Structural Changes in Saving and Income of Elderly Households

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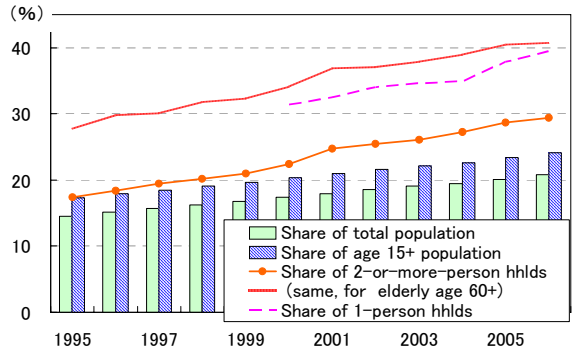
Despite the decrease in average pension benefits since the late 1990s, more elderly households are choosing not to work, in part because fewer of them now receive below-subsistence benefit amounts. As a result, the earned income of working elderly households has dropped. Meanwhile, consumption has remained steady, thus conspicuously reducing their saving rate to below that of under-60 households. Moreover, nonworking elderly households are dissaving at an accelerating rate. Their dissaving still relies heavily on bank deposit accounts, because unlike in the U.S., Japan's elderly households cannot easily sell off real assets or obtain home equity loans.

1. Growing Presence of Nonworking Elderly Households

According to *World Population Prospects: 2006 Revision,* published by the UN in March 2007, 26.4% of Japan's population was age 60 and over in 2005, 19.7% was age 65 and over, and the median age was 42.9 years.[1] By these measures, Japan's population ranks as the world's oldest. The sheer pace of aging becomes apparent when we consider that as recently as the early 1980s, the age 65-and-over share was the lowest among industrialed economies. Moreover, in the December 2006 population projection of the National Institute of Population and Social Security Research, aging is predicted to continue beyond 2055.[2] Thus the growing presence of the elderly population will surely be a persistent issue for Japan's society and economy.

However, the economic impact of aging is more pronounced on the behavior of households, which are the smallest economic decisionmaking unit. As of late 2006, the 60-and-over elderly share of population is 27.3%, and the 65-and-over share is 20.9%. By comparison, the age 60-and-over share of householders is 42.3%, and 65-and-over share is 32.2%. Moreover, the 65-and-over share comprises 29.4% of two-or-more-person households and 39.4% of one-person households (Exhibit 1).

Exhibit 1 Elderly (Age 65+) Share of Population and Households



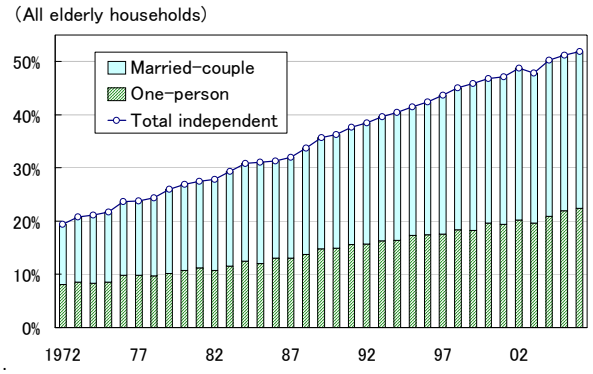
Sources: Compiled from Ministry of Internal Affairs and Communications, *Family Income and Expenditure Survey*, and *Population Estimates*..

As Exhibit 1 shows, the elderly share has grown faster in households than in the total population or age 15-and-over population (which makes for a better comparison, since persons under age 15 cannot be householders). As Exhibit 1 shows, since 1995, elderly share growth has been slower in the age 15-and-over population than in both two-or-more-person households and one-person households (data for the latter is available only from 2000). This is attributed to the high likelihood of elderly persons to form independent households, and the fact that this likelihood has risen over time.

For example, among households with someone aged 65-and-over, one-person and married-couple households — that is, independent elderly

households—grew from 19.4% in 1972 to 30% in 1984, and then to 40% in 1994 and over 50% in 2004, reaching 51.9% in 2006 (Exhibit 2).

Exhibit 2 Independent Share of Elderly Households (Age 65+)



Source: Compiled from Ministry of Health, Labor and Welfare, *Basic Survey on National Life*.

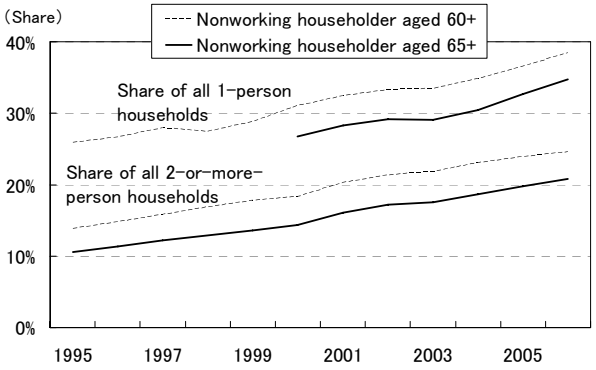
Of these, nonworking (retired) households comprise 88.2% of one-person elderly (age 65+) households, and 70.6% of two-or-more-person elderly households (Exhibit 3). Even when elderly households are defined as age 60 and over, well over half of either category — 83.4% of one-person households, and 60.3% of two-or-more-person households—are nonworking households.

