies to support the program. In practice, the 'medical-care combined elderly-care model' does not have appropriate norms and standards to unify the service content (Lü et al. 2016) because there are ambiguities in the Chinese medical-care integration model. For example, the access standards, function definitions, and responsibilities are unclear. As a result, there will be problems in the implementation process, such as the inapplicability of the previous standards and the lack of appropriate new standards to follow. In 2014, the National Health and Family Planning Commission issued a corresponding national system for the establishment and supervision of medical institutions in elderly care

institutions to promote the integration of medical care. However, some parts of health clinics and health care stations within Shanghai's elderly care institutions are not supervised by the national medical institutions, instead, they will be monitored or supervised in accordance with Shanghai local standards.

6.4.3 Family Planning Adjustment

In order to further increase the fertility rate and alleviate the increasing trend of population ageing, it is stipulated in the *Decision on Several Major Issues of Comprehensively Deepening Reforms* that the Chinese government will 'adhere to the basic national policy of family planning, initiate the implementation of the policy that any couple composed of an only child can have two children, and gradually adjust and improve the fertility policy to promote the long-term balanced development of the population' (Yuan 2020: 26). As mentioned earlier, this has been amended in 2021 to accommodate the three child policy.

6.4.4 Delaying the Retirement Age

The 13th Five-Year Plan for Human Resources and Social Security Development promulgated in 2016 proposes to formulate and implement a gradual delay in retirement age during the 13th Five-Year Plan period (2016–2020). It is planned to gradually delay the retirement age for males to 65 and females to 60. This has important practical significance for alleviating the pressure on social pensions, solving the pension gap and alleviating labour shortages. However, it also brings many disadvantages. For example, the increase in the labour supply leads to difficulties for young people to find employment and potentially increase youth unemployment. In addition, corporate pension contributions will increase as workers retire at a later age (Wang 2020).

6.5 Business, Non-profit & Government Development Strategies

6.5.1 Business-Level Strategies

6.5.1.1 Increasing Financial Support and Developing Ageing Industries

China has entered an ageing society under difficult economic conditions. It faces the challenges of a rising proportion of the elderly population and increasing pressure on pension security. At the same time, the ageing society also gives birth to

opportunities. The rise of entertainment, education, and healthcare industries for the elderly is conducive to further expanding of the domestic market in these services, an increase in consumer demand, and the stimulation of economic vitality so as to promote the development of services industries supporting the elderly (Huang and Tong 2013). With regard to the supply of ageing products and services, the Chinese government insists on regulating and controlling the market as well as promoting the overall transformation and upgrading of the industrial structure (Cheng and Ma 2018) to support the ageing services industry through market regulation so as to provide quality services for the elderly.

6.5.1.2 Developing the Ageing Labour Market

The average age of the working population continues to increase with the ageing of the population, and structural shortages may appear in the labour market. The development and utilisation of the human resources of the elderly should consider the following issues. The first is to increase the retirement age. By extending the employment age of workers, the number of years of dependence on the pension system can be reduced. The second is to implement a flexible retirement system, strictly controlling early retirement, encouraging delayed retirement according to personal wishes, and accurately determining pensions required for retirement. The third is to utilise the human resources of the elderly and to encourage all age groups to carry out voluntary elderly services (Cheng and Ma 2018). The fourth is to improve the social security system (e.g., social welfare for the ordinary citizens), incorporate rural migrant labour into the new security system, increase the level of security fund payments and promote the smooth transition of the pension security system reform (Cai et al. 2004).

6.5.2 Non-profit Strategies

6.5.2.1 Promoting Active Ageing and Establishing a Team of Elderly Volunteers

The concept of 'active ageing' proposed at the Madrid International Conference on Ageing in 2002 is a necessary condition for healthy ageing. Its core lies in mobilising the enthusiasm of the whole society and jointly coping with population ageing (Huang and Tong 2013). Actively responding to population ageing is a major policy put forward by the Chinese government in the 2006 decision to co-ordinate the solution of China's population problems. Such action is likely to meet the goal for promoting sustained, inclusive and sustainable economic growth. In other words, active ageing regards health, security and participation as a trinity, and emphasises the necessity and importance of the integration of the elderly into society, which can enrich the "sense of belonging to society" of the elderly and create a group of elderly

volunteers for the society, truly transforming the elderly into social human resources, while providing full and productive employment and decent work for all to create value (UN Sustainable Development Goal 8).

