



THE  
**GROWTH**  
COMMISSION



**Demographic  
Impacts on  
Economic Growth**

*with Specific Reference to Japan*

**March 2024**  
**Naohiro Yashiro**





# Demographic Impacts on Economic Growth

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**2024**

**Naohiro Yashiro<sup>1</sup>**

# The Growth Commission

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## Authorship

This paper was authored by Naohiro Yashiro with the review and approval of Douglas McWilliams, Shanker Singham, Alden Abbott, Ewen Stewart, Stephen J. Entin, Christine Mc Daniel, U. Srinivasa Rangan, Tyler Cowen, Eduardo Pérez-Motta, Akira Igata and Barbara Bowie-Whitman, as well as discussion and approval from the Commission itself.

Press: [lucy@growth-commission.com](mailto:lucy@growth-commission.com)

Email: [contact@growth-commission.com](mailto:contact@growth-commission.com)

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<sup>1</sup> Professor of Economic, Showa Women's University, Tokyo, Japan. n-yashiro@swu.ac.jp

# Demographic Impacts on Economic Growth

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## Introduction

Declining per capita GDP growth in G7 countries has been prominent since the 1990s or the early 2000s. The Growth Commission discussion paper by Douglas McWilliams and Shanker Singham in April 2023 provided a broad overview of the factors for the decline, including the effects of macroeconomic policies and regulatory aspects.

In this paper, we focus on the demographic impacts on economic growth. The demographic shifts here mean that the share of the old cohort in the total population increases or the average age rises over time because of increased life expectancy and a decline in fertility. Of these two forces, the significant decrease in the total fertility rate over the last half-century is primarily responsible for the population aging in most developed countries.<sup>2</sup>

Declines in fertility produce a long-term falling ratio of youth dependents to the working-age population, resulting in a “Demographic Dividend.” However, it eventually raises old-age dependency as a “Demographic Drag.”<sup>3</sup> Both affect economic growth through the impacts on the labor markets, household savings, and social security budgets.

<sup>2</sup> Weil, David N., “The Economics of Population Aging” in Mark R. Rosenzweig and Oded Stark, eds., *Handbook of Population and Family Economics*, New York: Elsevier, 1997.

<sup>3</sup> Bloom, D. E., D. Canning, and J. Sevilla (2003): *The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change*, Santa Monica, CA: Rand Corporation.

The most crucial process of aging affecting economic growth is the distortion from the existing tax, social security contributions, and various regulations. Those established in the past periods of the abundant productive age population have become rapidly obsolete in an aging society, requiring many policy reforms. Still, these reforming processes are often too slow and too late in many developed countries.

Among the G7 countries, demographic impacts on economic growth can be better observed in Japan, where demographic changes are proceeding more rapidly, and its GDP growth has declined most significantly. The average real GDP growth fell from 4 percent in the 1980s to 1 percent in 1990 to 2020, yet no sign of recovery exists.<sup>4</sup>

People may wonder why aging, which is essentially a long-run, continuous process, is indicated as a significant cause for the decline in economic growth in the specific periods since around the 1990s. It is because of the aging of a large cohort of the baby boom generation with quite a high fertility rate right after the Second World War. More than 70 years after WWII, most of the baby boom generation are in retirement age, burdening the working-age population in major developed countries.

There are three major research questions: To what extent do demographic changes slow economic growth, to what extent does the effect depend on variation in people's functional capacities, and to what extent do the policies offset the negative impacts?

The first section introduces Kotschy and Bloom's recent NBER paper on population aging and productivity growth and an interpretation of the "productivity puzzle" in the United Kingdom and Japan. A review of the significant characteristics of demographic development follows this. The third section is on the labor markets in which demographic changes directly affect the participation of female and older workers. Finally, the policy options against the negative impacts of aging are examined. The major conclusion is that the demographic factors do matter. Still, the negative consequences will depend on to what extent the expanding social security expenditures are under the control of appropriate policies.

<sup>4</sup> It was initially called "the Lost Decade" in the 1990s, compared with the high growth in the preceding periods, but is already "the Lost Three Decades" in the 2020s.

# 1. Retrospective and Prospective Approach

Kotschy and Bloom (2023)<sup>5</sup> made the most recent empirical analysis on the demographic effects of aging, using large volumes of time series and cross-section data. The conventional view of aging results in retrospective predictions of economic stagnation due to shrinking populations. However, an alternative perspective on aging focuses on expanding the economic activity of old people with longevity.

In the conventional view in a retrospective approach, a contractive share of the working-age population adversely affects economic growth by 0.8 percentage points from the baseline of 2.5 percent growth through inflationary pressure or economic stagnation. However, the prospective approach slows the negative economic growth by 0.4 percentage points by assuming that a certain portion of older people stay in the labor markets as they are more active and healthier, partly offsetting the above negative impacts. Of course, it depends on how much social institutions or labor market practices will activate older people's work incentives. Thus, discussing the demographic impacts on economic growth is not simple. Substantial gains are expected from policies that enable older people to remain economically active and restrain pensions and health costs for aging populations.

Another OECD review<sup>6</sup> found that aging directly impacts productivity growth, with the effect being concentrated in urban areas. One possible explanation is that cities specialize in sectors, such as tradable services, where the content of tasks makes it difficult to automate stages of the production process and where business dynamism, negatively affected by demographic change, is a more solid driver of productivity growth.

<sup>5</sup> Rainer Kotschy and David E. Bloom, Population Aging and Economic Growth: From Demographic Dividend to Demographic Drag? NBER Working Paper 31585, 2023.

<sup>6</sup> Federica Daniele, Taku Honiden and Alexander C. Lembcke, Ageing and productivity growth in OECD regions; Combatting the economic impact of ageing through productivity growth? OECD, 2019.



Demographic impacts are already observable in the “Productivity Puzzle.” There is a break in the long-term trend in UK productivity after the Global Financial Crisis. Among the various explanations, the demographic factors can partially explain the puzzle (Figure 1). Demographic factors directly affect the decline and aging of the workforce while indirectly discouraging business activities through various regulations established in the past and not adopting the changing social needs.

**Figure 1: U.K. Output Per Hour Worked (Index where 2007 Q4 = 100) (Source: ONS)**



Source: Jessop (2023)

To explain the productivity puzzle in Figure 1, we run the regression in OLS, explaining the GDP per hour worked by time trend and old-age dependency rates in both the UK and Japan. GDP per hour worked here is a better indicator than per capita GDP for measuring productivity, accounting for an increasing share of part-time workers.<sup>7</sup> The regression results are significant, and an increase in the old-age dependency rates explains the trend decline in productivity around the 2000s in both countries (Figures 2 and 3, Table 1)

<sup>7</sup> An increasing share of part-time workers in the total labor force is likely to lower the per capita GDP growth with no adjustment of working hours.

