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The Economic Impact of Population Aging in China: Effectiveness of Delayed Retirement

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Abstract: China, being a populous country, is facing the challenges and opportunities brought by population aging. This research paper explores the potential of delayed retirement as a policy intervention to address the impact of population aging on China's social and economic development. The paper reviews relevant literature on the challenges and implications of an aging population, discusses the current situation of population aging in China, and analyzes the potential benefits and limitations of delayed retirement as a policy response. The research finds that China's population is still relatively abundant in labor resources, but aging poses challenges to social and economic development. Delayed retirement, as a policy intervention, has social value and economic significance in alleviating the aging problem. However, limitations such as the lack of data on the long-term impact of population aging on the economy and the absence of official implementation of delayed retirement in China should be acknowledged. The paper also highlights the need for future research to focus on motivating workers to accept and actively choose delayed retirement, prioritizing young people's employment opportunities, addressing fertility issues, and considering a global perspective in contrasting the problems faced by developed and developing countries. In conclusion, while delayed retirement holds potential as a policy intervention for addressing the challenges of population aging in China, further research is needed to fully understand its impact and limitations. By adopting a comprehensive approach that considers the economic, social, healthcare, and employment aspects of aging, policymakers can develop effective strategies to promote the well-being and sustainability of an aging society in China and beyond.

Keyword: population aging, delayed retirement, China, economic impact

1. Introduction

Population aging has become a pressing issue worldwide, including in China where over 18 percent of the population is aged 60 or above, as reported by the seventh national census [1]. The decline in birth rates and the shrinking workforce pose challenges to China's economy, which has traditionally relied on a cheap labor market that is now being impacted by aging [2]. As a result, policymakers, scholars, and business leaders are keen to explore ways to transform these challenges into opportunities. One approach that has garnered significant attention is delayed retirement, which involves extending the working age beyond the traditional retirement age as a means of mitigating the negative consequences of an aging population.

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The government in China has been actively considering delayed retirement as a potential solution to address labor shortages. The rationale is that by keeping older workers in the labor force, we can maintain productivity, reduce the burden on social welfare systems, and ensure a stable source of income for individuals. Proponents of delayed retirement argue that it can have several positive effects on the economy, including alleviating labor shortages in industries, increasing tax revenue, reducing pension burden, and improving the mental health of older workers by providing them with a sense of purpose and fulfillment. However, it is essential to thoroughly examine the policy due to potential downsides, such as limiting opportunities for younger workers and affecting job competition and wages.

This paper aims to discuss the current state of aging population in China and examine the implementation of delayed retirement policies in other countries, such as Japan and Spain. Based on this analysis, the probability of success, possible problems, and solutions to implementing delayed retirement in China will be analyzed. The next section will review the existing literature on the economy under the condition of population aging and the delayed retirement policy. Section 3 will outline the methodology used in this paper. Section 4.1 will present the current data on the Chinese aging population, while Section 4.2 will provide an overview of delayed retirement in other countries. Section 5 will discuss how delayed retirement could be implemented in China and highlight potential challenges. Finally, limitations and proposed future directions will be identified in the concluding section.

2. Literature Review

Population aging is a global demographic shift with significant implications for the economy. As the number of elderly individuals increases, the workforce is expected to decline, leading to a potential shortage of skilled workers, reduced productivity, and slower economic growth [3]. Recognizing the importance of this issue, the government has introduced various policies to promote economic growth in the context of population aging. This literature review aims to explore the impact of delayed retirement policies on the economy under the condition of population aging, by examining previous studies on the relationship between population aging, the economy, and the implementation of delayed retirement policies in China.

2.1. The Economy under the Condition of Population Aging

The global aging process has been accelerated by low fertility rates and prolonged life expectancy, resulting in negative effects such as a shortage of labor supply, lack of power for economic growth, overburdened public finances, and rapid increase in medical care costs [4]. According to the seventh national population census, China is rapidly entering an aging population era, with the proportion of individuals aged 65 and above accounting for 13.50% of the total population. This represents a 4.63 percentage point increase compared to the sixth national census in 2010 [5]. It is well known that China's competitiveness has relied on labor-intensive industries, but labor market changes have resulted in fast-growing labor costs, reducing competitiveness. This situation requires China to transform its growth pattern from one driven by the accumulation of production factors to one driven by improvement in productivity. In addition, the aging population has resulted in China's basic old-age insurance system experiencing difficulties in balancing contribution incomes with pension expenditures, leading to a growing concern over a pension payment dilemma [6]. At present, although the degree of population aging in China is deepening, society believes that population aging is not only a challenge but also an opportunity. China should leverage these favorable conditions to develop aging industries and formulate plans to turn the challenges of an aging population into positive factors that promote economic development, social progress, and people's well-being.

