# IMPACT OF JAPAN'S AGING POPULATION IN 2030

## — FOCUSING ON THE EFFECT ON THE SOCIAL SECURITY SYSTEM AND LOCAL ECONOMIES —

Yusuke Suzuki
Global Economic & Political Studies Div., North America & Latin America Dept.
Mitsui & Co. Global Strategic Studies Institute

## SUMMARY

- As the baby boomers become the latter-stage elderly, it is inevitable that the economic burdens of medical and long-term care will increase. However, taking into account the potential for economic growth, the increase in burden will not be so great that Japan's social economy will cease to function.
- The increase in the elderly population is expected to continue until 2044, but the pace of this increase has been slowing since the late 2010s. As a result, total pension payments, which continued to increase until the early 2010s, will remain flat for the meantime.
- Following the total population, more than 60% of municipalities will also see a decrease in the number of elderly people. In some municipalities, total income may decrease simply due to the impact of fewer elderly people and therefore fewer pensioners. In many municipalities where the elderly population is expected to decline, the working-age population will decline as well. The possibility of widening regional disparities in income must be kept in mind.

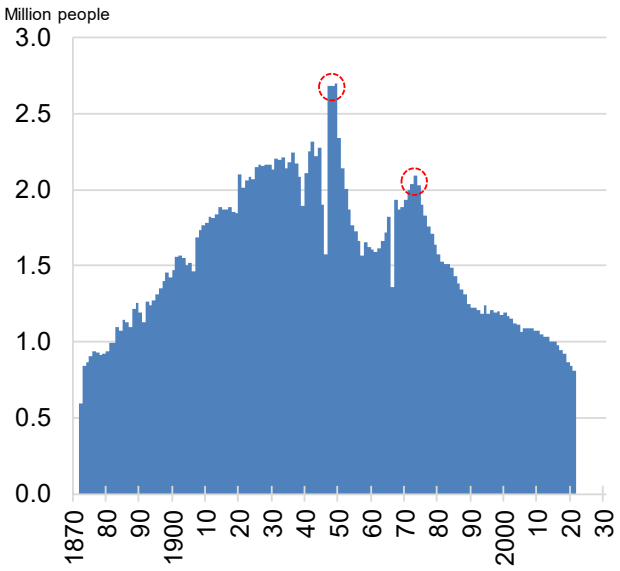
## 1. THE CURRENT STATE OF POPULATION AGING

Japan's total population peaked in 2008 and began to decline, but according to *Population Projections for Japan (2023)*[1], the number of elderly people aged 65 and over is expected to continue to increase until 2044. However, in contrast to 22.2% in the decade from 2010 to 2020, the pace of that increase will slow to 2.5% in the decade from 2020 to 2030, because the baby boomers born between 1947 and 49 finished turning 65 in 2014. The number of people aged 75 and older, known as the "latter-stage elderly," is expected to increase by 21.4% from 18.6 million in 2020 to 22.58 million in 2030, as the baby boomers turn 75 by 2024. The percentage of latter-stage elderly in the total population will approach 20% (Figure 1).

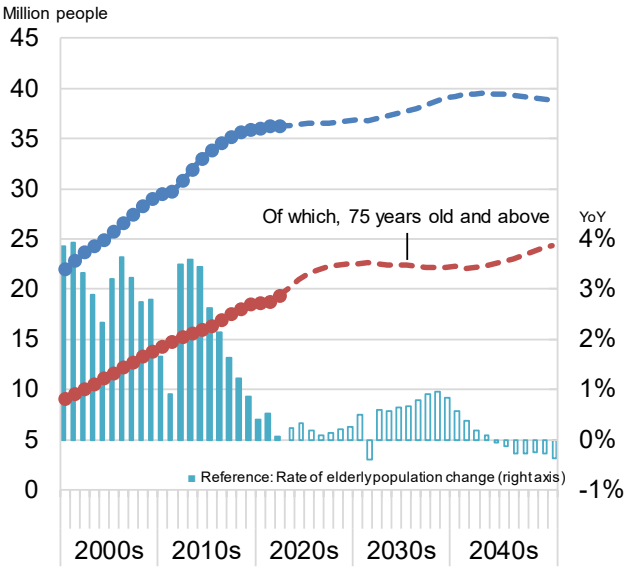
[1] Based on the median birth and death estimates in the National Institute of Population and Social Security Research's *Population Projections for Japan (2023)*. The same applies to all population projections in this paper. https://www.ipss.go.jp/pp-zenkoku/j/zenkoku2023/pp_zenkoku2023.asp (accessed July 4, 2023; all subsequent links accessed on the same date)