Exhibit 3 Nonworking Share of Elderly Households

Sources: Compiled from MIC, *Family Income and Expenditure Survey*, *Survey for One-person Households*, and *Labour Force Survey*.

Moreover, since 1995, the share of nonworking households has steadily risen for both categories. While some may be unemployed rather than nonworking, the growth cannot be attributed to worsening job conditions, since the unemployment rate for persons aged 60-and-over peaked out in 2001 and has since declined.

Exhibit 4 Nonworking Elderly Share of All Households

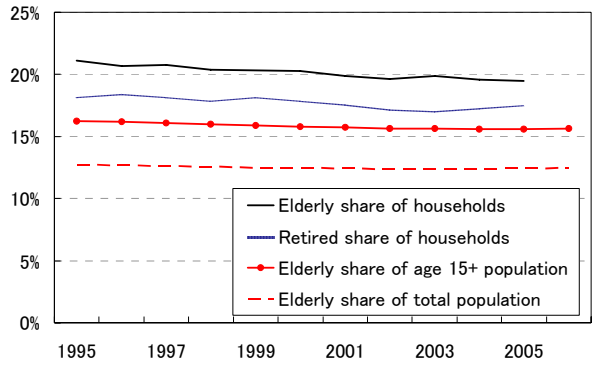


Sources: Compiled from MIC, *Family Income and Expenditure Survey*, and *Survey for One-person Households*,

As a result, there is a clear uptrend in the nonworking elderly (age 60- and 65-and-over) share of all one-person and two-or-more-person households (Exhibit 4). In 2006, nonworking elderly households (age 60-and-over) comprised 38.4% of one-person households, and 24.6% of two-or-more-person households — in fact, overall, nonworking elderly households comprised 28.5% of all households. Thus even if we set aside those who work past age 60, and look only at households that are "elderly" in an economic sense — retired and nonworking — they are still too large a part of society to ignore.

By comparison, in the U.S. — where it is feared that the retirement of baby boomers will cause a "melt-down" in equity and real estate prices ahead — the elderly share of population as well as of households has been flat or mildly declining over the past decade (Exhibit 5).

Exhibit 5 Elderly (Age 65+) Share of Population and Households in the U.S.



Note: Total household basis, including one-person households.
Sources: Compiled from U.S. Dept. of Labor, *Consumer Expenditure Survey*; U.S. Census Bureau, *Population Estimates*.

2. Declining Saving Rate of Elderly Households

1. Saving Rate Plunges

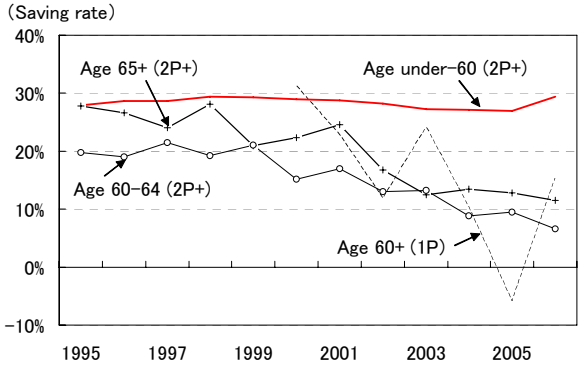
For retired households who depend heavily on public pension benefits, the drop in income from pre-retirement levels can be substantial. Normally, to maintain the pre-retirement consumption level to which they are accustomed, people will dissave using assets accumulated before retirement. Stated differently, a major reason households accumulate assets in the first place is to prepare for retirement — that is, they want to able to sustain the same level of consumption after retirement.

Excluding households that deliberately intend to have their assets inherited by children, even wealthy retired households generally have a negative saving rate. In other words, their consumption exceeds disposable income. In this sense, the chief difference between working and retired elderly households is whether the saving rate is positive or negative. In fact, according to the *Family Income and Expenditure Survey* (Ministry of Internal Affairs and Communications), for two-or-more person households with nonworking householder aged 60-and-over, the saving rate has been consistently negative since records were started in 1986.

Recently, however, the relationship between saving and disposable income of elderly households cannot be accounted for by the working/nonworking distinction alone.

