

Chapter 12

China's Ageing Population: The Present Situation and Prospects



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Abstract China has a rapidly ageing population, both numerically and structurally. The number of people aged 60 and over is increasing by about 6.2 million people per annum. Using this definition of the elderly, China is projected to have 280 million elderly by 2025. They will represent about one-fifth of the total population. An ageing population has become one of China's basic national features. This chapter provides a statistical overview of China's elderly at the national and regional levels, using 2010 Census data. Drawing on a review of the literature, we outline the issues that arise due to having an ageing population in modern China. We consider old age dependency, health and sources of income. We conclude that China is not well prepared to respond to issues arising from its ageing population.

Keywords Population ageing · Old age dependency · Health · Income · Regions · Population projections · China

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J. Poot, M. Roskrugge (eds.), *Population Change and Impacts in Asia and the Pacific*,
New Frontiers in Regional Science: Asian Perspectives 30,
https://doi.org/10.1007/978-981-10-0230-4_12

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12.1 Introduction

China's elderly population is growing fast due to past population growth and increasing life expectancy, linked to the development of the Chinese economy and the improvement of people's living standards. Additionally, low fertility has led to structural ageing, i.e. older persons are becoming an increasing proportion of the total population. In 2020, the median age of the population of China (38 years) will overtake the median age in the United States and increase much faster. The aged population as a percentage of the total population of China reached a minimum in the 1960s; since then, the share of the aged has been increasing. China is still the most populous country of the world, although its population size may be overtaken by India within the next decade. However, even then, it will remain the country with the largest population of elderly and the share of the elderly in the total population is also expected to continue to increase.

The problem of China's ageing population has caught the attention of the world. In 2006, China's National Committee on Ageing made a prediction based on research into demographic trends in China. According to the Committee's report on population projections, the elderly population in China will increase by around 6.1 million people per year. The average annual growth rate is expected to be 3.3% from 2001 to 2025; that is far more than the average annual growth rate for the total population of China, which is 0.66%. By 2025, China's ageing population will reach 280 million and the aged population will then make up approximately one-fifth of people in China. China is facing a severe challenge.

A person's life can be roughly divided into three stages: childhood, adulthood and old age. Childhood is a stage of learning, adulthood is a stage of work and old age is the final life stage in which a person should be able to enjoy their life to the full. The elderly made their contributions to the family, to society and to the state while they were in adulthood. Now that they are entering a later stage of life, they will require sooner or later both physical and mental care and support. While not true for every individual, the elderly are collectively a vulnerable group of society.

Since the 1980s, ageing populations have become a major issue internationally. The first World Assembly on Ageing was held in Vienna in 1982. The central issue for the Assembly was how to improve the welfare of the elderly on the basis of goals of full participation in all aspects of society and protection of their interests by means of a fair income distribution. The Assembly adopted the 'Vienna International Plan of Action on Ageing', endorsed by the United Nations General Assembly. In 2002, the Second World Assembly on Ageing committed to using 'active ageing' as an international strategy to respond to the challenges of ageing populations. The concept of active ageing was proposed by the World Health Organization and stipulates that there should be protection from diseases and promotion of health in order to achieve the target of giving people the best possible quality of life for as long a time as possible.

China's transition into an ageing population creates many questions for researchers: What is the current status of China's ageing population? What are the

main issues? What should be the policy responses to a quickly ageing population in China? This chapter provides a descriptive analysis of the status of China's ageing population based on the 2010 population census data (Census Office of the State Council 2012). We point out the key quantitative features of the process and summarize the main issues by conducting a literature review.

12.2 Statistical Description of China's Ageing Population

The National Bureau of Statistics conducts a census of China's population once every 10 years; the sixth was taken in 2010. Based on these census data (Census Office of the State Council 2012), we define the key measure of ageing as the ratio of the total number of people aged 60 years and above over the total population. In 2010, China's population aged 60 and over was about 177 million, with 76 million (42.9%) living in urban areas and hence with around 101 million (57.1%) living in rural areas. In 2010, China's population aged 60 and over made up 13.9% of the total population; 12.1% of the urban population and 15.6% of the rural population. In 2010, China's average life expectancy was 74.8 years, with female life expectancy equal to 77.4 years and male life expectancy equal to 72.4 years.

12.2.1 *The Regional Distribution of the Aged Population*

Table 12.1 reports for each region and for the country as a whole the percentage of the population that is aged 60 and over in 2010, which is our measure of ageing. Across the 31 regions of China listed in the table, there is significant variation in the proportion of the population who are aged 60 and over. In eight regions, the population aged 60 and over accounts for more than 15% of the total population (Shandong, Shanghai, Hunan, Liaoning, Anhui, Jiangsu, Chongqing and Sichuan); 19 regions had an ageing population between 10 and 15% (Ningxia, Hainan, Yunnan, Jiangxi, Shanxi, Inner Mongolia, Fujian, Gansu, Henan, Hebei, Guizhou, Shaanxi, Beijing, Heilongjiang, Jilin, Zhejiang, Guangxi, Tianjin and Hubei) and four regions had an ageing population below 10% of the total (Tibet, Xinjiang, Qinghai and Guangdong).