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2.2. Delayed Retirement Policy

Retirement is a significant event for older workers as tt affects their income, physical and mental health, self-esteem, happiness, and life satisfaction [7]. Yan Wu et al. argued that delayed retirement policies are preferable relative to normal retirement, with voluntary delayed retirement more preferable to passive delayed retirement. Increases in longevity and labor productivity enhance the policy effects of voluntary delayed retirement [8]. However, XiaoHua Chen et al. found in their study that delaying retirement policy may not always have a positive and beneficial effect to alleviate the dilemma of pension payment, and its beneficial part accounts for about 15% of the whole [9]. Much research has been done to find the connection between education and retirement age. They find that introducing a "long career" exception cannot be to the advantage of future unskilled workers unless education yields no spillover effects [10]. Other research also finds that gender plays a significant role in the relationship between life expectancy and expected retirement age. Women with the same life expectancy will show a stronger intention to delay retirement than men. It also has a negative moderating effect on the influence of the years of education on the expected retirement age. Men with the same years of education will show a stronger intention to retire than women [11].

Fertility is another factor that can influence retirement policies. As the fertility rate decline and the number of young people shrinks, the pressure of taking care of the elderly increases. Thus influencing people's preference on retirement policy. In 2020, Chinese youth population, that is, those aged 0-14, accounted for 17.95 percent. It is expected to decline to 13.83 percent by 2030. This reflects the basic trend of the acceleration of fewer children in this period. There are four main reasons for the low fertility rate. First, the cost of raising children is very high and infant care is difficult. Second, the floating population is large. Constant migration has a big impact on fertility. A third reason is that women are more involved in the workforce. Work-family conflict affects women’ s reproductive decisions. The last is falling marriage rates. Women' s tendency to marry later also contributes to the low fertility rate. If these problems cannot be addressed, the aging population will get worse and better retirement policies will be more urgent to be put forward.

Existing literature suggests that population aging is a significant demographic shift that poses challenges for the economy. Delayed retirement policies can be a potential solution to mitigate some of these challenges by encouraging older workers to remain in the workforce and maintaining their productivity. However, policymakers must carefully consider the potential drawbacks of these policies, and ensure that they do not have unintended consequences for younger workers or exacerbate existing inequalities in the labor market. Further research is needed to better understand the impact of delayed retirement policies on the economy, and to identify the most effective strategies for promoting a sustainable and productive workforce in the context of population aging.

3. Method

3.1. Data Collection

The data used in this study are obtained from the seventh census conducted by the national bureau of statistics of China, which provides comprehensive information on the population dynamics in China. The data includes population statistics for the years 2015 to 2021, including the number, structure, and distribution of China's population. These data are publicly available and widely used in demographic research.

3.2. Variables

The variables analyzed in this study include total population, birth policy, and average life expectancy. Total population refers to the population of the 31 provinces, autonomous regions, and municipalities

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directly under the central government of China, as well as active military personnel on the Chinese mainland. Birth policy refers to the impact of the "two-child" or "three-child" policy, which allows families to have two or three children instead of the previous "one-child" policy, on the birth rate. Average life expectancy represents the average number of years a person can expect to live, and it is used as an indicator of the extension of residents' life expectancy, which can influence population aging.

3.3. Analysis

Quantitative analysis is conducted to examine the trends and patterns of population aging in China. Descriptive statistics, such as means, medians, and percentages, are used to summarize the data and provide an overview of the population dynamics. Time series analysis is also employed to analyze the changes in population growth rates, birth rates, death rates, and other relevant variables over time. In addition, a literature review is conducted to examine the implementation status of delayed retirement policies in other countries, such as Spain, Japan, and other cities, and to provide evidence on the effectiveness of delayed retirement policy in China.

