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6 Public Policies and Household Saving in Japan

Takatoshi Ito and Yukinobu Kitamura

6.1 Introduction

Many papers have been written on the issue of "high" Japanese household savings relative to other OECD countries, though some controversy remains about exactly how high savings are (the statistical measurement problem) and why they are so high.

Hayashi (1986) wrote a seminal paper correcting some statistical differences between Japanese and U.S. government statistics. Hayashi, Ando, and Ferris (1988) further studied Japanese household savings using the National Survey of Family Income and Expenditure (NSFIE). Horioka (1990) wrote a survey on the issue from the viewpoint of different motives for saving, in which he considered more than 30 factors to explain Japanese saving behavior. Ito (1992, chap. 9) and Hayashi (1992) provided overviews of the issues.

Among various aspects of Japanese saving, considerable attention has been paid to saving by the Japanese elderly. From various surveys, it appears that they do not spend down their savings. They even appear to continue accumulating wealth, particularly housing wealth, throughout their retirement years. There are three issues involved. First, this "observation" may reflect a statistical problem. Many surveys are conducted on the basis of household heads, but many (poor) elderly are merged into the households of offspring. Thus, what we see in the elderly are biased samples. Second, the elderly may indeed save at a high rate to accumulate funds bequests or for sudden illness, of which

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some are destined to become "accidental bequests." Third, most of the savings of retired people are in the form of housing, and have thus accumulated unrealized capital gains. It may be difficult to spend down home equity, since the capital market does not seem to offer perfect annuity contracts. In this paper, tax incentives, related to the elderly's portfolio choices, will be discussed in detail.

We will place special emphasis on an examination of the relationship between tax incentives and saving. In the 1980s, both Japan and the United States enacted tax reforms, though with opposite intents. A quite notable change in Japanese capital taxation was the elimination of *maruyu* accounts (except for the handicapped, the elderly, and other special groups) in April 1988. Interest income is now taxed at 20 percent. A degree of tax credit for mortgage (housing loan) interest payments has been enlarged in Japan, so that borrowing for housing is encouraged. In the United States, however, the tax deductibility of loan and mortgage payments has been severely limited by tax reforms in the 1980s. Interest payments on home mortgages, which used to be fully deductible (when itemized), are now deductible only when applied to a principal residence or a second house. Interest payments for consumer loans, which used to be fully deductible (when itemized), are now only partially deductible.

Apart from tax incentives, since the early Meiji era the Japanese government has engaged in a variety of activities designed to promote saving. The postal saving system, established in 1875, was one of the most important instruments used to cultivate the public's appreciation of savings. Since the Second World War, the Japanese government has continued to engage in saving-promotion activities, in part through the Saving Promotion Department of the Bank of Japan (established in 1946), the Central Council for Saving Promotion (established in 1952), and the Saving Promotion Center of the Ministry of Finance (established in 1957). More recently, however, these committees have shifted the emphasis from saving to sound household management, including the avoidance of personal bankruptcy. The impact of saving-promotion activities on household saving is difficult to measure, but it appears that such activities have been much more pervasive in Japan than in other countries.

This paper is organized as follows. Section 6.2 presents an overview of Japanese household saving, with discussions of frequently used data sets and statistical measurement problems. Section 6.3 presents a comprehensive survey of tax incentives for household saving. In particular, incentives before and after the tax reform of April 1988 are compared. Section 6.4 is devoted to a survey of household portfolio selection over time. In section 6.5, we discuss tax incentives affecting the behavior of the elderly, including incentives for bequests. Section 6.6 concludes the paper with a summary.

6.2 Overview of Household Saving

The Japanese household sector provides funds in the form of savings for investment in the corporate sector, the government sector, and foreign countries

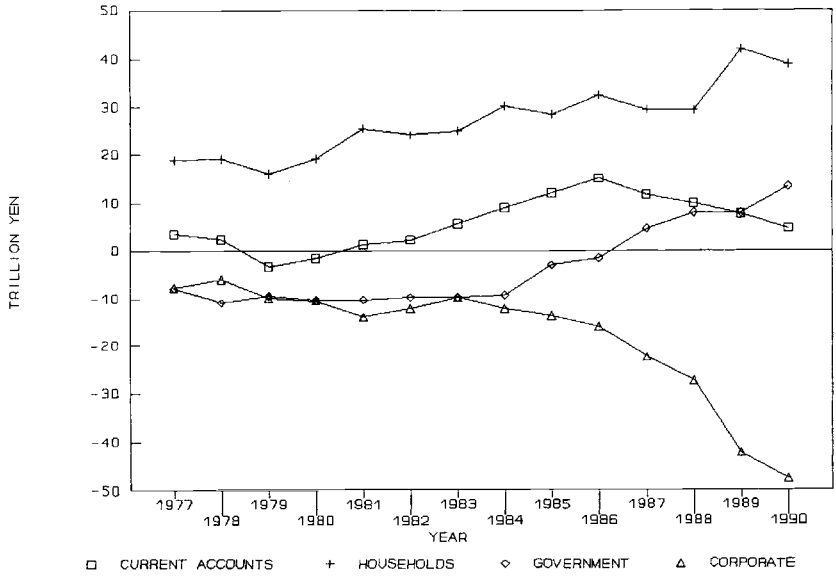

Fig. 6.1 Sectoral saving balance, 1977–90

Source: Economic Planning Agency, *Annual Report on National Accounts* (Tokyo, 1992).

Note: The sectoral balance is calculated as a saving surplus (i.e., saving minus investment) in the household, government, and corporate sectors. The current accounts absorb the domestic saving surplus.

(see fig. 6.1). Although the saving-investment identity does not imply any causal relationship, the following observations can be made: (1) high savings generally reduce the capital cost of investment, because they tend to make funds available to financial intermediaries at a lower interest rate; (2) high savings are likely to be accompanied by high investment; (3) high savings imply a tendency to run trade surpluses rather than deficits; and (4) high savings can finance government deficits without causing a high interest rate or borrowing from abroad.

This picture might lead one to criticize Japan's high savings as a cause of trade imbalance. The causal connection from excessive savings to trade imbalance, however, seems to be rather remote and seems to rely on various assumptions. In this paper, rather than debate whether savings cause trade imbalances, we will focus on household saving behavior itself—namely, on what factors determine household savings and how government policy influences the household saving decision.

In fact, the household sector faces three kinds of constraints. First, the macroeconomic environment determines income, inflation rate, current account balance, interest rate, and the like. Second, structural factors such as aging and financial market liberalization make the household sector adjust its behavioral pattern. Third, public policy, especially taxation, imposes a constraint on the household sector's budget. The household saving decision is formed by these

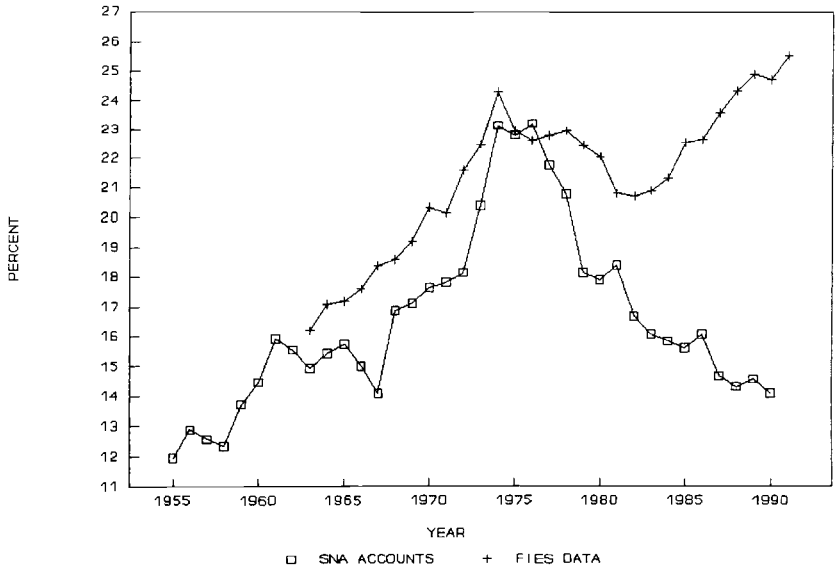

Fig. 6.2 Household saving rates in Japan (National Accounts and microdata), 1955–90

Sources: SNA accounts from Economic Planning Agency, *Annual Report on National Accounts* (Tokyo, various issues); FIES data from the FIES for various years.

environments, and no factor seems to play a dominant role. Bearing this in mind, researchers have to be careful to select a data set which matches their research agenda. A good example is in figure 6.2, which shows two series of the household saving rate in Japan. It is clear that the two series went in opposite directions in the 1980s. One could argue that the Japanese household saving rate was increasing over the 1980s if one uses the FIES data, but one would argue the opposite if one uses the *National Accounts* data. The divergence of the two data series has given rise to a recent research topic.[1]

It is well known that statistical adjustment for consumer durables makes the U.S.-Japan household saving rate gap much lower (see Hayashi 1986). If, however, savings are defined as the change in a stock of wealth, as argued by Bradford (1991), the U.S.-Japan household saving rate gap may have widened in the 1980s. In sum, the definition of savings and the statistical adjustment of it are crucial for policy analysis.

