

Has the Saving Behavior of Japanese Households Changed? Distinguishing Facts from Fallacies

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1. Introduction

Reflecting a long-term decline that has accelerated in recent years, Japan's household saving rate has plunged to 6.4% according to the latest available national accounts data (2002). Japan's saving rate is thus no longer high by international standards, something which perhaps surprises the Japanese as much as anyone. In fact, Japan actually ranks below the median level of OECD countries. When the saving rate used to be high, research papers sought to explain why Japan was unique; now they ask what has changed to cause the saving rate to plunge.

Stated briefly, the secular decline in the household saving rate corresponds to the growth of non-working elderly households who are dissaving. There is simply no basis to the claim that the saving and consumption behavior of Japanese households had defied the life-cycle consumption hypothesis in the past, but changed radically in recent years to where households have begun dissaving in retirement. Even a cursory glance at time series data for households confirms that non-working elderly households have been dissaving for a long time.

We can put to rest the fallacy that Japan's high saving rate is explained by a national proclivity to save. But many other fallacies persist regarding Japan's household savings. For example, it is not widely known that saving rates have actually risen among younger workers' households. Another widespread fallacy we can dispel is that compared to other countries, the portfolio selection of Japan's households is biased toward safety.

Based on statistical data, this paper attempts to separate fact from fallacy regarding Japan's household saving behavior from both flow and stock perspectives.

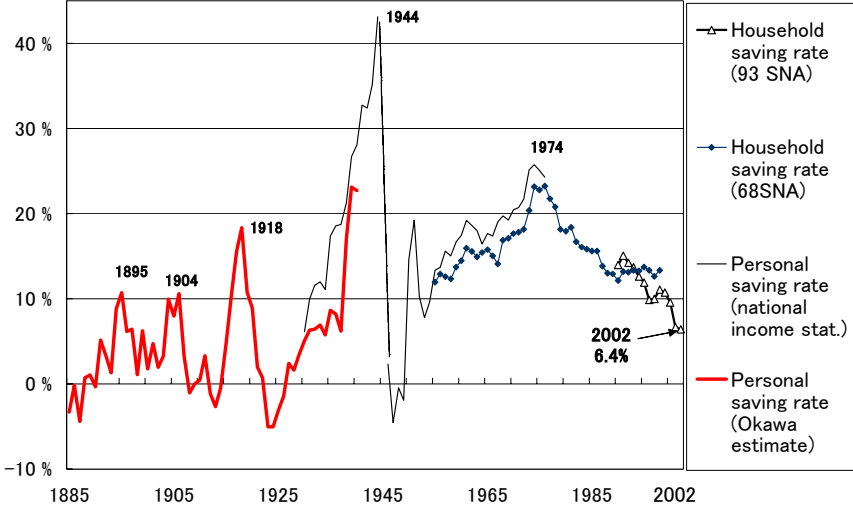
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2. Household Saving Rate in the Past 120 Years

We first examine whether Japan's household saving rate has historically exceeded that of other countries. According to data from the previous system of national accounts (68SNA) covering the period 1955 to 1998, and data from the present national accounts (93SNA) released since 1990, the household saving rate remained constantly above 10% until 2000. Few observers predicted even then that Japan's saving rate would so quickly approach the perennially low saving rates of countries such as the U.S. (3.7%) and U.K. (5.3%).

However, looking at the 120-year period from the 1880s with the aid of historical econometric estimates, we find that the saving rate has exceeded 10% during peacetime only once, from the late 1950s to mid 1990s. Even then, the saving rate exceeded 15% and remained the world's highest for only about 25 years from the early 1960s to the mid 1980s.

Figure 1 Household Saving Rate Since 1885



Source: Cabinet Office, *Annual Report on National Accounts*; Kazushi Okawa, Miyohei Shinohara, and Mataji Umemura, eds., *Long-term Economic Statistics*, Toyo Keizai Inc.; others

Prior to that, including wartime, the saving rate peaked above 10% four times: 1895 (end of the Sino-Japanese War), 1904 (start of the Russo-Japanese War), 1918 (end of World War I), and 1944 (during World War II). At these times, the saving rate rose due to uncertainty about the future, and subsequently fell when war ended. The same phenomenon is observed for the first postwar oil shock.

Thus as far as the first half of the twentieth century is concerned, the saving rate never exceeded 10% except in wartime. For a high saving rate to occur in peacetime, several conditions are necessary: income that has reached a certain level, accumulated assets that are not especially large, a consistently high real economic growth rate, and low ratio of elderly in the population. The period from the early 1960s to mid 1980s was exceptional in

that these conditions were met perfectly.