Nationally, the aged population of urban areas was 12.1% of the total urban resident population (to save space, data for urban and rural areas separately are not shown in the table), as noted above. Regionally, urban Shanghai and Liaoning had an aged population of more than 15% of the total, while in seven regions (Tibet, Guangdong, Fujian, Ningxia, Hainan, Qinghai and Shanxi) it was less than 10%. As noted above, the aged population of rural areas was nationally 15.6% of the total population resident in rural areas. In 13 regions (Fujian, Beijing, Guangxi, Liaoning, Hubei, Hunan, Shandong, Shanghai, Anhui, Zhejiang, Sichuan, Jiangsu and Chongqing), the aged population of rural areas exceeded 15% of the total population, while

Table 12.1 Indicators (%) of national and regional population ageing, China 2010

Areas	Population 60+ as % of total	Old age dependency ratio	The % of elderly in basic or better health	The % of elderly in less than basic health
National	13.9	22.4	83.2	16.8
Beijing	13.5	18.7	82.8	17.2
Tianjing	14.4	21.1	85.8	14.2
Hebei	13.2	21.1	81.9	18.1
Shanxi	11.9	19.4	80.1	19.9
Inner Mongolia	11.9	17.8	80.1	19.9
Liaoning	15.8	23.6	83.5	16.5
Jiling	13.7	20.2	81.0	19.0
Heilongjiang	13.5	19.8	82.4	17.6
Shanghai	15.3	21.6	87.3	12.7
Jiangsu	16.5	26.0	87.4	12.6
Zhejiang	14.2	21.3	87.8	12.2
Anhui	16.1	28.2	79.2	20.8
Fujian	12.1	18.7	88.8	11.2
Jiangxi	11.9	20.3	85.6	14.4
Shandong	15.1	23.8	85.2	14.8
Henan	13.0	22.4	82.5	17.5
Hubei	14.9	23.8	80.1	19.9
Hunan	15.4	25.4	79.2	20.8
Guangdong	9.9	15.6	89.8	10.2
Guangxi	14.1	25.2	84.5	15.5
Hainan	11.3	19.2	80.9	19.1
Chongqing	18.7	33.1	81.4	18.6
Sichuan	17.3	29.9	81.0	19.0
Guizhou	13.4	25.4	80.7	19.3
Yunnan	11.5	19.4	82.6	17.4
Tibet	7.8	13.3	73.1	26.9
Shaanxi	13.5	21.4	81.3	18.7
Gangsu	12.9	21.9	75.7	24.3
Qinghai	9.7	16.1	80.1	19.9
Ningxia	10.0	16.8	81.2	18.8
Xinjiang	9.7	15.9	81.8	18.2

Source: Census Office of the State Council (2012)

in three regions (Tibet, Xinjiang and Qinghai) the aged population of rural areas was less than 10% of the total. The proportion of people who are aged is notably higher in rural areas than in urban areas.

Another important indicator of population ageing is the old age dependency ratio. We define this ratio as the number of people of 60 and above over the total number of people aged between 20 and 59. This establishes an estimate of the number (usually

a fraction) of older persons supported by one working person. This serves only as a rough indicator because university education has been popular in China and graduates usually begin to work after the age of 22. The ratio also assumes that there is full employment in China. In 2010, the old age dependency ratio in China was nationally 22.4%, which means that approximately one elderly person was supported by five working persons. The old age dependency ratio for each region is also shown in Table 12.1.

From Table 12.1, we can see that the old age dependency ratio was at or over the national level of 22.4% in 11 regions in 2010 (viz., Liaoning, Jiangsu, Anhui, Shandong, Henan, Hubei, Hunan, Guangxi, Chongqing, Sichuan and Guizhou). Except for Jiangsu and Shandong, these are all economically developing regions. Developing regions face great pressure to support the elderly. Chongqing had the highest ratio (33.1%). Hence, in Chongqing the dependency is one elderly person for three workers. This can be compared with the national old age dependency ratio of 18.4% in urban areas, i.e. less than one elderly person per five workers. The corresponding ratio in rural areas is 26.8%, i.e. more than one elderly person for every four workers. We conclude that the pressure on a community to support the elderly is much heavier in rural than in urban areas.

12.2.2 *Health of the Aged Population*

Based on data from the 2010 census on the population in basic health or better than basic health, the ratio of healthy and somewhat healthy elderly to the total number of elderly is also reported in Table 12.1. The proportion of people in basic health or better than basic health in the elderly population nationally was 83.2%. Regionally, four regions had a proportion of healthy elderly below 80% (Tibet, Gansu, Hunan and Anhui). Eight regions had a proportion of healthy elderly over 85% (Shandong, Jiangxi, Tianjin, Shanghai, Jiangsu, Zhejiang, Fujian and Guangdong).

