

The Experience of the UK and Japan in Coping with Population Ageing and Its Implications for China

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Abstract: Population ageing has become a universal world problem, and actively addressing it has been elevated to an important national development strategy. The United Kingdom is the world's first industrialised country and also a country with an ageing population. The UK has accumulated rich experience in coping with the ageing of the population and has successfully dealt with the issue by formulating and implementing policies to delay the retirement age, adjusting immigration policies, and actively using science and technology-related tools. Meanwhile, Japan, as the first country to enter an ageing society, has also achieved good results by establishing a comprehensive policy and regulatory system, formulating and implementing initiatives related to the development of human resources for the elderly, and using big data and intelligent robots to actively address the challenges of ageing. Therefore, based on the experiences of the UK and Japan, the study suggests that China can successfully address the challenges of ageing by emphasising the role of technology, promoting digitalisation and enhancing the application of artificial intelligence technologies, building a cultural mindset, policies and institutional networks that are conducive to the development of older people's resources, as well as strengthening the planning and top-level design of the elderly sector and establishing a sound legal system to deal with the issue of the ageing population.

Keywords: population ageing, UK, Japan, experience, inspiration

1. Introduction

Since the mid-20th century, the world's population has been facing a serious trend of ageing as economic and social development, fertility rates have declined, and life expectancy per capita has increased. The impact of ageing on the political, economic, social, cultural and family aspects of a country has become a pressing issue for governments to address, as has the study of how to deal with ageing [1]. The more developed countries have entered ageing earlier, have a relatively high level of ageing and have accumulated experience through a number of practical measures. There are studies that focus on the rich experience of the UK in coping with ageing and the implications for China, as well as analyses of typical Japanese practices in coping with ageing and their implications [2,3]. However, little attention has been paid to the coping experiences of both the UK and Japan to draw implications for China. Taking the UK, the first industrialised country, and Japan, a country with much in common culturally, as examples, this paper analyses the main measures taken by these two countries in response to the challenges of population ageing and concludes with corresponding insights for China.

2. Key Lessons from the UK's Response to an Ageing Population

2.1. Development and Implementation of Policies to Delay the Retirement Age

In response to the labour shortage, the UK has made extending working lives a key policy objective, and the policy focus has evolved from initially limiting early retirement through fines to more satisfying work, i.e., communicating the benefits of longer working lives to employees [4]. In 1995, the UK first proposed a gradual increase in the pension age from 60 to 65 between 2000 and 2010, followed by the announcement of plans to raise the pension age in 2011 and 2014, respectively, to a gradual increase to 67 by 2028. The 2017 plan also proposes to raise the pension age to 68 years between 2037 and 2039. In addition to raising the pension age, the pension credit system, designed for older people with lower incomes, has also raised the qualifying age and eligibility criteria. Previously, one member of a couple could apply for pension credit or welfare assistance if they were over the pension age, but from 2018 onwards, only both spouses can apply if they are over the pension age [4]. Surveys have shown that people born between 1950 and 1959 are around 50% more likely to be employed after retirement than those born between 1940 and 1949, suggesting that raising the pension age does have the effect of delaying the retirement age [5].

Therefore, a delayed retirement policy is conducive to re-energising the potential of the elderly, allowing those who are able and willing to do so to delay their retirement, helping to reduce the financial costs of running the system and compensating for problems such as staff shortages in elderly care services. However, while the introduction of a delayed retirement policy does help to address the current state of the UK's ageing population, the social problems associated with an ageing population will continue to intensify if the UK is unable to reverse its low fertility rate. Therefore, it is ultimately up to people themselves to effectively respond to the crisis of an ageing population. Only by increasing fertility rates can we improve the deeply ageing demographic structure and fundamentally support the sustainable development of society, which is the responsibility of each generation [6]. In the case of the UK, the long-term encouragement of the older population to work beyond their prime at the level of national policy is essentially the elderly paying for the low fertility of the younger generation and a stop-gap measure turned to by the government's inability to raise fertility rates.

