

An Exploration of the Impact of Macroeconomic Policies on the Labor Market in the Context of Aging--Taking Japan as an Example

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Abstract: This paper examines the implications for macroeconomic policy in the context of global aging, particularly in Japan, focusing on the challenges facing the labor market and the social security system. As the proportion of the aging population increases, the Japanese economy is hit by a decrease in labor supply, changes in the demand structure, and increased pressure on social security. By analyzing the Japanese government's fiscal and monetary policies, the study reveals how these policies respond to aging by affecting employment rates and social security spending. The study finds that the Japanese government's policies aim to increase labor market flexibility and extend working life to increase labor supply and resist the effects of aging by raising household income and productivity. The conclusion states that Japan's macroeconomic policies have been crucial in coping with aging and are not only important for Japan's economic stability and growth, but also provide valuable lessons for other countries. In the future, Japan needs to continue to optimize its policies to adapt to the trend of population ageing and ensure sustainable economic development.

Keywords: Aging, macroeconomic policy, labor market, Japan.

1. Introduction

The phenomenon of ageing is becoming more pronounced globally as fertility rates decline and life expectancy increases. It is predicted that the proportion of the world's elderly population will continue to climb in the coming decades, from the current 7 % to 20 %, and that the global population aged 65 and over will double to 1.6 billion by 2050 [1]. In East Asia, one of the most aging regions in the world ---, Japan is particularly aging, with the proportion of its elderly population approaching 29.3 %, the highest among the G20 countries [2]. This demographic change has had a significant impact on the Japanese economy. According to the International Monetary Fund (IMF), population aging has far-reaching implications for productivity and long-term economic growth [3]. This is particularly reflected in the macroeconomic domain, including but not limited to various aspects of GDP growth, current account, savings, and investment [4]. Aging may lead to an increase in demand for services, which in turn triggers a structural shift towards labor-intensive and less productive services. At the same time, population size or density has an impact on productivity, i.e., as the size and density of the working population increases, productivity increases with it. One of the most significant effects of aging is the changes in the labor market, i.e., a decrease in the labor supply and

an increase in the pressure on the social security system. Changes in the size and structure of the population affect both the supply side and the demand side, which affects the dynamic equilibrium of the economy, and consequently, long-term economic growth and the potential rate of growth (growth rate). In addition, as the working-age population declines and the number of retirees increases, the financing of the social security system faces enormous challenges, especially in the "contractionary economy" countries, led by Japan. Public expenditures are naturally rising, yet the taxed labor force is declining, putting pressure on public finances [3]. Spending on health services and social security will increase as the elderly population grows [5].

The Japanese government has recognized these issues and has begun to take measures to address the challenges posed by aging. For example, the Japanese government has implemented a policy called "Abe Economics," which aims to address the challenges of aging through a "strong economy," "childcare assistance," and "social security" comprised of a "strong economy," "childcare assistance," and "social security. Social Security" to realize the goal of "100 million active people" [6]. These policies include reforming work practices, increasing the labor force participation rate of women and the elderly, and attracting foreign labor. These measures aim to increase labor market flexibility, extend working life, and increase labor supply to cope with the effects of population aging [7].

The purpose of this paper is to explore how Japan's macroeconomic policies play a key role in labor market adjustment in the context of aging. Specifically, this paper will analyze how the Japanese government's fiscal policy affects the employment rate through different transmission mechanisms, including the impact of policies such as government employment expenditure, direct government expenditure, and tax cuts on employment. Through this study, this paper hopes to reveal the important role of Japanese government employment policies in stabilizing the aging labor market and to assess the effectiveness of these policies in raising private sector employment and how they resist the effects of aging on households and society by raising household incomes and increasing private sector productivity. These policies are not only relevant to the economic stability and growth of Japan but also provide important references and lessons for other countries around the globe as they face similar challenges.

2. Current Situation of Aging in Japan

As one of the countries with the most serious aging problems in the world, Japan has attracted much attention for its demographic structure and the status of its aging population. Below are some key figures and the status of aging in Japan.

Population structure: According to 2024 data, Japan's total population is 123,753,041, of which the elderly population (65 years old and above) is 36,854,608, accounting for 29.78% of the total population. The juvenile population (0-14 years old) accounted for 11.44%, and the working-age population (15-64 years old) accounted for 58.78% [8]. This indicates that Japan's population structure has an extremely high proportion of elderly people and a relatively low proportion of juvenile people.