Table 6.1 presents a picture of the average household balance sheet. In general, Japanese households keep a high proportion of savings in time deposits,

1. The two statistics cover different samples—the FIES does not include one-person households and self-employed workers. The treatment of liabilities (mainly housing loans) is also different. However, a satisfactory explanation for such a large divergence is yet to be made.

Table 6.1 Composition of Household Net Worth (10,000 yen)

	1979		1984		1989	
	Mean	Median	Mean	Median	Mean	Median
Financial Assets	496	306	676	414	1,066	611
Demand deposit	57	30	53	25	72	33
Time deposit	237	120	328	172	455	224
Life insurance	86	54	128	80	242	150
Securities	99	0	140	0	257	0
Nonfinancial institutions	18	0	27	0	39	0
Liabilities	170	4	268	15	375	20
Housing loans (mortgages)	144	0	232	0	308	0
Others	26	0	36	0	66	0
Housing Assets	862	638	1,616	1,235	2,890	1,407

Source: NSFIE for 1979, 1984, and 1989.
Note: The data covers all households in Japan.

although the proportions of life insurance and securities have risen over the years. The same, but less obvious, trends can be observed in median households. The biggest difference between mean and median households lies in securities (mainly stocks). This implies that securities are distributed heavily among wealthy households. As to the balance between savings and liabilities, the mean household is more heavily in debt than the median household. In the case of the mean household, housing loans (mortgages) account for over 80 percent of total liabilities. In terms of numbers, those who have liabilities account for 54.2 percent of all households, and those with mortgages were 34.8 percent of the total in 1989.

Table 6.2 indicates the concentration of wealth among Japanese households. The general picture remains more or less the same, although the distribution worsens between 1984 and 1989. The reason for this is undoubtedly the boom in the stock and land markets in the late 1980s. Including real estate and durables in total wealth improves the distribution, as shown in column (ii) for 1989. This is probably because homeownership is widespread across households. The effect of the Nakasone-Takeshita tax reform (1988/89) can not be fully identified in the 1989 survey because it had been implemented too recently.

The following is a brief outline of data sources on household savings in Japan. To begin with macroeconomic data, aggregate time-series data is usually obtained from the *Annual Report on National Accounts*, which contains data on disposable income, so that the household saving rate can be calculated (and indeed it is given in the report). The *Flow of Funds Accounts* (Bank of Japan) give comprehensive data on financial flows among the different sectors and on financial stocks in each sector. Information on the composition of household portfolios is valuable.

For microeconomic data, the following four surveys from the Japanese gov-

Table 6.2 **Concentration of Wealth**

Percentage of Wealth Owned by:	1979	1984	1989 (i)	1989 (ii)
Most wealthy 5 %	19	15	18	13
Most wealthy 10%	37	29	36	27
Most wealthy 25%	52	63	66	51
Most wealthy 50%	84	85	86	74

Source: NSFIE for 1979, 1984, and 1989.
Note: Figures for 1979, 1984, and 1989 (i) are financial wealth only. Figures for 1989 (ii) are total wealth, including real estate and durables.

ernment are the major ones. First, the Family Income and Expenditure Survey (FIES) aims at providing data on incomes and expenditures for all the nonagricultural households of two or more members and other related information. The FIES covers all consumer households in Japan except for those engaged in agriculture, forestry, or fishing, and except for one-person households. About 8,000 households are randomly selected for the survey out of about 26 million qualified households.

The Family Saving Survey (FSS; Statistics Bureau, Management and Coordination Agency) gives information on financial savings and liabilities of households, and their changes from the preceding year. The FSS tabulates the details of savings and liabilities with respect to various household characteristics, such as age cohort, income, number of household members, and geographic area. Stocks are evaluated at market value, and life insurance savings at the accumulated value of premium payments. The survey samples about 6,300 households, which have been sampled recently in the FIES. Since the sample households are a subsample of the FIES, single-member households and households in the business of agriculture, forestry, or fishing are excluded. A problem with this survey is that information on disposable income is not included so that the saving rate, in a conventional sense, cannot be calculated.

The National Survey of Family Income and Expenditure (NSFIE; Statistics Bureau, Management and Coordination Agency) is the most comprehensive survey of consumer behavior. It covers single-member households, agriculture, forestry, and fishery households, as well as other types of households, and its sample size is as large as 59,000. Households are categorized by age and occupation of household head and by type of household (a couple only, a couple and a child, a parent and a child, etc.). With respect to consumer durables, the survey asks the date of purchase of the goods and whether they were bought as a replacement or as an addition. With the 1989 survey, information on real estate (land and house) ownership was added.

The Comprehensive Survey of Living Conditions of the People on Health and Welfare (Ministry of Health and Welfare), begun in 1986, integrates four different surveys which had been conducted separately. One large survey, covering about 240,000 households, is scheduled to be conducted every three

years. Smaller-scale surveys are conducted during the other two years. The large survey asks questions in three categories: households composition, health conditions, and income and savings. Income and savings (financial assets and housing conditions) questions are cross-tabulated along different household types, such as households with an elderly member (65 years or older). Information on housing is not included in this survey.

For a reference on the Japanese tax system written in English, the Tax Bureau, a branch of the Ministry of Finance, publishes an annual report on the Japanese tax system (*An Outline of Japanese Taxes)* and on the data (the *National Tax Office Yearbook*). Ishi (1989) is an authoritative survey of the Japanese tax system, and OECD (1991b) provides detailed information on personal and corporate tax systems in OECD-member countries.

6.3 Tax Incentives for Household Asset Accumulations

In Japan, tax incentives for household savings have gone through dramatic changes since the mid-1980s. Until April 1988, financial savings in the form of bank deposits and postal savings were essentially tax-exempt, and capital gains from stocks were also tax-exempt, provided the amounts were less than a certain limit that was considerably higher than the savings balance of an average citizen. The Nakasone-Takeshita tax reform changed many of these tax exemptions for savings. Details of these incentives, before and after, will be explained below.

6.3.1 Tax-exempt Savings before April 1988

Maruyu Accounts

A salient feature of the Japanese financial taxation system prior to 1988 was the prevalence of tax-exempt interest income from what were commonly known as *maruyu* accounts, and by other similar names. Interest income from those accounts, in which principal was beneath a ceiling and registered as such, were exempted from tax. Some kind of tax-exemption system for interest income can be traced back to 1920, but the modern system of tax exemption started in 1963 and was effectively abolished in 1988. At the time of the 1988 revision, interest income from the following assets, up to the specified principal amount, was tax-exempt.[2]

Interest income from a combined principal amount of up to 3 million yen,

2. Note that there had been several revisions of the maximum limits on tax-exempt savings. Limits for *maruyu* and *yucho* in 1963 were both 0.5 million yen and were both raised to 1 million yen in 1965. Special *maruyu* were introduced in 1968 with a limit of 0.5 million yen. In 1972, *maruyu* and *yucho* limits were raised to 1.5 million yen, while special *maruyu* limits were raised to 1 million yen. Also in 1972, *zaikei* were introduced with a limit of 1 million yen. In 1973, the *zaikei* limit was raised to 5 million yen and that for *yucho* to 3 million yen. In 1974, both *maruyu* and special *maruyu* limits were raised to 3 million yen. For the definitions of *maruyu*, *yucho*, special *maruyu*, and *zaikei*, see the text below.

in the form of bank deposits, securities, or mutual funds was tax-exempt. Each account that qualified for tax exemption must have been registered as such, with a specified ceiling amount, at the local branch of the tax revenue office. The system was known as *maruyu*. The *maruyu* accounts could be bank deposits, deposit accounts for employees within a company (*shanai yokin*), mutual trust funds (*kinsen shintaku, kashitsuke shintaku*) at trust banks, bonds (government bonds, municipal bonds, government guarantee bonds, corporate bonds, and yen-denominated bonds issues abroad, within five years of issuance), bank debentures (*kinyu sai*), bond mutual funds, and stock mutual funds (with a ratio of stocks in portfolio under 70 percent).