6.5.2.2 Integrating Social Resources and Vigorously Developing Social Enterprises

Social enterprises are different from state-owned enterprises, public institutions and non-profit organisations. They are guided by social missions and serve public interests rather than personal interests. The social enterprise model can help reduce the cost of services for the elderly and improve the efficiency and effectiveness of social resource use. On the one hand, the social enterprise model can continue to meet the care needs of low-income older groups, and provide affordable care services for low-income groups under the guidance of social missions, on the other hand, the social enterprise model ranges from products and services to pricing and promotion. Compared with traditional commercial enterprises, the cost advantage is obvious, which is conducive to improving the continuity of ageing care services based on market means, thereby ensuring the continuous supply of elderly care services under the reality of China's current economic development level and the overall income level of the elderly population (Gao 2015).

6.5.3 Government-Led Strategies

6.5.3.1 Establishing a Sustainable Population Development Policy

At present, China is in a stage of rapid population ageing, and the current situation and trend of low birth rate and low growth rate have caused great pressure on China's population development. Therefore, it is necessary to fully combine theory with experience and practice, recognise the compatibility of population size and structure with the stage of social and economic development, and establish a scientific outlook on population development. China has begun to moderately adjust its family planning policy, and promote population growth through the formulation and implementation of the "two children policy" (from the conditional implementation of the "two children policy" to the full implementation of the "two children policy"), so that family childbirth decisions are in line with its economic situation and its own need, returning reproductive autonomy to the family. The implementation of the "two children policy" will increase the number of young people and their proportion in the total population, thereby increasing China's population fertility rate, further releasing demographic dividends, and slowing down the ageing of the population to a certain extent. The subsequent announcement of the three children policy in 2021 will address the ongoing decline in the growth of the population throughout the 2000s (Ni 2021).

6.5.3.2 Reforming Social Medical and Pension Insurance

The social pension burden increases with the ageing of the population, and the payas-you-go pension system cannot meet China's current pension needs (Cheng and Ma 2018). China entered the ageing society when its economy was still underdeveloped and the Chinese population is ageing before getting rich. Therefore, Chinese society does not have the social conditions of developed countries and relies on personal assets or social welfare support for the ageing. This requires measures such as government funding and strengthened supervision to establish and improve the old-age security system and developing an old-age service system covering urban and rural residents. Due to the large differences in the ageing of the urban and rural populations in China, the construction of the old-age security system for the two should be treated differently. For cities, it is necessary to gradually improve the basic pension insurance system that combines social pooling and personal accounts, build a multi-level urban pension security system, strengthen pension fund investment management, broaden investment channels, and gradually loosen restrictions on the investment and operation of social insurance funds. These measures will ensure that pension insurance funds are invested in the capital market in a planned and step-by-step manner to maintain and increase their value, under the strict supervision of the government. In rural areas, since the pension insurance system has not been fully established and the family pension function has weakened, it is necessary to establish and improve the rural pension insurance system.

According to current population ageing trends, nearly half of future medical resources will be used for the ageing population. This is a challenge to the effective allocation of limited medical resources (Huang and Tong 2013). The current medical service system in China has differences in service quality and availability across provinces and regions. In the future, medical institutions will need to provide more medical services for the elderly, thus changes in medical institutions, social security and medical security systems have become an inevitable trend. Therefore, the training of professionals in medical education needs to be adjusted according to demographic changes, and medical institutions should make reasonable plans based on demographic changes, so as to establish a complete medical service system and narrow the regional gap in medical services (Huang and Tong 2013).

6.5.4 Recommendations

6.5.4.1 Actively Supporting Aged Care Within the Family

The younger generation still has a willingness to take care of their parents, and the older generation also has a strong emotional preference to rely on their children and family (Zhai et al. 2016). In the process of modernisation, it is necessary to reenergise the family members to care for their elders. The key reason against family support for the elderly is that children generally lack sufficient time, energy, and

financial resources, and are usually located far away from their parents. The government should take effective measures to provide support and encouragement for children so that they can provide more care and companionship for their parents.