In urban areas, the corresponding proportion was 87.7% while it was 79.7% in rural areas. This is a difference of 8 percentage points and clearly shows that the health status of the aged population in urban areas is better than that in rural areas. This is due to the availability of better medical and sanitation facilities in urban areas. There are several regions that have a proportion of healthy elderly in the urban areas that is higher than the national level. Four regions have a healthy urban elderly population of over 90% (Jiangxi, Zhejiang, Fujian and Guangdong). Of these areas, Zhejiang and Guangdong are developed, while the other two are developing. Likewise, there are several regions that have a lower proportion of healthy elderly than the national rate. For elderly living in urban areas, there are five regions with a proportion less than 85% (Tibet, Anhui, Gansu, Hunan and Beijing). In rural areas, there are five regions with a proportion below 75% (Beijing, Inner Mongolia, Tibet, Gansu and Qinghai).

The proportion of the aged population with basic health or better declines rapidly as the age bracket increases. In 2010, the proportion of healthy elderly aged between 60 and 70 nationally was 91.1%; between 70 and 80, 77.6%; and over 80, 60.2%.

The proportion of elderly males who are basically healthy or better (85.1%) is higher than that of elderly females (81.3%). When urban and rural areas are compared, we can see that the proportion of healthy males in urban areas is higher than that in rural areas by 6.9 percentage points. Likewise, the proportion of healthy females in urban areas is higher than that in rural areas by 9 percentage points.

Among China's population aged 60 and over, 16.8% were unhealthy and/or unable to take care of themselves in 2010. While this is simply 100% minus the percentage in basic health or better, these percentages are also included in Table 12.1, in the final column. The regions where the proportion of unhealthy elderly or elderly who were unable to take care of themselves was over 20% were Anhui, Hunan, Gansu and Tibet. This is clearly an issue of great concern for these regions. Again, a comparison can be made between urban and rural areas (not shown in the table). The proportion of elderly in 2010 who were in bad health or unable to take care of themselves was higher in rural areas (20.3%) than in urban areas (12.3%). This shows that the problem is more serious in rural areas.

With further economic development, the living conditions in China will improve along with the level of social, medical and other health-related services. This will improve the health status of the ageing population. We used cross-sectional data to investigate the relationship between economic development and the health of the ageing population in China. The correlation coefficient for 2010 between Gross Regional Product (GRP) per capita and the proportion of healthy elderly is 0.584, which indicates that there is a statistically significant positive correlation between economic development and the health of the ageing population. However, it is not a high correlation. The reason for this might be because even though many regional economies of China have made great economic progress, the development of the healthcare and sanitation industries has not kept up with the speed at which the population is ageing. Also having an impact on the correlation is the fact that some regions experiencing slower economic growth, such as Fujian and Guangxi, have in fact a higher proportion of elderly in good health because their people are benefiting from a cleaner natural environment with less air and water pollution.

12.2.3 The Sources of Financial Support for the Aged Population

The data from the sixth National Population Census show that there are several different sources of financial support that the ageing population relies on to survive. Relying on family support during old age is a part of the traditional Chinese way of life. Table 12.2 shows that, nationally, this was the main source of income in 2010 for 40.7% of the aged persons. In contrast, 29.1% of the elderly supported

Table 12.2 The primary source of financial support for the elderly by region in China 2010 (%)

Areas	Salary	Pension	Social security	Property income	Family support	Other
National	29.1	24.1	3.9	0.4	40.7	1.8
Beijing	5.0	71.9	3.4	0.4	18.4	0.9
Tianjing	10.8	58.7	2.1	0.2	26.8	1.4
Hebei	32.4	18.1	3.4	0.2	44.4	1.6
Shanxi	25.6	23.0	5.3	0.4	44.1	1.7
Inner Mongolia	23.9	27.6	9.3	0.6	36.3	2.4
Liaoning	20.1	48.2	2.8	0.4	27.6	1.1
Jiling	21.8	36.2	4.6	0.6	34.8	1.9
Heilongjiang	16.0	44.5	3.9	0.6	32.9	2.1
Shanghai	5.1	81.0	4.0	0.1	4.9	4.9
Jiangsu	29.2	28.2	3.3	0.3	37.3	1.9
Zhejiang	26.9	24.7	3.9	0.9	42.3	1.3
Anhui	37.3	14.8	4.4	0.3	41.6	1.6
Fujian	20.9	20.1	2.3	0.6	54.9	1.3
Jiangxi	24.6	20.3	3.5	0.2	49.7	1.6
Shandong	36.6	16.0	2.3	0.2	43.1	1.8
Henan	38.4	13.8	3.6	0.3	41.6	2.4
Hubei	33.8	24.2	3.3	0.2	36.9	1.6
Hunan	30.4	16.2	3.8	0.3	47.3	2.0
Guangdong	19.6	25.4	2.4	0.8	50.1	1.8
Guangxi	33.2	14.4	4.5	0.3	45.8	1.8
Hainan	25.0	28.1	5.0	0.4	39.2	2.3
Chongqing	34.1	22.2	4.9	0.3	36.5	2.0
Sichuan	36.0	17.9	4.0	0.3	39.8	2.0
Guizhou	31.8	13.1	8.4	0.4	44.6	1.8
Yunnan	31.0	15.9	3.8	0.5	47.7	1.1
Tibet	24.7	7.5	7.1	0.3	56.4	3.9
Shaangxi	28.3	21.0	4.7	0.6	43.2	2.4
Gansu	28.3	14.8	5.6	0.3	48.9	2.2
Qinghai	19.4	21.9	5.2	0.5	52.0	2.0
Ningxia	23.9	28.4	6.3	0.5	39.3	1.6
Xinjiang	25.4	39.7	7.8	0.5	25.1	1.5

themselves primarily by continuing to work and earning a salary, while 24.1% of elderly people survived primarily on a pension and other forms of retirement income. Finally, 3.9% of the elderly were supported through the social security system, which has improved due to economic reform and development in China in recent years. Although the proportion of elderly who rely on pensions and other forms of retirement income has increased in recent years, this type of support has not yet become the main source of income.