2.2. Tackling an Ageing Population by Adapting Immigration Policies

In the UK, immigration is seen as a solution to the problem of ageing. Since the Labour government came to power in 1997, the UK government has implemented a series of policies to relax the previous restrictions on immigration, although the government has had political rhetoric about increasing the crackdown on illegal immigration, and there has been a significant increase in in-migration. According to statistics, by July 2005, the number of in-migrants to the UK had increased by 11% over the previous year, while the number of people emigrating from the UK overseas had fallen by 2% over the previous year [7]. The positive effects of net migration growth in helping to address the ageing population are manifested in the following ways: firstly, it helps to increase the birth rate of the UK population, boosting population growth and slowing down population ageing. Secondly, it expands the labour supply and alleviates the ageing or shortage of labour due to an ageing population. Third, it promotes economic development and enhances the economic capacity of the elderly.

However, although the UK has always advocated multiculturalism, in practice, the UK also faces the problem of cultural adaptation of immigrants. The problems of immigration in Britain are mainly manifested as follows: firstly, the excessive and rapid growth of ethnic minorities is bound to cause fear and nationalism among the main ethnic group. Ordinary Britons are very concerned that the increase in the number of immigrants will change the demographic structure of Britain and make it lose its original identity. Secondly, immigrant groups remain isolated from mainstream British society.

To varying degrees, immigrants suffer from disparagement in terms of employment, economic status and social opportunities, which is a significant incentive for terrorism. For example, workers with legal immigration status work legally in the UK, but these people are not given proper social welfare benefits and are still exploited by employers, even at illegally low wages [8].

2.3. Emphasis on the Use of Science and Technology-related Tools to Address Ageing

Firstly, the UK has established research institutions to address ageing issues. The National Innovation Centre for Ageing (NICA) is currently the UK's leading organisation for research into the mechanisms of ageing, the prevention and treatment of age-related diseases and the translation of technology into industry. There is also the Medical Research Council (MRC) Musculoskeletal Ageing Research Centre, which explores the mechanisms of ageing-induced decline in skeletal and muscular function and interventions. In addition, the UK has established the Dementia Research Institute, the Centre for Cognitive Ageing and Cognitive Epidemiology, and the MRC Centre for Regenerative Medicine to address cognitive impairment, dementia, Parkinson's disease, osteoarthritis, cancer, heart disease, diabetes and other common diseases of the elderly [9].

Secondly, big data is being used to support scientific and technological responses to ageing. For example, the UK has implemented the national UK Longitudinal Study of Ageing to provide reliable data for geriatric research and behavioural interventions; and launched the government-led UK Biobank to provide a large amount of data for clinical and basic research on age-related diseases [10]. In addition, in 2018, the UK officially launched Health Data Research UK (HDR UK), which sets out a vision for the next 20 years to improve research, clinical status and public health based on large-scale data and advanced analytics to improve public health by building population cohorts across all regions of the UK, thereby increasing average life expectancy [11].

Finally, AI technology is being used to assist older people to live independently. AI technology has been used in the UK to provide better health monitoring and home health services for older people in their homes and care settings, improving the quality of life of older people, reducing care costs and providing better services to a wider ageing population. For example, the Life Trust in the UK has implemented remote monitoring of older people's lives through the implantation of chips in furniture and flooring [12]. In addition to monitoring the health of older people in real-time, companion robots in the UK are designed and produced to provide early warning, medication reminders, basic emotional companionship and entertainment. Studies have shown that the use of companion robots has improved the social interaction of older people [13].

3. Major Experiences of Japan in Dealing with Population Ageing

3.1. Establishment of a Comprehensive Policy and Regulatory System to Deal with Ageing

In order to cope with ageing, Japan has created a comprehensive system of laws and regulations on pensions, healthcare, employment and welfare. These regulations provide safeguards and regulations for the protection of national welfare, the establishment of service institutions for the elderly, and the rights and obligations of the elderly, and have become the legal basis for Japan to cope with ageing and to provide old age care, respect and assistance to the elderly [14]. The main policies and regulations include the 1982 Health Care for the Elderly Act (revised in 1990); the 1985 revision of the National Pension Insurance Act; the 1985 Employment Stability Law for the Elderly (revised in 2006); the 1990 revision of the Welfare of the Elderly Act; and the 1994 design of the 21st-century social security system; The Basic Act on Measures for an Ageing Society, 1995; the Basic Act on Measures for a Society with Fewer Children, 2003; the Medical Care System for the Elderly, 2008; the New Growth Strategy in six strategic areas, 2009; and the Continuing Employment System, 2013. Of particular note is the introduction of the Nursing Care Insurance Act in 2000, which marked the

