

How Aging Can Influence Japan and the Measurements Can be Taken?

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Abstract: Aging has become a serious problem faced by many countries in the world today, and Japan is one of the countries that suffers the most, with one-third of Japan's population being filled with elderly people. Therefore, this article will introduce the impact of the aging process on Japan, such as labor issues, pension issues, and market changes. Faced with these problems and changes, the Japanese government and society have taken some measures, such as postponing the retirement age, using artificial intelligence or alternative labor such as foreign workers. This article attempts to use Japan as an example to find a way out for an aging society, which may be one of the main concerns of some countries in the future.

Keywords: Japan, aging, economic, pension

1. Introduction

As the fertility rate in Japan keeps low and life expectancy grows, Japan is becoming a "super-aged" country with the second oldest population in the world. While aging is a rising problem in many countries around the world, it happened in Japan early in the 1970s and has been serious for many years. Keynes warned that the stagnation of the population would cause huge problems for the economy. Some points in secular stagnation theory suggest that the shrinking working-age population can lead to a shortage of labor force, a decline in the rate of return on capital, and a decline in the willingness of investment and consumption, which will further lead to secular stagnation. Therefore, this article will discuss Japan's aging from several aspects, such as labor force, pension burden, and industry changes, mainly focusing on the impact of its economic development and some possible solutions that Japanese society and the government can take. Some of these solutions are already in the works, and some are just suggestions. This research will help to find out how Japan is facing the problem of aging and may have some value for other countries currently facing the same problem.

2. Influence the Aging have on Economic

2.1. Labor Force

The low fertility rate (figure 1) and the life expectancy (figure 2) that is still going up make their joint effort to create a bigger apportion for old people in Japan, and the process of aging in society has

caused changes in the number and the quality of labor force. From the data in Figure 3, it can be figure out that after the phenomenon of aging appeared in Japan, the number of working force had a decrease between 1995 and 2010, and after the epidemic.

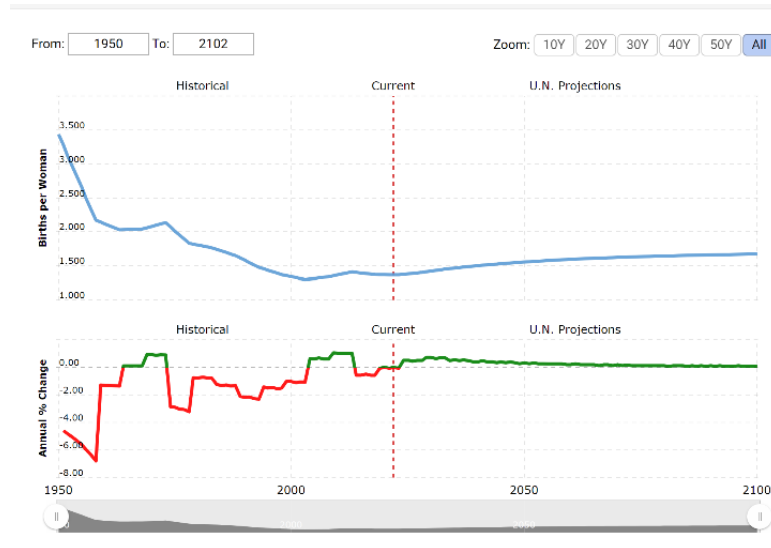


Figure 1: Birth per woman and the annual change rate in Japan from 1950 and the predictions.

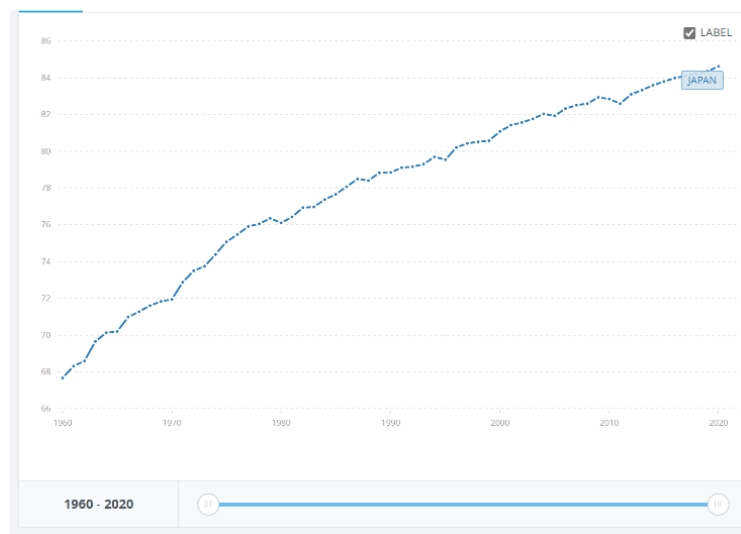


Figure 2: life expectancy in Japan from 1960-2020.