Specifically, the government can encourage children to live with their parents by giving tax incentives and various forms of economic subsidies to families where children live with the elderly, or through the introduction of a rent-and-purchase preferential housing system for children and the elderly to live together. In addition, the government can also establish a leave system for caring for parents to provide a certain period of paid leave for working children who need to take care of parents, and provide free professional skills training and psychological counselling for family caregivers to improve the efficiency and effectiveness of family care. In short, the government and society should pay more attention to the physical and mental health of family caregivers, and provide comprehensive and multi-level support and guidance, so as to effectively promote the re-realisation of the family's elderly care function and promote the healthy and harmonious development of families with elderly people.

6.5.4.2 Actively Guiding the New Path of "smart aged care"

The continuous improvement in educational attainment will make it possible for the elderly to master modern technology, which will become an important means for their survival and development. In addition to benefiting from the continuous improvement in access to education, the new generation of senior citizens also gain knowledge and broadened their horizons. It will no longer be as difficult for the elderly to cross the "gap" to encompass modern technology. This is especially for the rural population, since going to cities and towns to work and do business have greatly enhanced their ability to accept new things and use information technology. In the future, the rural population will be more integrated with modern technology. This integration will also improve the social adaptation of the elderly to new products and services.

In the future, the ageing society will no longer be faced with an ageing population with low literacy and educational attainment, and limited understanding. The new generation of ageing people can adapt to change and use modern technology more actively. It is foreseeable that through the integration of information technology such as the Internet of Things, interconnection and intelligence, and the integration of the "Internet +" concept, the ageing population's home living ability will be extended and the quality of life will also be improved. For example, online shopping can allow them to consume goods easily and quickly, telemedicine can allow them to obtain diagnosis and treatment services conveniently and in a timely manner, and social platforms can allow them to communicate fully and effectively. At the same time, smart care by integrating the concept of internet plus for the elders can also introduce diversified service models and provide service customisation to meet their needs at different levels, especially their spiritual needs.

6.5.4.3 Actively Exploring the "Asset Pension" for the Elderly

In general, the transition from a planned economy to a market economy will make it easier for the new generation of senior citizens to accumulate wealth in the next two decades. Real estate appreciation has brought senior citizens considerable wealth accumulation, allowing them to receive access to capital gains to support retirement.

The government should create conditions to facilitate the effective transformation of this real estate wealth into pension resources, thereby opening the way for "asset pension" (e.g., a house or apartments can be seen as asset) methods such as a "household pension" (Xiu 2020). Among those currently living in urban areas, many low-income persons own real estate. Their elderly care and service cost challenges are prominent, but if they can replace their real estate capital gains with pension funds, their situation will be greatly improved. By encouraging and guiding the new generation of senior citizens to move out of urban areas after retirement, realise capital gains, and settle in suburban areas with low housing prices, not only can they create a more suitable environment for their healthy life, but also make use of the difference in housing prices to support their retirement. The promotion of an "asset pension" is inseparable from the construction of liveable communities for the elderly, the provision of medical and health services, cultural and entertainment facilities and other related measures, so that "asset pension" also works effectively.

6.5.4.4 Actively Creating a Liveable and Friendly Living Environment

Previously the creation of liveability and friendliness of the living environment for the elderly mainly relied on the overall improvement of the family and community environment. The opening of the elderly care service market will generate investment and growth to the elderly-care facilities industry (Huang and Tong 2013). Driven by the construction of a liveable environment for the elderly, the self-care level of the new generation of elderly people is bound to rise, and their life expectancy will increase. In this context, the government should focus on the basic status of home care in the elderly care service system, and ensure that home design can meet the needs of the elderly, reflect their characteristics, and provide sufficient space for the elderly.

6.5.4.5 Actively Improving the Social Pension Security System to Ensure Sustainable Economic Growth

It is necessary to further improve the medical security system, implement comprehensive insurance plans, and provide full social insurance coverage, social assistance and other statutory protection objectives. Specifically, this goal can be progressed as follows.

First, increasing the scale of guaranteed investment to eliminate the instability of consumption expectations for the elderly, while increasing their scale of consumption. The government should encourage retirees to reduce risky asset investments, expand the proportion and types of secure asset investments, and accelerate the innovation of elderly-care financial assets. For example, compared with ordinary investors, the elderly have a greater demand for liquidity. Therefore, the market can develop highly liquid financial products to enrich the asset allocation needs of the retired elderly.

