Household Saving in Japan:
The Past, Present, and Future

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Abstract

The primary objective of this paper is to explore the determinants of the level of, and trends over time in, Japan's household saving rate, with emphasis on the impact of the age structure of the population, and to make projections about future trends therein. The paper finds that Japan's household saving rate has not always been high either absolutely or relative to other countries, contrary to popular belief, and that, if we confine ourselves to the postwar period, it was only during the 25-year period from 1961 to 1986 that it exceeded 15%. Past and future trends in Japan's household saving rate can largely be explained by changes in the age structure of her population, but declines in the saving rate of retired elderly households is a more important explanation for the recent decline in the household saving rate. However, it is likely that other factors such as the unavailability of consumer credit, the unavailability of social safety nets, high rates of economic (income) growth, tax breaks for saving, saving promotion policies, and high and rising land and housing prices are also partial explanations for why Japan's aggregate household saving rate was so high during the 1961-86 period and why it declined so much subsequently. As for future trends in Japan's aggregate household saving rate, it is likely to fall even further though not necessarily at a rapid rate.

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1. Introduction

The conventional wisdom is that Japan's household saving rate has always been very high by international standards, but is this conventional wisdom correct? If so, why has Japan's household saving rate always been so high? If not, why has Japan's household saving rate not always been high? How can Japan's household saving rate be expected to evolve in the future? These are some of the questions that we seek to answer in this paper.

The primary objective of this paper is to explore the determinants of the level of, and trends over time in, Japan's household saving rate and to make projections about future trends therein.[1] Countless factors influence the level of, and trends over time in, the household saving rate, but we will focus primarily on the role played by the dramatic changes in the age structure of Japan's population in influencing past and future trends in Japan's household saving rate.

There have been many other literature surveys of household saving behavior in Japan (see, for example, Hayashi, 1986, 1989, 1992, 1996, and 1997; Sato, 1987; Horioka, 1990, 1993a, 1993b, 2008, 2019, and 2021; Ito and Hoshi, 2020, Chapter 8; Flath, 2022, Chapter 5; and Unayama, 2023), but this survey can be distinguished from these earlier surveys by being more up-to-date and comprehensive and by placing more emphasis on demographic factors.

The organization of this paper is as follows: In section 2, I present data on household saving rates in Japan; in section 3, I discuss the importance of culture, tradition, and national character; in section 4, I discuss theoretical considerations; in section 5, I present evidence on the impact of the age structure of the population on the saving rate; in section 6, I present evidence on the saving behavior of the elderly; in section 7, I present evidence on what is the dominant cause of the decline in Japan's household saving rate; in section 8, I discuss future trends in Japan's household saving rate; in section 9, I discuss other influences on the household saving rate; and in section 10, I present a summary,

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[1] Household saving and corporate saving together comprise private saving, and looking at private saving is more appropriate if households "see through the corporate veil" (i.e., that they realize that corporations are doing saving on their behalf in the form of retained earnings), but since there is already an excellent paper about corporate saving (Corbett and Diamond, 2025), I will focus on household saving in this paper. Furthermore, I will not discuss the allocation of household saving among different asset types, even though this is an important issue, because it is discussed in detail in Hoshi and Sasaki (2025).

conclusions, and policy implications.

2. Data on Household Saving Rates in Japan

Figure 1 and Table S-1 show trends over time in National Accounts data on Japan's household saving rate during the nearly 70 years since 1955, while data on Japan's household saving rate during the prewar and early postwar period (since 1906) can be found in Horioka (1993a).[2] In this section, I analyze these data on Japan's household saving rate in order to shed light on the level of, and trends over time in, Japan's household saving rate during the past century or more.

The data shown in Figure 1 and Table S-1 are data on the net household saving rate, defined as net household saving (net of depreciation on housing and other fixed assets) divided by net household disposable income[3]. This is the preferred saving concept, in my opinion, because it is net saving rather than gross saving that contributes to increases in wealth or the capital stock.

<Figure 1 goes here>

It is well-known that Japan's household saving rate was extremely high during certain periods of its history, and Japan is widely known as being a "high-saver nation." For example, Japan's household saving rate reached 44% in the waning years of the Second World War and exceeded 23% in the mid-1970s.[4] This high household saving rate is credited for being one of the primary causes of Japan's double-digit economic growth during the 1950s, 1960s, and early 1970s (the so-called "Japanese economic miracle") because the abundant household saving provided the funds needed to finance corporate investment in plant and equipment, which in turn, was needed to expand the productive

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[2] Since the System of National Accounts as well as the base year have been revised periodically, it is not possible to obtain a continuous time series of National Accounts data on the Japan's aggregate household saving rate.

[3] See Yoshida (2025) for a discussion of how the valuation of depreciation of the housing stock affects estimates of the household saving rate.

[4] Note, however, that the astronomical household saving rates during the war years were essentially forced saving precipitated by rationing, the shortage of consumer goods, and government exhortations to households to purchase government bonds.

capacity of the economy.