**Figure 1 State of population aging**

1-1 Number of births




1-2 Elderly population (65+)




Note: Dashed lines in 1-2 are projections based on birth and death median estimates in Population Projections for Japan.

Source: Compiled by MGSSI based on the data from the Ministry of Health, Labour and Welfare and the National Institute of Population and Social Security Research

These demographic changes will affect Japan's social security system, particularly medical care, long-term care, and pensions, as well as local economies. Therefore, this paper examines the impact of this population aging in the year 2030, to help forecast socioeconomic trends in Japan.

## 2. IMPACT ON THE SOCIAL SECURITY SYSTEM

### 2-1. Impact on medical costs

Population aging will inevitably lead to an increase in social security payments, particularly for medical care and long-term care. According to *The Financial Statistics of Social Security in Japan*,[2] the total amount of social security payments was JPY 132 trillion in FY2020, of which JPY 43 trillion was for medical care, JPY 11 trillion for long-term care, and JPY 56 trillion for pensions, together accounting for 83% of the total.

According to *Summary of National Medical Care Expenditure*[3] compiled by the Ministry of Health, Labour and Welfare, annual medical costs in FY2020 were JPY 340,000 per capita, and were JPY 1 million per elderly person. By age group in five-year increments, the 65–69 age group cost JPY 490,000 per capita, while the 85+ group cost more than JPY 1 million per capita. Since the cost of medical care increases with age, national medical costs will likely increase as the number of elderly people increases.

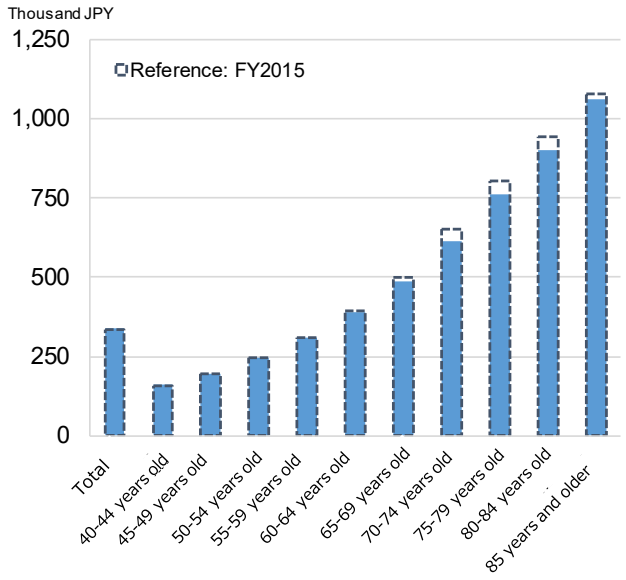
Therefore, based on population projections and assuming that per-capita medical costs by age group remain unchanged from FY2020, total medical costs for the elderly are expected to increase from JPY 26.4 trillion in FY2020 to JPY 28.5 trillion in FY2030 (Figure 2).