Regarding the ratio of elderly in the population, Japan was lowest among industrialized countries until the mid 1980s, but steadily rose to become the highest at 19.1% in 2004. The saving rate's decline below 10% since 2000 can be attributed to the secular aging trend combined with short-term economic factors.

Figure 2 Ratio of Elderly Population in Industrialized Countries

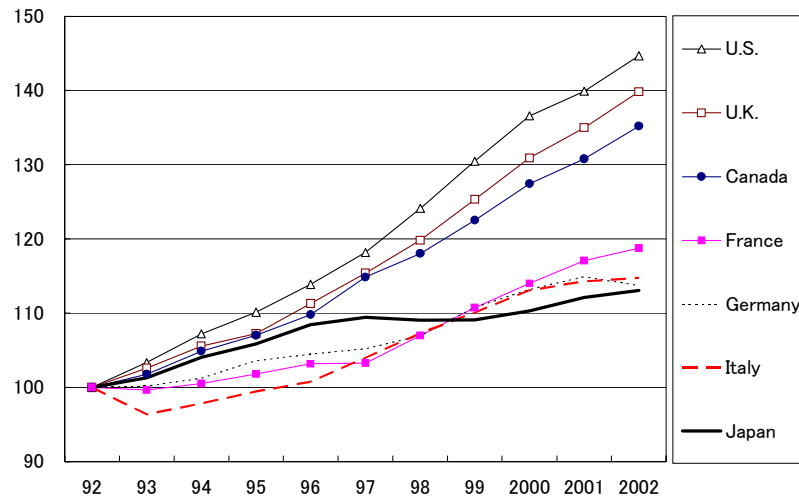
	Japan	U.S.	U.K.	France	Germany	Italy	OECD 30	OECD 25	EU 15	Scandi- navia 3
1950	4.9%	8.3%	10.7%	11.4%	9.7%	8.3%	7.8%	8.1%	9.5%	9.1%
1955	5.3%	8.8%	11.3%	11.6%	10.7%	8.7%	8.2%	8.5%	10.0%	9.6%
1960	5.7%	9.2%	11.7%	11.6%	11.5%	9.3%	8.5%	8.9%	10.6%	10.4%
1965	6.2%	9.5%	12.0%	12.1%	12.5%	10.0%	9.0%	9.3%	11.2%	11.1%
1970	7.1%	9.8%	12.9%	12.9%	13.7%	10.9%	9.6%	9.9%	12.2%	12.2%
1975	7.9%	10.5%	14.0%	13.5%	14.8%	12.0%	10.2%	10.6%	13.1%	13.5%
1980	9.0%	11.2%	15.1%	14.0%	15.6%	13.1%	10.8%	11.3%	13.9%	14.7%
1985	10.3%	11.8%	15.1%	13.0%	14.6%	12.7%	10.8%	11.5%	13.6%	15.8%
1990	12.0%	12.4%	15.7%	14.0%	15.0%	15.3%	11.6%	12.4%	14.7%	16.2%
1995	14.6%	12.5%	15.7%	15.1%	15.5%	16.6%	12.3%	13.1%	15.5%	16.2%
2000	17.2%	12.3%	15.8%	16.0%	16.4%	18.1%	13.0%	13.9%	16.4%	16.2%
2005	19.6%	12.3%	16.1%	16.4%	18.7%	19.6%	13.7%	14.7%	17.5%	16.7%
2010	22.3%	12.9%	17.0%	16.6%	20.2%	20.6%	14.6%	15.7%	18.4%	18.2%
2015	25.8%	14.4%	18.9%	18.6%	21.0%	22.4%	16.2%	17.3%	20.0%	20.8%
2020	27.9%	16.3%	20.2%	20.5%	22.5%	23.9%	17.8%	18.9%	21.5%	22.7%
2025	28.9%	18.5%	21.9%	22.2%	24.6%	25.7%	19.6%	20.8%	23.4%	24.4%
2030	30.0%	20.2%	24.3%	23.8%	27.7%	28.6%	21.4%	22.7%	25.9%	26.0%
2035	31.6%	20.9%	26.4%	25.1%	30.4%	31.8%	22.8%	24.1%	28.1%	27.5%
2040	34.1%	21.0%	27.2%	26.2%	30.9%	34.5%	23.9%	25.1%	29.5%	28.3%
2045	35.6%	20.9%	27.2%	26.4%	30.8%	35.8%	24.6%	25.5%	30.1%	28.4%
2050	36.4%	21.1%	27.3%	26.7%	31.0%	35.9%	25.1%	25.8%	30.3%	28.5%

Note: Scandinavia 3 refers to Sweden, Finland, and Norway.