All interest income from postal savings (*yucho*) was tax-exempt. The principal in a postal savings account could not exceed 3 million yen per person. Hence, the ceiling for tax-exempt postal saving was 3 million yen. The most popular postal savings accounts were indefinite-maturity saving deposits (*teigaku yokin*), in which interest compounds up to 10 years, with increasing interest rate schedules over the years.

Government bonds and municipal bonds up to 3 million yen (face value), in addition to any bonds in *maruyu* accounts, could be registered as "special *maruyu*" accounts and yield tax-exempt interest income.

Interest income from housing (*jutaku*) *zaikei* accounts and pension (*nenkin*) *zaikei* accounts was tax free.[3] To qualify for tax exemption, the account holder had to be an employee under age 54, and monthly installments (deposits) had to be withheld at source and automatically transferred to the account at a financial institution. *Zaikei* accounts could be held as savings-type life insurance, as well as time deposits and other types of deposits in banks, mutual trust funds, and bonds. They had to be accumulated for more than 3 years, and pension *zaikei* accounts for 5 years. The combined principal of *zaikei* accounts could be up to 5 million yen. Housing *zaikei* accounts could be withdrawn only to purchase or improve housing (land, structure, or renovation), and pension *zaikei* could be withdrawn only after the saver reached age 55. The saver of these accounts also had access to preferential (housing) loans.

In addition to these accounts, postal installment savings (*juutaku tsumitate* postal savings) earmarked for housing, up to 500,000 yen, were tax-exempt. Interest income from savings for tax payment (tax payment preparation accounts) was also tax-exempt, as long as it was used for the said purpose.

In sum, the maximum amount of principal which could yield tax-exempt interest income (excluding the tax payment preparation account) can be tabulated as follows:

Bank deposits, bonds, and mutual funds (*maruyu*)	3 million yen

3. *Zaikei*, an abbreviation for *kinrosha zaisan-keisei chochiku*, literally means employee property-formation savings.

Postal savings (*yucho*)	3 million yen
Government and municipal bonds (special *maruyu*)	3 million yen
Housing and pension savings (*zaikei*)	5 million yen
Earmarked savings for housing purchases (postal *zaikei*)	0.5 million yen
Total	14.5 million yen

All together, each individual in Japan was eligible for tax exemption on interest from savings of up to 14.5 million yen, which was far above average household savings. Moreover, a family of four could take advantage of four times of this limit using different family members' names for accounts and, if all were employees, qualifying for *zaikei*. Such use of different names did not prompt gift taxation. (Note that nonemployees could not take advantage of *zaikei* accounts.)

The Bank of Japan estimated that from 1973 to 1988, on average, 54.9 percent of household savings qualified for tax exemption. Table 6.3 shows that in 1988, assets of nearly 300 trillion yen, equal to half of all household savings, were tax-exempt. Since the maximum amount of exempt savings (14.5 million yen) far exceeded average household savings (6.8 million yen for all households in 1984), in practice, the interest earned on virtually all savings held by average (middle-income) savers was tax-exempt. Moreover, it was suspected that many wealthy savers evaded taxation by circumventing the limits on principal in tax-exempt accounts. Since there was no system of individual identification numbers (such as Social Security numbers in United States), it was relatively easy to open several accounts in different regions, each account under the limit, without being detected by the tax authority.[4] During the period between July 1985 and June 1986, the Tax Bureau estimated that over 12 trillion yen of household savings, held mainly by large-lot savers, were evading taxation by being kept accounts opened using fictitious names or the names of different family members (*Nihon Keizai Shinbun* [daily], October 5, 1986). The Tax Bureau took the view that the actual magnitude of tax evasion might have been larger than this estimate because the bureau did not examine postal savings, which comprised one-third of tax-exempt savings.

Individual utilization of tax incentives in the system of tax exemption is estimated in table 6.4. The results show that *maruyu* were the most popular form of tax-exempt accounts and that *yucho* (postal savings) came next. Special *maruyu* and *zaikei* were used by only a very small fraction. This was partly because exemptions for these accounts required certain application procedures, while *maruyu* and *yucho* qualified for exemption quite easily.

4. It was widely speculated that bank deposits and postal savings with false (phantom) names—names of those who had no assets—were not detected. Moreover, accounts opened by the same person but in different regions, i.e., tax districts, each account under the ceiling amount, tended to evade detection, because no national I.D. number for savers was used.

Table 6.3 **Share of Tax-exempt Savings in Total Household Savings**

Year	Tax-exempt Savings (billion yen)	Share of Tax-exempt Savings in Total Household Savings (%)
1973	38,946	43.1
1974	48,501	44.9
1975	64,699	50.3
1976	81,308	52.7
1977	98,629	54.7
1978	116,364	55.4
1979	136,547	56.5
1980	155,409	56.7
1981	179,892	58.5
1982	202,080	58.9
1983	225,906	59.4
1984	245,094	58.4
1985	268,113	61.3
1986	286,621	59.9
1987	294,537	55.9
1988	297,955	51.2
Average		54.9

Source: Bank of Japan, *Economic Statistics Annual* (Tokyo, 1988).

Table 6.4 **Utilization Ratios for Tax-exempt Accounts in Household Savings (%)**

Year	*Maruyu*	Special *Maruyu*	*Zaikei*	*Yucho*
1973	16.10	0.24	0.10	7.51
1974	19.65	0.31	0.07	4.63
1975	13.23	0.12	0.17	5.79
1976	16.27	0.22	0.30	7.24
1977	19.06	0.45	0.48	8.91
1978	21.54	0.66	0.72	10.92
1979	24.68	0.84	0.99	12.92
1980	27.28	1.20	1.28	14.78
1981	30.48	1.65	1.57	17.52
1982	33.67	2.07	1.91	19.54
1983	37.05	2.41	2.30	21.79
1984	39.32	2.66	2.65	23.92
1985	42.73	2.86	3.03	25.90
1986	44.69	2.93	3.48	28.22
1987	44.77	2.40	3.92	30.10
1988	44.01	1.95	3.92	31.87

Source: Bank of Japan database.

Note: Utilization ratio is calculated by actual amounts divided by legally eligible amounts.

Taxation on Dividends and Capital Gains from Stocks

Capital gains from stocks were tax-exempt prior to 1988. Small-lot dividends, that is less than 50,000 yen per semiannual payment, or 100,000 yen per annual payment, were taxed at 20 percent at source, separately from income from other sources (such as wages and salaries). For large-lot dividends (those other than small-lot dividends), the stockholder could elect either (1) to be subject to 20 percent withholding tax and later be taxed as a part of total taxable income for income taxation or (2) to be subject to 35 percent separate taxation at the time of dividend payment ("separate" means that the dividend is not to be aggregated with income from other sources for the purpose of income taxation).[5]

Taxation on Savings Other than Maruyu

Interest income from accounts other than *maruyu* were subject to taxation. Ordinary deposits, typically demand deposits in Japan, were subject to 20 percent separate taxation. For interest income from time deposits, mutual trust funds, and bonds and dividends from mutual funds, the saver could elect either (1) to be subject to 20 percent withholding tax and later be taxed as a part of total taxable income for income taxation or (2) to be subject to 35 percent separate taxation at the time of dividend payment, but not subject to income taxation. Discount income from discount bonds was taxed separately at 16 percent.

Income Deduction for Insurance Premium Payments

Some parts of premiums for social insurance, life insurance, and individual pension-type insurance could be income tax–deductible. Details will be explained in section 6.3.2.