There are significant differences in the sources of income for the aged population in urban versus rural areas (not shown in Table 12.2). In urban areas, the proportion of the aged who relied on a pension or retirement pay reached 50.1% in 2010. The corresponding percentage in rural areas was only 4.6%, a difference of 45.5 percentage points. The proportion of the aged who primarily relied on family support to live was 31.4% in urban areas. In rural areas, this percentage is much higher: 47.7%, i.e. 16.3 percentage points more than in urban areas. Only 12.9% of aged people in urban areas could count on a wage or salary as the main source of financial support, while the proportion in rural areas was as high as 41.2%, i.e. a difference of 28.3 percentage points. The proportion of the aged who relied on minimum social security to live reached 3.1% in urban areas, while the proportion in rural areas was 4.5%, a difference of 1.4 percentage points. The reason for these large differences between urban and rural areas is that China's social security system itself is different across them. The reform process of the social security system in rural areas has been slow compared with that in urban areas. Table 12.2 includes the percentage distribution of the main source of financial support for the elderly in China by region.

We can see that there is a big disparity in the sources of support for the aged amongst different regions. In 2010, Beijing and Shanghai had the lowest proportion of aged people relying on a salary to survive (less than 5%); Henan had the highest proportion relying on a salary (38%). Pensions and retirement pay was relied on the least in Tibet (7.5%) and the most in Shanghai (81%). Tianjin (2.1%) relied the least on social security and Inner Mongolia relied on it the most (9.3%). With respect to family support, Shanghai relied the least (4.9%) on that and Tibet the most (56.4%). This illustrates clearly that there are notable regional differences in the way in which the aged population is financially supported.

The data can be further broken down to show the differences in financial support sources across both urban and rural areas in each region. To save space, this rural/urban distinction is not made in Table 12.2. However, there are again notable differences between regions. Urban Beijing had the lowest proportion (2.8%) of elderly residents who rely on a salary as the primary source of income, while urban Shandong had the highest (21.1%); a difference of 18.3 percentage points. Urban Tibet had the lowest proportion relying on a pension and retirement pay to live (34.2%), while urban Shanghai had the highest (87.5%); a difference of 53.3 percentage points. Urban Guangdong had the lowest proportion of the aged relying on social security (1.3%), while urban Inner Mongolia had the highest (5.9%); a difference of 4.6 percentage points. Urban Shanghai had the lowest proportion of elderly living off family (3.7%), while urban Tibet had the highest (40.6%); a difference of 39.9 percentage points. These statistics show that there are notable differences in the sources of financial support for the ageing population in urban areas of different regions. This is mainly due to large differences between urban areas in economic development.

There are also big differences between the rural areas of the regions. Rural Shanghai had the lowest percentage living on a salary (16.9%), while rural Chongqing had the highest (48%); a difference of 31.1 percentage points. Rural Gansu had the lowest proportion relying on a pension and retirement pay (1.4%), while

Shanghai had the highest (36%). Rural Shandong had the lowest proportion relying on social security (2.4%), while rural Beijing had the highest (13.2%). Shanghai was once again the region with the lowest proportion of the elderly relying on family support (13.4%), while Fujian was the highest (62.9%); a difference of 49.5 percentage points.

Disparity exists across different regions. The disparity in the percentage relying on pensions and retirement pay is larger across rural areas than across urban areas. This reflects differences in the development of the social security system across various regions, particularly in rural areas.

The proportion of the elderly in rural areas relying on a pension and retirement pay is very low for most regions. The variation in the proportion relying on family support is relatively small, which means that this proportion is relatively concentrated around the national average of about 40%. The difference in the proportion of the aged relying on a salary to live is also relatively small, which shows that this proportion in each region is relatively concentrated around the national average of about 29%. This is especially so in rural areas where the proportion of those relying on a salary is particularly concentrated around the average of 41%.

In summary of the descriptive analysis, we conclude that China has already a very large number of older persons and the phenomenon of population ageing should be researched further and in depth urgently, particularly in the most affected regions of China. The regions that are of most concern include Chongqing, Sichuan, Anhui, Tibet and Gansu. These regions do not have a fully developed economy yet, but they experience a high degree of ageing, which results in a heavy burden on their communities to support the elderly. In such regions, a large number of the elderly are unhealthy or unable to take care of themselves, while financial support is not guaranteed for all.