In terms of population structure, the proportion of the elderly population is extremely high, while the proportion of the juvenile population is relatively low. According to the data for 2024, the total population of Japan is 123,753,041, of which the elderly population (65 years and older) is 36,854,608, or 29.78% of the total population. The juvenile population (0-14 years old) accounted for 11.44%, and the working-age population (15-64 years old) accounted for 58.78% [8]. In addition, the number of elderly people aged 65 and older exceeds twice the number of juvenile populations in 2024, and it is expected that the elderly population will account for 37.48% of the Japanese population by 2050. Among the elderly population aged 65 years and older, those aged 65 to 74 years account for 13.0% of the total population, while those aged 75 years and older account for 16.1% of the total population, with the latter proportion exceeding the former [9].

Japan's aging rate is expected to reach 29.1% in 2024, with 36.23 million people aged 65 years or older [9], a ratio that stands out globally, marking Japan's entry into what is known as the "super-aged society". The trend of population aging is expected to be "slow and then fast, with a high level of stabilization", and it is expected that by 2070, the total population of Japan may decrease to 87-89.5 million people, and the aging rate may rise to 38.7% [10].

In terms of healthy life expectancy and average life expectancy, this indicator has been increasing year by year in Japan. 2016 data showed that healthy life expectancy in Japan was 72.14 years for men and 74.79 years for women, and the survival period with disease was 8.84 years for men and 12.35 years for women [11]. This not only reflects the improvement of medical care but also implies that the time when the elderly need intermediate care is lengthening, posing a greater burden on society and families.

3. The Impact of Aging on Japan's Labor Market

3.1. Impact of Aging on Japan's Labor Supply

Aging has had a profound impact on Japan's labor supply, mainly in the form of a reduction in the scale of labor supply, a decrease in the labor force participation rate, a decrease in the duration of labor supply, a decrease in the quality of labor supply, a challenge to the development of elderly manpower resources, an imbalance between supply and demand for labor, and a slowing down of the growth rate of labor productivity. As the proportion of the elderly population rises, the proportion of the working-age population declines, leading to a reduction in the overall labor supply size [7]. In addition to this, the labor participation rate of the elderly population decreases with age, further affecting the labor market participation rate [12]. The shrinking labor supply time of the senior population makes the total labor supply time decrease [7]. Changes in the physiological and psychological functions of the elderly make it difficult for them to adapt to the labor intensity of most jobs, resulting in a lower quality of labor supply. Although the life expectancy of the elderly population has increased and some of the younger elderly are equipped to return to the labor market, most of them remain independent and continue to contribute to their families, communities, and the national economy [7]. Labor shortages are evident in multiple sectors, especially in labor-intensive industries, where firms are at risk of declining productivity due to a lack of skilled workers, and economic growth potential is constrained [7]. The aging of fewer children leads to a shortage of labor supply and a slowdown in the growth rate of labor productivity, which in turn leads to a sustained slowdown in economic growth and poses a long-term threat to Japan's economic development.

3.2. Impact of Aging on Labor Demand in Japan

The impact of aging on Japan's labor demand is far-reaching and complex. First, with the increase in the elderly population, the social demand for personnel in professions or industries such as medical and health services is growing rapidly, and the demand for jobs in the elderly service industry is increasing significantly. Secondly, aging not only increases the demand for jobs in the senior care service industry but also drives and expands the demand for jobs in the upstream and downstream industrial chain of senior care service, generating a multiplier effect and driving the demand for employment in related industries [13]. Thirdly, the deepening of aging is accompanied by the transfer of the employment structure from the secondary industry to the tertiary industry, and the service industry creates more jobs for the elderly employed people [13]. In addition, the increase in the number of retirees in enterprises and public institutions will generate a series of new jobs, which is conducive to promoting the employment of young groups. At the same time, aging will affect wages and productivity, which in turn affects the demand for labor in enterprises. Empirical studies at home and abroad have found that the relationship between age and labor productivity is an "inverted U

curve", i.e., with the growth of age, labor productivity first rises and then falls [14]. Finally, the difference between urban and rural aging will affect urban and rural labor mobility, and the demand for urban elderly service jobs will be much larger than that of rural areas, while the general service industry will also create jobs for elderly manpower resources [13]. These changes directly contribute to the structural shift in labor demand, posing new challenges to Japan's economic and social policies.