"Green Card" Fiasco

As a part of tax reform intended to enhance revenues, the government proposed the introduction of value-added tax, called sales tax, in December 1978. However, public criticism mounted and demanded the closing of loopholes, including tax evasion using *maruyu* accounts and other provisions for interest income tax exemption. After intense debate, it was decided in the tax reform of 1980 that a "green card" would be introduced in January 1984 to identify all small-lot savers. According to the plan, one green card per person would be issued to prevent false accounts and other misuses of the system.

Strong opposition to green cards arose in 1981 and 1982 and resulted in the deferral of their introduction—originally scheduled for January 1984—to 1987. Then in 1985, the green card plan was abandoned altogether.

5. Those subject to a marginal income tax rate over 35 percent would elect to have dividends taxed at 35 percent separation taxation at source.

Table 6.5 **Summary of the Statutory Average/Top Tax Rates**

	1980	1985	1990	1992
Interest (non-*maruyu*)	20.0/35.0	20.0/35.0	20.0/20.0	20.0/20.0
Dividends	35.0/35.0	35.0/35.0	20.0/35.0	20.0/35.0
Capital gains from stocks	0.0/0.0	0.0/0.0	20.0/26.0	20.0/26.0

Source: Tax Bureau (various issues, b).

Interest income would be taxed via "separate taxation" (separate from income from other sources). In the process of the Nakasone-Takeshita tax reform (1988/89), not necessarily to combat large-scale tax evasion, but more fundamentally to achieve consistency and equality in the tax system, the system of tax exemption of interest income from household savings was effectively (although not completely) abolished in April 1988. The new system is a flat 20 percent tax—withheld at source, separately from income from other sources—on all interest income. A historical summary of the system of capital income taxation, including tax rates on dividends and capital gains, is given in table 6.5.

6.3.2 Taxation on Financial Savings in 1992

Many types of capital income in Japan are separately taxed—that is, not combined with other types of income, such as wages and salaries, and taxed at a flat rate at source, collected at the time of payment. This is withholding, but when taxes are filed on other income, capital income and taxes withheld at source are not reported (i.e., after collection of the 20 percent tax, individual names and other information are not reported by banks to the tax authority, and individuals are not asked about interest income at the time of tax filing). In the following, "taxed separately" should be interpreted as this practice. The system of capital income taxation now in effect (i.e., as of April 1, 1988) can be summarized as follows.

Interest Income

Interest income is taxed separately, at a flat 20 percent (15 percent national tax and 5 percent local tax). Note that this is still an incentive to save for those who are in a higher income-tax bracket (higher than 20 percent). In addition, some *maruyu* (tax-exempt savings) remain for the elderly (age 65 and over), widows (and widowers), the handicapped, and working students in special programs: these allow 3 million yen in bank deposits, securities, and mutual funds; another 3 million yen in postal savings; and 3 million yen in government and municipal bonds. Finally, there exist other tax-exempt financial instruments, available to all, including "employee's housing-formation saving account" (*jutaku zaikei*) and "employee's pension endowment–formation saving account" (*nenkin zaikei*). Interest income for these accounts is tax-exempt, up to a capital limit of 5 million yen total.

Dividends

The tax system for dividends to resident individuals varies with the size of the dividend:

Less than 50,000 yen. If the size of a semiannual dividend from holdings in one company is less than 50,000 yen (or an annual dividend of 100,000 yen), then a flat 20 percent tax is imposed, taxed separately at source (just as for interest income). This rule applies to holdings in *each* company. No individual tax filing is necessary, and no local "inhabitants" tax is imposed.[6]

Between 50,000 and 250,000 yen. If the size of a semiannual dividend from holdings in one company is more than 50,000 yen but less than 250,000 yen (or an annual dividend of 500,000 yen), then a taxpayer may elect one of the following:

1. A 35 percent tax, separately taxed at source. However, local inhabitants tax must be paid on total income (the aggregate of dividends and other income);
2. A 20 percent withholding tax, plus tax on total income at the time of tax filing. There is income deduction for dividend income when it is elected as tax filing with combined (total) income. At the time of tax filing, tax credit will be given. The tax credit is 10 percent of dividends for those with taxable income of 10 million yen or less, or 5 percent of dividends for the amount exceeding 10 million yen.[7] Local inhabitant's tax is also imposed.

More than 250,000 yen. If the size of a semiannual dividend from holdings in one company is more than 250,000 yen (or an annual dividend of 500,000 yen from one company), or if the dividend is from stock that constitutes more than 5 percent of issued stocks, then option (2), described for dividends between 50,000 and 250,000 yen, should be applied. Local inhabitant's tax is also imposed.

Note that an individual in a higher tax bracket will have an incentive to diversify his portfolio so that each dividend payment from any one company is less than 50,000 yen and so can avoid being reported at the time of tax filing. Also, dividend *rates* are much lower in Japan. The dividend/price ratio is about 1 percent. Therefore, in order to earn 100,000 yen as dividends, 10 million yen must be invested in one company. Finally, dividends in securities income trusts are taxed at 20 percent (15 percent national income tax and 5 percent inhabitant's tax), separately.

6. Inhabitant's tax is part of local (prefecture and municipal) tax. Local tax includes property tax, special land-holding tax, and real property acquisition tax, among others.

7. The personal and corporate income tax systems are not fully integrated. A partial shareholder relief scheme exists—that is, if income other than dividends is less than 10 million yen, but combined income of dividends and other income exceeds 10 million yen, then the 10 percent tax credit applies to part of dividends (10 million minus other income) and the 5 percent tax credit to the rest.

Capital Gains from Stocks

A taxpayer may elect one of the following treatments for capital gains from stocks:

1. Tax equals 1 percent of sales value (that is 20 percent capital gains tax on deemed capital gains of 5 percent), applicable to listed and over-the-counter stocks, separately taxed at the time of sales. No reporting at the time of tax filing is required.

2. Income tax of 20 percent and local inhabitant's tax of 6 percent on capital gains from all stock sales. If this option is elected, it is payable at the time of tax filing, but separately from taxes on other types of income.

Note that if capital losses are realized, option (2) should be chosen. Moreover, gains may be canceled against the loss. These options can be switched at any time during the year.

Real Estate Capital Gains

Capital gains from real estate will be treated separately in section 6.3.3.

Social Security Pensions

The social security pension program can be regarded as forced savings by the government for individuals. From a theoretical point of view (the life-cycle model to be explained later), there is no difference between social security benefits and individual savings toward retirement. With respect to social security, the following tax treatment is applicable:

1. Social security contributions (health insurance and others) are fully deductible from income.

2. Social security benefits (pension income) have special deductions: (i) a lump sum deduction of 1 million yen for persons age 65 and over (or 0.5 million yen for persons under age 65) is applied; (ii) after the 1 million yen deduction, the following deduction is applied: 25 percent of the first 3.6 million yen, 15 percent of the portion from 3.6 to 7.2 million yen, and 5 percent of the portion beyond 7.2 million yen (minimum guaranteed amount from deductions (i) and (ii) is 1.4 million yen); (iii) on top of these deductions, the elderly deduction of 500,000 is applicable.[8]

3. A special type of individual retirement (pension) account, called *kokumin nenkin kikin*, was introduced in April 1991 and became available only for nonemployees (between the ages of 20 and 59) and wives of nonemployees. Inter-

8. Before the September 1987 reform, social security benefits (pension income) were regarded as part of salary, and standard deductions for salaries were applicable. To replace these standard deductions, the new deductions illustrated in (2) were introduced. Combining these deductions with other basic deductions (350,000 yen), the spouse deduction (350,000 yen), and the special spouse deduction (350,000 yen), an elderly pension-income earner with a spouse, receiving pension income of less than 4.5 million yen, is not taxed. Considering the current level of benefits, most pension earners (with no additional source of income) are not taxed (for details, see Takayama [1992, app. 4C.5 and table 4C.2 of chap. 4]).

est income from this pension account is tax-exempt, and its contribution, up to 68,000 yen per month per person, is tax-deductible.