[2] National Institute of Population and Social Security Research, *The Financial Statistics of Social Security in Japan FY 2020* https://www.ipss.go.jp/ss-cost/j/fsss-R02/fsss_R02.html

[3] Ministry of Health, Labour and Welfare, *Summary of National Medical Expenditure (FY2020)* [in Japanese] https://www.mhlw.go.jp/toukei/saikin/hw/k-iryohi/20/index.html

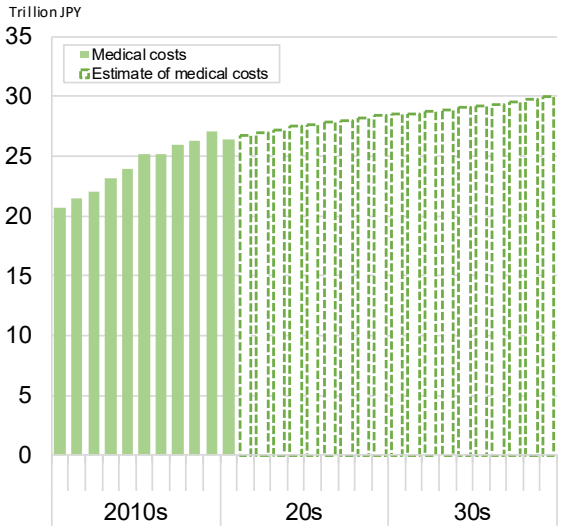
**Figure 2: Impact of population aging on medical costs**

2-1 Per capita medical costs (FY2020)




Note: Totals include medical expenses for ages 0-39
Source: Compiled by MGSSI from data from the Ministry of Health, Labor and Welfare

2-2 Estimation of medical costs for the elderly




Note: For 65 years and older

Source: Compiled by MGSSI based on the data from the Ministry of Health, Labour and Welfare, Ministry of Internal Affairs and Communications, and the National Institute of Population and Social Security Research

Medical costs per capita increased from JPY 330,000 to JPY 340,000 over the five years from FY2015, but by age group, medical costs per capita decreased in all age groups above the 60–64 age group. While the per capita medical care costs are expected to increase in the future due to advances in medical care and better conditions for medical professionals, the government is limiting the increase in reimbursement for medical services to prevent the total cost of medical care from becoming excessive. Although an increase in per capita medical care costs could increase total medical care costs regardless of demographics, this estimate assumes that per capita medical care costs by age group will remain unchanged from FY2020.

## 2-2. Impact on long-term care costs

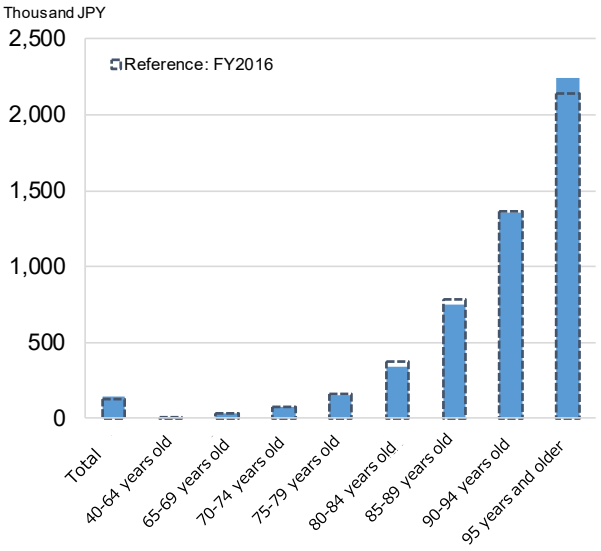
According to *Statistics of Long-term Care Benefit Expenditures*[4], the average per-capita cost of long-term care in FY2021 (May 2021 to April 2022) was JPY 140,000, and JPY 300,000 per elderly person. By age group, the 65–69 group cost JPY 40,000 per capita, while the 90-94 group cost more than JPY 1 million per capita. Since the cost of long-term care increases with age, the total cost of long-term care will likely increase as the number of elderly people increases.

