

The Research on the Age Structure Characteristics of Japanese Society and Related Strategies

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Abstract. Since the beginning of the 21st century, Japan has confronted the crises of paedophilia and an ageing population, stemming from a prolonged history of dropping birth rates and a relatively small immigrant population due to restrictive immigration rules. The shift in age demographics has introduced numerous challenges to Japanese society, exerting pressure on the government budget due to rising pension payments and healthcare expenditure, while also hindering economic progress. In response to this issue, the Japanese government has implemented the New Dimension Measure, which is a more generous financial incentive for childbearing, while progressively modifying its immigration policy to align with the changing demographic demands. On the other hand, the efficacy of these initiatives has been constrained. Alongside conventional demographic policies, a novel approach to addressing labour shortages in Japan in the future is the substitution of human labour with technology, potentially serving as a model for other societies encountering similar challenges.

Keywords: Japan; demographic analysis; age structure.

1. Introduction

A country's future population size is heavily influenced by the age distribution of its citizens. A larger proportion of young people in pre-reproductive or early reproductive years predicts a higher future birth rate [1]. However, developed countries today usually face the problem of population ageing due to longevity and low fertility rates. Japan is currently experiencing a demographic crisis characterised by an imbalance in its age structure, posing significant challenges to its economic and social development. This imbalance stems from a complex demographic shift that has been unfolding over the years. Japan's working-age population has been on a continuous decline from approximately 78 million in 2011 to 74 million in 2023 [2]. The child population only account for 12.4% of the overall population, marking the forty-ninth consecutive decline since 1975 [3]. In contrast, 29.1% of the population is over 65 [4], which is the highest among all countries. This growing gap between the rising demand for labour to support an ageing population and the shrinking number of available workers creates strain across various sectors, particularly social service, healthcare and pension systems, placing a heavy burden on the economy and society. Moreover, a lack of young population will exacerbate future labour force shortages, putting pressure on the country's long-term development. Therefore, age structure imbalance is an urgent issue for Japan, as well as other developed countries to deal with because the majority of them are currently or will face similar problems in the future. This essay will examine the demographic data, including fertility rate, mortality rate and immigration rate to understand the underlying causes of Japan's age structure imbalance crisis and its implications for economic development and social well-being, providing insights for societies struggling with similar problems.

2. Age Structure of Japan and Its Features

2.1. Age Structure of Japan

The imbalance in Japan's age structure stems from a complex demographic shift that has been unfolding over the years. While Japanese born during the baby boomer in the mid-20th century are leading an increasingly long life, Japan's working-age and newborn populations are severely

underpopulated due to the rapid decline in fertility rates. Meanwhile, Japan's current immigration policy is unable to effectively attract foreign workers to solve the long-term problem of the population's age imbalance. These factors altogether lead to the current imbalance in population in Japan.

2.2. Causes of the Age Structure

2.2.1 Fertility rate

Japan has been characterised with a low fertility rate, however, the drop in fertility rate only started in the late 1970s. Before that, Japan boasts a high birth rate far above the replacement level. The baby boomers in the mid-20th century have contributed to today's large group of population over 65 [5].

Japan's fertility rate has steadily declined since the late 1970s, falling from 2.1 per woman in 1970 to 1.36 in 2000, resulting in the current working-age population shortage [5]. The decline has persisted to today. As of 2023, Japan's fertility rate was 1.2 per woman, far below the replacement rate required to maintain demographic stability [6]. As a result, it is possible that the situation will worsen in the future if no effective actions are taken to solve the low fertility rate problem.

Factors contributing to this change in fertility include rising living costs and changes in social norms. Previously, families could comfortably achieve domestic stability on a single-income financial source. However, dual-income families in Japan have been growing and now account for more than two-thirds of total households (Fig.1) [7], as single-income families typically fail to meet today's household living expenses.