implementation of long-term nursing care insurance, which is distinctive. The insured, the local and the central government are jointly and severally liable according to a certain percentage. The insurance is compulsory and regular and guarantees the financing of living services for the elderly, defining the status of the insured, the determination of the level, the manner of payment and the measures of compensation [15]. The care insurance system, therefore, significantly reduces the burden on families and society.

3.2. Development and Implementation of Initiatives Related to the Development of Human Resources for the Elderly

Firstly, in Japan, the government has an optimistic attitude towards old age and has laid the groundwork for the development of the human resources of the elderly based on the concept of active ageing, recognising the advantages of old age, popularising the idea of active age, and encouraging the elderly to continue to participate in social activities and to be active in various activities such as study, work and leisure. In addition, Japanese society and the elderly believe in the rule of survival that if you do not work, you will grow old [16]. As a result, older people maintain a strong desire to work, and the prevalence of the concept of working for life, which is the basis of the concept of human resources development for older people in Japan, is based on ideas such as 100 years of life and 70 years of work [17].

Next, policies are used to guide the direction of human resources development for the elderly. First, the Japanese government has formulated a number of policies to promote national health from a health perspective. The good health of the elderly helps them to develop their existing abilities and enhance their future potential by directly engaging in various forms of productive activities; it also helps to reduce the use of resources such as medical care and reduce social security expenditures. Secondly, the government has introduced various policies to protect the unemployed: delaying the retirement age from the earliest age of 55 to 70, which delays the time when human resources leave the labour market in order to promote greater exploitation of human resources [18]. And the right to employment was established through policies that prohibit age discrimination and protect the right of older people to equal access to employment, thus ensuring the sustainability of human resources [19]. Thirdly, policies have been introduced to promote the employment of older people: by encouraging active employment and encouraging older people to take part in social activities, use their expertise, and actively re-enter the workforce if they wish. Besides, financial support has been provided to enterprises that employ older people in order to increase their motivation to employ middle-aged and older people. At the same time, it provides technical learning channels to encourage older people to save for their future potential by acquiring a variety of vocational skills through continuous learning.

Finally, the development of human resources for the elderly is carried out through multi-level institutions. The Japanese government has established various institutions to implement policies related to the development of human resources for the elderly, including both governmental organisations and companies, at the prefectural level and at the municipal level, forming a patchwork of institutions that serve the development of human resources for the elderly. They belong to different levels and have their own functions. For example, the government's Hello Work centres provide job opportunities for everyone, including older people; the employment support windows for older people set up by prefectures; the silver-haired talent centres in major cities and municipalities, which provide employment platforms and vocational training for older people; and the large and medium-sized enterprises, which provide a wide range of adequate and appropriate jobs for older people [20].

3.3. Using Big Data and Intelligent Robots to Proactively Address the Challenges of Ageing

In order to actively respond to ageing, Japan has also advanced in technological innovation, especially

in the development and utilisation of big data and intelligent robots, and has achieved good response results. For example, in the area of big data, Japan has established a large database of information on the health of the elderly, their families, medical resources and social resources for the elderly, and has gathered a large amount of information that is meaningful to the elderly [21]. The information platform for elderly services connects families and individuals with various social resources for elderly services so that when elderly people need services or assistance, the information is transmitted to the service platform in real-time, and the services or assistance are provided in a timely manner, and the services are monitored through the platform.