Second, strengthening policy guidance and support for the consumption of the elderly. For example, the market should provide the elderly with more consumption choices including food, clothing, housing, transportation, medical care and other services, enrich spiritual and cultural service products, ensure the higher-quality consumer needs of the elderly, and effectively promote their consumption into high-quality development of individualisation and diversification. The government should develop the elderly consumer market, support the elderly care industry, and make full use of information technology and intelligent means to serve the development of the elderly care industry (Hu and Wang 2020). Internet technology can be used to promote the integration of medical and elderly care, improve the ageing industry, and enhance the level of Internet application and the construction of logistics infrastructure in cities and villages where the ageing problem is prominent, thus cultivating the culture of respecting and loving the elderly in the whole society, and better promoting the development of a harmonious society.

Third, increasing per capita disposable income and promoting the online consumption of the elderly. One of the most important factors affecting consumption is the per capita disposable income. There is a need to shift from extensive and low-cost products towards high-quality products in order to improve the quality of life. To achieve such outcomes, there is a need for the government to provide guidance and industrial assistance to reduce income inequality. The ageing population has a higher demand for low cost, high convenience and quality of life, and online consumption can conveniently meet their needs.

However, to promote online consumption for the elders, there is a need to improve ICT infrastructure and access. An important prerequisite for improving the level of network consumption and satisfaction is the continuous improvement and development of network infrastructure. In addition, the construction of the logistics system and its seamless connection between consumers and manufacturers can maximise the release of consumption potential and cultivate new consumption momentum through the construction and improvement of network infrastructure and logistics infrastructure.

6.6 Conclusion

This chapter contends that China requires to address the following challenges in order to realise the UN SDGs: addressing the impact of ageing on labour resources, labour dependency and national income distribution. As the inevitable result of the

declining fertility rate, population ageing is an insurmountable challenge to the realisation of sustainable development strategies. The government can attempt to minimise the negative effects of ageing for the purpose of achieving the sustainable development goals of promoting sustained, inclusive and sustainable economic growth, and building cities and human settlements that are inclusive, safe, resilient and sustainable.

Population ageing is comprehensive, cumulative, and irreversible in China. To effectively minimise the challenges posed by an ageing population while promoting inclusive and sustainable economic growth, there is a need for the governments (national and state level) to undertake remedial initiatives. For example, the government needs to take various measures, such as establishing a sustainable population development policy and increasing the intensity of social medical and pension insurance. More specifically, possible actions can be taken by actively supporting aged care within the family to ease the pressure off the society, guiding the new path of "smart aged care", exploring the "asset pension" of elderly, creating a liveable and friendly living environment, and improving the social pension security system to ensure sustainable economic growth.

The ageing population enhances the society's awareness of ageing and the sense of urgency to respond to the challenges of population ageing and social ageing, strengthen moral construction, enhance the social customs of pensions, and respect the elderly. It is believed that ageing is one of the defining features of China, but the government has already taken significant measures to manage the effects of the ageing population. Such efforts could increase the opportunity for China to achieve the sustainable development goal (SDG 8) of promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

References

Birtles B (2021) China introduces three child policy to alleviate problem of Ageing Population ABC News May 31. https://www.abc.net.au/news/2021-05-31/china-introduces-three-child-policy/100179832

Cai F, Meng X, Wang MY (2004) China's ageing trend and pension security reform: challenges and choices. Int Econ Rev 4:40–43

Cheng ZQ, Ma JQ (2018) Evolution and measures of China's population ageing. Acad Exch 12:101–109

China Research Center on Ageing (2011) Research on the impact of population ageing on China's social economy and countermeasures. October 2, 2020 URL: http://www.crca.cn/llzl/2011-07-07/493.html

China's Development Report (2020) Ageing population: China's development trend and policy options. China Development Press, China Development Research Foundation

Dang JW (2015) The revolution of ageing societies: risk and prospect of human being. People's Publishing House:92–93

Gao CS (2015) Social enterprises and service supply for the aged in China. Soc Sci Res 3:115–120 Guo X (2020) Elderly care, sick care. Well-Off (Finance Wisdom) 10:51–53