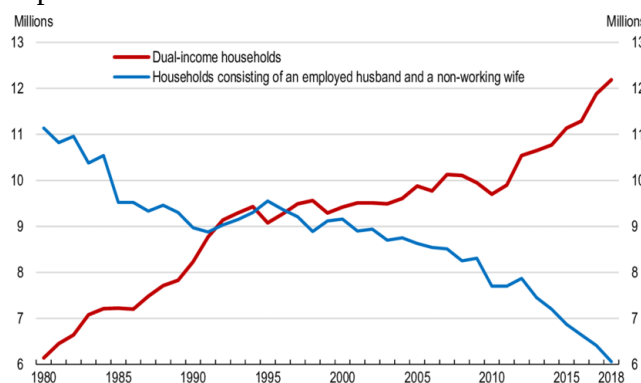


Fig. 1 Dual-income households now account for two-thirds of all households [7]

Furthermore, the changing social norm that prioritises career over family has encouraged the working-age population to focus on their career performance rather than childbearing, which is both time and energy-consuming. This change is more significant for female workers who bear more responsibility for child care. To summarise, Japan's fertility has been limited by the difficulties of balancing work and family life, as well as economic concerns and childbirth.

2.2.2 Mortality rate

One thing unusual about Japan is its gradually rising mortality rate. As of 2024, the mortality rate in Japan is 11.731 deaths per 1,000 people (Fig.2)[8], which was the 44th consecutive increase since 1980. A similar trend can be also observed in developed countries like the UK and Germany with better healthcare and medical systems to help control the death rate.



Fig. 2 Death Rate in Japan [8]

Senility was the leading cause of mortality in Japan, followed by aspiration pneumonia and heart disease, both of which are serious health concerns among the elderly [9]. The deaths of people over 65 compose a large proportion of the overall mortality in Japan. In contrast, the youth mortality rate in Japan has been on a steady decrease [10].

Known as one of the most longevity societies in the world, Japan's life expectancy has been steadily increasing over the years and now stands at 85.15 [11].

2.2.3 Immigration rate

Japan has traditionally enforced strict immigration policies, resulting in a highly homogeneous country with a foreign population. It is predicted that Japan will suffer from a shortage of almost one million foreign workers by 2040 if the workforce drop continues [12]. Most foreign workers in Japan nowadays are low-wage and are employed in industries with lower skill requirements. Despite recent efforts to attract highly educated migrants through relatively open and lenient immigration regulations, Japan has had less success luring foreign workers than other developed countries. As of 2023, foreign nationals account for just approximately 2.7% of Japan's overall population of 124.9 million population [13], compared to more than 15% in other countries like Germany [14]. A Gallup poll also indicated that there were fewer potential migrants who prefer Japan to other G7 countries [15]. The cultural barriers, language challenges and social norms are the factors that undermine the effectiveness of immigration as a solution to the issue of population imbalance. Japan is not a traditional immigrant country, with native Japanese making up the majority of the population. Therefore, society is less open to immigration than multiracial countries like the United States. On the other hand, while a one-time increase in immigration may temporarily relieve the burden of the age imbalance, it will not be sufficient to meet Japan's long-term needs.

2.3. Problems Brought by Population Aging

The growing gap between the rising demand for labour to support an ageing population and the shrinking number of available workers creates strain across various sectors, particularly social service, healthcare and pension systems, placing a heavy burden on the economy and society.

2.3.1 Transfer payment

A shrinking working-age population has resulted in fewer people contributing to the national tax system that funds government transfers, the government will have a reduced revenue base to provide pensions and benefits to those people out-of-labour, particularly the elderly population. For FY2024, the Japanese government's yearly budget for social security was around 37.7 trillion Japanese yen. Pension-related expenditures accounted for approximately 13.4 trillion yen of the social security budget [16]. The payment amount in Japan is determined according to consumer prices and wages and does not change according to age [17]. Therefore, this decrease should be explained by the rise in the elderly population.

Healthcare services are another important sector that puts pressure on government budgets. A population over 65 constituting 30% of the total population has led to a dramatic increase in demand for health care. According to The Financial Statistics of Social Security in Japan, the total amount of social security payments was JPY 136 trillion in FY2020, of which JPY 56 trillion was for pensions, accounting for 40% of the total [18]. Summary of National Medical Care Expenditure showed that the annual medical costs for the elderly were JPY 1 million per elderly, compared to the average cost of 340,000 per capita [19]. While the cost of medical care increases with age, national medical costs in Japan will likely increase as the number of elderly people increases. It is predicted that the total medical costs for the elderly are expected to increase JPY 28.5 trillion in FY2030, 2.1 trillion higher than that of FY2020, greatly straining the government budget (Fig.3) [17].