Therefore, in the same way as medical costs, total long-term care costs for the elderly are expected to increase from JPY 10.5 trillion in FY2020 to JPY 13.4 trillion in FY2030 based on population projections and assuming that per capita long-term care costs by age group remain unchanged from FY2021 (Figure 3).

[4] Ministry of Health, Labour and Welfare, *Summary of Statistics of Long-term Care Benefit Expenditures (FY2021)* [in Japanese] https://www.mhlw.go.jp/toukei/saikin/hw/kaigo/kyufu/21/index.html

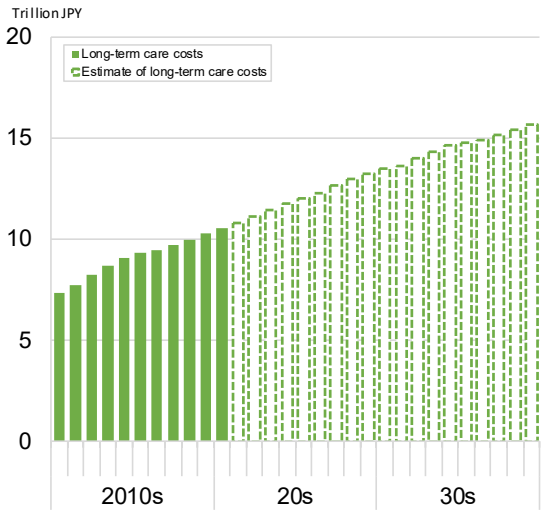
**Figure 3: Impact of population aging on long-term care costs**

3-1 Per capita cost of long-term care (FY2021)




Note: FY2021 is May 2021 - April 2022. Population is as of October 1, 2021.
Source: Compiled by MGSSI based on data from the Ministry of Health, Labor and Welfare and the Ministry of Internal Affairs and Communications

3-2 Estimated long-term care costs for the elderly




Note: FY2021 is May 2021 - April 2022. Population is as of October 1, 2021.
Source: Compiled by MGSSI based on data from the Ministry of Health, Labor and Welfare and the Ministry of Internal Affairs and Communications

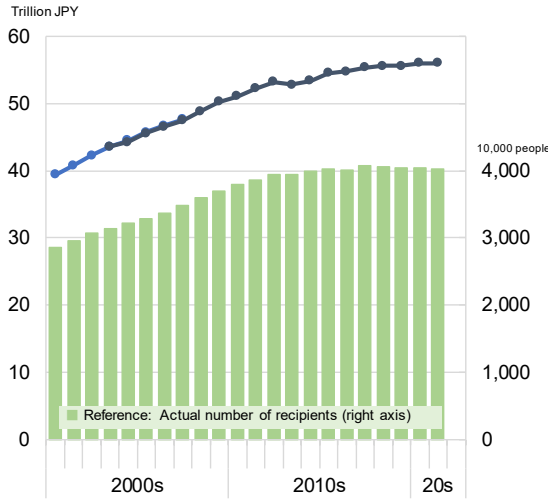
Per-capita long-term care costs increased from JPY 130,000 to JPY 140,000 over the five years from FY2016, especially for those aged 95 and older, from JPY 2.14 million to JPY 2.24 million, but by age group, costs decreased for the five age groups from 70–74 to 90–94, mainly for those in their 80s. Improving conditions for long-term care service workers has become a major issue, but the total amount of long-term care insurance payments has ballooned compared to the assumptions made when the system was established in 2000, and the government has begun to curb payments since the system was revised in 2015. Although an increase in per-capita long-term care costs could increase total long-term care costs regardless of demographics, this estimate assumes that per-capita long-term care costs by age group will remain unchanged from FY2021.

### 2-3. Impact on pension payments

According to the Employees' Pension Insurance and National Pension Annual Report[5], the total amount of public pension payments in FY2021 was JPY 56 trillion. In principle, an old-age pension can be received from the age of 65 by submitting a pension request form. The payment amount varies according to whether the recipient chooses to receive payments earlier or later from around age 65, but once the recipient starts receiving payments, the amount is determined according to consumer prices and wages, and does not change according to age. As the pace of the elderly population growth has slowed, total pension payment growth was less than 1% YoY for four consecutive years through FY2021 (Figure 4). As long as consumer prices and wages remain stable, there will be no significant change in total public pension payments for the time being.