4. Macroeconomic Policy Strategies to Cope With Aging in Japan

4.1. Monetary Policy

Against the backdrop of an aging population, Japan's monetary policy needs to consider a combination of instruments such as adjusting interest rates, implementing quantitative easing, and reducing financing costs. For example, it is particularly important to boost economic activity in an aging society by reducing interest rates to alleviate the borrowing costs of firms and individuals and to stimulate investment and consumption to boost economic growth [15]. The quantitative easing policy adopted by the Bank of Japan has helped economic recovery by increasing the money supply and lowering long-term interest rates to encourage borrowing and consumption [16]. At the same time, lowering financing costs helps to reduce debt pressure on enterprises and residents, stimulate market vitality, and promote the development of the real economy [15]. In implementing these policies, the BOJ needs to consider the impact of aging on stable economic growth, price stability, and financial stability, and adjust its policy tools accordingly [15]. In addition, the BOJ has implemented some targeted monetary policy instruments, such as the negative interest rate policy through the three-tier reserve system and the fixed-rate purchase of treasury bonds to guide long-term treasury yields to an intermediation target [16], which have helped to maintain a slightly upward-sloping yield curve in the aging society and to ensure the normal functioning of the banking system while lowering the cost of financing [16]. In summary, monetary policy in Japan needs to focus more on stimulating economic growth and maintaining price stability in the context of aging and to take into account the impact of aging on the transmission mechanism of monetary policy to ensure stable economic growth [15].

4.2. Fiscal Policy

Meanwhile, Japan's fiscal policy has taken a series of targeted measures, including adjustments to taxes, social security spending, and public investment, to meet the challenges posed by this social change. To increase government revenues and improve the deficit situation, the Japanese government increased the consumption tax rate from 5% to 8% in 2014 and further to 10% in 2019 [17]. This measure aims to ensure the sustainability of the social security system while reducing the government debt burden. With aging, social security expenditures are mainly focused on medical and health care costs, pensions, benefits, and services related to the elderly, and the increase in these expenditures has put great pressure on the treasury [18]. In response, the Japanese government has put forward the concept of "integrated reform" to alleviate the fiscal crisis by reforming the social security system, including the establishment of a mechanism for downward adjustment of pensions in line with the decline in prices, expanding the coverage of corporate pensions and health insurance, as well as alleviating the burden of child-rearing into the scope of social security. In addition, the Japanese government has increased public investment, especially in infrastructure development, to stimulate economic growth and job creation and to increase the economy's long-term productive potential [19]. These investments are important to cope with labor shortages and slowing economic growth in an aging society [20]. Overall, Japan's fiscal policy in the context of aging aims to balance economic growth, employment growth, and social welfare while ensuring fiscal sustainability through adjustments in taxation, social security spending, and public investment.

4.3. Social Security Policy

In the face of the challenges of aging, Japan's social security policy responds mainly by adjusting taxes, increasing social security expenditures, and public investment. First, Japan has increased its fiscal support for social security by adjusting its tax policy to ensure the sustainability of benefits such as pensions and health insurance. Second, the increase in social security expenditures, especially those on pensions, medical care and nursing care, which are closely related to the elderly, has become an important part of the fiscal burden of the Japanese government. In addition, the Government of Japan has made efforts in public investment to create employment opportunities through measures such as infrastructure development, while increasing the long-term productive potential of the economy. The implementation of these policies aims to reduce the pressure of aging on social security finances while safeguarding the quality of life and social participation of the elderly.

5. Conclusion

This paper delves into the implications of aging for Japan's macroeconomic policies, particularly the challenges to the labor market and social security system. With declining fertility rates and increasing longevity, the proportion of the global aging population is expected to increase significantly. Japan, one of the most aging countries, has an elderly population share approaching 30 percent. This demographic change has had a significant impact on the Japanese economy, particularly in terms of labor supply, demand, and the social security system. This paper focuses on the impact of aging on labor supply, including the reduction in the size of the labor force, the reduction in the labor participation rate, the reduction in the time of labor supply, and the reduction in the quality of labor supply. At the same time, aging also has an impact on the demand for labor, especially the rapid growth of demand in medical and health services and other professional fields. In addition, aging also leads to increased demand for services, triggering a structural shift toward labor-intensive and less productive services. To address the challenges posed by ageing, the Japanese Government has adopted a series of macroeconomic policies, including monetary and fiscal policies. Monetary policy stimulates economic growth by adjusting interest rates, implementing quantitative easing and lowering financing costs. Fiscal policy, on the other hand, influences economic activity by adjusting taxes, social security expenditures and public investment, aiming to achieve a balance between economic growth, increased employment and social welfare. As for social security policy, the Japanese government responds to the fiscal pressure of aging by increasing financial support for social security, social security expenditures and public investment, while safeguarding the quality of life and social participation of the elderly. In summary, the macroeconomic policies of the Japanese government play a key role in addressing the challenges posed by aging. These policies are not only related to Japan's economic stability and growth but also provide important references and lessons for other countries around the world when facing similar challenges. In the future, Japan needs to continue to adjust and optimize its macroeconomic policies to adapt to the long-term trend of population ageing and ensure sustainable economic development.

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