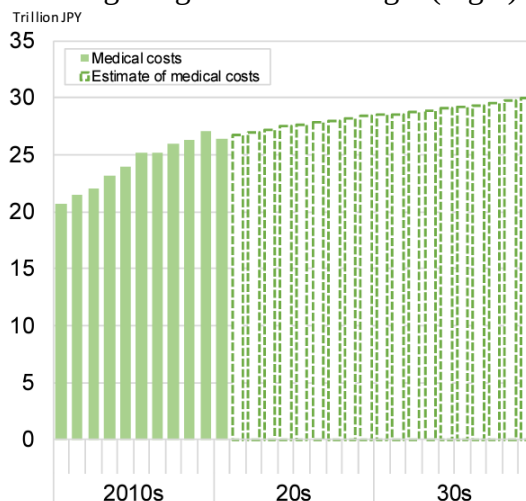


Fig. 3 Estimation of medical costs for the elderly [17]

Similarly, the disparity between supply and demand for healthcare services may result in crowding, limiting people's access to those services, which may be more challenging for vulnerable groups such as the elderly and disabled. These developments may have an impact on Japan's general standard of living.

2.3.2 Economic growth

Japan's declining workforce has led to a serious labour force shortage, which can hinder the country's economic growth. According to a survey by Teikoku Databank, the percentage of Japanese companies with labour shortages in February 2023 has remained high for six consecutive months, exceeding 50% for full-time employees and 30% for non-full-time employees [20]. With fewer workers available to fill employment, the productivity and expansion of industries, particularly those dependent on a robust labour supply, may be severely limited, resulting in a drop in economic activity. Despite the tight labour market, nominal wages remain unchanged and real wages remain negative. This has impacted Japanese household confidence, as well as household consumption, which has been on a consecutive decrease, according to the monthly survey by the Japan Statistics Bureau [21]. When consumption is lower, its stimulus to production becomes weaker, which ultimately leads to a less prosperous economy.

3. Possible Solutions

This chapter consists of three main parts: fertility promotion, immigration policy and exploring possible solutions to Japan's demographic crisis. The first part describes the measures the Japanese government designated to encourage fertility. The second part describes the process of change in the introduction of foreign workers into Japan, while the third part explores the possibility of solving the labour shortage from the perspective of automation to find a new solution to the population problems.

3.1. Fertility Rate

Over the past three decades, Japan's low fertility rate has been below 1.5. The total population of Japan is projected to decline in the next hundred years according to the New Population Projection, falling to 87.0 million persons in 2070, and will reach 49.7 million persons in 2120 [22].

The 'New Dimension' measures proposed by the Kishida administration aim to increase the fertility rate by the 2030s, by which time the population decline may be irreversible.

The Japanese authorities have announced several initiatives to encourage more childbearing. Expanding child allowance payment lies at the center of Japan's fertility-encouragement measures, including greater, longer, and more generous child allowances, as well as additional subsidies for large families with a third child or beyond. Children's Future Strategy was formulated in 2023, aimed at increasing children-related spending by 3.6 trillion yen per year by FY2028. Presently, a Child-Rearing Allowance of JPY 15,000 is granted monthly to families with newborns until their child reaches the age of 3, after which an allocation of JPY 10,000 will be provided until the age of 15 [23]. Families with a third child or more will continue receiving JPY 15,000 per month. In addition, the government announced plans to double the budget allocation for the Children's Agency by the early 2030s. The strategy also includes plans to promote co-parenting and strengthen support for child-rearing households including expanding childcare facilities. Financial support for higher education, postnatal necessities, and medical care for children with disabilities have been offered since 2023 [23].

Secondly, maternity expenses are covered by the government to reduce the costs of childbirth for families. The Childbirth Lump-Sum Allowance is a financial assistance available to every woman in Japan for their childbirth procedures, and its amount has increased from JPY 420,000 to 500,000 per baby [24].

Thirdly, the daycare facilities under the New Dimension Measure can cover all children compared to previous policies that exclude those whose parents are unemployed, which is expected to alleviate the stress of raising a child, especially for women who are more likely to face career barriers due to childbearing. Additionally, the number of childcare facilities increased by 63 percent, increasing the childcare capacity from 2 million children in the early 2000s to 3 million by 2020, which helped stabilize Japan's fertility rate in the past decade [25]. It is estimated that the expansion of childcare facilities has led to a 0.1% increase in the total fertility rate since 2005 [25].