### GDP Per Hour Worked, U.K.

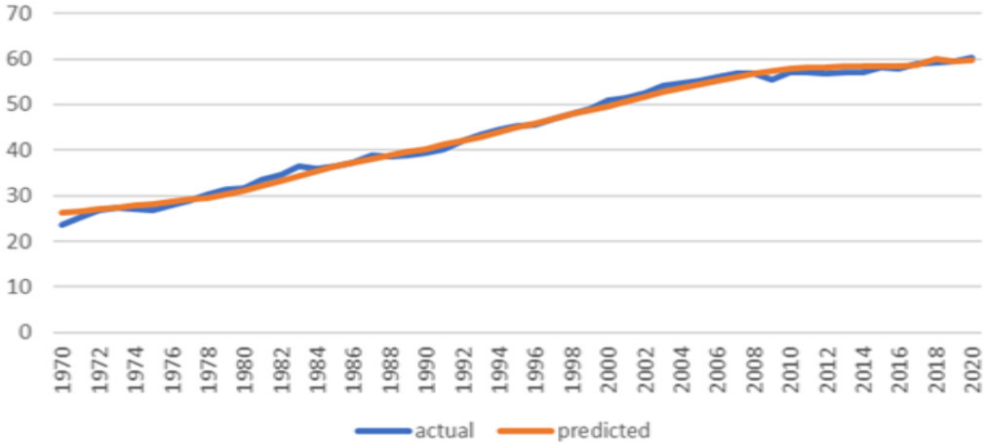


Figure 2

### GDP Per Hour Worked, Japan

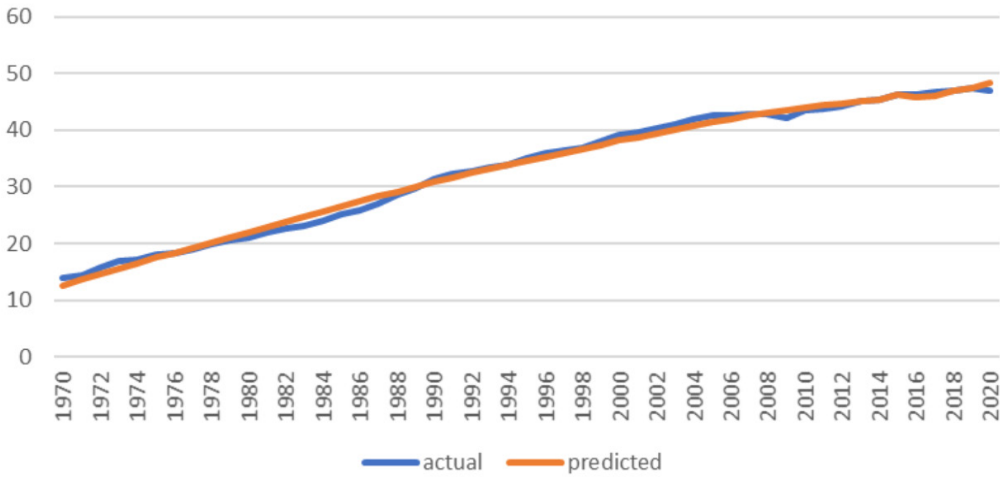


Figure 3

**(Table 1) Regression Results**

	U.K.	T-value	Japan	T-value
Intercept	54.8264	20.10955	16.5064	55.728
Time Trend	0.931844	56.04537	1.06952	34.86739
Old Age Dependency Ratio	-1.26802	-11.27	-0.4213	-11.981
R2	0.993114		0.993756	
Sample	51		51	

Source: OECD database  
<https://data.oecd.org/lprdy/gdp-per-hour-worked.htm>  
<https://data.oecd.org/pop/old-age-dependency-ratio.htm>

## 2. Demographic Development

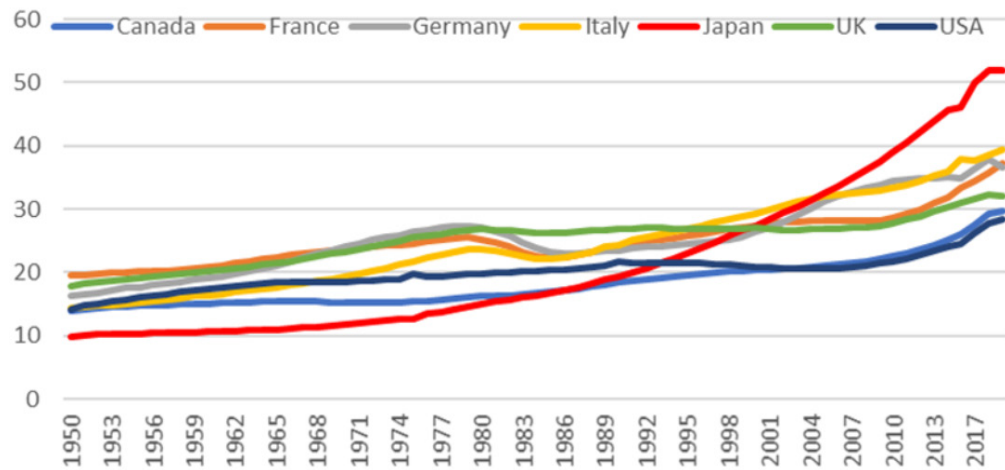
Declining and aging populations are common phenomena in virtually all OECD countries. Initially, infant mortality declines faster than fertility, producing many young dependents that tend to depress economic growth. However, economic growth can take off once the fertility decline accelerates and these young people move to the working-age population. The growing young labor supply with higher education promotes the productivity of manufacturing or service industries.

A striking feature in the case of Japan is the high speed of demographic changes with the aging of the baby-boom generation. It is closely related to the rapid economic development in the postwar period. The high economic growth resulted in a substantial decline in fertility rates and a rapid rise in the life expectancy of the elderly. Gary Becker explained this decline in fertility rates as increasing investment in education for fewer children with an increase in household income or the substitution between the quantity and quality of children<sup>8</sup>. In Japan, 2.7 million babies were born in 1947, but it has continuously declined to 0.76 million in 2023. Also, the average life expectancy significantly increased from 50.1 to 81.1 for males and 54.0 to 87.1 for females between 1947 and 2023, largely reflecting improved living standards.

The declining number of children and the increasing longevity are brought about by a high rate of economic growth, which resulted in a rapid aging of the Japanese population. It is amplified by the shift from the economy with the lowest to the highest old-age dependency ratio in the G7 economies within five decades, which has significant economic implications. (Figure 4).

<sup>8</sup> Gary Becker, *An Economic Analysis of the Family*, Economic and Social Research Institute, 1986.