[5] Ministry of Health, Labour and Welfare, S*ummery of Employees' Pension Insurance and National Pension Program (FY2021)* [in Japanese] https://www.mhlw.go.jp/content/001027360.pdf

**Figure 4 Total pension payments**




Source: Compiled by MGSSI from data from the Ministry of Health, Labor and Welfare

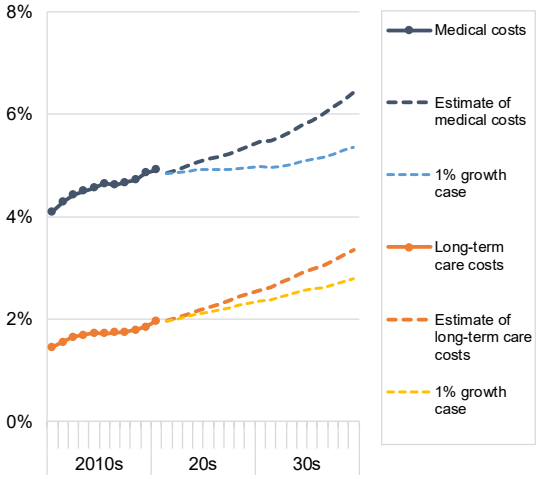
## 2-4. Increase of JPY 6 trillion in medical and long-term care costs over 10 years

As above, the estimated impact of demographic changes is such that over the 10 years from 2020 to 2030, medical costs for the elderly are projected to increase by JPY 2.1 trillion and long-term care costs by JPY 2.9 trillion JPY, rising from 6.9% in terms of 2020 nominal gross domestic product (GDP) to 7.8%.

Whether or not this increased burden can be considered within an acceptable range will depend on the outlook for GDP in 2030. Assuming GDP is determined in proportion to the population aged 15 to 64, which is the working age, the total medical and long-term care costs will swell to 8.0% of GDP in 2030 because of the decline in the working-age population. However, looking back at the results from 2010 to 2020, while the working-age population and total working hours declined, labor productivity (≈ real GDP per hour of working time) increased by an annual 1.3%, resulting in a real annual GDP growth rate of 0.9%.[6] Similarly, if the real GDP per capita of the working-age population were to increase by 1% annually during the 10 years from 2020 to 2030, the real GDP growth rate during this period would be 0.6% annually, and the GDP ratio of total medical and long-term care expenditures in 2030 would be 7.3%, an increase of 0.4 percentage points from 6.9% in 2020 (Figure 5). Incidentally, the 10-year period from 2010 to 2020 saw a 1.3 percentage-point increase in nominal GDP from 5.6% to 6.9%.

[6] From 2010 to 2020, the working-age population decreased by 7.3% (0.8% annualized), but the number of workers (based on national economic accounting) increased by 4.0% (0.4% annualized) due to an increase in the labor participation rate, etc. Although hours worked per capita decreased by 7.2% (0.7% annualized), total hours worked decreased by only 3.4% (0.3% annualized), and furthermore, labor productivity (≈ real GDP per hour worked) increased by 13.5% (1.3% annualized), resulting in a real GDP increase of 9.6% (0.9% annualized). The working-age population is projected to decline by 5.8% (0.6% annualized) during the decade from 2020 to 2030.