Retirement (Severance) Pay

It has been the custom that a Japanese corporation pays lump sum retirement severance pay, which amounts to three to five times annual salary at the time of retirement. The steep age-earning profile of Japanese workers, coupled with the practice of lifetime employment, makes this a sizable income (see Ito 1992, chap. 8). Lump sum severance pay can be regarded as a deferred payment of salary, or as forced saving by a corporation for a worker. Given the steep progressivity of the Japanese income tax, retirement pay would be taxed heavily at the payment of a retirement lump sum. Thus, special deductions and separate taxation apply to severance pay: (i) Deduct the lump sum (400,000 yen times the number of years worked for the company [up to 20 years] plus 700,000 yen times the number of years worked for the company exceeding 20 years). (ii) After deduction (i), divide the remaining amount in half. Apply the income tax table to this amount. This is taxed separately from other types of income, such as salaries.

Life Insurance

Some types of life insurance are also a form of savings—in Japan, savings-type life insurance, such as universal insurance, is more popular than term insurance. In particular, single-premium life insurance, which is essentially a saving instrument with tax advantage, became popular in the 1980s.

Before the 1988 tax reform, single-premium endowment (life) insurance enjoyed the following tax benefits:

1. Life insurance premium payments of more than 100,000 yen entitled the payer to a 50,000 yen deduction from (combined) income.[9]

2. Life insurance repayment at the maturity of the contract is considered occasional income (*ichiji shotoku*), which has a 500,000 yen lump sum deductible, and the amount after the lump sum deduction is halved and combined with other income. Note, however, that an employee whose other income is less than 200,000 yen did not have to file taxes. Considering this tax advantage, coupled with high dividends and with regulated bank deposit interest rates, many consumers shifted savings from bank deposits to single-premium life insurance policies in the 1980s. This prompted the following change. *After* the 1988 tax reform, (1) is still valid, and (2) is only applicable to life insurance premiums on a contract exceeding 5 years. For single-premium insurance policies with 5 years or less of maturity, the dividends are taxed at 20 percent, just like interest income.

9. Life insurance premiums up to 25,000 yen are fully deductible, half the amount between 25,000 and 50,000 yen is deductible, and one-fourth of the amount between 50,000 and 100,000 yen is deductible. The maximum deduction of 50,000 yen is reached at a premium payment of 100,000 yen.

3. Individual "pension" insurance policy premiums can be deducted from income, up to 50,000 yen per annum.[10]

4. Non–life insurance (such as fire insurance) premium payments are deductible, to a maximum of 15,000 yen.[11]

6.3.3 Housing-related Tax Treatment

As will be explained later, housing is one of the most important investment (or saving) decisions of one's life. There are special provisions related to land and structures for housing.

Tax Credit for a Home Owner

A portion of a mortgage can be applied as a tax credit for six years according to the schedule below, provided the following requirements are met: (i) housing is newly acquired and is inhabited by the owner within six months of purchase, (ii) housing has floor space of 220 square meters or less, (iii) home owner's annual income does not exceed 20 million yen, (iv) a special treatment in the carry-over of capital gains is not taken. The tax credit = (a) {1 percent of the mortgage balance at the end of year, up to 20 million yen} + (b) {0.5 percent of the mortgage balance between 20 million and 30 million yen}.

Requirement (ii) was added in 1991. The income limit in requirement (iii) was lowered from 30 million yen to 20 million yen in 1991, in exchange for the change in additional tax credit, part (b). The time limit of tax credit applicability was extended from 5 to 6 years in 1990. In 1986 and 1987, in the calculation of tax credit, part (a), the balance of a public (subsidized) mortgage was halved.

The ways in which owner-occupied housing is encouraged in the United States and in Japan are different. In the United States, the mortgage interest payment is *fully deductible from income,* as long as itemized deduction is chosen (this provision has been in place for a long time). In Japan, a similar tax incentive is provided through a *tax credit,* for only six years. This tax credit

10. The schedule of deductions for individual pension insurance premiums is the same that for single-premium insurance policies explained in item (1) and n. 9.

11. Premium payments on a non–life insurance policy with more than ten-year maturity and with end-of-contract dividends are deductible according to the following schedule: (i) if premium is 10,000 yen, fully deductible, (ii) for premium payments between 10,000 and 20,000 yen, the deductible amount is 5,000 yen plus half of premium payments, and (iii) for premium payments of more than 20,000 yen, the deductible amount is 15,000 yen. Premium payments on a non–life insurance policy with less-than-ten-year maturity are deductible according to the following schedule: (i) if premium payments are less than 2,000 yen, fully deductible, (ii) for premium payments between 2,000 and 4,000 yen, the deductible amount is 1,000 yen plus half of premium payments, and (iii) for premium payments of more than 4,000 yen, the deductible amount is 3,000 yen. Long-term and short-term policy premium payments can be combined to reach a deductible amount but such a deduction cannot exceed 15,000 yen.

Saving-type non–life insurance with maturity repayment is classified as saving (not as consumption). However, saving-type insurance usually contains a portion that is never paid back, which must be considered consumption. In this sense, official statistics have overestimated savings in the form of non–life insurance, although the total amount of overestimation must be very small.

schedule was introduced in 1986, and the details of this provision have been changing almost every year, as explained in the preceding paragraph. Before 1986, limited tax deductibility was available.

Capital Gains on Land and Housing Structures

Capital gains are divided into "long-term" gains on assets held more than five years and "short-term" gains on assets held under five years:[12]

Basic rule for long-term capital gains on land and housing. Capital gains *after deduction* are taxed, separately from other income, at 39 percent (i.e., 30 percent national tax and 9 percent local tax).

Basic rule for short-term capital gains on land and housing. Of the following, apply whichever leads to the larger tax: (1) capital gains *after deduction* are taxed, separately from other income, at 52 percent (i.e., 40 percent national tax and 12 percent local tax); (2) capital gains that are combined and taxed according to the income tax schedule are taxed at 110 percent of *additional* income tax.

Special rule for capital gains on owner-occupied housing in which an owner has lived for more than ten years. Capital gains after a 30 million yen deduction are taxed at 14 percent (10 percent national and 4 percent local) for the first 60 million yen, and at 20 percent (15 percent national and 5 percent local) thereafter. Note that this special rule does not apply to capital gains carried over due to the home replacement provision listed below.

Deductions on capital gains on land and housing applicable to basic rule. (i) owner-occupied housing—30 million yen (this provision cannot be invoked again for three years), (ii) forced sale to the government for public purposes—50 million yen, (iii) forced sale for city planning—20 million yen, (iv) forced sale for housing development project—15 million yen.

Carry-over of capital gains. Because of the different needs associated with different stages of the life cycle, people tend to change housing. If capital gains can be carried over for life, this switch can be done smoothly. In fact, such a carry-over was created in 1952 and abolished in 1970; it was then revived in 1972 for long-term (more than ten-year) owner-occupied housing, but again

12. The definition of "long-term" housing is housing that has been owned for more than five years, on January 1 of the year in which the sale is made. Hence, a holding period of almost six years is required if the sale is made on December 31.

Separate taxation was introduced in 1969. The tax rate on long-term gains has been increased in recent years. It was 14 percent in 1970 and 1971, and it was 26 percent (on gains up to 40 million yen) and 32.5 percent (on gains exceeding 40 million yen) as recently as 1991. The definitions of "long-term" and "short-term" were changed in 1987, with the holding period changed from ten to five years.

abolished in 1985, when it was replaced by a very special rule: If a long-term (more than ten-year) owner-occupied house had been obtained by bequest from parents or grandparents and the current owner has lived in the same house for more than thirty years (presumably with parents or grandparents), then capital gains can be carried forward to the next house.

Land and housing when bequeathed is assessed at less than market value: this will be explained later.

Parents can help a child buy a house through a special provision in the gift tax: if the cash is used to purchase a house, parents can give an outright cash gift of 3 million yen to a child tax-free, and cash gifts between 3 and 5 million yen are taxed lightly.

Property Tax

This tax is imposed on owners of land, buildings, and tangible assets that are depreciable in individual and corporate income taxes (i.e., plant and machinery). The assessment of land and buildings is made every three years, and that of tangible business assets every year. Substantial underassessment, with regional variations, is more the general rule than the exception. Real property below a certain assessed value for each type of asset is tax-exempt. The standard tax rate is 1.4 percent, and the maximum rate is 2.1 percent.