Figure 4  
**Old-age Dependency Rates**



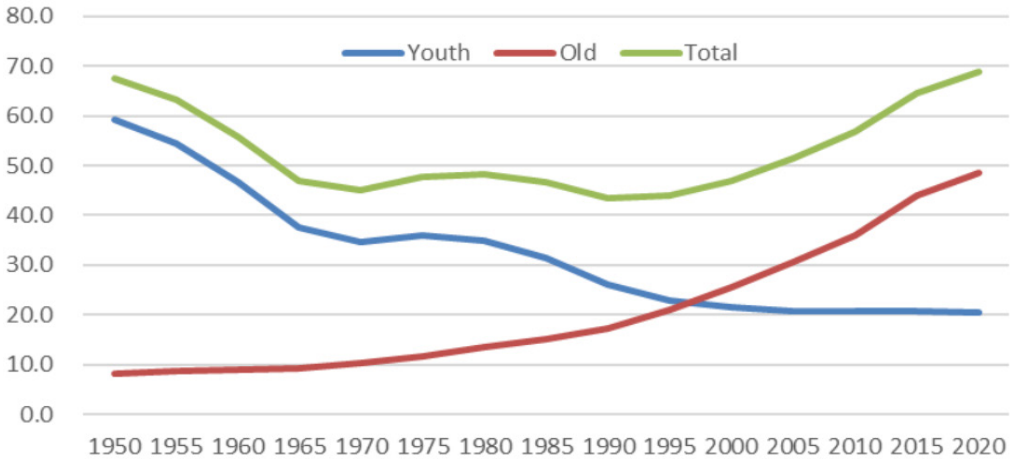
Source: OECD

The decline in the fertility rate in the initial phase of the demographic shift entails a fall in the total dependency ratio by an increasing working-age population and a smaller number of children as the “demographic dividend.” However, it is more than offset by a rising old-age dependency rate as the baby-boomers eventually move into retirement age. This results in higher total dependency rates as the “demographic drag.”

Japan’s total dependency rates fell until the 1970s, stabilised for two decades, and have steadily increased since the 1990s. These three phases roughly correspond with the periods of the average real GDP growth of 10 percent, 4 percent, and 1 percent, respectively (Figures 5 and 6).

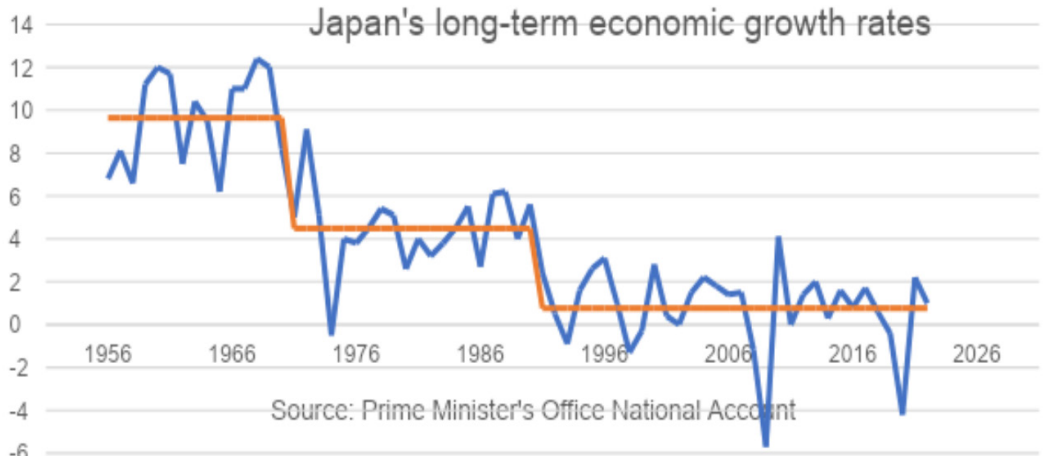
Figure 5

Japan's Dependency Ratios



Source: Population Research Institute

Figure 6



Source: Prime Minister's Office National Account

An extension of average life expectancy is a significant factor in increasing old-age dependency. Japan belongs to the highest life expectancy country group and is still projected to grow further. The high life expectancy is obviously desirable reflecting the high level of nutrition, better income disparity, and health and safety social conditions.

Why do these favorable social factors adversely affect per capita GDP growth? This is mainly because several fiscal and regulatory frameworks were established in the past periods with abundant labor forces that have yet to be revised accordingly in the aging society. We will discuss them in the policy section below.

## 3. Demographic Impact on the Economy

The implications of rapid changes in demographic factors on economic growth are profound for the labor markets, government finances, healthcare, and welfare systems.

### 3.1 Labor Market Impact

In most OECD countries, the total fertility rates<sup>9</sup> are below the replacement rate in 2021. Among them, Japan's fertility rate is 1.30, compared with 1.58 for the United Kingdom and 1.64 for the United States. An obvious consequence of the fall in fertility rates below 2.1 is an eventual decline in the working-age population. It peaked in 1995 and continuously declined by 14 million in 2020, or minus 0.7 percent of growth annually. In addition, the labor force reserves in the primary industry, the exploitation of which had facilitated employment growth in other sectors in the past decades, are almost exhausted in Japan.

However, increased labor force participation can partly offset the negative impacts of the declining population growth. The rise in older workers' participation rate is mainly due to a rising life expectancy. It is partly attributed to "age-friendly jobs," which are more suitable for older workers, such as human resources management and insurance sales.<sup>10</sup>

A particular feature of the Japanese labor markets is older people's high labor force participation, reflecting their higher life expectancy.<sup>11</sup> In 2021, the labor force participation rate of people aged 55 to 64 was 77 percent in Japan, compared with 65 percent and 62 percent in the United Kingdom and the United States, respectively (Figure 7).

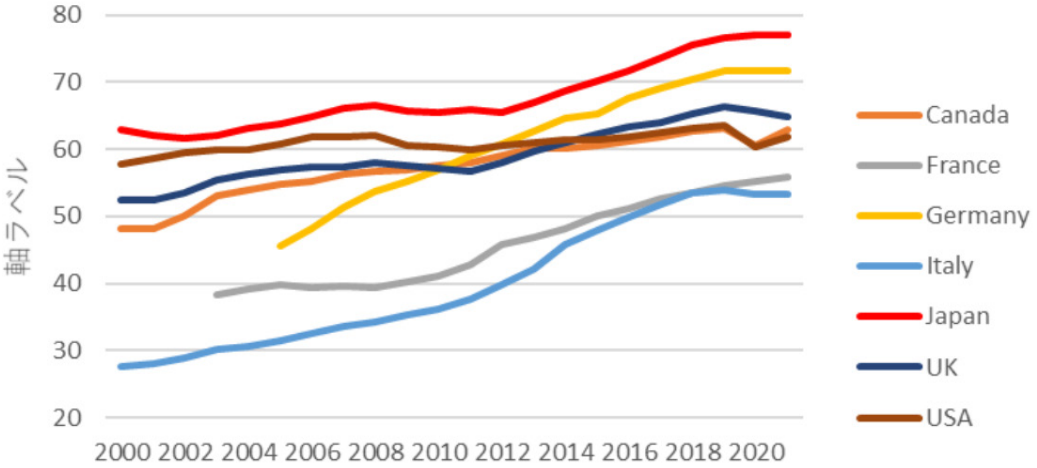
<sup>9</sup> A total fertility rate of 2.1 children per woman ensures a broadly stable population if she lives to the end of her childbearing years.