What is less well-known is that Japan's household saving rate was not always high, that it was low or even negative during much of its history and that Japan's household saving rate has probably shown more variation than that of any other country. For example, Japan's household saving was in the single digits during the prewar and early postwar years and has been no higher than 5% during the past two decades (since 2001) except for a temporary blip in 2020-21 due to the Covid-19 pandemic. In fact, Japan's household saving rate was even negative during the 2013-15 period and was often negative during the prewar and early postwar period as well (for example, in 1908, 1912-14, 1923-26, and 1947-1949) (see Horioka, 1993a).

As for trends over time in Japan's household saving rate during the postwar period, there have been considerable fluctuations in Japan's household saving rate over time, but broadly speaking, it generally showed an upward trend until the mid-1970s, when it peaked at 23.2%, and has generally shown a downward trend since then (except during the Covid-19 pandemic period of 2020-21).

Finally, in terms of how Japan's household saving rate compares to that of other countries, data on household saving rates of the member countries of the Organisation for Economic Co-operation and Development (OECD) from the National Accounts of the OECD show that Japan's household saving rate was the highest among the OECD countries in the mid-1970s and second only to Italy from the mid-1970s until the mid-1980s, but that its relative position has fallen sharply since then, falling to well below the average for the OECD countries by the mid-1990s and to near the bottom of the OECD countries in more recent years (see, for example, Horioka, 1989, 2006).

As I have shown in this section, Japan's household saving rate has not always been high, either absolutely or relative to other countries, and if we confine ourselves to the postwar period, the only period during which Japan's household saving rate exceeded 15% was the 25-year period from 1961 until 1986, as pointed out by Hayashi (1989) and Horioka (2019).

3. The Impact of Culture, Tradition, and National Character

A commonly held view is that Japan's household saving rate has been high because of culture, tradition, and national character. One variant of this view is that Japan's high household saving rate is due to the Confucian values of diligence and frugality. If Japan's high household saving rate is really due to culture, tradition, and national character, we would expect Japan's household saving rate to have always been high and to be stable or declining (declining because of the increasing influx of foreign influences). However, as we have just shown, Japan's household saving rate has not always been high, it was high only during the 25-year period from 1961 until 1986 if we confine ourselves to the postwar period, it was low or even negative during many periods, and it showed a pronounced upward trend, not a downward trend, from the mid-1950s until the mid-1970s. These pieces of evidence suggest that culture, tradition, and national character are not a major determinant of Japan's household saving rate (see Horioka, 2016 and 2019, for a more detailed discussion).

Given that we can exclude culture, tradition, and national character as a major determinant of Japan's high household saving rate, the remainder of this paper is devoted to identifying what are the primary determinants of Japan's household saving rate.

4. Theoretical Considerations

Before turning our attention to the case of Japan, I would first like to briefly discuss theoretical considerations in this section. The life-cycle hypothesis or model of Modigliani and Brumberg (1954), the mostly widely used theoretical model of household behavior, assumes that individuals work, earn income, and save part of their income when young (i.e., during their working years) in order to prepare for life after retirement and retire and finance their living expenses by decumulating their previously accumulated savings when old (i.e., during their retirement years). Thus, individuals do positive saving when young and negative saving when old, and we would therefore expect the aggregate household saving rate to be higher, the lower is the proportion of the retirement-age population to the working-age population. This implies that trends in the age structure of the population will have an important impact on trends over time in the aggregate household saving rate.

There are two ways in which demographic trends can affect trends in the aggregate household saving rate. First, an increase in the share of age groups with lower saving rates (such as the elderly) will lead to a decline in the aggregate household saving rate even if there is no change in the saving rate of each age group. Second, a decline in the saving rate of certain age groups (for example, the elderly) will lead to a decline in the aggregate household saving rate even if there is no change in the age structure of the population. There is some disagreement about which of these two explanations is the more important one in explaining the recent decline in Japan's aggregate household saving rate, and it is to this issue that I turn in the following sections.

5. Evidence on the Impact of the Age Structure of the Population on the Saving Rate

The life-cycle hypothesis predicts that the age structure of the population (in particular, the ratio of the retirement-age population to the working-age population) will be a major determinant of the aggregate household saving rate, and if this hypothesis is borne out in Japan, the ageing of Japan's population would be able to explain the decline in Japan's aggregate household saving rate.

There have been countless studies that have tested whether the age structure of the population is a major determinant of the aggregate household saving rate using a variety of types of data, and I would like to conduct a selective survey of this vast literature.

For example, many studies have analyzed the impact of the age structure of the population on the aggregate household (or private) saving rate using cross-country data (see, for example, Horioka, 1989; Loayza, et al., 2000; and Horioka and Terada-Hagiwara, 2012), and the vast majority of these studies confirm that the ratio of the retirement-age population (the population aged 65 or older) to the working-age population (the population aged 20-64) does, in fact, have a negative and significant impact on the aggregate household (or private) saving rate, as predicted by the life-cycle hypothesis.

To cite one example, Horioka (1989) uses data on the member countries of the Organisation for Economic Co-operation and Development (OECD) for the 1975-84 period to analyze the determinants of the private saving rate.[5] The paper finds that the

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[5] This paper uses the private saving rate rather than the household saving rate as the dependent variable because data on the private saving rate are available for far more countries than on the

ratio of the population aged 65 or older and the population aged 20-64 has a negative and statistically significant impact on the private saving rate, as predicted by the life-cycle hypothesis. It then uses the estimation results to calculate the contribution of each factor to the difference between Japan's private saving rate and the OECD-wide average and to the U.S.-Japan gap in the private saving rate. It finds that, during the 1975-84 time period, Japan's population was the youngest, that the ratio of her retirement-age population to her working-age population was the lowest among all OECD member countries at the time, and that this can explain virtually all of the difference between Japan's private saving rate and the OECD-wide average and about half of the U.S.-Japan gap in the private saving rate.