**Figure 5: Estimated medical and long-term care costs for the elderly as a percentage of GDP**




Note: For persons 65 years and older. Estimated assuming that GDP changes in proportion to changes in the working-age population. Furthermore, the 1% growth case is estimated assuming a real GDP growth rate of 1% per capita working-age population.
Source: Compiled by MGSSI based on the data from the Ministry of Health, Labour and Welfare, the Ministry of Internal Affairs and Communications, and the National Institute of Population and Social Security Research, and Cabinet Office

## 3. TRENDS BY MUNICIPALITY

### 3-1. Population aging by municipality

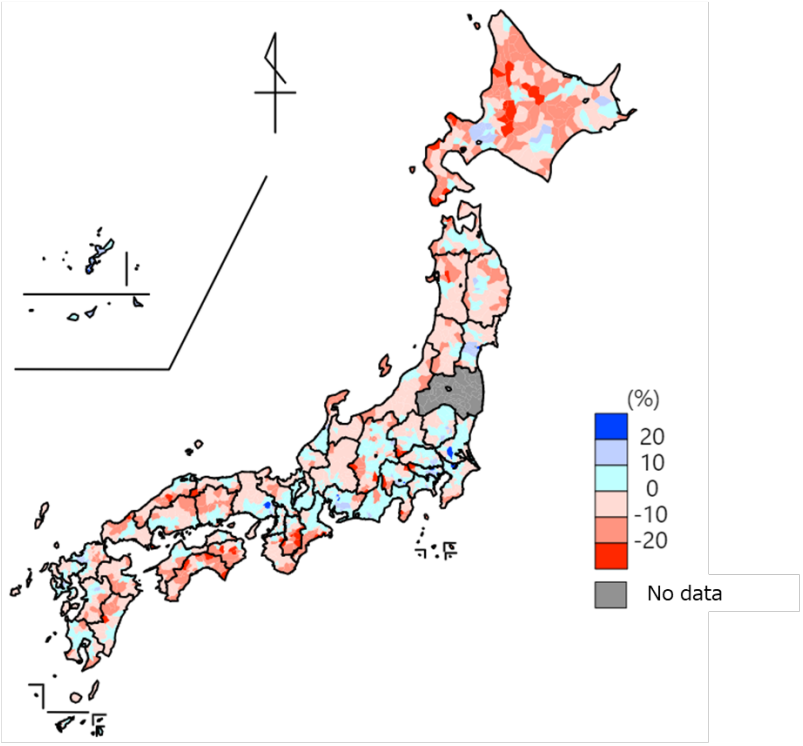
It has been noted that the impact of population aging is greater in rural areas than in cities.[7] Therefore, looking at the current status of population aging by municipality to confirm the impact by municipality, it is found that during the 10 years from 2010 to 2020, the population increased in 309 of Japan's 1,741 municipalities, and decreased in 1,432. During this period, Japan's total population declined by 1.5%, but in nearly 70% of municipalities, the rate of decline exceeded 5%.

The main reason for the population decline is that the working-age population has decreased in more than 90% of the municipalities due to population movement. The elderly population increased in more than 80% of municipalities, but in the decade from 2020 to 2030, the elderly population is projected to decrease in more than 60% of municipalities, including almost half of these municipalities, according to *Population Projections for Japan by Region (2008)* (Figure 6)[8]. This trend remains the same in the estimates for cases that do not take into account the impact of population movement.

[7] For example, the discussion of cities at risk of disappearing put forth by the Japan Policy Council, Population Decline Issue Review Committee in its report *Strategy to stop the falling birthrate and vitalize local economies: For a 21st Century of Growth* (2014) [in Japanese] became the focus of wider attention. http://www.policycouncil.jp/pdf/prop03/prop03.pdf

[8] National Institute of Population and Social Security Research, *Population Projections for Japan by Region (2008)* [in Japanese] https://www.ipss.go.jp/pp-shicyoson/j/shicyoson18/t-page.asp
*Population Projections for Japan (2023)* based on the 2020 census has already been published, but future projections by region have not. For this reason, this paper refers to projections by region based on the 2015 census. In addition, in light of the impact of the Great East Japan Earthquake, no projections were made for municipalities in Fukushima Prefecture. Accordingly, the estimates in this report also do not include municipalities in Fukushima Prefecture.