- Han P (2015) China's ageing population in the new era—research on the change trend of population size structure and its impact on economic and social development. Economic Management Press, Neimenggu
- Hu Y, Wang Y (2020) Ageing, mobile phone penetration and the development of internet consumption -- analysis based on GMM model of provincial dynamic panel. J Commer Econ 809:53–56
- Huang R, Chen SJ (2011) The cost of longevity and the impact of ageing on social economy. Social Science Literature Press, Beijing
- Huang Y, Tong XG (2013) Analysis on the current situation of China's ageing population. Chin J Gerontol 32(21):4853–4855
- Huang JY, Wang H (2014) Population ageing influences and counter measures on economic and social development: a case study on Jiangsu Province. Science Press, Beijing
- Liu RL (2013) The ageing of population in Japan and its influence on economic and social development. New West 19:171–172
- Lunenfeld B, Stratton P (2013) The clinical consequences of an aging world and preventive strategies. Best Pract Res Clin Obstet Gynaecol 27(5):643–659
- Lv PF, Chen XL, Zhou HD, Sun C, Zhu MF (2016) Health supervision dilemmas and solutions for the integrating pension service with medical service for the elderly, Shanghai. Med Soc 29(2):71–73
- Mu HZ, Pei KC (2020) Impact of population ageing on total factor productivity of equipment manufacturing—Empirical test of panel data from China's provincial level. J Ind Technol Econ 39(11):156–162
- National Bureau of Statistics of China (2019) http://www.stats.gov.cn
- Ni V (2021) China announces three child limit in major policy shift. The Guardian Australia, June 1. https://www.theguardian.com/world/2021/may/31/china-announces-three-child-limit-in-major-policy-shift
- Peng XZ (2015) New perspectives on coping with the ageing of population. Popul Family Plann 7:32–33
- Song XW (2013) Ageing population and sustainable development. September 21, 2020. URL: http://www.50forum.org.cn/home/article/detail/id/4113.html
- Standard and Poors (2010) Global ageing 2010: an irreversible truth. September 9, 2020. URL: http://www.standardandpoors.com/products-services/articles/en/us/?assetID=1245229586712
- Tong YF (2014) Changes and challenges of labour supply in China in the context of population ageing. Study on Population 2:52–60
- United Nations (2019) World population aging 2019. January 21, 2021. URL: https://www.un.org/en/development/desa/population/publications/pdf/ageing/WorldPopulationAgeing2019-Highlights.pdf
- Wang B (2000) Population effect in deep society and social influence of population ageing. Wuhan University Press, Wuhan
- Wang WJ (2020) Discussion on the advantages and disadvantages of delaying retirement policy. Hebei Qiye 06:91–92
- WHO (2015) World report on ageing and health. November 8, 2020. URL: https://apps.who.int/iris/bitstream/handle/10665/186463/9789240694811_eng.pdf?sequence=1
- WHO (2017) Global strategy and action plan on aging and health. October 2, 2020. URL: https://www.who.int/ageing/WHO-GSAP-2017.pdf
- World Population Prospects (2019) World population prospects 2019: Highlights. 17 June 2020 URL: https://www.un.org/development/desa/publications/world-population-prospects-2019-highlights.html
- Wu PH (2017) Research on the problem of population ageing. China Social Science Network, 12.11. August 8, 2021. URL: http://www.cssn.cn/dzyx/dzyx_mtgz/201712/t20171211_3777287.shtml
- Xing H (2019) The study on the impact of population ageing on economic growth in China. Chongqing Normal University, Chongqing
- Xiu Y (2020) Discussion on retirement and family pension consumption under the background of ageing—also on the influence of family asset allocation. Commercial Times 20:51–54

- Yuan X (2020) Actively promote the implementation of pension service policies in the new era. China Soc Work 17:26–27
- Zhai ZW, Chen JJ, Li L (2016) Ageing in China: general trends, new characteristics and corresponding policies. J Shandong Univ Philos Soc Sci 1(3):27–35
- Zhang Y (2016) Challenges and opportunities of China's ageing population. Econ Res Ref 56:9–11
- Zhang HQ, Wang LD (2020) Population ageing, health investment and industrial structure upgrading: an empirical analysis based on 1999-2018 provincial panel data. On Economic Problems 10:72–81
- Zhang PF, Qiu YL (2019) Population aging, social security expenditure and economic growth in China. Shanghai Eco Res 11:108–119
- Zhang XW, Liu CK, Zhao XD (2018) Whether population age structure affects economic growth through human capital: a test based on mediating effect. China Soft Sci 07:149–158
- Zhao XD, Wang H, Liu T (2017) Population ageing, endowment insurance and household saving rate. China Soft Sci 08:156–165
- Zhao C, Zheng L (2020) On the dilemma of China's pension at the present stage and the improvement of government governance. Legal Syst Soc 21:117–118,132