In addition, in order to address the shortage of professional caregivers and the problem of rehabilitation and companionship for the elderly, the Japanese government's Ministry of Economy and Ministry of Labour are working on a two-pronged approach, with the former promoting the development of relevant technologies and the latter promoting the spread of robots. For example, robots with rehabilitation-type applications are becoming indispensable companions in the lives of older people in Japan. They can chat with older people, alleviate the shortage of caregivers and their workload, and bring much joy to older people by helping them to delay memory loss, assist with walking, and rehabilitate [22]. More importantly, smart robots improve the working environment for caregivers, prevent staff injuries, improve safety and boost the morale of staff and the elderly.

4. Implications for China of the Experiences of the UK and Japan in Coping with Population Ageing

Both the UK and Japan, as representatives of Western countries and East Asian countries, are facing the crisis brought about by population ageing. At the same time, they have started to build their ageing coping systems earlier and have accumulated rich practical experience in many aspects, and the coping measures of the two countries analysed above can be summarised in the following Table 1. In addition, on this basis, this can provide China with the following lessons and insights for dealing with the challenge of population ageing.

Table 1: Ageing population in practice in the UK and Japan UK.

	Measures to cope with an ageing population		
United Kingdom	Delayed Retirement Policy	Immigration policy	Scientific and technical means
Japan	A sound system of relevant laws	Human Resources Development for the Elderly	Big data and intelligent robots

4.1. Strengthening Planning and Top-level Design for the Elderly and Establishing a Sound Legal System to Deal with the Issue of Population Ageing

Japan has responded to population ageing with planning strategies and laws first. China should learn from this experience and do a good job of planning and top-level design to cope with population ageing in the next 30 years, guide enterprises, social entities and individuals to enter the elderly business and industry in advance and strengthen the capacity building. When planning for the elderly, China should change its mindset, both in terms of coping strategies and in terms of vigorously

developing elderly-related industries, continuously attracting more social resources to participate in the elderly business, and forming a positive interaction between the development of the elderly business and economic development [23].

In addition, the construction of a sound legal system for the elderly is the basis for effectively responding to the problem of an ageing population and safeguarding the welfare of the elderly. Therefore, there is a need to further improve some of China's legislation and policies relating to the elderly, the introduction of legislation such as the Leisure Insurance Law, the Law on Welfare Services for the Elderly, the Law on Health Care for the Elderly, the Law on Nursing Care Insurance and the Regulations on Employment Security for the Elderly, as well as the improvement of policies on real estate, finance and healthcare for the elderly and the introduction of taxation, financial and other preferential policies. The core of the legal system for the elderly is to meet the needs of the elderly, improve their quality of life and protect their rights [24]. The legal protection system for the elderly should not be seen as a static system but rather as a dynamic system that is constantly being improved as society changes. Therefore, China needs to accelerate the legislative process in order to regulate the development of the ageing industry and the provision of elderly services and to speed up the standardisation of the quality of elderly services.

4.2. Building Cultural Attitudes, Policies and Institutional Networks Conducive to the Development of Older People's Resources

In Japan, the promotion of the concept of old age and lifelong work has created a favourable psychosocial environment for the development of older people's human resources [25]. Therefore, China should also create a healthy cultural environment for the development of older people's resources throughout society and guide all people to have a correct and objective understanding of older people: to respect the contributions they made when they were young, and to look positively at the potential they may still have in the present. At the same time, the concept of lifelong work for older people is constantly being strengthened in terms of health promotion, the acquisition of a sense of wellbeing and self-fulfilment. This will lead to a positive view of ageing culture in society as a whole.

In terms of policy formulation, firstly, in order to improve the health of older people, it is necessary to formulate policies that include strengthening the promotion of health concepts, encouraging regular medical check-ups for older people, and supporting the establishment of more health education experience bases and citizenship programmes, so as to provide the possibility for the elderly power resources to play a role. Secondly, delayed retirement policies have proven to be an effective means of alleviating labour shortages in the UK and Japan [26,27]. Therefore, when implementing a delayed retirement policy in China, attempts could be made to extend the retirement age from a specific age point to a retirement age range, especially for the highly skilled group, to allow older people who wish to work to continue to participate in productive activities, while allowing those who do not wish to continue to work to enjoy a leisurely life. Finally, in terms of policies to promote the employment of older people, China could introduce financial support or tax breaks for companies that employ older people in order to motivate them. At the same time, policies should be adopted to expand training opportunities for older people in China and to develop their potential to participate in social activities and work.