First, since the late 1990s, the saving rate of working households aged 60-and-over has veered downward compared to those under age 60. As a result, by 2006 the saving rate had declined to 6.6% for two-or-more person households with householder aged 60–64, and to 11.5% for two-or-more-person households with householder aged 65-and-over. This contrasts sharply with the stable saving rate of two-or-more person households with householder aged under-60, which hovered between 26.9% and 29.4% from 1995 to 2006 (Exhibit 6). As for one-person working households, for which estimates are available from 2000, the saving rate has fluctuated widely while trending downward.[3]

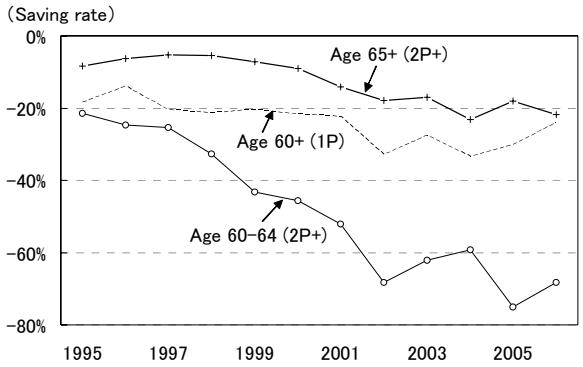
Exhibit 6 Saving Rate of Working Elderly Households



Note: Saving rate of one-person working households (age 60-and-over) was calculated by NLI Research Institute.
Sources: Compiled from MIC, *Family Income and Expenditure Survey*, and *Survey for One-Person Households*.

Next, for nonworking households with householder aged 60-and-over, the negative saving rate widens from the late 1990s to 2005. This trend is conspicuous for two-or-more-person households with householder aged 60–64, which we calculated from disposable income and consumption data for householders aged 65-and-over and 60-and-over. Despite rising in 2006, it is still significantly negative at around -60% (Exhibit 7). Part of this may be due to estimation error. But since the consumption

Exhibit 7　Saving Rate of Nonworking Elderly Households

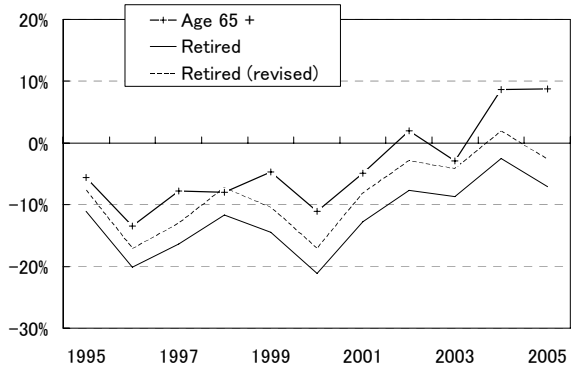


Note: Saving rate of two-or-more-person nonworking households (householder aged 60-and-over) was calculated by NLI Research Institute..
Sources: Compiled from MIC, *Family Income and Expenditure Survey*, and *Survey for One-Person Households*.

estimate does not differ greatly from actual data for other age groups, the declining saving rate is not likely caused by estimation error alone.

In the U.S., the negative saving rate of retired households improves from 2001, and has recently even reached positive ground (Exhibit 8).[4]

Exhibit 8　Saving Rate of Elderly Households in the U.S.



Notes: (1) Total household basis, which includes one-person households. (2) Includes working and nonworking households. (3) Saving rate of retired households (adjusted) is adjusted to conform with Japan's *Family Income and Expenditure Survey*. On the income side, social security tax and property tax are deducted from unadjusted after-tax income. On the consumption side, the above taxes, life insurance premium, and mortgage interest payment are deducted from unadjusted expenditure.
Sources: Compiled from U.S. Dept. of Labor, *Consumer Expenditure Survey*.

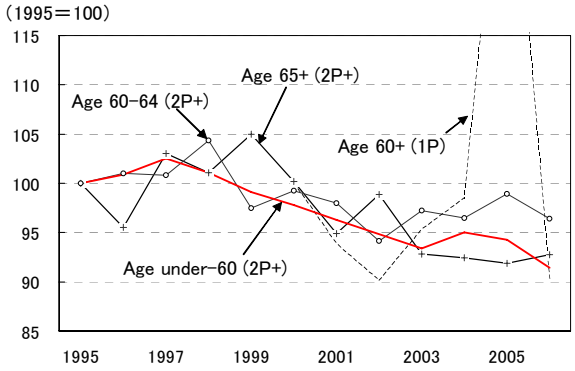
2.　Consumption is Stable

To see whether saving rate fluctuations result more from changes in disposable income or consumption, we tracked the indexed consumption levels by household type from the base year of 1995.

Our benchmark is the indexed consumption of working households with householder under age 60 (two-or-more-person). As Exhibit 9 shows, the benchmark declines steadily from 1998. Meanwhile, the index of consumption for all elderly household types generally fluctuates within the range from 92 to 104 (Exhibit 9).

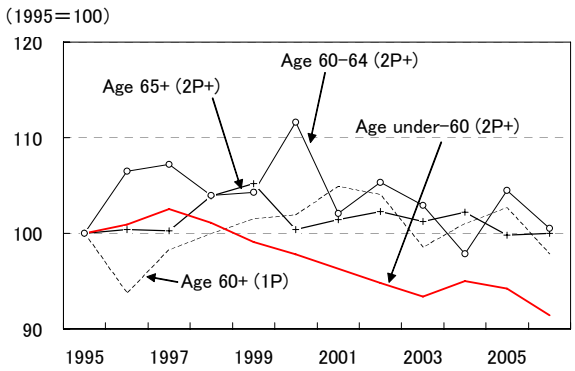
By comparison, for nonworking elderly households, the range narrows to 98–105, with no discernible downtrend. Moreover, in 2006 consumption almost reaches the 1995 level (Exhibit 10).