<sup>10</sup> Acemoglu, D., N. S. Muhlbach, and A. J. Scott (2022): "The Rise of Age-Friendly Jobs," *Journal of the Economics of Ageing*, 23, 100416

<sup>11</sup> A rising life expectancy implies that older workers become healthier and have to work to save more for a longer retired life.

Figure 7

Labor Force Participation Rates of age 55 to 64

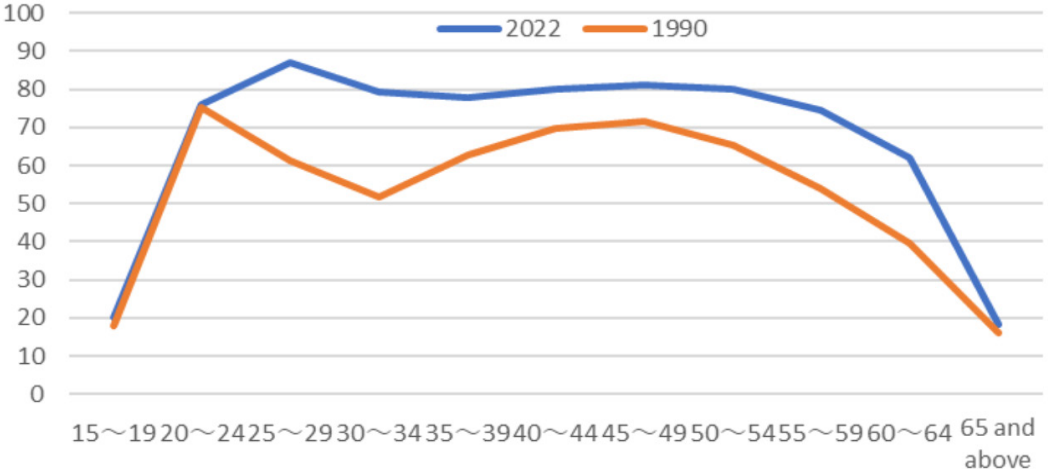


Source: OECD

Female labor force participation rates in Japan are generally lower than males, and there is a possibility of catching up to the males'. In particular, the female participation rates at ages 25 to 40 were relatively low due to child-raising. They have gradually risen recently and are almost flat at 80 percent in 2022, and it seems there is no more room for further increase (Figure 8).

Figure 7

Female Labor Force Participation Rates in Japan



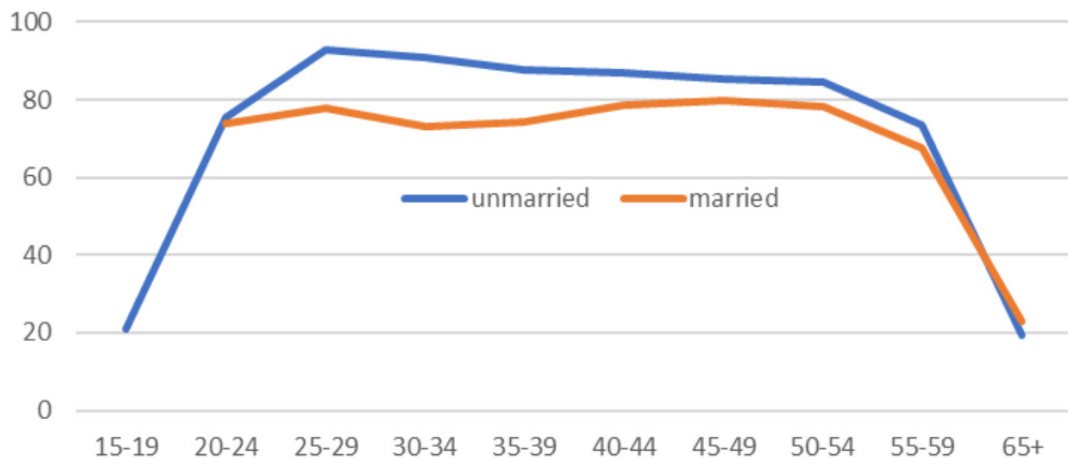
Source: Ministry of Health Labor and Welfare, Labor Force Survey



However, the female labor force participation pattern largely differs between the single and the married. An increasing share of single women whose labor force participation rates are as high as men’s has pushed up the average female participation rates. On the other hand, the participation rates of married women have risen but are still low at 70 percent (Figure 9).

Figure 9

**Female Labor Force Participation Rates by Marital Status (2022, %)**



Source: Ministry of Health Labor and Welfare Labor Force Survey

This indicates a trade-off between the policy targets of preventing declining fertility rates and utilizing the female labor force. An increasing share of single women encourages higher labor force participation, but it lowers fertility rates, as 98 percent of babies are still born to married couples in Japan. Indeed, the declining fertility rate is not mainly due to fewer children per family but a decreasing number of marriages in the younger generation. The government encourages married women to have more babies while staying in the labor market by providing better maternity leaves and nursery schools (see policy section below). Declining fertility rates in the last decade have been common in G7, with 1.56 in the U.K., 1.66 in the U.S. compared with 1.30 in Japan.

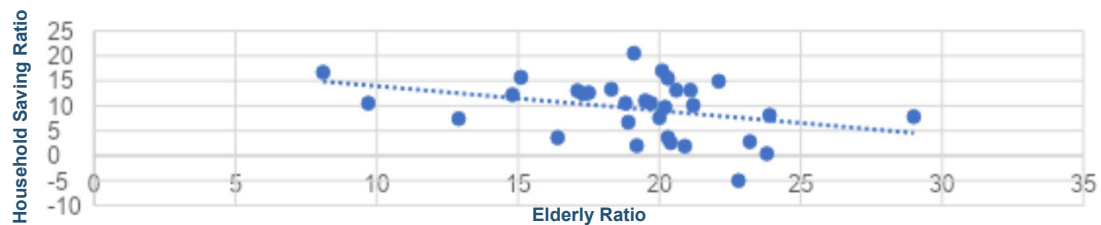
## 3.2 Capital Market Impact

It is well expected that a country undergoing population aging should “save for its old age,” that is, accumulate extra capital during the period of low dependency to maintain a smooth path of consumption into the period of high dependency.