It should be noted that there are many types of income which are sources of savings. Apart from labor, interest, and dividend income, there are retirement, timber, occasional, and miscellaneous income with separate deductible amounts. Japanese workers receive a sizable retirement severance payment. If it were subject to the usual income tax scheme, the typical retirement severance payment would put a worker in the top bracket of the progressive schedule. Hence, there is a special deduction for retirement income. Occasional income is formally defined as income deemed to be temporary and particular to one year; this may be considered a substitute for income averaging. Miscellaneous income includes all other types of income, such as honoraria. Household saving behavior is, in one way or another, bound by all these tax treatments. It should be noted, however, that interest payments for consumer loans are not tax deductible. The Nakasone-Takeshita tax reform reduced the progressivity and the level of total income tax rates at all levels of government, although the absolute levels are still high, compared with some other G5 countries. Figure 6.3 illustrates this dramatic change between 1986 and 1992.

6.3.4 Effective Marginal Personal Tax Rates

Mervyn King made an ingenious attempt to combine various tax rules into an index of effective marginal personal tax rates (this became known as the King-Fullerton method; for details, see King and Fullerton [1984]). Recently the OECD (1991a, 1991b) conducted an international comparison of capital income taxation for OECD countries employing the King-Fullerton method. The relevant results from the project are reported in table 6.6. The effect of the Nakasone-Takeshita tax reform does not show up clearly in the figures for 1985

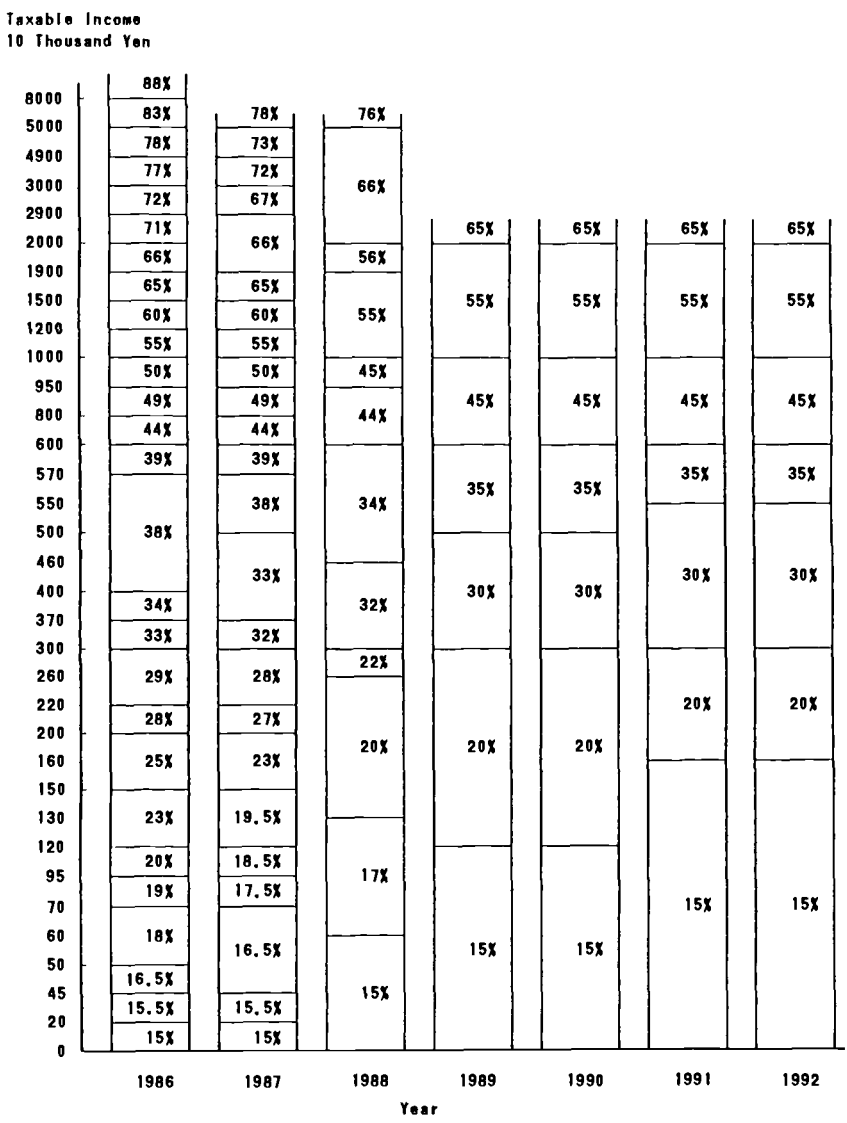

Fig. 6.3 Statutory rates of personal income taxes, 1986–92
Source: Tax Bureau (various issues, b).
Note: Tax rates are combined at all levels of government (i.e., national, prefecture, and municipal).

and 1990. There are two explanations for this. First, as table 6.5 showed, under the reform average personal tax rates on interest remain the same, while average tax rates on dividends and capital gains move in opposite directions. On balance, the effective marginal personal tax rate remains at more or less the same level. Second, for the sake of comparison, the King-Fullerton method is

Table 6.6 **Effective Marginal Personal Tax Rates on Capital Income (%)**

	1980	1985	1990
United States	—	38.4	66.7
Japan	56.7	23.6	28.3
Germany	70.3	42.9	46.9
France	—	45.3	25.4
United Kingdom	—	67.8	63.2

Source: OECD (1991a).

Note: The King-Fullerton method is used with some modifications, using country-specific interest rates, inflation rates, and average personal tax rate.

based on hypothetical projections that do not necessarily capture reality. As reported earlier, average household savings were effectively tax-exempt before 1988, while, since 1988, a flat 20 percent withholding tax has been imposed on interest. Thus a calculation based on hypothetical projections using statutory tax rates might lead to a misleading conclusion. In fact, it is quite likely that effective marginal tax rates on capital income before 1988 were much lower than the figures in table 6.6 (see Shoven and Tachibanaki [1988] for similar results in the earlier period).

A drawback is that the above results are based only on domestic manufacturing investment. Without considering international portfolio investment, spillover effects of capital income taxation on international investors can not be fully captured. In terms of personal taxes, however, most household savings are liable to domestic personal taxation. In any case, during the period from 1980 to 1990, effective marginal personal tax rates on capital income in Japan were relatively low, compared with the other G5 countries. It is, however, an open question whether the high household saving rates in Japan can be explained, at least in part, by the low effective marginal personal tax rate on savings.

6.4 Asset Allocation

In this section, historical changes in portfolio selection are reviewed. An important question to ask is, What makes portfolio selection change over time? Possible reasons for portfolio shifts are: (i) a shift in real rates of return during the stock market boom in the 1980s, (ii) financial market liberalization (the introduction of new financial assets), (iii) tax reform (imposing 20 percent withholding tax on interest and dividends), and (iv) fiscal deficits (government bond issues).

Several characteristics of Japanese households can be identified from figure 6.4 and table 6.7. First, judging from figure 6.4, the Japanese are very risk-averse, in the sense that about 60 percent of the household portfolio is held in safe assets, as currency, time deposits, and government bonds (securities) are

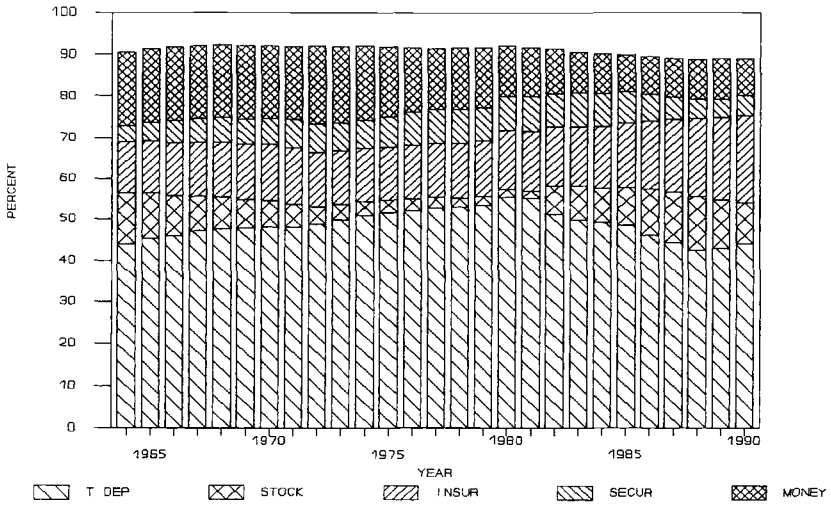

Fig. 6.4 Composition of household portfolio, 1964–90
Source: Bank of Japan, *Flow of Funds Accounts* (Tokyo, various issues).
Note: T DEP = time deposits; STOCK = stock; INSUR = life insurance; SECUR = securities (mainly government and corporate bonds); MONEY = demand deposits and currencies.

considered to be in table 6.7. Horioka (1990, 56) estimates that during the period from 1964 to 1984, the average annual rate of after-tax returns (including capital gains and dividends) on stockholdings in listed corporations was about 17 percent, whereas the average annual deposit rate was about 5 percent. The high degree of risk aversion among Japanese households may have contributed not only to skewing portfolio allocation toward safe assets but also to raising the overall level of household savings. In addition, public opinion surveys find that preparation for unforeseen emergencies is by far the dominant motive for saving in Japan. This implies that the level of precautionary savings must be high and that such savings must be held in safe assets.