Exhibit 9　Consumption of Working Elderly Households



Notes: For one-person working households aged 60-and-over, the value for 2005 is 141.8. Consumption of one-person working households aged 60-and-over was calculated by NLI Research Institute.
Sources: Compiled from MIC, *Family Income and Expenditure Survey*, and *Survey for One-Person Households*.

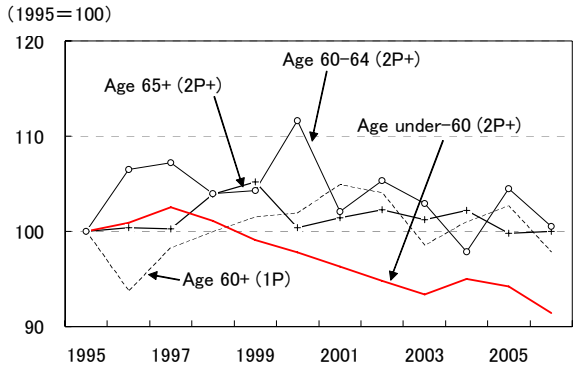
Exhibit 10　Consumption of Nonworking Elderly Households



Notes: Consumption of one-person nonworking households aged 60-and-over was calculated by NLI Research Institute.
Sources: Compiled from MIC, *Family Income and Expenditure Survey*, and *Survey for One-Person Households*

As for disposable income, the index for working elderly households drops sharply compared to the benchmark (Exhibit 11).

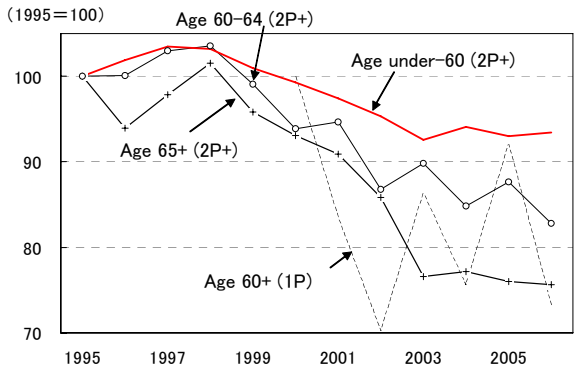
Exhibit 11 Disposable Income of Working Elderly Households



Notes: Disposable income of one-person nonworking households aged 60-and-over was calculated by NLI Research Institute.
Sources: Compiled from MIC, *Family Income and Expenditure Survey*, and *Survey for One-Person Households*

For nonworking elderly households, disposable incomes of age 60-and-over (one-person) and age 65-and-over (two-or-more-person) households decline in line with the benchmark. By comparison, the disposable income of age 60-64 (two-or-more-person) households declines markedly (Exhibit 12).[4]

Exhibit 12 Disposable Income of Nonworking Elderly Households



Notes: Disposable income of two-or-more-person nonworking households aged 60-64 was calculated by NLI Research Institute.
Sources: Compiled from MIC, *Family Income and Expenditure Survey*, and *Survey for One-Person Households*

Our analysis indicates that it would be a mistake to lump together all elderly households with householder aged 60-and-over. Different patterns of consumption and disposable income emerge depending on the householder's age (60–64 or 65-and-over), working status, and household composition (one-person or two-or-more-person). Overall, we found that consumption tends to be more stable over time than disposable income, which suggests that consumption is the bigger contributor to the saving rate's decline. We also note that the decline of disposable income has been more moderate for nonworking than working households — with the notable exception of age 60–64 nonworking households.

3. Mixed Effect of Public Pension

Considering that nonworking elderly households depend heavily on the public pension, we would expect the decrease of benefits to reduce disposable income. The data, however, presents a mixed picture.

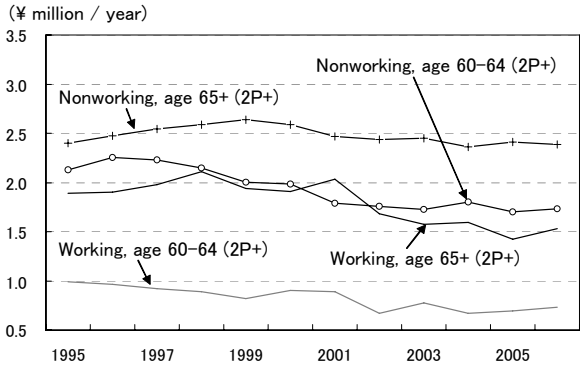
According to available data for two-or-more-person households, nonworking households aged 65-and-over rank first in average benefit amount, followed by nonworking aged 60–64 and working aged 65-and-over households. Trailing far behind in last place are working households aged 60–64 (Exhibit 13).