This is to the extent that individuals have a lifecycle savings pattern of accumulating while employed and withdrawing after retirement.<sup>12</sup> Based on the average relationship observed in OECD countries, aging generally hurts the household saving ratio (Figure 10). Various non-economic factors influence household saving behavior and are difficult to predict for the future.

Figure 10

### Elderly Ratio and Household Saving Ratio in OECD



Data source: OECD

<sup>12</sup> The household saving ratio of the elderly is relatively high in Japan. This is partly due to the high rate of co-habitants of the Japanese poor elderly with their children's families, resulting in relatively high-income elderly represented on household statistics. See Michael Hurd and Naohiro Yashiro ed. *The Economic Effects of Aging in the United States and Japan*, NBER, 1997.

The extent to which population aging affects household savings depends on people's expectations as longevity rises.<sup>13</sup> The estimated demographic drag in OECD countries is smaller under the prospective-aging scenario, which incorporates expected increases in remaining life expectancy, than under the retrospective aging scenario, which abstracts from them.

The projected decline in labor force growth will likely impact investment demand. On the one hand, it stimulates factor substitution, entailing a trend increase in the equilibrium capital-to-labor ratio, for example, replacing a worker with labor-saving machines. Conversely, fewer contributions to the labor force need to be equipped with capital, reducing the investment-to-GDP ratio. Thus, the decline and aging of the population growth on the overall saving-investment balance is highly uncertain.

The above discussion is based on the case of a closed economy, and many developed countries can easily finance the capital from abroad. However, in practice, net financial flows among countries tend to be far smaller than a model of perfectly open capital markets would imply.<sup>14</sup>

### 3.3 Fiscal Impact

In developed countries that are aging rapidly, government transfer programs are a significant source of support for dependent elderly. Population aging also reduces government revenue. Putting these tax and spending effects together, the impact of population aging would raise the tax rate required for government transfers on a PAYGO basis from 16% in 2000 to 21% in 2030 in the United States.<sup>15</sup>

<sup>13</sup> Rainer Kotschy and David E. Bloom., "Population Aging and Economic Growth: From Demographic Dividend to Demographic Drag?" NBER Working Paper No. 31585, 2023.

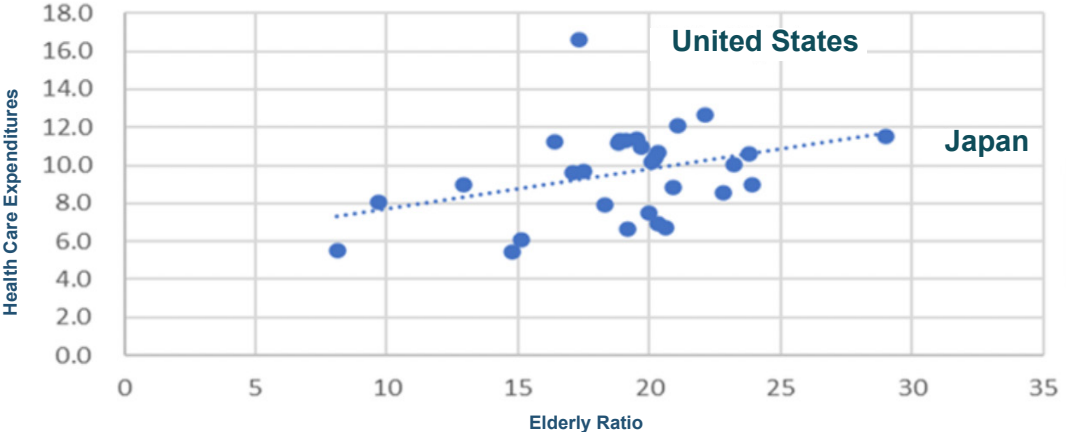
<sup>14</sup> Brooks, Robin, "Population Aging and Global Capital Flows in a Parallel Universe," IMF Staff Papers, 50:2, 2003.

<sup>15</sup> Burtless, Gary, "Cross-National Evidence on the Burden of Age-Related Public Transfers and Health Benefits," Working Paper 2006-6, Center for Retirement Research at Boston

The expansion of the public sector in the past decades has been a general phenomenon in OECD countries, associated with the aging of the population. Countries with a relatively higher share of elderly people have a larger government sector. There are various reasons for this. First, an increasing ratio of pension beneficiaries to contributors results in a higher ratio of pension expenditures to GDP. Second, as the incidence of sickness or being frail elderly tends to rise sharply with increasing age, medical and nursing care expenditures will expand rapidly with the aging process (Figure 11 ).

Figure 11

**Elderly Ratio and Health Care Expenditure to GDP**

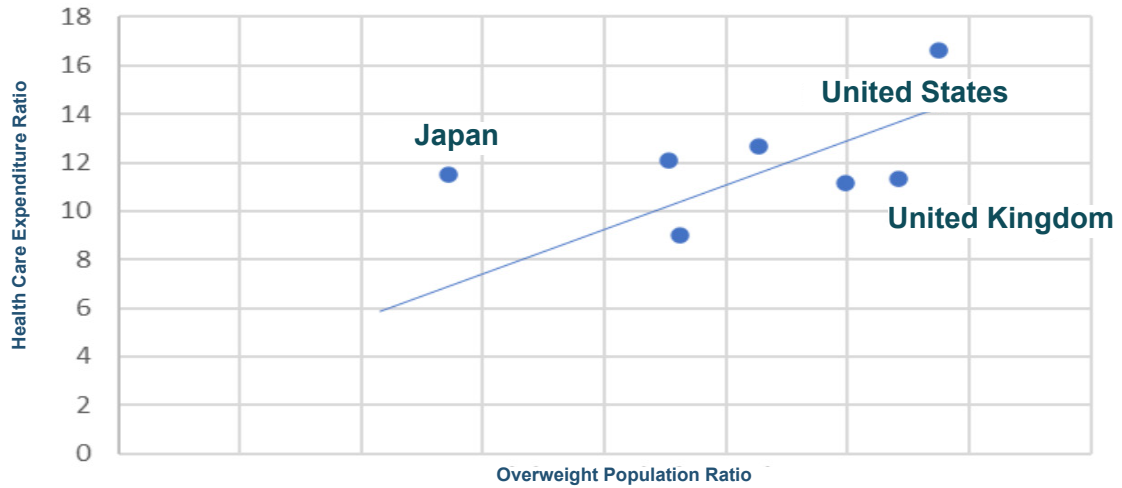


Source: OECD

However, the people’s health conditions affect intra-country differences in healthcare expenditures. In this respect, the overweight and obese population ratios in the OECD Health Date are good indicators of potential illness across the country. These ratios in G7 countries indicate that an extremely high level of US health expenditures to GDP could partly be explained by its large share of overweight people in the total population. On the contrary, the modest level of Japan’s healthcare expenses could be lowered further by accounting for its relatively small share of the overweight population (Figure 12).