3.4. Limitations

It is important to note that this study has some limitations. First, the analysis is based on secondary data from the seventh census and existing literature, which may have potential limitations, such as missing data or incomplete analysis of cities. Second, the cities analyzed in previous literature may not necessarily be consistent with the current situation of China, as social, economic, and cultural contexts can vary across different regions. Despite these limitations, the findings of this study contribute to a better understanding of population aging in China and the potential implications for retirement policies.

4. Results

4.1. Analysis of Current Data on the Chinese Aging Population

China is currently experiencing the third stage of the demographic transition, characterized by low birth rates, low death rates, and low population growth rates (see Table 1). The decline in birth rates can be attributed to the country's birth policy. In an effort to address the challenges posed by an aging population, China implemented the selective two-child policy in 2013, followed by the universal two-child policy in 2015, and the current law allows every family to have up to three children. However, despite these policy changes, fertility rates have not seen significant improvements.

Table 1: Population growth rate.

	2015	2016	2017	2018	2019	2020	2021
Birth rate	11.99	13.57	12.64	10.86	10.41	8.52	7.52
Death rate	7.07	7.04	7.06	7.08	7.09	7.07	7.18
Growth rate	4.93	6.53	5.58	3.78	3.32	1.45	0.34

Comparing China's life expectancy with that of other countries, Japan, which has the oldest population in the world, has an average life expectancy of 84.6 years, while China's life expectancy has reached 75.4 years. This difference in life expectancy has significant implications for the aging process in China. Analysis of the data reveals that China's aging process is happening at an early stage compared to most developed western countries, which had already industrialized or modernized when they entered the stage of an aging population. Moreover, China's aging process is occurring at a rapid

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pace. Between 2000 and 2010, China's population over 65 years old increased by an average of 8.2 percent per year. This average increase further accelerated to 12.61 percent from 2010 to 2020 (see Table 2). This rapid aging trend is expected to have a significant impact on the country's economy.

Table 2: The proportion of people in different age groups.

	2015	2016	2017	2018	2019	2020	2021
Age 15-64	73.0	72.5	71.8	71.2	70.6	68.6	68.3
Age above 65	10.5	10.8	11.4	11.9	12.6	13.5	14.2

The economic implications of an aging population are multifaceted. One major concern is the potential impact on the labor supply and capital availability, which are closely linked to economic growth. As the proportion of elderly people increases, the labor force may shrink, leading to a potential shortage of skilled workers and increased labor costs. This could hamper productivity and economic growth. Additionally, an aging population may require increased healthcare and social welfare expenditures, putting pressure on government resources and public finances. Therefore, addressing the challenges posed by the aging population.

4.2. The Implementation of Delayed Retirement in Other Countries

The implementation of delayed retirement policies in China is currently undergoing a gradual transition, with retirement ages for both male and female workers expected to be aligned at 65 by 2055 [12]. In this section, the implementation of delayed retirement policies in two other countries, Spain and Japan, will be examined.

In Spain, researchers have found that delaying retirement until the age of 68, which would extend the current statutory retirement age of 65 by three years, could significantly increase elderly labor force participation [13]. However, it should be noted that this reform may not be sufficient to ensure the long-term financial sustainability of the Spanish public pension system, as it does not take into account the pension system fund. While it may lead to substantial benefits for the workforce, further considerations are needed to address potential challenges in the pension system fund.

On the other hand, Japan has already implemented a retirement age of 62, which is gradually rising to 68 in the future. The government has also extended the retirement age for civil servants to 70, resulting in one of the highest participation rates of older people in the workforce [14]. Japan has taken a flexible approach to population aging measures through slow and phased changes, along with the introduction of incentives and limits to encourage people to prolong their retirement age. Additionally, Japan has also gradually changed its pension system, creating more generous pension plans that stimulate later retirement. In comparison, China's retirement welfare system is relatively uniform, rigid, and mandatory, which may pose challenges in the adoption of delayed retirement policies. Japan's more flexible and generous retirement benefits may provide insights for China in designing and implementing delayed retirement policies.