Despite benefit cutbacks since 2000, the average benefit of nonworking households aged 65-and-over has barely budged from 2.40 million yen in 1995 to 2.39 million yen in 2006. In other words, their benefit decreased less than their other income over the period.

For nonworking households, the benefit decrease since 2000 is larger for householders aged 60–64 than householders aged 65-and-over. Overall, average benefits decrease more for working than nonworking households.

In particular, the large benefit decrease from 2002 for households with householder aged 60–64 stems from the fiscal 1994 pension reform, which stepped up the pension age of the old-age basic pension starting in 2001 (for the fixed benefit portion of the old-age employees' pension).

Exhibit 13 Annual Public Pension Benefit



Notes: Public pension income of two-or-more-person nonworking households aged 60-and-over was calculated by NLI Research Institute.
Sources: Compiled from MIC, *Family Income and Expenditure Survey*.

In the 2000s, the benefit decrease across all households aged 60-and-over (including nonworking households aged 65-and-over) stems from the 1999 public pension reform, which decreased the earnings-related portion of the old-age employees' pension by 5%, and converted the indexing method from a wage-based to inflation-based method.[5]

Exhibit 14 Pension Age by Year of Birth

Date of birth	Basic old-age pension		Employees' old-age pension (earnings-related)	
	Men	Women	Men	Women
～1941.4.1	60 (to 2001)	60 (2001～2006)	60 (to 2013)	60 (to 2018)
1941.4.2～1942.4.2～	61 (2002～2004)			
1943.4.2～1944.4.2～	62 (2005～2007)			
1945.4.2～1946.4.2～	63 (2008～2010)	61 (2007～2009)		
1947.4.2～1948.4.2～	64 (2011～2013)	62 (2010～2012)		
1949.4.2～1951.4.2～	65 (from 2014)	63 (2013～2015)		
1952.4.2～1953.4.2～		64 (2016～2018)	61 (2014～2016)	
1954.4.2～1956.4.2～		65 (from 2019)	62 (2017～2019)	
1957.4.2～1958.4.2～			63 (2020～2022)	61 (2019～2021)
1959.4.2～1961.4.2～			64 (2023～2025)	62 (2022～2024)
1962.4.2～1963.4.2～			65 (from 2026)	63 (2025～2027)
1964.4.2～1965.4.2～				64 (2028～2030)
1966.4.2～				65 (from 2031)

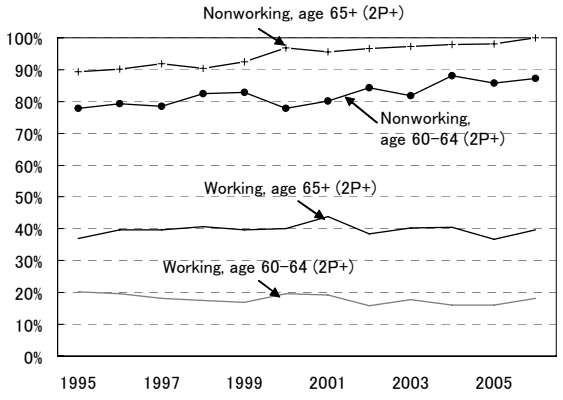
Note: For convenience, the fixed benefit of the old-age employees' welfare pension is regarded as the basic pension.
Source: Compiled by NLI Research Institute.

As a ratio of disposable income, the benefit amount has not changed significantly for working households. On the other hand, for nonworking households, the average benefit amount has decreased by less, but risen moderately as a ratio of disposable income (Exhibit 15). This increase suggests that non-pension income — specifically earned income of household members other than the householder — has decreased more rapidly than the pension benefit. Given the decrease of income, we would expect more householders to choose to work. Yet nonworking households are growing as a share of elderly households. This anomaly might be explained in the following way.

A household's decision of whether to work or not represents a choice between enjoying more leisure time by foregoing earned income, and reducing leisure time to earn more income. As long as the public pension benefit provides enough to live on, fewer elderly households need to sacrifice leisure time to make ends meet. As a result, the proportion of households with a nonworking householder or spouse can increase even as the average benefit decreases.

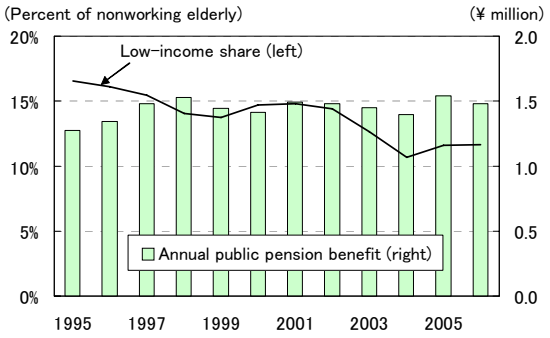
In fact, the nonworking share of elderly households (two or more persons, male aged 65-and-over and female aged 60-and-over) is slowly decreasing in the lowest-income segment with annual income under 2.5 million yen