Figure 12

**Overweight Ratio and Health Care Expenditures to GDP in G7 Countries**



Source: OECD Health Data

Third, as older workers have a higher probability of being unemployed, and their duration of unemployment is usually longer than average, expenditure for unemployment compensation is higher, too.

### 3.4 Effect of Tax Policy

Financing the expanding social security expenditures with aging, the tax burden has increased historically. Notably, the taxes on corporate profits or capital gains would increase the cost of capital and discourage investment, thereby tending to lower economic growth.<sup>16</sup>

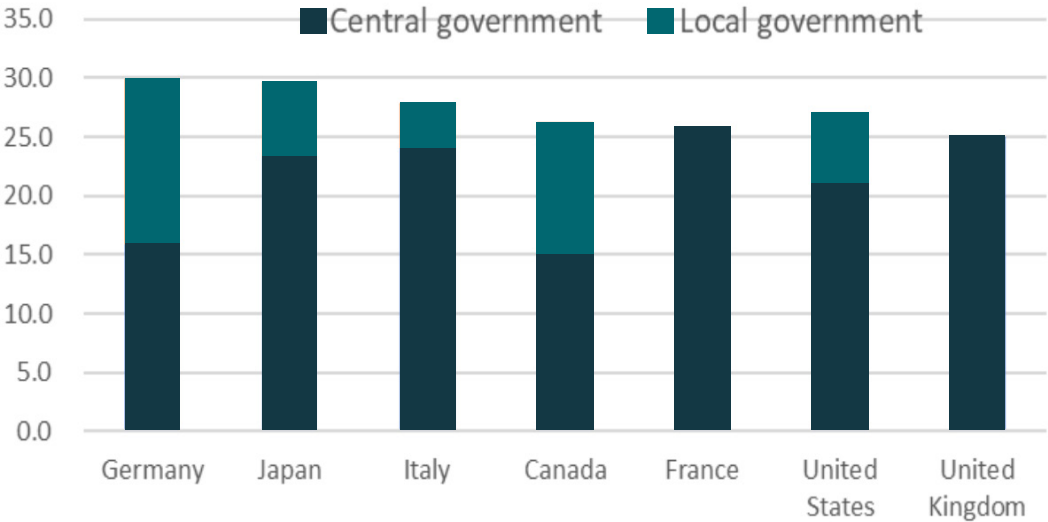
<sup>16</sup> OECD, The taxation of labour vs. capital income, 2023.

The Japanese government maintained a high corporate tax rate of 50 percent in the early 1990s. However, with the globalization of economic activities and tax competition, the government subsequently lowered the corporate tax rate to 30 percent, including local tax 2016. The corporate tax level is comparable to other major OECD countries (Figure 13).

Also, a 20 percent capital gain tax was introduced in the 1989 Tax Reform. Still, it is a flat rate with separate taxation from other countries and favours high income households under progressive income taxation. It is comparable to that in the United Kingdom and other European countries.<sup>17</sup>

Figure 13

Statutory Corporate Income Tax Rates



Source: OECD Corporate Tax Statistics 2023

<sup>17</sup> OECD, Taxation of Capital Gains on Individuals, 2006

## 4. Policy Options

The observed decline and aging of the population are often considered negative phenomena. However, they are essentially the result of individual rational decisions. Declining fertility is based on the family's logical choice to invest in higher education for fewer children, which is typically observed behavior in many developed countries. Also, an increasing life expectancy is undoubtedly desirable for individuals and families. A policy failure causes these rational people's behavior to become social problems by maintaining out-of-date regulations that do not accommodate demographic changes.

Many of the undesirable repercussions of population aging can be cushioned or offset by appropriate policy measures. An increasing old-age dependency ratio requires an economically active population to support a more significant number of non-active populations. A key concept here is an "age-free" principle. The conventional definition of "the elderly" as those aged 65 and above does not account for the vast differences in life expectancy across countries. Also, individual differences in health or working capabilities become broader with age. Thus, age-discriminatory employment practices become more inefficient and unfair in an aging society. For example, mandatory retirement is prevalent in Japan. The various policy options to deal with these problems will be discussed below:

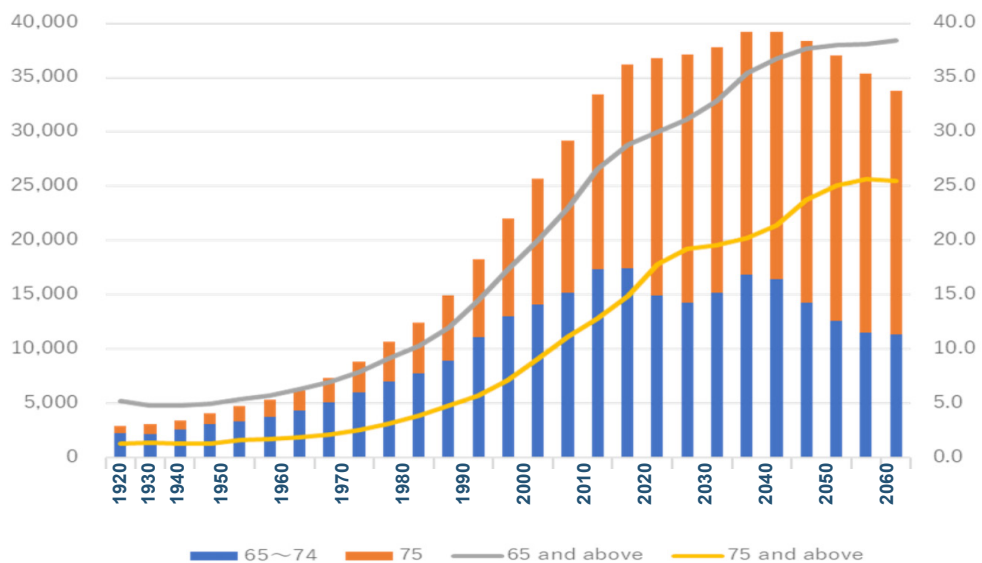
A comprehensive approach is needed to reduce various costs of aging and promote inclusive growth in an era of demographic change.<sup>18</sup> They are improving the design of public pensions, incentivising private savings, and enhancing the efficiency of health care provision. Also, they expand the coverage of social security systems, promoting employability and skills of older workers and striving for a better labor market inclusion of women, youth, and migrants.

<sup>18</sup> Dorothee Rouzet, Aida Caldera Sánchez and Oliver Roehn, Fiscal challenges and inclusive growth in ageing societies, OECD Economic Policy Paper September 2019 No. 27.