**Figure 6: Rate of change in elderly by municipality (2020→2030)**




Note: Rates of population change are based on 2018 estimates from the National Institute of Population and Social Security Research. Due to the Great East Japan Earthquake, no projections were made for municipalities in Fukushima Prefecture.

Census and other surveys could not be conducted for the Northern Territories; therefore, these are excluded from the figure. The map was drawn using MANDARA JS created by Kenji Tani (former Saitama University professor)

Source: Compiled by MGSSI based on the data from the Ministry of Health, Labour and Welfare and the National Institute of Population and Social Security Research

## 3-2. Impact on pension payments

As the number of elderly people declines, the local economy could shrink as the amount of old-age pensions and other benefit payments to the elderly through the social security system declines. Therefore, this report paid particular attention to the old-age pension; it estimated the change in total taxable income by municipality for the old-age pension payments and for other benefit payments separately. The calculation was done by combining the taxable income by municipality shown in the Municipal Taxation Status Report and the pension payments shown in the Pension Payments by Municipality.[9] Of the total taxable income of the 1,741 municipalities nationwide amounting to JPY 204 trillion in 2020, pension payments accounted for 12%, but estimates based on certain assumptions suggest that the percentage by municipality varied from around 5% to over 30%. Furthermore, in 2030, the impact of a decrease in the number of elderly citizens and the subsequent decrease in pension payments alone could reduce taxable income by 5% or more from 2020 in 64 municipalities. This is particularly so in those where pension payments account for a large proportion of the total income. Many municipalities with a projected decline in the elderly population also have a projected decline in the working-age population, and the working-age population as a percentage of the total population tends to be lower in those

[9] Ministry of Internal Affairs and Communications, "Municipal Taxation Status Report (FY2020)" [in Japanese]
https://www.soumu.go.jp/main_sosiki/jichi_zeisei/czaisei/czaisei_seido/ichiran09_20.html
Ministry of Health, Labour and Welfare, "Pension Payments by Municipality (March 2021)" [in Japanese]
https://www.mhlw.go.jp/topics/bukyoku/nenkin/nenkin/toukei/dl/shichouson0303.xlsx
The aggregation of taxable income includes persons who are subject to municipal income tax and excludes those with relatively low incomes who are not subject to tax after deductions. Therefore, the income of pensioners, who may have relatively low income levels, may be underestimated as a percentage of total taxable income, and the results of the estimate should be evaluated taking into account this margin of error. Note that pensions are included in miscellaneous income in taxable income.

municipalities. It should be noted that in some municipalities, a further decline in population could lead to a significant contraction of the local economy.[10]

## 4. CONCLUSION

Population aging will inevitably increase the burden of medical and long-term care costs. These increases will not be insignificant, but given the potential for economic growth, they are not expected to be so large that Japan's social economy will cease to function. As such, there is no need to be overly pessimistic.

However, following the total population, more than 60% of municipalities are expected to see a decrease in the number of elderly people. Many municipalities with a projected decline in the elderly population also have a projected decline in the working-age population. This raises concerns about the potential widening of regional income disparities.

While this paper has focused on the impact of the aging population on the social security system in the year 2030, it is also worth considering future implications. Notably, the children of the baby boomers, born in the 1970s, will start entering old age by the 2040s. There are also concerns that population aging will increase constraints on the labor supply and that more elderly people will become eligible for welfare assistance because their pensions will not be sufficient to cover their living expenses. It is crucial to keep these risks in mind as well.

[10] Incidentally, if we follow the estimates of medical and long-term care costs and assume that the taxable income of each taxpayer increases by 1% per capita per year, total taxable income including pension payments could decrease by 10% or more in 684 municipalities. On the other hand, 80 municipalities would see an increase of 10% or more, and this estimate would result in a 2.6% increase from 2020 in total taxable income for all municipalities combined.