In conclusion, the implementation of delayed retirement policies in other countries such as Spain and Japan has shown that it can increase labor force participation among older workers. However, careful considerations are needed to ensure the long-term financial sustainability of the pension system and to address specific challenges in each country's context. Japan's experience with a flexible and phased approach, along with adjustments to the pension system, may offer valuable lessons for China as it considers the implementation of delayed retirement policies in the future.

5. Discussion

According to the 14th Five-Year Plan, the reform of delayed retirement in China will be implemented

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gradually, taking into consideration the age of the workers nearing retirement. During the early stage of the reform, those who are close to retirement will experience a minor delay of only a month or a few months, minimizing the impact on them. However, for younger workers, the extension of retirement age will be longer, as their retirement is still more than a decade away. This approach reflects the flexibility and adaptability of China's policy reform, avoiding a one-size-fits-all approach. Lessons from other countries' experiences with delayed retirement have been considered in the Chinese plans, and the reform will be phased in with careful consideration of welfare aspects.

While the reform of delayed retirement is seen as an opportunity to address challenges related to an aging workforce, it also brings about new problems and challenges that need to be addressed through corresponding supporting measures. For instance, older workers may need additional training and assistance as they may struggle to keep up with technological advancements due to their age. This highlights the need for providing education and training opportunities to help older workers adapt to changing job requirements. Additionally, longer working lives may impact the physical and mental health of older workers, necessitating increased healthcare support from the government. This will also require additional financial resources, as health care costs for an aging workforce are expected to rise.

The financial aspects of implementing delayed retirement also need to be carefully considered. Studies have shown that the age at which individuals retire can impact their lifespan, with older retirement ages associated with shorter life expectancy. This could potentially help address the issue of excessive pension payments, as the average number of years the government needs to pay for pensions may decrease with delayed retirement [15]. However, the financial implications of implementing delayed retirement need to be resolved, and the government will need to carefully plan and manage the costs associated with this reform.

Furthermore, the prolonged employment of older workers may also have an impact on the employment opportunities for younger workers. Despite the decreasing population of young people, the unemployment rate among them remains high. If employers choose to retain older workers due to lower costs, it could potentially affect the job prospects of younger workers. This issue requires the government to develop solutions that strike a balance between supporting older workers and creating opportunities for younger workers in the workforce.

6. Conclusion

As China faces the challenges and opportunities of an aging population, the proposed delayed retirement policy holds social and economic significance in alleviating this issue. However, this paper acknowledges some limitations, including the concentration of data on population aging from 2015 to 2021, which may not fully capture the future impact of aging on the economy. Future research should consider a global perspective, comparing the impact of population aging on economic growth in developed and developing countries [16].

Efforts should be made to explore how benefits can incentivize workers to accept and proactively choose to prolong their retirement age, while prioritizing employment and promotion opportunities for young people, who are the main driving force of the economy. Additionally, research on increasing fertility and fertility intentions, with a focus on women's perspectives, should not be overlooked. Collaborative efforts among countries can help address the unique challenges faced by different nations in dealing with their aging populations. Therefore, future research should actively explore solutions for aging societies worldwide, taking into account the diverse needs and contexts of different countries.

Furthermore, it is crucial to recognize that the implementation of delayed retirement in China has not yet been officially carried out, and its effectiveness cannot be fully measured at this stage. The conclusions drawn from comparisons with other countries may not be entirely representative, as each

country's situation varies. However, lessons can be learned from the successes and failures of other countries' experiences to inform policy decisions in China.

Future research should also delve into the potential impact of delayed retirement on healthcare costs and pension expenditure, as well as the effects on the physical and mental health of older workers. Strategies for providing necessary training and support to older workers to keep up with technological advancements and adapt to changing job requirements should also be explored.

Moreover, as the global trend of population aging continues to pose challenges to various economies, research should seek to identify best practices and policy interventions that can effectively address the complex issues associated with aging populations. A comprehensive approach that considers not only the economic implications but also the social, healthcare, and employment aspects of aging should be pursued.

In conclusion, while the delayed retirement policy proposed in this paper holds potential for addressing the challenges of an aging population in China, further research is needed to fully understand its impact and potential limitations. By considering a global perspective, prioritizing the needs of different age groups, and adopting a comprehensive approach, policymakers can develop effective strategies to promote the well-being and sustainability of an aging society in China and beyond.

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