While a declining saving rate is technically equivalent to a rising propensity to consume, rising consumer confidence and consumption growth have not played a part in Japan's case. Since the early 1990s, similar saving rate declines have been observed in other industrialized countries. But unlike Japan, countries such as the U.S., U.K. and Canada have exhibited strong consumption growth.

Stated differently, Japan has had the lowest consumption growth among industrialized countries since the mid 1990s. The declining saving rate, and by definition the rising propensity to consume, failed to cause consumption growth because income has persistently decreased or grown sluggishly at best. Despite the significant decrease in disposable income, households did not—or perhaps could not—slash consumption proportionately. As a result, the propensity to consume has risen and the saving rate has dropped.

Figure 3 Real Household Consumption Among G7 Countries



Note: Values for all countries are indexed to 1992 = 100.
Sources: Cabinet Office, *Annual Report on National Accounts*; OECD, *National Accounts*.

3. The Disparity Between Macro and Micro Saving Rates

The aggregate saving rate is a macroeconomic statistic in the national accounts. The source data for estimating household consumption and saving comes from the monthly *Family Income and Expenditure Survey* (Statistical Bureau, Ministry of Public Management, Home Affairs, Posts and Telecommunications), which gathers data on income, consumption and saving rate at the individual household level.

In 2003, the key microeconomic saving rate of the *Family Survey*—that of workers' households with two or more persons—stood at 26.0%, slightly below the all-time high of 28.7% in 1998 (the survey began in 1953). Considering that the saving rate was 25.7% in 1993, the saving rate has changed very little over the past decade. Actually, in sharp contrast to the macro saving rate, the *Family Survey's* micro saving rate not only avoided a secular decline, but remains high even compared to pre-1990s levels.

The high saving rate of workers' households might be explained by a decline in income. Households tend to react to significant yet temporary income dips by trying to maintain their accustomed standard of living, which reduces the saving rate. An extreme case is that of unemployed households, who dissave because they cannot live on jobless benefits alone.

However, if income fails to recover, households will adjust to the lower income by reducing consumption, halting the saving rate's decline. And in a weak economy, even households not experiencing large wage cuts or unemployment are prompted by a sense of uncertainty to raise the saving rate.

Still, compared to the *Family Survey* saving rate for workers' households, the household saving rate in the national accounts is considerably lower, and unequivocally trending down. This disparity between the two saving rates can be attributed to two factors.

First, different statistical conventions exist for items comprising disposable income, consumption and saving. For example, in the national accounts, owner-occupied homes not only provide housing services, which are reflected in consumption, but generate income in the form of imputed rent, which is reflected in disposable income.

Imputed rent comprises as much as 10% of GDP and approximately 20% of household consumption. By international standards, Japan's home ownership ratio (approximately 70%) and floor space of owner-occupied homes (123 square meters) are fairly average. However, the imputed rent is high because it is based on rent for rented housing, which is relatively expensive because rented housing does not enjoy the tax advantages of owner-occupied homes, and because the supply of rented housing is restrained by the Land and House Lease Law.

If we exclude imputed rent from the household saving rate calculation, the aggregate saving rate of 6.4% increases by 8.4 percentage points to 14.8%. Statistical conventions differ for other items as well. And since the saving rate in the national accounts is based on a wide composition of categories comprising consumption, it is lower than the saving rate measured by the *Family Survey*.

Second, the national accounts data includes not only workers' households but self-employed households (all other working households) and non-working households. By comparison, the *Family Survey* does not disclose data on savings and disposable income for working households other than workers' households. If we assume that other households have the same propensity to consume as workers' households, the overall weighted average comes out to a saving rate of 19.2%. This is close to the macro saving rate in the national accounts after excluding imputed rent.

While the *Family Survey* includes unemployed households in non-working households, over 90% are actually non-working elderly households. In 2003, the saving rate for non-working elderly households (aged 60 and over) was significantly negative at -24.6%. The surprisingly persistent notion that Japan's elderly households do not dissave holds true for less than 20% of households—all of whom are still working.

Moreover, the notion that non-working elderly households have rapidly dissaved like their U.S. counterparts only in recent years is also unfounded. According to relevant data released since 1986, their saving rate was never positive to begin with.