In the case of Japan, with a rapidly aging population, the share of the elderly will reach close to 40 percent of the population in 2050, and each population of age 20 to 64 has to support 0.8 elderly person. The gloomy situation could be vastly improved if we change the definition of the elderly to those aged 75 and above, and the new supporting ratio will be just 0.4. This is mainly because of the large volume of people aged 65 to 74, shifts from being supported to supporting one (Figure 14 ). This is not necessarily unrealistic accounting for an increasing longevity and high labor market attachment of the Japanese older people.

Figure 14

**Elderly Population and the Ratio to Total Population in Japan**



## 4.1 Labor Market Policies

Policies facilitating the better utilization of the existing labor force can increase the employment of married women and older workers, thereby stimulating their labor supply.



## 4.1.1 Married Women

The first is encouraging more women in the labor market and providing them with better-quality jobs. The Japanese government offers maternity leaves for a year or more and guarantees more than 50 percent of their previous wages through public employment insurance.<sup>19</sup> Also, after the maternity leave, the nursery schools are expanded to encourage working parents to stay in the labor markets.

Still, 30 percent of married women quit the firms when they have their first child without using generous public support. This is because most working married women cannot afford the Japanese work style of long working hours and frequent job rotations. After their children grow up, they eventually return to the labor market, but few full-time employment opportunities exist. This results in a trade-off facing Japanese women between pursuing their work career with no children and raising their children at home. It implies that the government also faces a trade-off between preventing declining fertility rates and underutilizing the female labor force. The government had set the target of achieving 30 percent of women in leadership positions by 2020 but postponed the target based on the actual 10 percent. The achievement of the target is difficult without modifying the current employment practices requiring “greedy jobs”<sup>20</sup> to full-time workers. The government recently encouraged men to take maternity leave as a first step to changing the male workstyle. This is effective for Japan, with just 17 percent rates of maternity leave of men compared with 80 percent for women.

<sup>19</sup> The firms do not have to pay wages during maternity leaves, and the employee receives benefits comparable to unemployment compensations.

<sup>20</sup> Claudia Goldwin., *Career and Family*, Princeton University Press, 2021

## 4.1.2 Older Workers

Policy action to ensure employment opportunities for older people could mitigate the decline in the labor supply. The conventional old-age dependency ratio assumes that individuals 65 and older will automatically retire from the labor force. However, Japan's labor market participation rate of 65 to 69 is 63 percent for males and 42 percent for females in 2022, which is much higher by international standards.

On the other hand, older workers face mandatory retirement at the age of 60 in most cases.<sup>21</sup> This compulsory retirement practice is a typical example of discrimination by age and is prohibited in many other developed countries. Still, it is a significant obstacle in Japan to better utilization of older people who want to stay longer in the labor markets. The government obliges firms to re-employ the workers after mandatory retirement up to age 65. In most cases, they are employed in a fixed-term contract with wages on average at 60 percent of the peak level, regardless of their job capability.

Abolishing the mandatory retirement practice is difficult for Japanese firms. This is because of the practices of seniority-based wages and employment security, which keep the skilled workers in the firm, and they must be terminated at some age. Also, mandatory retirement is a rare opportunity for firms to dismiss unproductive workers. The OECD's indicator for employment protection includes Japan in the group of quickly dismissed employees like the United States. However, it is misleading as they do not account for the restriction by unpredictable case laws. Introducing the law for monetary compensation for dismissals would make the procedure more transparent and reduce uncertainty, leading to greater labor market flexibility.<sup>23</sup>

Alternatively, if Japanese firms end these practices of seniority-based wages or long-term employment assurance, they no longer have to depend on mandatory retirement. The government introduced the "equal pay for equal work rule" to revise partly the seniority wage rule. Also, it will reduce the favorable tax treatment on considerable lump-sum retirement benefits based on the seniority rule. It encourages labor mobility, as the lump-sum benefits are not transferable to other firms to discourage employees from quitting voluntarily.

<sup>21</sup> In Japan, most firms set the mandatory retirement at age 60, as that below the age of 60 is not allowed by the law.

<sup>22</sup> Edward P. Lazear, "Why is there mandatory retirement?", *Journal of Political Economy*, Vol. 87, No. 6 (Dec., 1979),

<sup>23</sup> Naohiro Yashiro, "Dismissal Compensation and Labor Mobility in Japan," in Tatsuo Hatta and Shinya Ouchi ed., *Severance Payment and Labor Mobility*, Springer, 2018.

### 4.1.3 Employment Practices

One of the significant factors for Japan's good macro-economic performance in the past is the well-functioning labor markets, particularly its low unemployment rate and high productivity growth. However, the rapid aging of the labor force will significantly impact the labor market's performance. Long-term employment security and the seniority-based wage structure were established when the share of young workers in the labor force was much larger than today. The projected rapid rise in the ratio of old to young workers will reduce opportunities for promotion based on seniority rules, lowering the flexibility within a firm. The development of a high current level of labor force participation largely depends on how quickly employment practices change according to demographic shifts.

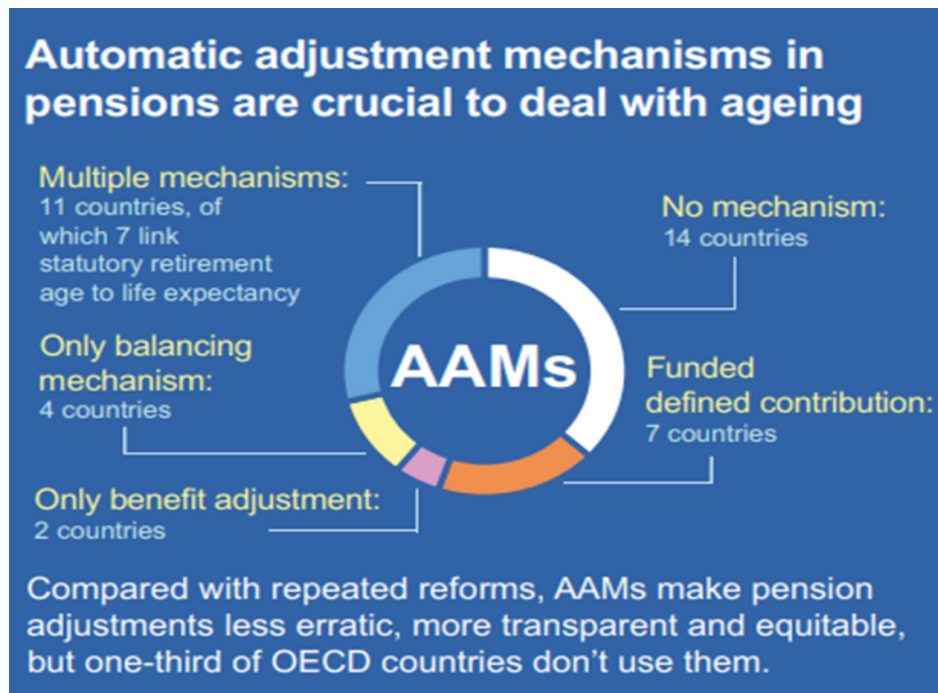
Japanese employment practices have been essential in "profit-sharing" between firms and firm-based labor unions. However, they are unsuitable for a declining share of union membership below 20 percent of recent. Most of the increasing labor force of married women and older workers are underpaid and outsiders of the firm-based labor union, resulting in dual labor markets.<sup>24</sup> Current employment practices are counter-productive and have to change with the declining and aging of the population toward job-based wages and more flexible working styles.