12.3 The Main Challenges Facing China's Ageing Population

12.3.1 The Problems with the Pension Insurance System

Basic pension insurance is an important part of a national social welfare system. The current Chinese old age insurance system has been developed over two decades, with a financing model of 'social pooling and personal accounts'. There are three levels of pension insurance: basic pension insurance (a compulsory insurance system by the state); enterprise complement pension insurance (a supplementary pension insurance established by enterprises for employees) and individual deposit endowment insurance (independent pension insurance). The growth of China's ageing population creates serious challenges for China's pension insurance system as detailed below by four main problems.

12.3.1.1 The Cover Rate of National Pension Insurance Is Low

The cover rate of China's pension insurance is increasing, but progress is slow. By the end of 2010, the number of urban residents participating in the basic old age insurance scheme reached 257 million people (including more than 30 million migrant workers) with an additional 103 million farmers also subscribed, i.e. a total 360 million people. The national endowment insurance rate (the proportion of the number of insured to the number of the population aged 20 and over) was 36.7% (Guo et al. 2012). This percentage is not high, suggesting that China's social security function had not yet been fully realized at that time. In 2009, a pilot of a new rural social endowment insurance system in China was initiated to encourage farmers to voluntarily participate in social pension insurance. This was based on the promotion of the principles of self-security, adherence to individual contributions, collective subsidies and national policy support. The pilot suffered as a result of most regional governments having no capital investment, a lack of collective subsidies and of insurance premiums paid by the farmers themselves. Subscription to rural social endowment insurance has been low (Zhang 2011). In 2011, an urban residents' social pension insurance scheme was piloted. However, a high contribution burden led to a situation of serious surrender (Guo et al. 2012).

12.3.1.2 The Difference Between Pension Payments and Contributions Is Large

China began to implement an insurance model of 'social pooling and personal accounts' in 1997. During the transition to this system, pension contributions were small but the number of recipients increased greatly. This has resulted in a prominent disequilibrium of supply and demand. Those who are already retired receive an endowment according to the new system, despite never having paid any pension insurance in the past. Through this, the so-called 'implicit debt' of pensions has formed. The implicit debt consists of two parts: the total amount of pensions paid to those who retired before 1997 and the total amount of pensions paid to those who retired after 1997 but who did not pay any pension insurance. The implicit debt has led to a large gap between pension payments and the pool of funding.

Because the new system has just begun, the total amount of paid pension insurance is small. According to a related study, the implicit debt in China is at least 1.8 trillion Yuan (Zhou 2010). A large gap between pension payments and the pool of available funds has led to a misappropriation of funds in personal accounts to cover the pensions of current retirees, while these funds should in fact be reserved to pay pensions to current employees in the future. Personal pension accounts are then left to run as an 'empty pension account' (Liu et al. 1999). In 2000, such empty pension accounts represented 36 billion Yuan. By the year 2007, the empty pension accounts had reached 800 billion Yuan (Li 2014). In recent years, the empty pension accounts have reached more than 1 trillion Yuan. Hence, the scale of the empty

pension accounts' problem is growing constantly. The combination of a rapidly ageing population, the increasing number of recipients of a pension and the increasing pension expenses has been becoming a worrying trend. The running of empty pension accounts is a kind of overdraft that the older generation takes from the younger generation; this comes with a huge social capital risk and a reduction in the credibility and sustainability of the Chinese pension system in the long run.

12.3.1.3 The Development of Urban and Rural Social Security Systems Is Unbalanced

The urban–rural dual economic structure that has evolved over a long period of time has led to unbalanced coverage of China's current pension system. The endowment insurance system was only established in urban areas and so the majority of the rural ageing population has not been included in the social pension insurance system. Of the urban elderly population, 50.1% relied on a pension in 2010, while just 4.6% of the aged population in rural areas did. In urban areas, enterprises generally pay 20% of the total wage bill into the pension fund, while individuals generally pay 8% of their wages towards pension premiums. In rural areas, endowment insurance payments come mainly from individual farmers, and at a much lower rate than in urban areas. Most farmers lack any pension insurance subsidy and the government has no capital to invest in rural areas. The level of rural social endowment insurance is too low (with a minimum pension of 55 Yuan per month). Hence, it is challenging for the rural elderly to maintain a reasonable standard of living with such a small pension at the current price level.

12.3.1.4 Value-Added Fund Management Is Inefficient

By the end of 2010, the cumulative value of personal pension accounts for China's urban employees was nearly 2 trillion Yuan; the cumulative value of national pension fund accounts reached 1.5 trillion Yuan (Chen 2011). On the one hand, the personal pension insurance accounts of employees, which are being used to pay current pensions, are mostly paper accounts without any real assets, as noted above. On the other hand, the balance in these pension insurance accounts must meet 2 months of payment. The current system requires 80% of pension balances to be used to buy government bonds or bank deposits. Since nearly all bank deposit rates have been below the inflation rate for the last 20 years, pension balances are constantly being devalued. The annual yield of these balances has been below 2%; the value-added fund management has been inefficient. It has become difficult to cope with inflation and expansion during the same period, leading to the continuous depreciation of endowment insurance funds. This places huge pressure on the long-term balance of pension funds.