The important point is that non-working elderly households have grown and currently comprise over 22% of all households. Their mounting presence largely explains why the aggregate saving rate in the national accounts has trended downward despite the persistently high saving rate of workers' households.¹

Figure 4 Micro Saving Rate of Households by Age Group

	Workers' households						Non-working households	
	Total	~29	30s	40s	50s	60+	Total	60+
1990	24.7	24.0	27.1	24.0	25.1	19.0	-15.5	-12.6
1995	27.5	28.0	31.3	25.4	28.3	22.6	-13.4	-11.5
2000	27.9	25.9	32.3	29.1	26.8	18.4	-19.2	-16.2
2001	27.9	24.0	33.8	27.5	27.0	19.6	-22.9	-20.4
2002	26.9	26.1	33.3	27.8	25.5	14.5	-29.6	-26.0
2003	26.0	28.4	32.3	27.0	24.1	12.8	-28.2	-24.6

Source: Ministry of Public Management, Home Affairs, Posts and Telecommunications, *Family Income and Expenditure Survey*.

Incidentally, when comparing saving rate by age group from 1990 to 2003, we find that saving rates have risen across the board for workers' households under age 50. This can be attributed to anxieties people today have about unemployment risk and the decaying public pension system. On the other hand, for non-working elderly households receiving public pensions that are high relative to paid-in premiums, the negative saving rate has grown more negative in recent years, which has affected the aggregate saving rate. In any event, there is no truth to the notion that the saving rate has been declining because younger generations increasingly shun saving.

4. Can Portfolio Selection be Correctly Explained by Macroeconomic Data?

The Japanese strongly believe that compared to other countries, their portfolio selection is biased toward safe assets. However, as we stated earlier, this is an outright fallacy.

Of course, an international comparison of macroeconomic data shows that Japan's households hold a low ratio of corporate equities and high ratio of cash and deposits. However, empirical research by the OECD's staff has found that in some countries, the

¹ Another cause of the saving rate's secular decline is the decrease in operating profit of individual proprietorships and the self-employed. In addition, the massive maturation of postal savings time deposits in 2000 and 2001 may have artificially depressed the saving rate due to statistical conventions: interest income from time deposits is recorded on an accrual basis every year in national accounts data, but taxed on a cash basis when payable at maturity. Thus in 2000 and 2001, taxation of the full interest income reduced disposable income, causing the saving rate to be understated.

market valuation of unlisted equities is clearly overestimated in the household sector's equity holdings.² Moreover, in the U.S. *Flow of Funds Accounts*, the net worth of individual proprietorships is recorded as equity holdings of the household sector, which boosts the ratio of equities in household assets by 10%. Thus while the proportion of households' equity holdings is undeniably low in Japan, we need to consider these other factors when making international comparisons.

Indeed, there are good reasons to reject the notion that the portfolio selection of Japan's households is biased toward safety compared to other countries. First, the stock data is aggregated macroeconomic data, which does not accurately portray the vast majority of households. Since wealth in most countries is concentrated among a small minority, aggregated data tends to portray wealthier households. This tendency is strong for financial assets, and equities in particular. To understand the portfolio choices of standard households, we must turn to disaggregated data—in particular, household surveys that use appropriate sampling techniques.

Second, when discussing portfolio choices, it is unreasonable to focus solely on financial assets and exclude tangible assets such as housing and land. The most straightforward indicator of risky asset share is the ratio of volatile assets to total assets (financial and tangible assets). This is a legitimate measure of portfolio risk because it includes as risky assets not only corporate equities but housing and land.

Once these two points are considered, international comparisons clearly reject the notion that Japan's households have a strong proclivity toward safe assets.

**Figure 5 Portfolio of Married-Couple Households Before Retirement
(as multiple of gross income)**

	Japan	U.S.	U.K.	Germany	Italy	Netherlands
① Financial assets	1.5	1.5	1.5	0.5	1.2	0.4
② Housing, land	4.2	1.5	2.6	2.8	2.1	1.2
③ Total	5.7	3.0	4.1	3.3	3.3	1.6
(② ÷ ③)	(74%)	(50%)	(63%)	(85%)	(64%)	(75%)

Source: Bernard Casey and Atsuhiko Yamada (2002), "Getting Older, Getting Poorer? A Study of the Earnings, Pensions, Assets, and Living Arrangements of Older People in Nine Countries," Labor Market and Social Policy – Occasional Papers No. 60, OECD.

In many countries, owner-occupied homes (housing and land) represent the single largest asset of households, and home values are known to be rather volatile. Nonetheless, the ratio of home value to total assets for Japan is by no means low by international standards.

² A. Babeau and T. Sbrano (2003) "Household Wealth in the National Accounts of Europe, the United States and Japan," OECD.

Figure 6 Composition of Household Net Worth in Japan, U.S., and U.K.