In addition, there is currently no department in China that is specifically responsible for the development of the power resources of the elderly. Therefore, firstly, there is a need to set up an administration department specifically responsible for the development of human resources for the elderly and to coordinate the work of the organisation, personnel and labour departments at all levels; secondly, the organisation for the development of human resources for the elderly should be hierarchical, i.e. each province, city, district, street and town should set up a corresponding department and provide unified guidance in its operation; lastly, social forces should be encouraged to set up organisations

for the development of human resources for the elderly and to mobilise the strength of non-governmental organisations and non-profit organisations to set up organisations similar to the Japanese Silver Talent Centre and give them appropriate powers. In addition, the development of human resources for the elderly in the context of information technology is inevitably linked to the strategy of Internet Plus [28]. China should seize the opportunity of the rapid development of information technology and make full use of the online position to carry out its work.

4.3. Valuing the Role of Technology, Promoting Digitalisation and Enhancing the Use of Artificial Intelligence Technology

Both the UK and Japan attach importance to and actively use science and technology to cope with the ageing population, which has good implications for China. China should increase investment in science and technology through multiple channels, focusing on supporting some product development and service technology research that is in urgent demand and highly practical. Actively encourage local funds and corporate capital to support ageing technology in multiple ways, provide preferential treatment and subsidies to the ageing industry in terms of policy and taxation, play a leading role in product innovation by enterprises, and focus on creating internationally competitive ageing technology products [29]. At the same time, it is important to strengthen the integration between industry, academia, research and application of ageing science and technology research, encourage organic integration and collaborative innovation among manufacturing enterprises, universities, research institutes and clinical application departments, and promote the transformation of results. In particular, a special comprehensive institution for scientific research on health and longevity for diseases specific to the elderly, such as dementia and malignant tumours, should be set up, responsible for research on the prevention, diagnosis, treatment and rehabilitation of these diseases and disabilities.

In addition, China should establish a dedicated data centre to integrate health data from hospitals at all levels, which can be used to determine public health and disease trends, promote research on drugs and treatment modalities, and optimise the allocation of medical resources [30]. At the same time, there is a huge practical demand and market prospect for elderly care and health maintenance in China, and the application of AI technology to elderly home care can provide better health monitoring and home health services for the elderly. For example, AI-assisted robots can be developed to help the elderly live independently, provide emotional companionship and support exercise rehabilitation; AI technologies can be combined with environmental assistive technologies to create intelligent home and care places to improve the quality of life of the elderly and reduce care costs [31].

5. Conclusion

This paper has analysed the experiences of the UK and Japan in dealing with population ageing and, on this basis, has proposed implications for China's response to population ageing. Firstly, based on the existing studies, this paper analyses the UK's delayed retirement policy and its failure to fundamentally solve the ageing crisis brought about by demographic changes; it also introduces the UK's adjustment of its immigration policy to cope with the shortage of labour supply but also the problem of adapting to the immigrant culture; and it focuses on the UK's response to the ageing problem through the establishment of research institutions, the use of big data and the application of the artificial intelligence technology. Secondly, the paper also summarises the practical experience of Japan in dealing with the issue of the ageing population: the establishment of a comprehensive policy and regulatory system, the development of human resources for the elderly, and the active use of big data and robotics to deal with the issue of ageing. Finally, based on the experiences of the UK and Japan, the paper draws corresponding insights for China, including strengthening the planning and top-level design of the ageing business, further improving the legal system, building a cultural concept, relevant

policies and institutional network conducive to the development of human resources for the elderly, and emphasising the role of technology, promoting digitalisation and enhancing the application of artificial intelligence technology. However, as this paper is mainly an empirical analysis of the measures taken by the UK and Japan to cope with ageing and lacks a general overview of the situation and characteristics of ageing and a corresponding comparative analysis with China, further research is necessary to propose more targeted countermeasures to cope with ageing based on an analysis of the current situation of population ageing between countries and a comparison of their respective characteristics.

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