Fourthly, enhancing childcare leave benefits. The new measure enables parents on parental leave to receive approximately 100 percent of their after-tax income for up to 28 days instead of 80% under the existing system [26].

The Japanese government has raised the government expenditure for families from 0.5% in 2010 to roughly 3% to provide substantial financial support for applying the above measures [25]. However, a study in 2013 found that a doubled financial incentive for childbirth can only lead to an increase in the probability of childbirth by 19.2%. Therefore, the effectiveness of the New Dimension Measure remains to be discussed [27].

3.2. Immigration

Immigration in Japan has been quite restricted. It is difficult to obtain Japanese nationality, permission for permanent residency, or acceptance as a refugee is tough, but the same applies to obtaining a work visa. This is due to the social concerns of friction resulting from the emergence of cultural differences after introducing migrant workers. The influx of foreign employees might also create more fierce competition in the Japanese labour market, negatively impacting the employment of local workers.

The earliest foreigners in Japan were a product of the period of Japan's opening up. As modernisation continued, Japan became a destination for immigrants from China and Korea as Japan opened up to the outside world in the early 20th century [28]. Meanwhile, since the Meiji era, Japan's policy on foreigners has closely followed its overseas expansion, especially those from countries with conflicting interests with Japan. After Japan's occupation of the Korean Peninsula and Taiwan, a

large number of forced labourers from its colonies were sent to Japan, up to a maximum of more than 2 million. These immigrants and their descendants who had been living in Japan are referred to as 'old comers'.

After the Second World War, Japan adopted the legislative idea of 'exclusion of foreigners' to develop a national state and establish a common cultural identity for the Japanese people [29]. The relevant departments of the Japanese government have issued a series of ordinances to deal with the forced labourers from the Korean Peninsula and Taiwan, who had been stranded in the country. After the San Francisco Treaty came into force on 28 April 1952, these 'old comers' became 'foreigners' completely, losing their legal and social status in Japan. However, after Japan entered a period of fast economic growth, the issue of labour shortfall became increasingly apparent.

In the late 1960s, Japanese companies sent their local employees from overseas branches to Japan for technology and management training to meet the needs of overseas expansion, marking the beginning of the 'Technical Intern Training Program'. When the system was first founded and maintained by the Japan International Training Cooperation Organisation (JITCO), the declared goal was to provide training, technical skills, and technology experience to workers from developing countries. The government-run internship program, which began in 1993, aims to support the international partnership policy by offering training, technical skills, and technology experience to workers from developing nations.

During this period, the Labour Standards Act was not initially applied to this programme. Foreign trainees are considered 'learners' rather than 'workers' and get 'allowances' instead of salary. As a result, some of them work in poor conditions, and there have even been reports of non-payment of wages.

After the Immigration Law was amended in 1989, the 'Technical Intern Training Program' became one of the new independent visa kinds. Meanwhile, Japan began to accept a considerable number of Japanese returning from abroad. Many people of Japanese descent from South American countries, especially Brazil, came to Japan to earn money. Most of the Japanese descent who came to work in Japan during this period were not directly employed but had indirect employment relationships with employers through intermediaries such as dispatch agencies. According to statistics, in 2019, 54.6% of Brazilians of Japanese descent and 43.9% of Peruvians of Japanese descent were indirectly employed, compared to only 20.4% [30] of all foreign workers in Japan.

Before 2019, Japan maintained a basic policy of granting work visas only to highly skilled foreign professionals and technicians. The amendment of the Immigration Control and Refugee Recognition Act came into enactment in 1990 to accept immigrants to fill the job vacancies. Though most foreign employees in Japan worked in industries that were considered to be 3K ("dirty", "dangerous", and "demeaning") during the 'bubble economy' period of Japan, unskilled workers were still officially denied by the Japanese government [31].

Recent immigration policies in Japan have leaned towards accepting more migrant workers in response to the lack of labour force brought on by population ageing.

In 2007, the Japanese government enacted the Employment Policy Law to strengthen its efforts to attract highly skilled human resources, such as foreign students, to the level of a national employment policy. Japan has also altered its residency status restrictions to allow foreigners with diverse skills to stay in Japan for longer periods.