Exhibit 15 Public Pension Share of Disposable Income



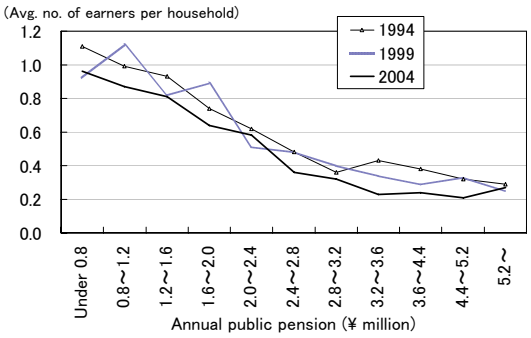
Notes: Values for two-or-more-person nonworking households aged 60-and-over were calculated by NLI Research Institute.
Source: Compiled from MIC, *Family Income and Expenditure Survey*.

Exhibit 16 Low-Income Share of Nonworking Elderly Households



Notes: Shows percentage of nonworking elderly households with annual income under ¥2.5 million. The other two income groups are .¥2.5 million to ¥3.49 million, and at least ¥3.5 million per year.
Source: Compiled from MIC, *Family Income and Expenditure Survey*.

Exhibit 17 Average No. of Earners in Elderly Married-Couple Households



Source: Compiled from MIC, *National Survey of Family Income and Expenditure*.

(Exhibit 16). Moreover, the segment's average benefit is higher in 2006 than in 1995 or 2000. Thus even if the average benefit decreases for society as a whole, the nonworking share of elderly households can increase as long as fewer households are receiving below-subsistence benefit amounts. Indeed, the pension benefit of the lowest income decile has been rising.

Moreover, according to the *National Survey of Family Income and Expenditure* (MIC), for elderly married-couple households, the average number of earners per household (which represents the probability of working) rises as the average benefit decreases (Exhibit 17). This supports the view that many working households with householder aged 60-and-over must keep working to augment an insufficient benefit amount. Thus excluding sole proprietors, managers and executives, households who receive large benefits tend not to work, while those who receive small benefits must keep working.

For working households, the public pension's share of disposable income is unchanged over the years, implying that earned and other non-pension income has decreased proportionately. This suggests that for elderly persons who work, jobs tend to be low-paying, part-time, and short-term. [6]

The decline of disposable income — which we have shown is the major contributor to the declining saving rate of elderly households — can be attributed to two factors. First, even though the average public pension benefit has decreased, the minimum benefit has grown due to longer participation periods. Second, as long as the benefit amount suffices, elderly persons are increasingly inclined to choose leisure over work than in the past.

In sum, working elderly households are evolving. In the past, many elderly households were not "elderly" in a pure economic sense because those who did not retire achieved the same saving rate as under-60 working households. Today, however, working elderly households aged 60–64 have emerged as a distinct category somewhere inbetween retired and working households.

3. Composition of Dissaving Remains Unchanged

1. Heavy Reliance on Deposit Accounts

Amid changes in the work, income and saving structure of elderly households, their dissaving behavior — the way that nonworking elderly households finance the consumption that exceeds income — has not changed.

As noted earlier, retired households in Japan and the U.S. have a negative saving rate, meaning that they must finance the gap between consumption and income. But the two countries

differ regarding the main dissaving method.

Dissaving can occur from three sources — financial assets, real assets (housing and land, etc.), and debt. Moreover, financing activity can extend to asset and liability management, as when assets are used to pay down debt, or when assets are converted from one category to another.

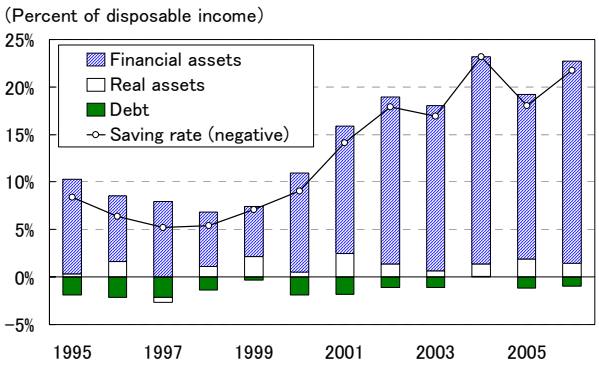
In Japan, partly because of the inactive existing-home market, nonworking elderly households rarely sell off their homes, relying instead almost entirely on financial assets. While most households complete their housing loan repayment by the time they retire, those who do not must draw down additional assets to pay down debt. On the other hand, households typically do not resort to additional debt financing. This basic dissaving structure has not changed since 1995 (Exhibits 18, 19, 20).

Furthermore, financial assets used in dissaving consist mostly of deposit accounts, with other financial assets not fluctuating much by comparison. One difference from the past is that prior to 2000, nonworking elderly households (age 65-and-over, two-or-more-person) drew down a large amount of deposit accounts to dissave and pay down debt. However, the excess drawdown has subsequently abated (Exhibit 21).