Similarly, Horioka (1997) shows, using time-series data for Japan, that there is a cointegrating relationship between the aggregate household saving rate and the ratio of the population aged 65 or older to the population aged 20-64, and that this ratio has a negative and significant impact on the aggregate household saving rate, as predicted by the life-cycle hypothesis.

These findings imply that the steady ageing of Japan's population and the steady increase in the ratio of the population aged 65 or older to the population aged 20-64 can explain the steady decline in Japan's aggregate household saving rate since the mid-1970s. However, one might ask why Japan's aggregate household saving rate showed an upward trend until the mid-1970s even though the ratio of the population aged 65 or older to the population aged 20-64 was already showing an upward trend during that period.

One explanation is that the speed of population ageing was very slow until the mid-1970s and did not accelerate until after the mid-1970s. As Figure 2 shows, the ratio of the population aged 65 to the population aged 20-64 increased at an average rate of only 0.14 percentage points per year during the 1955-75 period whereas it increased at an average rate of 0.86 percentage points per year during the 1975-2020 period. Thus, the negative impact of population ageing on the aggregate household saving rate was much greater after the mid-1970s than it was before the mid-1970s.

<Figure 2 goes here>

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household saving rate.

Another explanation is that the ratio of the minor population (the population aged 0-19) to the working-age population (the population aged 20-64) showed a sharp downward trend until the mid-1970s due to sharp declines in fertility, with this ratio falling at an average rate of 1.59 percentage points per year during the 1955-75 period, as shown by Figure 2. Since the population aged 0 to 19 consumes but generally does not earn any employment income, one would expect the ratio of the population aged 0 to 19 to the population aged 20-64 to have a negative impact on the aggregate household saving rate, just as in the case of the ratio of the population aged 65 or older to the population aged 20 to 64. Thus, it is quite possible that it was the sharp decline in the ratio of the population aged 0 to 19 to the population aged 20-64 that was the primary cause of the sharp increase in the aggregate household saving rate until the mid-1970s. By contrast, the decline in the ratio of the population aged 0-19 to the population aged 20-64 decelerated greatly after the mid-1970s, declining at an average rate of only 0.49 percentage points per year during the 1975-2020 period. Thus, the positive impact of the decline in the ratio of minors to the working-age population was presumably much greater until the mid-1970s than it was after the mid-1970s.

To summarize, the findings of previous studies suggest that the age structure of the population is an important determinant of the aggregate household saving rate and that demographic trends can explain not only the level of Japan's aggregate household saving rate but also trends over time therein throughout the postwar period, with the decline in the ratio of the population aged 0 to 19 to the population aged 20-64 causing the increase in the aggregate household saving rate until the mid-1970s and the increase in the ratio of the population aged 65 or older to the population aged 20-64 causing the decline in the aggregate household saving rate after the mid-1970s.[6] Moreover, the findings of previous studies suggest that the continued ageing of Japan's population will lead to an even further decline in Japan's aggregate household saving rate in the coming years. (As Figure 2 shows, the ratio of the population aged 65 or older to the population aged 20-64 is projected to continue its rapid increase in the next half-century, increasing at an average rate of 0.73 percentage points per year during the 2020-2070 period.)[7]

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[6] Note, however, that although our finding that the age structure of the population has a significant impact on the aggregate household saving rate is consistent with the life-cycle model but that it does not favor the life-cycle model over the altruism or dynasty model because our finding is also consistent with the altruism or dynasty model.

[7] Note, however, that Chen, et al. (2006, 2007) and Braun, et al. (2007) find using an overlapping generations model calibrated to Japanese data that demographic factors (as measured by increases in

6. Evidence on the Saving Behavior of the Elderly in Japan

I turn next to the evidence on the saving behavior of the elderly because it has an important bearing on the impact of the age structure of the population on the aggregate household saving rate. In order for the ageing of the population to bring about a decline in the aggregate household saving rate, it must be the case that the elderly are dissaving (engaging in negative saving) or at least that their saving rate is lower than that of other age groups. Thus, in this section, I summarize the available evidence on the saving behavior of the elderly in Japan.

Earlier studies of the saving behavior of the elderly in Japan found that the elderly in Japan are continuing to save positive amounts, but these earlier studies were flawed because they looked at the sample of all elderly or working elderly. The life-cycle hypothesis predicts that the *retired* elderly will dissave, not that all elderly or the working elderly will dissave. If an elderly individual is still working and is still earning employment income, he/she will not necessarily have to dissave in order to finance his/her living expenses.

The author has written a number of papers about the saving behavior of the elderly (see Horioka, 2010; Horioka and Niimi, 2017; and Niimi and Horioka, 2019, for analyses of Japanese data, and Ventura and Horioka, 2020, and Horioka and Ventura, 2024, for analyses of European data), and in all of my work, I find that the working elderly continue to save positive amounts and that the retired elderly, who are the most likely to be dissaving, are not necessarily dissaving and that, even if they are dissaving, their rates of wealth decumulation are relatively slow and slower than expected.