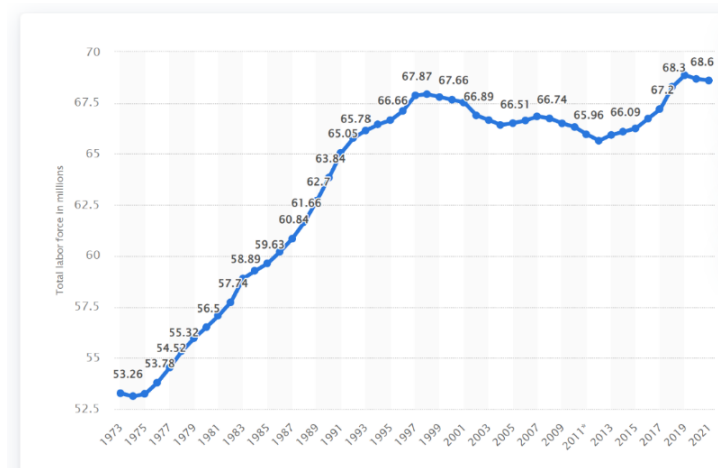


Figure 3: Labor force in Japan from 1973-2021(in millions).

The population and labor force are estimated to drop 20% by 2040 according to a research[1], and the lack of working force will cause problems and other changes in economic. Japan is facing a shortage of full-time employees in almost every industry, and this situation is especially serious in some areas, such as broadcasting and construction, which both of them have more than a half of the companies reported themselves lack of labors in 2021, which will definitely keep their development in limits. The local employment rate in the labor market is more than 1.6%, which means the number of vacancies is much more than the number of job being applied [2].

With the ratio of elders growing bigger every year, old people have been an important component in the labor market. In 2017, the proportion of people aged above 65 in the labor market is 12.2%, and the rate of employment of old man aged between 65 and 69 is up to 52.9% [3]. Such a high participation of elders cause problems on the quality of labor force. As the fast speed of of digital economy and high-tech development, the importance of creativity in working is rising constantly, besides, after the epidemic, more and more online working mode have been applied into the working process. While the old have more difficulties in these areas compared to the youths, the working efficiency may decrease due to the large number of old employees. The thing happens in Japan's agriculture in similar ways. The aging of agricultural labors will lead to the decline in their physical strength. Although there are less need of labor input in agriculture production, labor input is still being proved to have a positive impact on the output [4]. Nevertheless, the more frequently extreme weathers and natural disasters make it essential for farmers to react quickly to face them, which the old will struggle to do that. Also, the elder's less willingness to use new machines and methods is also a problem [5].

2.2. Finance

While the number of pensioners increases and working-aged people decreases, with the “pay as you go” mechanism, the welfare pension becomes a heavy burden for the Japanese government. The government transfer for pension was 51.7 trillion yen, but the insurance paid by public pension participants was only 35.8 trillion, which cause a huge deficit on government finance.

Aging also causes larger amount of money being processed by elders, who have higher tendency for saving instead of consuming, which means other young people will have less money and may probably have more precautionary savings, and these trends can lead to under consumption and over-saving (Figure 4), having negative effects on the nation's economic [6].

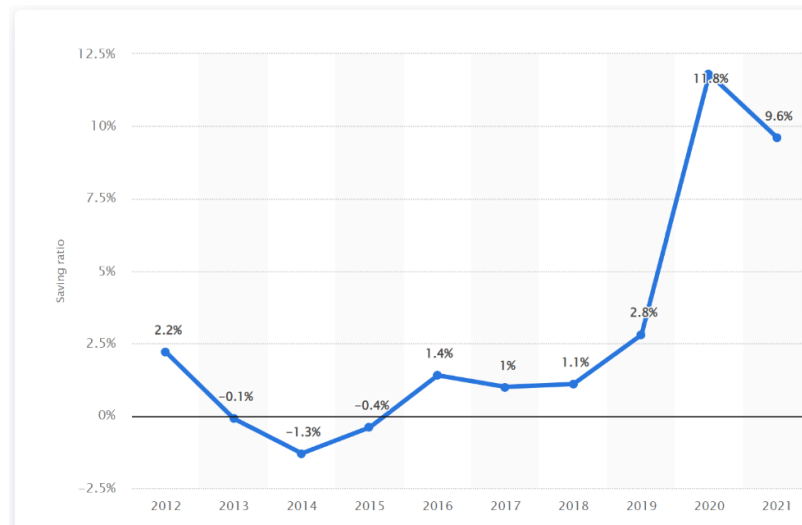


Figure 4: Household saving ratio in Japan from 2012-2021.

Besides, more money in the old's pocket results in the changes in proportion in different industries. According to the prediction made by OECD, by the 2050s, industries of medical, health care, entertainment, and education will have an increase in their importance in GDP, causing a redistribution. Also, as a result of the low wage increase for pensioners, the inflation rate in Japan is low and sometimes has a deflation. A study shows that Japan has suffered from low inflation caused by aging for decades [7], as shown in Figure 5 and figure 6.