New immigration policies implemented in 2019 officially accept "specified skilled workers", namely the low-skilled and semi-skilled foreign workers to work in 12 specific industries, where there is a shortage of workers in Japan, such as agriculture, building cleaning management, and food and beverage manufacturing. Specified skilled workers are allowed to work in Japan for a maximum stay of 5 years [32].

Japan has also launched cooperative projects with other Asian countries to attract international labour. A Human Resources Forum in Jakarta on November 28, 2023, between the Japan International Cooperation Agency and the Indonesian Ministry of Manpower led to a Memorandum of Cooperation, which clarified Indonesia's commitment to send 100,000 employees to Japan over the next five years,

while Japan is responsible for providing language education and skills training to ensure Indonesian workers receive the SSW visa [33]. As of July 2022, Japan had signed Specified Skilled Worker Memorandums of Cooperation (MoC) with 15 nations [34].

3.3. Automation

It is estimated that Japan will need a 2.5-fold increase in productivity growth over the next decade to maintain its recent GDP growth rate (MGI) [35].

Since Japan is currently facing a serious labour force shortage, the country is shifting towards using automation to replace manual force to maintain its productivity. Automation can have a significant impact on Japan's productivity, as a method to counter the labour force crisis. Prior to the pandemic, Japan had planned to automate 27% of existing labour tasks by 2030, which might replace 16.6 million jobs. According to a study by Nomura Research, 49 percent of Japanese jobs will be potentially automatable in the coming decades [36]. Automation can help Japan to solve the problem of labour force shrinkage.

Japan has a historical advantage in automation. There were 700,000 industrial robots used worldwide in 1995, five-sevenths of which were in Japan [37]. Today Japan remains a leader in robot production and industrial applications. Japanese government launched a major plan called "Society 5.0" in 2017, aimed at effectively integrating new technologies such as artificial intelligence into society [38]. In terms of "robot density," or the quantity of robots in manufacturing and industry relative to people, Japan has one of the most robot-integrated economies in the world (Fig.4)[37].

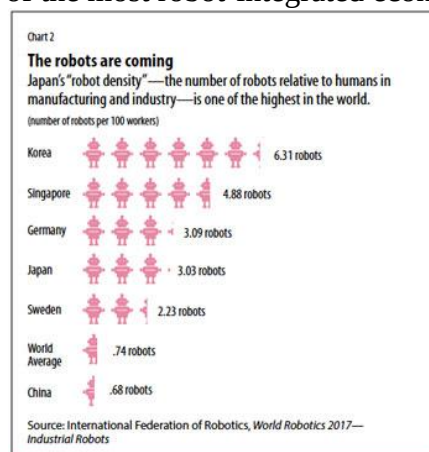


Fig. 4 Robot Density [37]

Automation in Japan is likely to produce highly favourable economic results. With a diminishing workforce, even completely substitutable robots may increase salaries and economic development. In other words, as the workforce shrinks and the hope of obtaining relief through more immigrants diminishes, automation and robotics technology can bridge the employment gap, thereby increasing productivity and wealth rather than replacing human workers.

4. Conclusion

Japan is facing a crisis of imbalanced population age structure, manifested in the accelerated ageing and shortage of newborns caused by the transition of birth rates from rapid growth to low growth in the last century. Japan's strict immigration policy has made it difficult to narrow this age-structural gap. These issues pose a serious threat to Japan's economic and social development. Japan's declining population could lead to a disproportionate economic burden due to a lack of productivity resulting from a lower labour force. Several policies have been adopted to address this issue, including the provision of childcare subsidies, the relaxation of immigration policies to attract foreign immigrants, the replacement of human labour with automation, and so on. However, none of the measures currently taken by the Japanese government to address the demographic structure have been

effective in raising the fertility rate or introducing more foreign workers. Therefore, Japan needs some very large and more precise changes, such as a greatly relaxed immigration policy, which could have a huge impact on the social fabric of Japan. Looking around the world, South Korea and Singapore are facing the same problem as Japan. Other countries with gradually slowing population growth rates, such as China, may also be heading toward sub-replacement fertility and ageing soon. Japan's quest to address the issue of age-related outcomes undoubtedly provides a case study that all societies can draw on.

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