For example, following Horioka (2010) and Horioka and Niimi (2017), Table 1 shows data on the accumulation rate of financial net worth of retired elderly households in Japan during the 21-year period from 2003 until 2023 taken from the "Family Income and Expenditure Survey," conducted by the Statistics Bureau of the Ministry of Internal Affairs and Communications of the Japanese Government.

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survival probabilities and declines in population growth rates) are not the primary explanation of trends over time in Japan's national saving rate over the 1960-2000 period. Rather, they find that changes over time in the growth of total factor productivity (TFP) are the major explanation of trends over time in Japan's national saving rate.

This survey is the most commonly used household survey of consumption, saving, and wealth, but it must be borne in mind that the data from this survey are not consistent with the National Accounts data on household saving because of differences in coverage (it collects data on household saving rates only for salaried worker households whereas the National Accounts include everyone including the self-employed, the unemployed, and the retired), conceptual differences, and measurement error (see Ueda and Ohno, 1993; Unayama and Yoneta, 2018a, 2018b; and Unayama, 2023, Chapter 14).[8] As a result, there are enormous differences between the two data sources in both the level of, and trends over time in, the household saving rate. For example, in 2022, the household saving rate for salaried worker households was 36.0 percent according to the "Family Income and Expenditure Survey," whereas the household saving rate was 3.4 percent according to the National Accounts. Thus, the figure from the "Family Income and Expenditure Survey" is more than 10 times as high as the figure from the National Accounts! Moreover, the household saving rates from the two data sources show very different trends over time as well. Whereas the aggregate household saving rate from the National Accounts has shown a downward trend since the mid-1970s except in 2020-21 (see Figure 1), the household saving rate from the "Family Income and Expenditure Survey" has shown an upward or stable trend during the same period.

Bearing in mind these deficiencies of the data from "Family Income and Expenditure Survey," I calculated the accumulation rate of financial net worth as the net increase in financial net worth during the current calendar year divided by financial net worth at the end of the previous calendar year. As columns (1) and (3) of Table 1 show, retired elderly households in Japan decumulated their financial net worth throughout the period of analysis, with the sole exception being at the time of the Covid-19 pandemic in 2020. More specifically, retired elderly households in Japan decumulated their financial net worth at a rate of 1 to 3 percent per year throughout the 2003-23 period and the tendency to decumulate financial net worth strengthened throughout much of this period, rising from 1-2 percent in 2003 to about 3 percent in the mid-2010s before leveling off somewhat.

<Table 1 goes here>

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[8] As Hayashi (1986, 1989, 1992, 1996, and 1997) and Horioka (1985) point out, there are several conceptual deficiencies in the National Accounts data on household saving as well although they are not as serious as those in the household survey data.

Even a wealth decumulation rate of 3 percent is not only slow in absolute terms but is also slower than predicted by the simplest version of the life-cycle model because it implies that financial net wealth would not be exhausted for about 33 years (i.e., until the age of 98 in the case of a 65-year-old) (see columns (2) and (4) of Table 1 for the implied time horizons in each year, which is calculated as the reciprocal of the wealth decumulation rate in that year).[9]

One possibility is that the wealth decumulation rates shown in Table 1 are biased downward (in absolute magnitude) because they focus on the retired elderly who live apart from their children. Less affluent retired elderly will be more likely to live with their children, and thus, the retired elderly who live apart from their children will be a biased sample who are more affluent than the full sample of the retired elderly. However, a careful study by Hayashi, Ando, and Ferris (1988) and Hayashi (1997, pp. 307-311) found that both the independent elderly who live in nuclear families as well as the dependent elderly who live in extended families are decumulating their wealth. Thus, the wealth decumulation rates of the elderly would not necessarily be higher (in absolute magnitude) even if we had data on the elderly who have been merged into their children's households. Thus, the "household merging" phenomenon cannot necessarily explain the lower than expected wealth decumulation rates of the elderly.

As shown by Horioka and Niimi (2017), Niimi and Horioka (2019), and Economic and Social Research Institute (2024), the wealth decumulation rate of the elderly is slower than expected partly because many households want to leave part of their wealth behind to their children in the form of bequests and other intergenerational transfers and partly because many households are worried about running out of assets before they pass away and/or about future medical and long-term care expenses, especially those towards the end of their lives. To put it in more technical terms, the wealth decumulation rate of retired elderly households is slower than expected because of bequest motives and/or because of precautionary saving arising from lifespan uncertainty (longevity risk) and uncertain

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[9] The accumulation rate of real wealth (primarily land and housing) cannot be calculated precisely due to the unavailability of data on the stock of real wealth, but it could be either roughly zero or negative. It could be roughly zero because it is rare for retired elderly households in Japan to sell their homes, presumably because they have a strong desire to continue living in their own homes until death. By contrast, it could be negative since the value of housing depreciates steadily over time (unless renovations are done to offset that depreciation). Thus, the wealth decumulation rate of retired elderly households in Japan might be somewhat higher (in absolute magnitude) if real wealth were to be included.

future medical expenses and long-term care expenses.