12.3.2 The Problems with the Healthcare System

The role of the health insurance system is to accumulate, allocate and use health insurance funds in accordance with the national or regional insurance principles aimed at preventing and curing illness and disease. The public health sector manages financing healthcare and determining health expenditure on behalf of citizens. Currently, medical resources are generally insufficient and unevenly distributed. The medical insurance system narrowly covers the population; the government's investment in public health has not been enough and personal medical expenses have soared in China. The elderly are the largest consumers of medical resources. It has been said that they are ill two-thirds of the time in China (Li and Xu 2012). With the rapid growth of the elderly population, healthcare expenditure is growing. Meanwhile, the ability for the elderly to pay for this healthcare is limited, thus putting pressure on China's healthcare system. Considering that China has an ageing population, there are three main problems with the country's healthcare system.

12.3.2.1 The Government's Investment in the Health Sector Is Inadequate

Data show that compared to other developing countries, China's expenditure on public health, either measured per capita or as a proportion of total fiscal expenditure, is still very low. Inadequate investment into the nation's healthcare fund has had a very negative impact on the medical insurance system and has resulted in a shortage of health insurance funds at the macro level. At present, the contributions financing basic medical insurance in China come from employers who pay 6% of total wages into the fund and from employees who pay 2% of their total salary. Because the healthcare fund is a new medical insurance system for the retired population, their medical insurance is a 'hidden debt' which places more pressure on the health insurance fund. The result has been a yearly overspend of the medical insurance fund. Meanwhile, the incidence of illness and chronic disease among the elderly is far higher than among young people so that, as the elderly population increases, the demand for health insurance funds also greatly increases. The result is a shortage of funds for the health sector.

12.3.2.2 Medical Costs Continue to Rise

For a long time, China has allowed doctors to support their income through the sale of prescription drugs. The government allows hospitals to keep 15–30% of their revenue from drug sales. In the Chinese market, 90% of drugs are sold by hospitals in the retail market. In the pursuit of profits, hospitals often prescribe expensive drugs to patients. This contributes to rising medical costs and a sense of medical insecurity among the elderly population. The prescription drugs price index rose

19.21% during the period 2001–2014, an increase of 1.26% annually. The elderly population is the major consumer of prescription drugs and so the burden of rising prices falls heavily on them.

12.3.2.3 Basic Medical Insurance for the population Is at a Low Level

Currently, medical insurance for urban workers and residents, along with the new rural cooperative medical insurance, are managed by three administrative departments with an urban–rural split and group division. The level of financing for these three insurance systems varies significantly and this creates instability and insecurity for older people. Coverage in these three medical insurance systems is as follows: urban workers have the highest medical insurance coverage (74.8%); the coverage of other urban residents is 62.4%; but coverage of the new rural cooperative medical insurance is only 47.4%. The maximum payment ratio of the three medical insurance tiers is about 3:2:1 (Wang 2008). It is clear that basic medical insurance coverage for urban residents and residents who are part of the new rural cooperative medical insurance system is low. This implies that the level of medical insurance enjoyed by China's ageing population is relatively low.

12.3.2.4 The Development of the Health Sector in Rural Areas Is Lagging Behind

For a long time, there has been a binary rural and urban economic structure in China. The economic development of rural areas has lagged far behind the development of urban areas. Rural residents have had unequal access to public resources including health care; it is common for farmers in many areas to be underserved. Some 80% of the country's medical resources (such as technology, advanced medical equipment and human skill) are concentrated in the large hospitals situated in big cities. Financial allocation for health care in rural areas is less than 16% of regional spending. The financial aid given to urban hospitals is more than 100 times greater than that given to rural hospitals (Xiao and Chen 2008). Clearly, a serious difference exists between rural and urban healthcare services. The slow development of healthcare provision in the rural areas means that the ageing population there lacks medical security.

12.3.3 The Problems with the Elderly Care Services System

The elderly care services system is an organization and talent management system which meets the basic daily needs of the elderly. This system works to improve their quality of life according to the level of economic and social development through providing basic care, nursing, rehabilitation, mental healthcare, emergency rescue

and facilitating social participation. At present, China's elderly care services system consists of a family support services system, a community care services system and a social care services system. Each system has its own positives but has also some problems.

12.3.3.1 Family Support Is Less Extensive

Family support is a traditional means of support for the elderly in China. However, with the development of society and the increasing mobility of labour, young people are leaving their parents and becoming more independent. This is reducing the amount of time that they have to dedicate to their parents. Fierce competition in modern Chinese society fuels the need for young people to study and then work under great pressure, sometimes at considerable distances from their parental homes. The pace of life has accelerated for youth in China, resulting in little time left to care for their parents. From an economic perspective, the long-term treatment costs of chronic diseases are a heavy financial burden for a normal Chinese family. With economic development, older people are demanding a higher quality of life, particularly through medical care, day-to-day support, spiritual support and other aspects of life that the elderly require more help with as they age (Zhang 2013). Hence, there are multiple pressures on family support.