<sup>24</sup> Naohiro Yashiro, "Myths about Japanese employment practices: An increasing insider-outsider conflict of interests", *Contemporary Japan* 23 (2011).

## 4.2 Public Pension

As the share of older people increases, reforming the public pension should be more savings-based system. Also, the upper age boundary of working life – using 65 as a reference – will have to increase substantially to prevent the decline in the relative size of the labor force.<sup>25</sup> Among OECD countries, the majority have some automatic adjustment mechanism in pensions to deal with ageing (Figure 15).<sup>26</sup>

Figure 15



Japan's public pension was initially established as a funding scheme, or each generation saves for retirement. However, the system gradually moves to a de facto pay-as-you-go scheme by shifting most of the savings of the working generation for the future to the existing retired people. This brings about growing inter-generational inequality, with the demographic shifting to a more elderly and less working-age population.

<sup>25</sup> OECD, Promoting an Age-Inclusive Workforce; Living, Learning and Earning Longer, OECD, 2020.

<sup>26</sup> OECD, Pension at a Glance 2021

The best way to moderate inter-generational excessive transfers is by raising the statutory age of pension eligibility according to an extension of life expectancy. This increases the “equivalent retirement age,” which is necessary to maintain the financial balances of the pension insurance scheme, given statutory benefits and contributions. With an increasing life expectancy, the duration of receiving pension benefits automatically increases, and extending the pension eligibility age is a reasonable solution.

Japan’s statutory age of pension eligibility is fixed at age 65,<sup>27</sup> which is too early compared to 67 in Germany and the United States or 68 in the United Kingdom, accounting for the highest life expectancy of the Japanese, the statutory age of public pension eligibility should be raised to 70, which is equivalent to that of Australia, with a similar level of life expectancy to Japan.

### 4.3 Public Healthcare

An expansion of healthcare expenditures will be more significant with the combination of population aging and development in medical technologies. The government must set a clear defense line for expanding public healthcare services mainly arising from the diseases associated with adult lifestyle habits.

In this respect, the reform of the payment system is crucial. Japan has 12.6 hospital beds per 1,000 population, more than the OECD average of 4.3. The average length of stay in the hospital is 16.0, more than 6.1 in the US and 6.9 in the UK. This is mainly because of the “fee for service” payment scheme and the patient’s “free access to health services with no gatekeepers” Those generous schemes established at the time with a small share of older people in the population become wasteful in an aging society. As Japan lacks general practitioners (GPs) in the UK, many old patients with multiple diseases freely go to various clinics or hospitals. Average number of in-person doctor consultations per person is 11.1 compared with the 6.0 in the OECD average in 2021. This is convenient for patients but is costly in the aging society.<sup>28</sup> Still, introducing the GPs in Japan faces strong resistance from the private healthcare doctors’ association.

<sup>27</sup> The temporary pension eligibility age has been raised every three years and will reach to age of 65 in 2025.

<sup>28</sup> David A. Wise and Naohiro Yashiro ed., *Health Care Issues in the United States and Japan*, NBER 2006.

## 4.4 Housing Policy

Housing policies in Japan have focused on the quantitative supply of houses for a wide range of targeted groups and public rental houses.<sup>29</sup> The total population has recently decreased, but the concentration is in the urban areas. As people age, a balance must be struck between new construction and activating existing housing stocks, in particular rural areas with an increasing number of vacant houses.

Currently, no specific zoning policies are taken except for the colleges in the Tokyo 23 ward that attract young students. In the urban area, apartment construction has been active, replacing traditional small wooden houses. Those apartments are mainly for families with both husband and wife work full time. Young people find small one-room apartments for rent or stay at their parents' housing.

Those who migrated from rural areas have gotten older and are now concentrating in the urban area. There is an increasing need for nursing care for frail elderly people living in their own housing. The government urges them to move into apartments for the elderly, making the nursing care service more efficient.

<sup>29</sup> Masahiro Kobayashi, "The Housing Market and Housing Policies in Japan", ADBI Working Paper Series No.558, 2016

## Conclusion

There is much uncertainty in the above analysis on the demographic impact on economic growth.<sup>30</sup> The first is the expected fruits of technological innovations on per-capita income and its growth rate, offsetting the adverse effects of population aging. The second is the variation of individual capacity, such that an increasing life expectancy does not necessarily account for good health conditions, putting more burden on long-term care. The third is the risk of “Silver Democracy.” A rising number of elderly people can pressure the adequate provision of pensions, healthcare, and long-term care,<sup>31</sup> which might increase taxes and further slow economic growth.

Nevertheless, the policy direction towards the aging of the population is clear. As the aging of the population proceeds in the G7 countries, a growing working-age population, which had been a source of economic growth, turns into declining and discourages economic growth. It means that the former demographic dividend becomes a demographic drag.

However, the aging of the population is different from a natural disaster. Still, it results from people’s rational decision to invest in fewer children and live longer and healthier lives. The negative impacts of population aging could be offset by encouraging people to work longer to keep the ratio of the retired to the working population constant.

A key is a labor market policy for stimulating and supporting female labor force participation, particularly of the child-raising age. Also, encouraging the labor market attachment of older people is essential to access more “age-friendly jobs” and remove age-discriminatory employment practices. Improving the “quality” of the labor markets by accepting diversified workers with age- and gender-free principles is critical.

The social security system should be reconstructed to a more extended living lifestyle. Moving the statutory pension eligibility age automatically according to the average life expectancy is desirable. Those who wish to retire earlier can receive the pension benefits on an actuarially-fair principle. The government’s provision of healthcare services should set specific limits against an explosion caused by aging and medical technology developments.

<sup>30</sup> Kotschy and Bloom (2023).

<sup>31</sup> Rouzet, D., A. C. Sanchez , T. Renault, and O. Roehn (2019): “Fiscal Challenges and Inclusive Growth in Ageing Societies,” OECD Economic Policy Papers 27, OECD.



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Registered address 71-75 Shelton Street, Covent Garden, London, United Kingdom, WC2H 9JQ