The finding that, in Japan, the working elderly are continuing to save and that the retired elderly in Japan are dissaving (i.e., decumulating their wealth) only very slowly implies that population ageing will not necessarily lead to a sharp decline in Japan's aggregate household saving rate.

Conversely, in order to argue that changes over time in the saving rate of each age group is responsible for the decline in Japan's aggregate household saving rate, we need to show that there are at least some age groups that show a decline in their saving rates over time. Horioka (2010) and Horioka and Niimi (2017) show using data from the aforementioned "Family Income and Expenditure Survey" that there has not been a clear trend in the saving rate of younger age groups in Japan in recent years but that the saving rates of elderly households (whether they are working or retired) has declined sharply since about 2000. Moreover, Table 1 showed that wealth decumulation rates of retired elderly households (and by implication their saving rates) have shown a clear downward trend since at least 2003. This evidence suggests that the downward trend in the saving rates of elderly households (especially retired elderly households) could be an important explanation for why Japan's aggregate household saving rate has shown a downward trend in recent years.

In sum, the evidence presented thus far suggests that the decline in the saving rate of the retired elderly is more important than the ageing of the population as an explanation of the decline in Japan's aggregate household saving rate in recent years.

7. The Dominant Cause of the Decline in Japan's Aggregate Household Saving Rate

Unayama and Ohno (2017), Unayama and Yoneta (2018a, 2018b), and Unayama (2023, Chapter 14) do a careful analysis of this very issue in order to shed light on whether the decline in Japan's aggregate household saving rate was due to population ageing (the increase in the ratio of the retirement-age population to the working-age population) or to the decline in the saving rate of the elderly.

The most commonly used data on household saving rates by age group are from the aforementioned "Family Income and Expenditure Survey" and the "National Survey of

Family Income and Expenditure" (now called the "National Survey of Income, Consumption, and Wealth"), both of which are conducted by the Statistics Bureau of the Ministry of Internal Affairs and Communications of the Japanese Government. However, as noted earlier, these data are not consistent with the National Accounts data, are not based on the economically correct concepts of saving and income, and do not cover the entire household sector.

Fortunately, Unayama and Ohno (2017), Unayama and Yoneta (2018a, 2018b), and Unayama (2023, Chapter 14) have performed the meticulous task of adjusting the data on saving rates by age group from the "National Survey of Family Income and Expenditure" to make them consistent with the National Accounts and find using the adjusted data that it is the decline in the saving rate of elderly households that is the primary cause of the decline in Japan's aggregate household saving rate since 2000, not population ageing (the increase in the ratio of the retirement-age population to the working-age population), which is consistent with my own conclusion in section 6. In particular, they find that 86% of the decline in the household saving rate during the 1999-2014 period was due to the decline in the saving rate of the elderly and that only 13% of the decline was due to population ageing (which they measure as the increase in the income share of the elderly).

As for why the saving rates of elderly households has declined so sharply in recent years, Horioka (2010), Horioka and Niimi (2017), Unayama and Ohno (2017), Unayama and Yoneta (2018a, 2018b), and Unayama (2023) show that it was due not to increases in consumption spending but to declines in disposable income, especially public pension benefits and property income. As Unayama and Ohno (2017), Unayama and Yoneta (2018a, 2018b), and Unayama (2023) show, the decline in public pension benefits was, in turn, due to reductions in public pension benefits, the phasing out of cost-of-living increases in public pension benefits, and the postponement of the pensionable age from 60 to 65, whereas the decline in property income was, in turn, due to the prolonged "zero interest rate" policy of the Japanese government and the stagnation of equity and property prices. Both findings are as expected because retired elderly households will have no choice but to rely more on their own wealth (dissaving) to meet their consumption needs when they experience a decline in public pension benefits and/or property income.

There has been a steady increase in the proportion of elderly households who live apart from their children in Japan in recent years, and we would have expected this trend to have led to an increase in the saving rates of elderly households if elderly households who

live apart from their children are more affluent and therefore show higher saving rates than those who live with their children. However, as I noted earlier, the findings of Hayashi, Ando, and Ferris (1988) and Hayashi (1997, pp. 307-311) show that both the independent elderly who live in nuclear families as well as the dependent elderly who live in extended families are decumulating their wealth. Thus, it is not clear whether or not the trend toward nuclear families has contributed to the decline in the saving rate of the elderly.

8. Future Trends in Japan's Aggregate Household Saving Rate

In this section, I speculate about future trends in Japan's aggregate household saving rate. The finding of Unayama and Ohno (2017), Unayama and Yoneta (2018a, 2018b) and Unayama that the decline in the saving rate of elderly households is the primary cause of the decline in Japan's aggregate household saving rate has important implications for future trends in Japan's aggregate household saving rate. If population ageing is not the primary cause of the decline in Japan's aggregate household saving rate, Japan's aggregate household saving rate will not necessarily show a further decline even if population ageing continues or accelerates in the future, as it is projected to do.

What will determine future trends in Japan's aggregate household saving rate is future trends in the saving rate of the elderly. If it continues its downward trend, Japan's aggregate household saving rate will continue to decline, but if it stabilizes or reverses course, Japan's aggregate household saving rate will halt its decline or even start increasing even if the population continues to age.