12.3.3.2 The Community Care Services System Is Problematic

A survey of the Chinese health sector in 2008 showed that the rate of chronic diseases for people over the age of 65 was 64.5%. The rate of Alzheimer's disease in people over the age of 85 was 4.8%. There are various diseases which are a threat to the health of the elderly, both physically and mentally. According to a randomized survey conducted by the Chinese Academy of Sciences Institute of Psychology, 11.4% of the elderly (22 million) have poor mental health; 3% of these (about five million) have very poor mental health (Mu 2012). Ageing also results in a higher rate of disability, with more individuals requiring long-term specialized care in the community.

Community care service institutions play a main role in community care in China. However, community services are not perfect; medical facilities are often incomplete, and the quality of health care and of services is low. Community health services do not always meet their objectives but can also leave resources underutilized. Importantly, there are not enough community nurses to meet the needs of the elderly. China has about 2.25 million registered nurses, a ratio 2.07 per thousand people. Further, the ratio of doctors to nurses is 1.25. Compared to other developed countries, there is an insufficient number of trained nurses. In addition, the difference in the quality of community health care in urban areas versus rural areas is large. Elderly care services are not working in rural areas.

12.3.3.3 Problems with the Social Care Services System

Institutional care is a social security model that the current government promotes. Institutional care uses market-based and welfare-oriented operational mechanisms to construct special residences and other living facilities for the elderly. The centralized care provided allows the elderly to spend their remaining years in some comfort. Currently, there are publicly and privately provided apartments, care homes, nursing homes and day-care centres available to the elderly in China. Elderly people living in public aged care should have adequate access to care services. In theory, the public aged care agencies should experience economies of scale and have a competitive advantage in the market for care services. Such agencies can aim to allocate their resources in an optimal way in order to achieve a reduction in the costs of aged care and to improve the quality of life and welfare for the elderly. However, the reality is less than perfect. Data from the Chinese Ministry of Human Resources and Social Security show that the rate of bed usage by the elderly in aged care facilities was only 62.3% in 2013. That suggests a situation where staying in this kind of accommodation is not ideal. There are several possible reasons for this: the high price of living in an aged care facility; institutional services are unable to meet the various demands of the elderly; a lack of care with a family-like feeling and so on. At present, there are over 36 million elderly with a disability who need to be cared for in China. Meanwhile, there are only five million institutional beds. The fact that the usage of these beds remains low despite the high need for them shows that there are significant deficiencies in institutional care in China.

12.3.4 Summary of This Section

This section collated and analysed the problems with the pension insurance system, the healthcare system and the elderly care services system in China through a brief literature review. The main issues with the pension insurance system are that there is a low pension insurance rate, a large gap between pension payments and the available pool of funds, unbalanced development of urban and rural social security systems, and inefficient pension fund management. The main problems with the healthcare system include inadequate government investment in the health sector, a shortage of medical insurance funds, growing medical expenses, a low basic level of healthcare for the ageing population and the slow development of rural healthcare. Finally, the main issues with elderly care services systems are families' lack of ability to care for their elderly, imperfect aged care systems, an insufficient number of nurses, low service quality and unpleasant living situations in care facilities for the elderly. In short, at the same time as there is an increasingly ageing society in China, there are considerable defects in the systems that are in place to address the problems that come with this. This dilemma is caused by the slow reform of the pension system, the healthcare system and the system for providing retirement

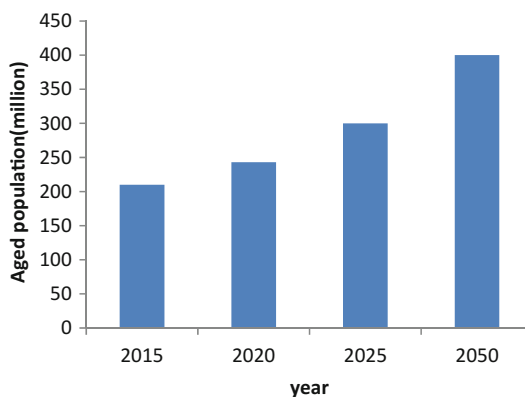
accommodation. As a result, a large number of elderly in China cannot live a happy final stage of their lives despite having worked hard for most of their lives. These serious problems faced by China's ageing population should be given great attention to by central and local governments, as well as by the younger generation, in the years to come.

12.4 The Prospects for China's Ageing Population

The purpose of this section is not to provide detailed forecasts of China's ageing population, but to use research carried out by Chinese authorities and scholars to identify and assess the likely trends in the growth of China's ageing population. We have exhibited the results of predicted future trends in China's ageing population in Figs. 12.1 and 12.2.

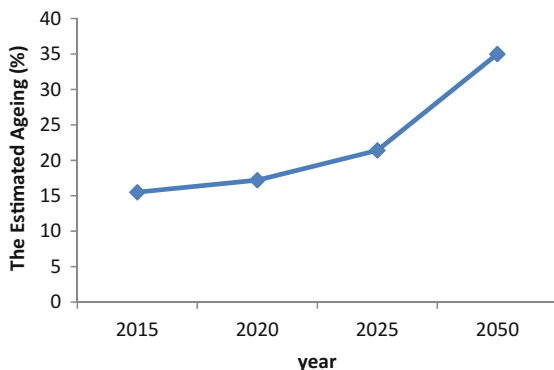
We can see from Figs. 12.1 and 12.2 that China had 210 million elderly people in 2015 and its aged population reached 15.5% of the total population, or close to one in six people, at that time. By 2025, there are projected to be 300 million elderly people, a proportion of 21.4%, or more than one in five people. By 2050, China is expected to have about 400 million elderly, accounting for 35% of the total population, or roughly one in three people. Hence, the growth of China's ageing population is very fast.