Second, cash holdings, including demand deposits declined constantly over the 1964–90 period. This is partly because transactions between bank accounts

Table 6.7 Correlation Matrix

	Currency	Time Deposits	Insurance	Government Bonds	Stocks
Currency	1	0.13045	−0.76194	−0.73679	−0.36221
Time deposits	0.13045	1	−0.52664	0.48663	−0.91974
Insurance	−0.76194	−0.52664	1	0.20479	0.52276
Government bonds	−0.73679	0.48663	0.20479	1	−0.18827
Stocks	−0.36221	−0.91974	0.52276	−0.18827	1

Source: Bank of Japan, *Flow of Funds Accounts* (Tokyo, 1964–1990).

(current and deposits) became easier and cheaper and partly because credit cards became more widely used.

Third, the shares of life insurance (especially single-premium life insurance), stocks, and investment trusts have increased since 1982, particularly since 1985. This reflects the stock market boom during the 1982–1988 period. Japanese households might have increased their sensitivity to the "after-tax rate of return." Further investigations are required, at least on the following points: (1) because of the boom in the land and stock markets, Japanese households in general might have become wealthier and less risk-averse; (2) as the income and wealth distribution becomes more unequal, richer (usually older)[13] households hold risky assets, whereas poorer (usually younger) households keep their portfolios in relatively safe assets; and (3) the average household does not take the direct risk of holding stocks but goes through institutional investments, such as life insurance and investment trusts, to enjoy higher after-tax rates of return from savings (table 6.7 shows that households seem to consider insurance a risk-bearing investment).

Fourth, the share of government bonds (securities) has declined as new issues of government bonds became smaller during the process of reducing fiscal deficits in the 1980s.

The above observations indicate that changes in portfolio selection happened well before the Nakasone-Takeshita tax reform, and chiefly because of the stock market boom in the 1980s. But to identify how sensitive Japanese households are to tax incentives or "after-tax" interest rates, we have to use a microdata source, containing microeconomic characteristics and information on portfolio selection by the elderly and isolating tax factors from macroeconomic factors. This task will be taken up in future research.

6.5 Role of Intergenerational Transfers

6.5.1 Life-cycle Hypothesis and the Japanese Experience

In order to examine the effects of tax incentives on savings, we cannot ignore other factors that determine savings in society. The life-cycle hypothesis of saving and consumption is one of the most accepted principles in economics.

Although the budget constraint on individuals implies that they will save nothing over a lifetime, aggregate savings in a growing society will be positive. This is a basic observation of the life-cycle hypothesis. Japan, indeed, has ex-

13. Takayama and Arita (1992), using the 1989 NSFIE, report that rich elderly households hold a substantially higher proportion of risky assets than average households. See also Takayama (1992, table 2.13).

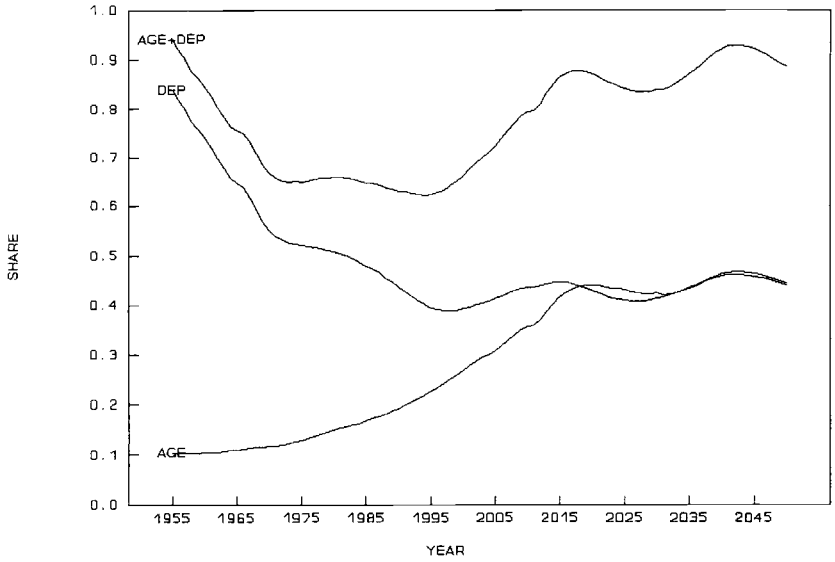

Fig. 6.5 Aged and dependent population ratio to the population aged 20–64, 1955–2045

Source: Horioka (1991).

Note: AGE = ratio of the population aged 65 and over to the population aged 20–64; DEP = ratio of the population aged 19 and under to the population aged 20–64.

perienced relatively rapid economic growth, accompanied by a high saving rate. This is supporting evidence for the life-cycle hypothesis. Could the life-cycle hypothesis be a dominant force? This is an important question because we have to evaluate how tax incentives work through saving decisions in the life-cycle framework (see Ito 1992, chap. 9, esp. 275–77).

At first glance, the Japanese experience is a strong case for the life-cycle hypothesis. The personal saving rate increased as the economic growth rate increased in postwar Japan, until both peaked around the first oil crisis of 1973–74 (see fig. 6.2). The correlation is strikingly high.

Suppose that life-cycle saving is a dominant force in Japan, then the rapid aging of Japanese society will have a profound implication for the saving rate. Currently, about 15 percent of the Japanese population is elderly (over age 65), and by the year 2015, the population share of the elderly will double (i.e., to about 30 percent, see fig. 6.5). As the population weight of the elderly—typical dissavers—rises, the saving rate will decline (see also Takayama 1992, fig. 2.3).

One test of the life-cycle hypothesis is an experiment of introducing (pay-as-you-go) social security pensions. The pension funds operated by the government enable people to save less from disposable income (net of pension fund contributions), so the personal saving rate should drop. The social security

reform in the beginning of the 1970s in Japan came close to such a social experiment. However, there was no obvious drop in the personal saving rate among the generation who would benefit most from the reform (this was pointed out by Hayashi [1986]).

The validity of the (pure) life-cycle hypothesis is challenged on several grounds. First, if the elderly have a bequest motive, either purely altruistic or strategic, then they may not dissave even after retirement. That is, the aging of a society will not reduce the personal saving rate if the elderly do not spend down their life savings but instead hand down assets to their children, either through bequests or outright gifts. Second, if, for the elderly, personal savings are intended to build up enough wealth for contingencies—such as poor health and other unexpected expenses—during the retirement years, the introduction (the deterioration) of a social security health program would lower (raise) the saving rate.

6.5.2 Dissaving or Bequest

It is difficult to quantify how much the elderly save out of their labor and pension income, or dissave from their wealth. There are two kinds of measurement problems. First, when household surveys classify statistics by age, all surveys classify them by the age of the household head. In Japan, many elderly people live with their children. In such a "merged" family, the household head is usually defined to be the person who earns the most—that is, is most likely to be the elderly person's child, at the peak of life-cycle earning power. Therefore, statistics about the elderly contain a sample selection bias. A typical survey of this type is the FSS (see Ito 1992, table 9.2, 265).