It is difficult to project future trends in the property income of retired elderly households, but it is relatively easy to project future trends in their public pension benefits. The current structure of Japan's public pension system is such that benefits will be reduced as necessary to maintain the solvency of the system while keeping contribution rates below a certain level. Thus, as population ageing continues even further in the future, the potential deficits of the public pension system will increase, and this in turn will necessitate continued reductions in public pension benefits. For example, Kitao (2015) and Kitao and Mikoshiba (2025) show that population ageing will greatly increase the cost to the government of public pension and health and long-term care insurance, making it necessary to increase taxes (or reduce benefits) substantially (see also Doi, 2025).

If past experience is any guide, these reductions in public pension benefits will cause the saving rates of retired elderly households to decline (or their dissaving rates and wealth decumulation rates to increase in absolute magnitude) because they will have to rely more on their own savings to finance their living expenses, and this in turn would be expected to cause further declines in Japan's aggregate household saving rate.

However, the decline in Japan's aggregate household saving rate can be expected to be relatively moderate since population ageing itself was found not to cause a significant decline in the aggregate household saving rate.

A number of studies have used a totally different approach (i.e., a computable general equilibrium model) to project the impact of demographic factors on future trends in Japan's saving rate. For example, Braun, et al. (2009) show that demographic factors (in particular, the decline in the fertility rate and increases in survival probabilities or life expectancies) contributed 2-3 percentage points to the 9 percentage point decline in Japan's saving rate during the 1990-2000 period and that they can be expected to contribute to a further decline in Japan's saving rate through the end of the 21st century (see also Hayashi, et al., 1988, and Chen, et al., 2006, 2007). It is reassuring that studies using a totally different approach obtains broadly consistent conclusions about demographic factors leading to further declines in Japan's saving rate in the coming years.

9.   Other Influences on the Household Saving Rate

Needless to say, there are many other influences on the household saving rate in addition to demographic factors (for example, Horioka, 1990, identifies 36 factors), and I discuss some of the more important ones in this section.

As noted earlier, the only period during which Japan's household saving rate exceeded 15% was the 25-year period from 1961 until 1986 and Japan's household saving rate has shown a downward trend since then. In this section, I will discuss possible explanations (other than demographic factors) for why Japan's household saving rate was so high during the 1961-86 period and why it has been declining since then (see Hayashi, 1986, 1989, 1992, 1996, and 1997; Sato, 1987; Horioka, 1990, 1993a, 1993b, 2008, 2019, and 2021; Ito and Hoshi, 2020, Chapter 8; Flath, 2022, Chapter 5; and Unayama, 2023, for

more details).

9.1. The unavailability of consumer credit

It is commonly known that households will save more if they are not able to borrow (i.e., they are borrowing or liquidity-constrained) (see, for example, Deaton, 1991). In the case of Japan, consumer credit was not readily available until the 1970s. The Housing Loan Corporation, a government agency whose mission is to provide subsidized housing loans to households, was established in 1950, but private housing loans did not become available until the 1970s, and other forms of consumer credit did not become available until even later (see Horioka and Niimi, 2020, for more details). As a result, Japanese households had to save up in advance of making large purchases—for example, of housing, automobiles, electrical appliances, furniture, etc.—until the 1970s. Thus, the unavailability or availability of consumer credit can help explain why Japan's household saving rate was so high until the mid-1970s and why it has been declining since then.[10]

9.2. The unavailability of social safety nets

Theory predicts that the unavailability of social safety nets such as public pensions, public health insurance, and public long-term care insurance will induce households to save more on their own (i.e., self-insure) (see, for example, Feldstein, 1974). Social safety nets were largely unavailable in Japan until the 1970s, and as a result, households had to save on their own to prepare for unexpected contingencies and to prepare for living expenses during retirement. The public pension system was not introduced on a full scale until 1973, and other social safety nets were expanded even later. For example, the public long-term care insurance system was not introduced until 2000. Thus, the availability or unavailability of social safety nets can help explain why Japan's household saving rate was so high until the mid-1970s and why it has been declining since then.[11]

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[10] Hayashi, et al. (1988) show that the larger down payment requirements for housing purchase in Japan induced Japanese households to save more earlier in the life cycle but that this factor cannot explain very much of the U.S.-Japan gap in aggregate household saving rates.

[11] Chen, et al. (2007) show that improvements in the public pension system had some impact on the national saving rate but that its quantitative importance is less than that of other factors.

9.3. The high growth rate of household incomes

The life-cycle/permanent-income hypothesis predicts that household saving rates will be an increasing function of income growth (see, for example, Modigliani and Brumberg, 1954). Japan showed double-digit economic growth until the early 1970s, after which growth tapered off considerably. Rapid economic growth was accompanied by rapid increases in household incomes, and rapid increases in household incomes can in turn lead to increases in household saving because households will not be able to increase their consumption in tandem with income growth if income growth is overly rapid. Thus, economic (income) growth can help explain why Japan's household saving rate was so high until the mid-1970s and why it has been declining since then.