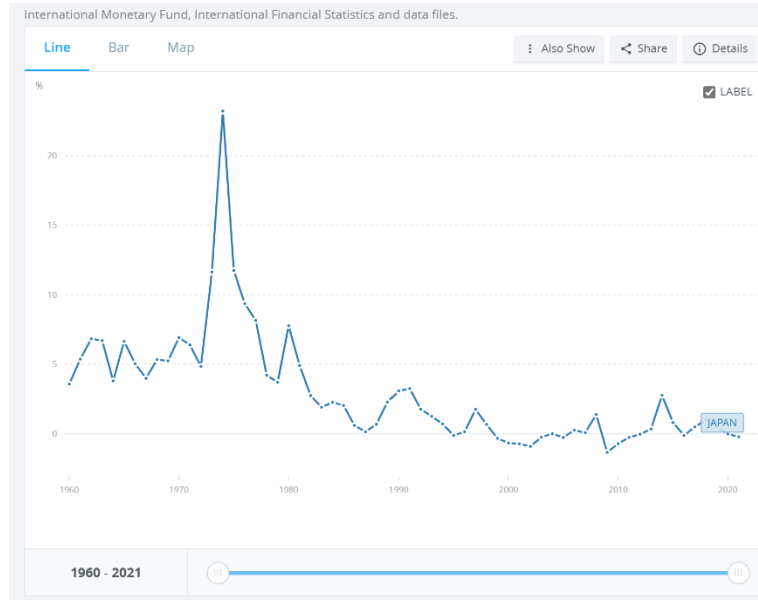


Figure 5: Inflation, consumer prices (annual %)-Japan.

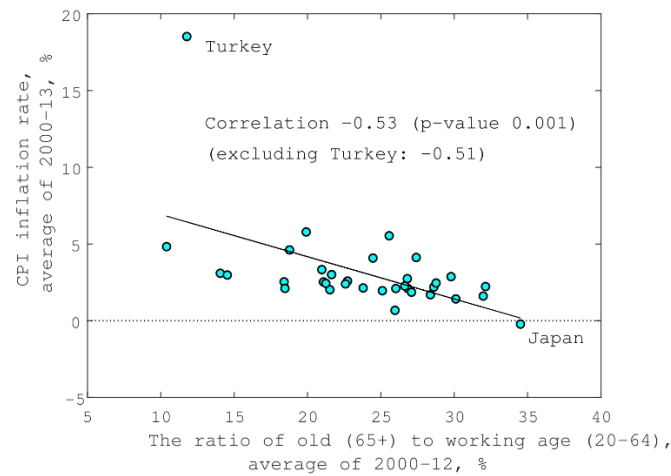


Figure 6: Inflation rate of some countries.

3. Measurement

3.1. Delaying the Age of Retirement

The Japanese government has changed the law mainly three times, delaying the age of retirement from 60 to 70, and has a big influence on the Japanese labor market (figure 6). This reform is a systematic, flexible and continuous one, which considered many other factors that this reform would influence, such as the policies for pension and some working duties. The postponement of retirement has a positive effect on relieving the pressure of lack of labors and the financial burden brought by pension payments [8]. In addition to the modification of the laws, there were also many measures that the Japanese government took to encourage the old to go back to work, such as, establishing some social institutions to help old people find their jobs, and reward the companies that hire old people. According to the statistics, over 6.7 hundred million elderly is working now in Japan, bringing economic and cultural benefits to Japan.

3.2. Using Artificial Intelligence

As the problem that aging brings to the labor force is significant, finding alternatives is one of the solutions, and artificial intelligence is the best to meet the demand. As a newly developed technology, AI can replace humans for a variety of works, which can save a real human from doing jobs that are not that valuable, and increase productivity. Also, Ai can be used in old people's daily life and community. With many communities having more than half of old people, AI can learn and help to solve problems about the degradation of community systems information isolation, and so on [9].

3.3. Attracting Foreign Workers

Attracting foreign workers is another way to make up for the vacant job. In 2020, Japan employed about 1.72 million foreign workers, and those people made up about 2.5% of Japan's working population. The need for Japanese government set up policies to attract foreign workers, for example, the "Technical Intern Training Program" released in 2016, provided more chances for unskilled foreign laborers to work in Japan. According to the JICA, Japan must have 4 times more international workers to achieve its economic goals [10].

4. Conclusion

This passage talks about the effects that aging brings to Japan's economy, and the solutions to the issues. The aging process in Japan leads to problems with the labor force. It limits the number of laborers, causing job vacancies and productivity to decline. Also, as more old people participate in working, limited by their physical conditions and their trait of mind, their working efficiency will be lower than younger people, so the whole productivity may decrease. Besides, the enormous amount of pension needed every year gives Japanese government a huge burden, and the tendency that old people will possess more fortune may bring the danger of under consumption, and weaken the economic potential. As the elderly have different consumer orientation, the proportion of many industries in GDP is changing. And there are some measures that are taken to face the aging process. Making people work longer years, using artificial intelligence and using more international labor can effectively make up for the vacant jobs caused by limited labor, and help Japan to achieve its economic goals.

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