The pressure created by population ageing has had a tremendous impact on social and economic development in China. This has included increased pressure on pension and health care services due to huge demand from the growing number of elderly, as discussed in the previous section. The burden of China's pension insurance is becoming increasingly heavy. The costs of healthcare and medications used



Sources: Office of the National Committee on Ageing (2006), Yin (2015), Yao (2015), Wu (2014), World Health Organization (2015), National Bureau of Statistics (2015)

Fig. 12.1 Projected numerical ageing of the population in China



Sources: Office of the National Committee on Ageing (2006), Yin (2015), Yao (2015), Wu (2014)

Fig. 12.2 Projected structural ageing of the population in China

by the elderly are three to five times that of other people, implying that population ageing will lead to rapidly increasing spending on healthcare. The development of the pension industry is seriously lagging behind, making it difficult to meet the demand for pension support for the large elderly population, particularly for those who are the oldest and the sickest. Compared to urban areas, the pension and medical care in rural areas is lacking the necessary social security. The pressure on rural areas due to the ageing population has been more prominent than on urban areas, especially in the west and in poorer areas of China.

The number of disabled elderly is also increasing and becoming a serious social problem in China. Dang (2008), the Deputy Director of the Chinese Research Center on Ageing, pointed out that China is the country with the most disabled elderly in the world. Disabled elderly are those who cannot take care of themselves and therefore must rely on others for care. There were 13.5 million disabled elderly scattered throughout the country in 2007; Dang (2008) expected the number to reach 21.85 million by 2020 and 38.5 million by 2050. Wu (2014) pointed out that by 2013, the number of urban and rural disabled elderly had in fact grown to more than 37 million. As the ageing population in China continues to increase, so does the number of disabled, thereby increasing demand for rehabilitation care. The proportion of the elderly in need of rehabilitation in urban and rural areas is 36.5%, and the proportion needing home care services is 36.9%. Yao (2015) believes that after 2020, the pressure on pension will surface in the public arena, and a pension crisis will erupt. This will be especially after 2030. At that time, the ratio of workers to retired persons is expected to be no more than two-to-one, as compared with five-to-one at present. The young and middle-aged will be overwhelmed by the need to support the elderly.

In short, hundreds of millions of people in China are part of the country's population of elderly, numerically the highest in the world. China's social security system is not well prepared for the growth in the number of aged persons that the country is experiencing. There are several problems including: insufficient pension

funds; lagging development of a sustainable social pension system; deficient accommodation services, inadequate rehabilitative care and insufficient long-term care. The level of professional services available to the elderly is not high and there is considerable pressure on the social security system. An increasing incidence of disability among the elderly is aggravating the seriousness of the problem.

Population ageing has become one of China's most important issues since the beginning of the twenty-first century. China's status as a society with an ageing population will remain so for a long time to come. The ageing population will create many pressures on China and trigger big challenges for economic and social development. Responding inappropriately to the issue will only increase the future burden on society and could potentially affect social harmony and result in a social crisis. Therefore, strong measures must be employed to deal with the challenges of an ageing population.

12.5 Conclusion

This chapter carried out a descriptive analysis of the present status of China's ageing population by using data from the 2010 census. We also commented on the trends in the future. We discussed the main problems associated with the ageing population and put forward some corresponding policy suggestions. This study found that China has become an ageing society: the elderly population, defined as those aged 60 and above, reached 250 million in 2018 and make up 17.9% of the total population (source: [statista.com](https://www.statista.com)). There are large regional differences in population ageing with a significantly higher share of older people in the rural population than in the urban population. The statistics show that pension and annuities have not become the main source of financial support for the elderly population yet. As many as 16.9% of elderly suffer a worrying physical condition, meaning that they are unhealthy or unable to take care of themselves. Regions such as Chongqing, Sichuan, Anhui, Tibet and Gansu are likely to be at the front line of China's problem of population ageing.

By 2025, China will have about 300 million elderly people, making up more than a fifth of the total population. This figure will increase to about 400 million by 2050, making up more than one-third of the population. China has the highest number of citizens entering the 60 and over age group in the world. This has resulted in the exposure of considerable defects in the Chinese pension systems, health care systems and elderly care services systems. There has been insufficient preparation to deal with the growth of the population of older persons in China. Ageing is one of the defining features of China in the twenty-first century and will put great pressure on Chinese society. Great attention needs to be drawn to these issues by the central and local governments, as well as by the generations of younger people in China.

Acknowledgements The authors would like to thank the editors for their helpful suggestions and review of the English text of this chapter. We also thank two anonymous referees for their helpful comments on the draft chapter.

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