9.4. Tax breaks for saving

The Japanese Government instituted the so-called "Maruyuu system," which made interest income on bank deposits, postal deposits, and government bonds tax-free, up to a limit, as a way of promoting household saving. Assuming that the interest elasticity of saving is positive (see, for example, Boskin, 1978), these tax breaks on saving may have contributed to the high level of household saving during the 1961-86 period by raising the after-tax return on saving. Moreover, the abolition of this system in 1988 may be able to help explain why household saving has been relatively since then.[12]

9.5. Saving promotion activities

The Japanese Government and the quasi-governmental Central Council for Savings Promotion (housed inside the Bank of Japan) engaged in a variety of saving promotion activities such as the preparation and distribution of magazines, statistical handbooks, booklets, leaflets, posters, films, household financial ledgers, and money boxes, the appointment of private citizens as saving promotion leaders, etc., during much of the postwar period, and Garon (1997, Chapter 5) has argued that these saving promotion activities helped to raise Japan's household saving rate during the high-growth period. Moreover, these saving promotion activities have been phased out over time, one manifestation of this being that the Central Council for Savings Promotion was renamed

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[12] Hayashi, et al. (1988) show that tax breaks on saving can explain only 1.5 percentage points of the U.S.-Japan gap in household saving rates.

the Central Council for Saving Information in 1989, and its mission was changed from promoting saving to achieving the right balance between saving and consumption. Thus, trends in saving promotion activities can help explain not only why Japan's household saving rate was high during the 1961-86 period but also why it has been much lower during the subsequent period.

9.6. Land and housing prices

Land and housing prices in Japan have not only been notoriously high and but have also been rising rapidly throughout much of the postwar period and this, combined with the limited availability of housing loans, has required potential homebuyers to save huge amounts for the down payments on their homes. Moreover, the substantial housing loan repayments that must be made after the purchase are also a form of saving because they lead to an increase in the household's net worth. This can help explain why the aggregate household saving rate was high in the past (for more details, see Horioka, 1988, and Hayashi, Ito, and Slemrod, 1988). However, the asset price bubble burst in 1990-92, making housing more affordable and this, combined with rising homeownership rates, the greater availability of housing loans, and near-zero interest rates on housing loans, can help explain the recent decline in the aggregate household saving rate.

10. Concluding Discussion

In this paper, I have shown that Japan's household saving rate has not always been high either absolutely or relative to other countries, contrary to popular belief, and that, if we confine ourselves to the postwar period, it was only during the 25-year period from 1961 to 1986 that it exceeded 15%. Past and future trends in Japan's household saving rate can largely be explained by changes in the age structure of her population, but declines in the saving rate of retired elderly households is a more important explanation for the recent decline in the household saving rate. However, it is likely that other factors such as the unavailability of consumer credit, the unavailability of social safety nets, high rates of economic (income) growth, tax breaks for saving, saving promotion policies, and high and rising land and housing prices are also partial explanations for why Japan's aggregate household saving rate was so high during the 1961-86 period and why it declined so much subsequently. As for future trends in Japan's aggregate household saving rate, it is likely to fall even further though not necessarily at a rapid rate.

17

Turning finally to the implications of our findings, Japan's household sector has traditionally been a net lender since household saving has traditionally exceeded household investment (mostly investment in housing), and the excess saving in the household sector has traditionally been channeled to the corporate sector to finance investment in plant and equipment, to the government sector to finance its deficits, and abroad to finance saving shortages in other countries. Thus, if Japan's aggregate household saving rate continues to fall moderately, as I predict, this will lead to less saving being available to finance household investment in housing, corporate investment in plant and equipment, government deficits, and saving shortages abroad. However, there seems to be no need for undue concern since I am predicting that the decline in aggregate household saving rate will be relatively moderate, since there is a real possibility that investment needs will also decline because absolute declines in population will alleviate the need to expand the productive capacity of the economy, since corporate saving has been very robust in recent years (see Corbett and Diamond, 2025), and since there is always the option of borrowing from countries with saving surpluses if Japan as a whole experiences saving shortages.

Returning to the issue of the saving behavior of the elderly in Japan, the fact that the dissaving rates and wealth accumulation rates of the retired elderly in Japan are lower than expected implies that they are not enjoying as high a standard of living as they could and that they are not enjoying the fruits of their many years of hard labor. As I have already discussed, this is due to partly to bequest motives and partly to precautionary saving arising from lifespan uncertainty (longevity risk) and/or future uncertain medical and long-term care expenses. This suggests that the problem can be rectified by increasing inheritance taxes, by expanding the private market for lifetime annuities (including the market for reverse mortgages), and/or by maintaining or expanding public pension systems, public health insurance systems, and public long-term care insurance systems although the latter will be difficult given the precarious finances of the Japanese government.

Another possibility is to encourage the elderly to transfers part of their wealth to their children and grandchildren who are liquidity-constrained because their incomes are still relatively low. Perhaps the most effective way of doing so would be to extend and/or expand the already existing tax breaks for *inter vivos* transfers from grandparents and parents to children and grandchildren for the purpose of assisting them with educational

expenses, housing purchase, and/or marriage and child-rearing expenses (temporary measures along these lines are already in place but are due to expire in 2025 or 2026 unless they are extended).

A final possibility is for the government to expand tax deductions for charitable contributions to encourage taxpayers including the elderly to contribute more to nonprofit organizations. To the extent that nonprofit organizations assist low-income households, such a policy would simultaneously reduce poverty and stimulate household consumption, allowing two birds to be killed with one stone.