One solution of the merged family problem is to look at a survey with age information on family members in the same household. Hayashi, Ando, and Ferris (1988) used the NSFIE to obtain such information, and estimated the degree of dissaving by the elderly. Their study attempts to extract as much information as possible on the behavior of older persons living with younger families, although it is not free from the data control problem. They find that, in the case of dependent older families (consisting of members of extended families), savings are somewhat larger than the savings of corresponding young nuclear families and that their total net worth increases less than the net worth of corresponding young nuclear families. These patterns are strong evidence that wealth is being transferred within extended families, and they are also consistent with the possibility that there may be additional intergenerational transfers from dependent old families to young nuclear families.

Another way to look at the question of whether the elderly dissave or not is to try measuring bequests directly. According to Barthold and Ito (1992), who use bequest tax filing information, about one-third to one-half of household assets are obtained by bequests in Japan, and the ratio is comparable for the United States. This is a significant proportion and supports the idea that the elderly do not dissave enough and leave sizable bequests, intended or not (see fig. 6.6 for a recent increase in intergenerational transfers in Japan).

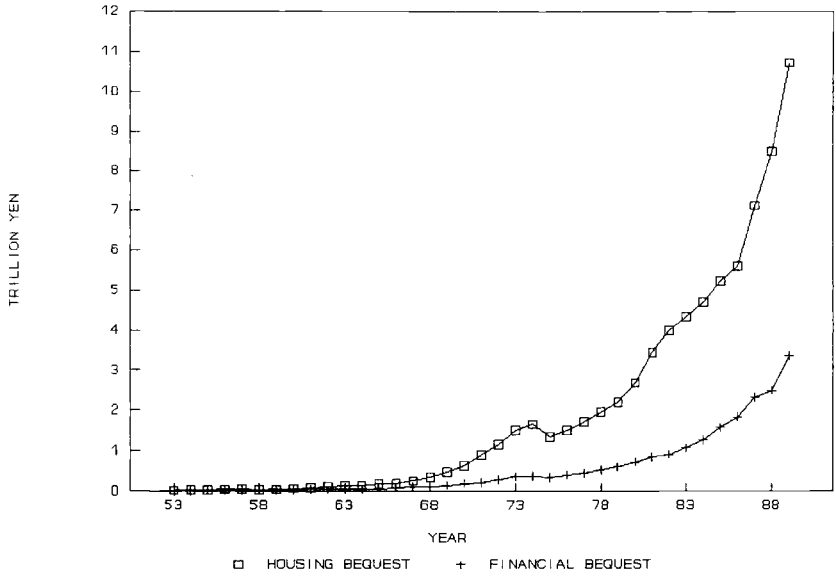

Fig. 6.6 Intergenerational transfers (nominal values), 1953–89
Source: Tax Bureau, *Annual Statistics* (Tokyo, 1953–89).

6.5.3 How Tax Incentives Would Work

The most expensive purchase over the life cycle is usually housing. The treatment of housing was already touched upon in section 6.3.3. We will elaborate on this aspect from the particular viewpoint of life-cycle saving.

According to the pure life-cycle model (i.e., without the bequest motive), owner-occupied housing must be sold well in advance of death. Enough cash flow will be generated from home equity for lifetime financial support, and can be spent after moving into rental housing. However, in the statistics, there is no significant drop in the home-ownership rate after age 65.[14] There are three obvious reasons that elderly people are unwilling to sell their homes.

First, the quality of rental housing is quite low in Japan. House-lease law favors tenants, so that it is almost impossible to terminate a contract, even at its nominal end, without a tenant's consent. Hence, most rental housing is small and of low to medium quality, so that tenants will not stay forever (see Ito 1992, 423).

Second, high transactions costs coupled with a heavy capital gains tax (a flat 30 percent for nonfinancial assets) are disincentives for relocation. Even if the

14. The home-ownership rate of a cohort is defined as the ratio of the number of households with owner-occupied housing to the total number of households for a given cohort (age bracket). See, e.g., the Ministry of Construction, Housing Survey, for the aggregate statistics, cited in Ito (1992, 409, table 14.1) with cautionary remarks.

elderly prefer to live in housing more suitable to their stage in the life cycle, selling a house is a losing proposition in terms of one's portfolio.

Third, in the bequest tax code,[15] real estate is lightly assessed, as discussed in section 6.3.3. For example, the assessed value of land for bequest taxation (*rosen ka*) is at most 70 percent of the official survey price (*koji kakaku*), which, in turn, is about 70 percent of the market price. Hence, it is well known that assessed value is about 30–50 percent of market value. In addition, land up to 200 square meters (part of a large lot or an aggregate of smaller lots) is valued at 50 to 60 percent of *rosen ka.* In addition, the mortgage liability of the same asset is fully deductible from its taxable value. It does not take much calculation for an elderly person with bequest motive to figure out a scheme to lessen bequest (inheritance) tax liability: buy a house (or apartment building to become a landlord) and carry debt. This is exactly what happens among the Japanese elderly. About 60 percent of bequeathed asset values among Japanese decedents whose assets are subject to inheritance taxation is composed of real estate. On the other hand, only 25 percent of U.S. bequests subject to estate tax are composed of real estate (see Barthold and Ito [1992] for detailed institutional differences and simulation results). In sum, the bequest taxation code in Japan gives an incentive for the elderly with bequest motive to accumulate real estate after retirement, the opposite of the prediction of the pure life-cycle model. Evidence thus supports the existence of bequest motives.

Thus, for one reason or another, owner-occupied housing is not likely to be liquidated in Japan. Getting a reverse mortgage (borrowing money with a contract to pay off by bequeathing a house to the lender) is difficult, presumably because of asymmetric information problems and moral hazard in housing maintenance.[16]

6.6 Conclusion

This paper identifies government tax incentives for household saving and the historical changes in these incentives. Our findings can be summarized as follows.

1. Tax incentives for financial savings have been reduced since April 1988,

15. The bequest tax or inheritance tax is imposed when the total amount of inheritance exceeds 40 million yen plus 8 million yen times the number of statutory heirs, which is the basic deduction. Total tax liabilities are calculated in the following way: (1) assign the total tax base (property values after all deductions and exemptions) to each statutory heir by the statutory share, (2) apply the following tax schedule to the assigned amount for each heir to calculate a tax amount for each heir, (3) deduct any tax credit from this individual tax amount, and (4) sum up the individual tax amounts to arrive at the total inheritance tax liability. The schedule starts at 10 percent for the first 4 million yen. The marginal rate goes up to 70 percent at 500 million yen. For details, see Barthold and Ito (1992).

16. A particular form of reverse mortgage was introduced in Musashino City (a suburb of Tokyo). So such a contract is called the Musashino-type mortgage. However, not very many people have taken advantage of the system, and all contracts end with an option that the heirs buy back the contract, reclaiming the housing by paying off the debt, after the death of the contract holder.

while tax incentives for housing were strengthened in the tax reform. This reform might contribute to household wealth holdings skewed toward housing.

2. The reduction of tax incentives for financial savings did not seem to change household saving behavior by a significant magnitude.

3. The Japanese household sector is very risk-averse in general. This fact seems to explain the seeming insensitivity of Japanese households to the real rate of return from savings. If we remove the risk-aversion factor, Japanese households allocate their portfolios in a rational way.

4. To a certain extent, a household's portfolio selection might indicate its sensitivity to the real rate of return from savings during financial liberalization coupled with the stock market boom in the 1980s.

5. Intergenerational transfers have been made in substantial amounts in Japan. With institutional impediments and favorable tax treatments, the elderly tend to accumulate (rather than decumulate) wealth, especially in the form of housing, until the very end of their lives.

6. In the presence of large intergenerational transfers, the life-cycle theory of saving becomes dubious. The story of steady decline of Japanese household savings in a rapidly aging society, supported by the life-cycle theory, needs further testing to be validated.

The work that remains to be done is concerned mainly with microlevel data analysis. The saving behavior of the elderly is of particular interest. The test for a bequest motive on the part of the elderly may help to explain the high saving rate in Japan. This analysis may also give empirical support for the idea of generational accounting advocated by Kotlikoff (1992). Finally, and probably most important, the Japanese attitude toward risk must be analyzed and identified in the microdata. Portfolio selection by income class, by age, and by wealth may give important information about the degree of risk aversion. This may also supply an explanation for the high saving rate in Japan.

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