These facts portray Japan's elderly households as not actively managing their balance sheet. We have shown how recent elderly households can rationally decide whether to sacrifice leisure time for additional income based on their financial situation — that is, how long they work and the type of work they choose depends on their public pension income. Still, they tend to be conservative when it comes to actively controlling the composition of the balance sheet.

However, there is still a good chance for their dissaving behavior to change. This possibility is suggested by trends among elderly households in the U.S.

Exhibit 18 Composition of Negative Savings of Nonworking Households (age 65-and-over, two-or-more-person)



Notes: Negative value indicates improvement in financial position (same below)
Source: Compiled from MIC, *Family Income and Expenditure Survey* (same below)

Exhibit 19 Composition of Negative Savings of Nonworking Households (age 60-64, two-or-more-person)

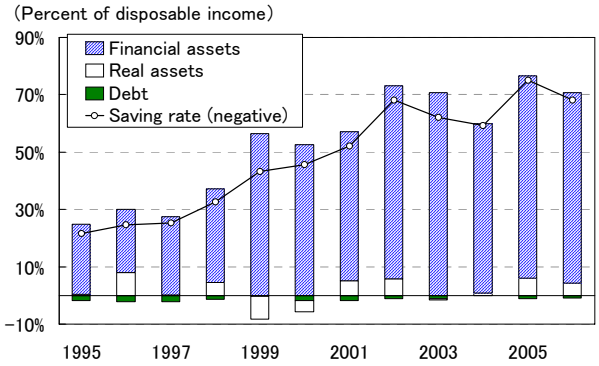


Exhibit 20 Composition of Negative Savings of Nonworking Households (age 60-and-over, one-person)

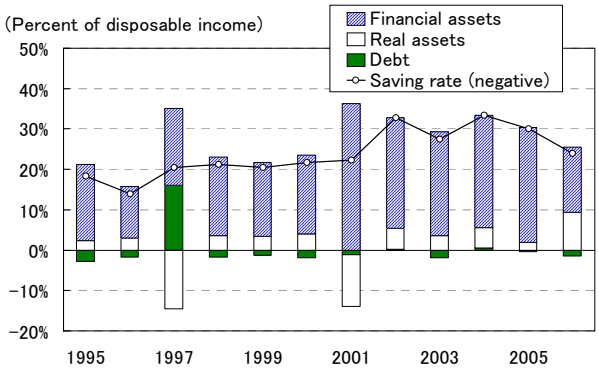
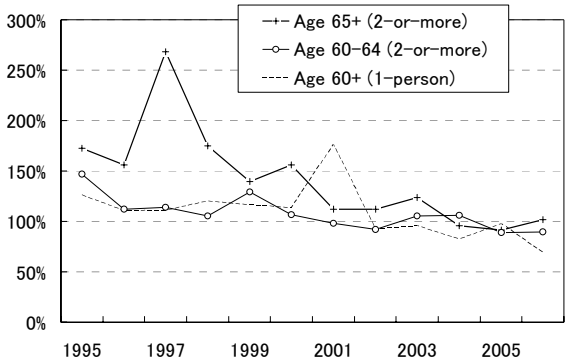
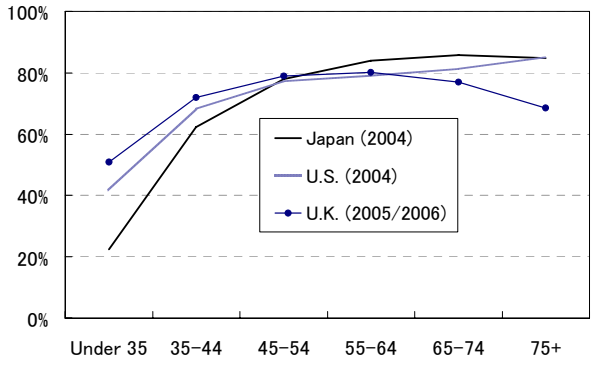


Exhibit 21 Ratio of Deposit Accounts in Dissaving



Sources: Compiled from MIC, *Family Income and Expenditure Survey*, and *Survey for One-Person Households*

Exhibit 22 Home Ownership Ratio by Age



Note: Includes one-person households.
Sources: Compiled from MIC, *National Survey of Family Income and Expenditure*; FRB, *Survey of consumer Finances*; other.

2. U.S. Elderly Households Prefer to Increase Debt

Unexpectedly, household behavior in the U.S. and Japan share more similarities than differences.

First, since the saving rate turns negative after retirement, it is clear that over a lifetime, net wealth (financial and real assets minus liabilities) peaks out soon after retirement. For standard households, the single most valuable asset is their home. Homes are purchased with a loan starting when the householder in the 30s to early 40s, and the home ownership ratio continues rising to approximately 80% just before age 60. Most households pay down the home mortgage while still working, and own the full equity of their home upon retirement. But since homes are seldom sold off completely after retirement, home ownership remains high in old age (Exhibit 22). This pattern is common to households in Japan and the U.S.