	Japan 1999	U.S. 2001	U.K. 2001
Net worth (median)	¥ 23.8 mil.	\$ 86,100	
Net worth (mean)	¥ 38.7 mil. (100%)	\$ 395,500 (100%)	£ 123,807 (100%)
Financial assets	¥ 13.0 mil. (34%)	\$ 188,976 (48%)	£ 79,814 (64%)
Equities & bonds	¥ 1.6 mil. (4%)	\$ 40,819 (10%)	£ 17,477 (14%)
Tangible assets	¥ 30.0 mil. (77%)	\$ 260,967 (66%)	£ 62,554 (51%)
Owner-occupied home	¥ 23.2 mil. (60%)	\$ 122,133 (31%)	£ 57,816 (47%)
Liabilities	-¥ 4.3 mil. (-11%)	-\$ 54,443 (-14%)	-£ 18,561 (-15%)
Home loan	-¥ 3.7 mil. (-10%)	-\$ 40,887 (-10%)	-£ 5,615 (-5%)

Note: For the U.K., values are calculated from data for households age 18-64 with bequests of the deceased.

Also, for the U.K., equities include corporate bonds, municipal bonds, and foreign government bonds.

Sources: MPMHAPT, FRB, and U.K. Inland Revenue.

5. Households in Other Countries Also Choose Safe Assets

In the above household statistics, portfolio compositions based on overall mean values cannot avoid the strong influence of wealthy households in the sample. The overall mean is obtained by dividing total wealth by the number of households in the sample. It can also be obtained by multiplying the average value for households with holdings, and the ownership ratio (proportion of households with holdings to total households). Clearly, if the majority of households have no holdings of a particular asset category, the median value will deviate widely from the mean value.

In this sense, mean wealth is not as appropriate an indicator of portfolio composition as the ratio of households with holdings. An international comparison of ownership ratios for two major assets—homes and corporate equities—reveals some interesting facts.

Figure 7 Households' Ownership Ratio of Homes and Corporate Equities

	Equity ownership ratio	Home ownership ratio
Japan (2 or more persons)	18.6 % (2003)	72.0 % (2003)
Japan (all households)	19.0 % (1999)	66.7 % (1999)
U.K.	25.0 % (2001)	69.0 % (2001)
U.S.	21.3 % (2001)	67.7 % (2001)
France	12.7 % (2000)	54.7 % (2000)
Germany	9.8 % (2000)	42.2 % (2002)
Italy	7.8 % (1998)	68.0 % (1991)
Canada	–	63.7 % (1999)

Notes: For the U.K., equities include corporate bonds, municipal bonds, and foreign government bonds. For Japan, equities include mutual funds.

Sources: Various government and central bank statistics.

As Figure 7 shows, the home ownership ratio is roughly 70% in many countries, making Japan quite average by international standards. On the other hand, Japan's equity ownership ratio is rather high, being close to the U.S. and U.K. ratios of slightly over 20%.

In contrast, a comparison of macroeconomic data depicts Japan with a low ownership ratio for equities and high ratio for cash and deposits. This misleading result is due to differences in the concentration of wealth. In the West, since equity ownership is highly concentrated among the wealthy, the equity ownership ratio is low while total assets are massive.

As for net worth excluding owner-occupied homes (roughly equivalent to financial assets minus liabilities), the wealthiest 1% of households own 33% of wealth at market value in the U.K. (the wealthiest 10% own 72% of the wealth); in the U.S., the wealthiest 1% own 43% of wealth (the wealthiest 10% own 84% of the wealth). Japan, on the other hand, has the lowest concentration of wealth—even for financial assets, the wealthiest 10% of households own only 39% of the wealth.

Incidentally, regarding deposit instruments, which are high in liquidity and safety, researchers have determined that the holding ratio is high in many countries. In this sense, the safety bias exists not only among Japan's households but among standard households around the world.

6. Conclusion

From both flow and stock perspectives, by no means does Japan exhibit exceptional household saving behavior. Indeed, Japan is rather ordinary. Moreover, we have dispelled commonly held notions such as: the saving rate is high because Japanese have a proclivity to save; retired elderly persons do not dissave; elderly persons have just recently changed their consumption behavior and started to dissave; and, a growing number of people are less inclined to save. Facts also disprove the notion that asset choices are more biased toward safe assets than in other countries.

Of course, we are not saying that the structure of Japanese household savings is completely identical to that of other countries. All countries have characteristics that reflect their unique structure. Saving rates and asset holding ratios reflect both mechanisms that are universally common, and mechanisms that are unique to each country's institutions and history.

The long-ingrained belief in Japan's uniqueness only obstructs finding the right prescription for what to preserve and what to revise. Toward this end, the first step is to separate the facts from fallacies.