All of the policies that I am recommending would encourage the elderly to decumulate their considerable wealth holdings more rapidly and would stimulate aggregate consumption and the economy as a whole by inducing these wealth holdings to be used to finance the consumption of the elderly themselves, the consumption of the younger generation as well as the consumption of the low-income. Moreover, all of these proposals (with the exception of the proposal about tax breaks for *inter vivos* transfers) have the added advantage of discouraging bequests and *inter vivos* transfers, thereby alleviating the extent to which wealth disparities are passed on from generation to generation.

Acknowledgements

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21

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<Table S-1 goes here>

Fig. 1: Trends in Japan's Household Saving Rate

Source: Table S-1.

Notes: The base year for the 1968SNA data is 1990, the base year for the 1993SNA data is 2000, and the base year for the 2008SNA data is 2015.

Fig. 2: Trends in the Age Structure of Japan's Population

Source of the 1955-2020 data: Statistics Bureau, Ministry of Internal Affairs and Communications, Government of Japan, Census of Population
Source of the 1925-2070 data: National Institute of Population and Social Security Research, Population Projections for Japan (2021-2070), Medium-Mortality and Medium-Fertility)
Notes: DEP denotes the population aged 0-19 as a percentage of the population aged 20-64, while AGE denotes the population aged 65 or older as a percentage of the population aged 20-64.

Table 1: Wealth Accumulation Rates of Retired Elderly Households				
Calendar year	Accumulation rate of financial net worth (percent)	Implied time horizon (years)	Accumulation rate of financial net worth (percent)	Implied time horizon (years)
	No-occupation aged households: Households comprising only males aged 65 years and over and/or females aged 60 years and over, and at least one household member aged 65 years and over		No-occupation aged-couple households: Households comprising an aged couple only (husband aged 65 years and over and wife aged 60 years and over)	
2003	-1.95	51.3	-1.01	99.01
2004	-2.41	41.5	-1.64	60.98
2005	-1.99	50.3	-1.61	62.11
2006	-2.29	43.7	-1.96	51.02
2007	-2.33	42.9	-1.68	59.52
2008	-2.56	39.1	-2.13	46.95
2009	-2.23	44.8	-1.61	62.11
2010	-2.42	41.3	-1.74	57.47
2011	-2.62	38.2	-2.26	44.25
2012	-2.92	34.2	-2.65	37.74
2013	-3.10	32.2	-2.87	34.84
2014	-2.61	38.4	-2.23	44.84
2015	-2.50	40.0	-2.28	43.87
2016	-3.10	32.2	-2.88	34.77
2017	-2.72	36.8	-2.61	38.37
2018	-2.14	46.6	-2.06	48.54
2019	-1.77	56.6	-1.64	61.13
2020	-0.08	1240.2	0.06	na
2021	-1.28	77.9	-1.13	88.42
2022	-1.32	75.7	-1.13	88.27
2023	-1.94	51.4	-1.89	52.85
Source: Statistics Bureau, Ministry of Internal Affairs and Communications, Government of Japan, "Family Income and Expenditure Survey" (https://www.stat.go.jp/data/kakei/)				
Notes: "na" denotes "not available."				

Table S-1: Trends over Time in Japan's Household Saving Rate			
Calendar year	(1)	(2)	(3)
1955	11.9		
1956	12.9		
1957	12.6		
1958	12.3		
1959	13.7		
1960	14.5		
1961	15.9		
1962	15.6		
1963	14.9		
1964	15.4		
1965	15.8		
1966	15.0		
1967	14.1		
1968	16.9		
1969	17.1		
1970	17.7		
1971	17.8		
1972	18.2		
1973	20.4		
1974	23.2		
1975	22.8		
1976	23.2		
1977	21.8		
1978	20.8		
1979	18.2		
1980	17.9	17.7	
1981	18.4	18.6	
1982	16.7	17.3	
1983	16.1	16.8	
1984	15.8	16.7	
1985	15.6	16.2	
1986	15.6	15.4	
1987	13.8	13.7	
1988	13.0	14.2	
1989	12.9	14.1	
1990	12.1	13.5	
1991	13.2	15.1	
1992	13.1	14.7	

1993	13.4	14.2	
1994	13.3	13.3	12.3
1995	13.7	12.6	11.1
1996	13.4	10.5	9.5
1997	12.6	10.3	9.7
1998	13.4	11.4	11.1
1999		10.0	9.6
2000		8.7	8.0
2001		5.1	4.2
2002		5.0	2.7
2003		3.9	2.3
2004		3.6	2.0
2005		3.9	2.7
2006		3.8	3.2
2007		2.4	3.3
2008		2.2	3.4
2009		5.0	4.5
2010			3.3
2011			3.6
2012			2.2
2013			-0.1
2014			-1.3
2015			-0.4
2016			1.4
2017			1.0
2018			1.1
2019			2.9
2020			10.9
2021			6.6
2022			3.4

Source: Economic and Social Resarch Institute, Cabinet Office, Government of Japan, Annual Report on National Accounts

Notes: Column 2 shows data based on the 1968SNA, base year=1990; column 3 shows data based on the 1993SNA, base year=2000; and column 4 shows data based on the 2008SNA, base year=2015.

https://www.esri.cao.go.jp/jp/sna/data/data_list/kakuhou/files/2022/