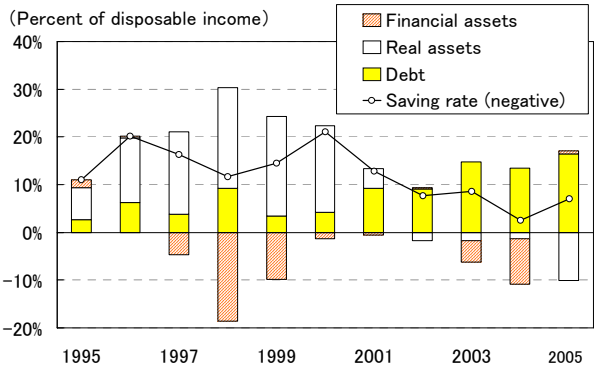
However, a key difference is how households dissave after retirement. In the U.S., elderly households take advantage of their home equity value. Rather than liquidating the entire value, they often trade down to a smaller home, converting part of the equity value into financial assets. According to averages based on aggregated data, until around 2000 most post-retirement dissaving derived from real assets including owner-occupied housing, with part of the funds being used to build up financial assets.

Recently, households have changed how they tap home equity value — instead of using direct real estate transactions, they assume a higher debt burden using home equity loans (Exhibit 23).

This shift stems from the recent housing market boom, which stimulated growth of home equity loans. Such loans are convenient in that they are not restricted to use for housing purposes. While home equity loans are not unusual for working households, for retired households, their use as a primary dissaving method is startling.

Of course, not all elderly households necessarily resort to this method. Substantial loan amounts are assumed by some households, which may

Exhibit 23 Composition of Dissaving of Retired Households in the U.S.



Note: See Exhibit 18.
Source: Compiled from U.S. Department of Labor, *Consumer Expenditure Survey*.

boost overall average loan amounts.

Nonetheless, in 2005, home equity loans were held by 10.4% of homeowner households aged 65-and-over, more than double the level of 1997. Stated differently, households with no home-related loans decreased from 76.7% to 68.1% (Exhibit 24). Meanwhile, reverse mortages edged up from 0.2% to 0.4% of households. The reason is clear — home equity loans, which offer flexible terms, are a more convenient way to tap home equity value than reverse mortgages, which come with many restrictions, or trading down homes, which involves inconveniences such as moving.

However, the problem with home equity loans is that homeowners must assume the market risk of falling house prices. While they may feel the benefit outweighs the risk, it is nonetheless a large risk for retired households. Whether home equity loans will continue to thrive when the home market slumps is as yet unclear.

Japan has much to learn from the U.S. on this matter. In Japan, reverse mortgages are actually not very prevalent, but are till believed to be an ideal way to tap the asset value of owned homes. If opportunities for balance sheet management can be enhanced, people will have more options to choose from, including trading down homes to partially liquidate real assets, or obtaining home equity loans.

Exhibit 24　Mortgage Characteristics of Owner-Occupied Units with Elderly Householder (U.S.)

(Percent of households)

	1995	1997	2001	2003	2005
None, owned free and clear	80.1	76.7	73.0	71.9	68.1
Regular mortgage	–	17.6	19.9	20.7	23.1
Home equity mortgage	5.6	5.0	7.7	8.3	10.4
Reverse mortgage	–	0.2	0.2	0.2	0.4

Notes: Values may not add up to 100 due to multiple loans and incomplete responses.
Source: Compiled from U.S. Census Bureau, *American Housing Survey*.

Elderly households are already causing structural changes in flow-related savings. In the future, progress needs to occur on the stock side.

End Notes

1. According to the 2005 national census, the age 60-and-over share is 26.8%, the age 65-and-over share is 20.1%, and the median age is 43.3 years.

2. In the previous median population projection (January 2002), IPSS predicted that the elderly share (age 65-and-over) would peak out in 2055.

3. The saving rate of age 60-and-over one-person working households is calculated based on number of households, and average consumption and disposable income for all one-person working households, those under age 35, and those age 35-59. However, since the sample size is small compared to that of age 60-and-over two-or-more-person households, estimates of average consumption and disposable income are prone to error. This could explain the negative saving rate in 2005.

4. However, growth of pretax income, including for working households, is higher overall than in the *Survey of Consumer Finances* (FRB). The household saving rate in the national income accounts is actually declining. Thus the *Consumer Expenditure Survey* may overestimate the saving rate in recent years for some reason.

5. Despite the 5% benefit reduction, measures exist to guarantee existing benefits. Moreover, in light of the deflationary situation, inflation indexation was suspended until fiscal 2002. In the fiscal 2004 reform, to accommodate the shrinking labor force and increased longevity, macroeconomic indexation was introduced to offset the full indexation of wage growth and inflation. However, it cannot be applied until deflation is overcome.

6. Until the old-age pension for active employees was revised in the fiscal 1994 reform, excessive benefit adjustments reduced total income (earned income plus benefit) except in cases where earned income was exceptionally large. Under the reform, total income increases by one-half of earned income, which encourages short-term and low-wage work. However, the 2000 reform, which extends the old-age pension benefit adjustment to age 65–69, is expected to discourage working.