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7 Housing and Saving in Japan

Toshiaki Tachibanaki

7.1 Introduction

The consensus has been that the savings rate in Japan was considerably higher than in other industrialized countries. Japanese and non-Japanese economists have investigated the reasons why the savings rate was so high. Some doubts were cast on this consensus quite recently, however, proposing that the Japanese savings rate would not be markedly higher than that in other countries, if the measurement of savings were made properly. Another widely held belief was that savings related to potential housing purchase were very important. Some say that this is no longer true. The purpose of this paper is to examine these subjects, namely, the proper measurement of savings, and housing-related savings. Since a housing purchase normally implies a housing loan, special attention is paid to the contribution of repayment to debt. The influence of gifts and inheritances on the savings rate is also investigated, because a house and land are the typical goods of intergenerational transfers. Finally, wealth distribution is briefly analyzed.

7.2 Saving Motives and Objects

It has been widely believed that four saving motives and objects are important in Japan: for uncertainties such as illness or disaster; for consumption during old age; for purchase, construction, expansion, or renovation of land and houses (called housing-related saving for short); and for children's educa-

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Table 7.1 **The Three Most Important Motives for Saving (%)**

	Precautionary Saving for Illness or Disaster	Children's Education and Marriage Expenses	Housing-Related	Consumption during Old Age	Consumer Durables	Travel and Leisure	Tax Payment	No Specific Aims	Other
1974	81.5	54.4	32.3	37.3	7.4	8.2	3.9	27.3	1.6
1975	83.2	55.3	30.2	38.1	7.5	9.0	3.9	27.1	1.7
1976	82.2	53.9	30.1	41.8	8.0	9.3	3.5	26.3	1.6
1977	79.6	54.2	32.0	38.5	8.6	10.7	2.9	30.2	1.4
1978	77.9	50.5	32.2	40.2	8.7	10.1	3.9	27.6	1.3
1979	76.6	53.0	33.9	39.8	8.2	9.9	3.8	27.2	1.2
1980	79.1	53.5	32.0	38.4	7.8	10.0	4.8	27.2	1.2
1981	76.9	50.9	31.4	36.4	8.7	11.4	4.1	26.5	1.2
1982	78.5	52.7	27.1	42.1	7.9	9.9	4.6	25.8	1.2
1983	75.4	53.0	28.6	41.0	8.7	10.4	4.9	27.1	1.1
1984	75.0	59.2	26.3	42.1	7.5	9.7	5.2	25.7	1.2
1985	77.2	60.1	19.8	42.5	10.5	4.8	5.4	26.4	1.6
1986	75.0	60.0	20.5	42.5	10.8	5.2	5.5	25.3	1.4
1987	76.4	57.5	20.4	46.1	9.4	6.1	4.7	26.1	1.4
1988	77.1	64.4	19.2	50.2	10.5	6.3	5.0	28.0	2.9
1989	80.5	58.2	17.7	51.5	11.1	7.0	5.7	28.7	3.7

Source: Central Council for Saving Promotion, *Public Opinion Survey on Saving* (in Japanese) (various issues).

tion and marriage expenses. It would be useful to confirm these motives by looking at some recent surveys.

Tables 7.1 and 7.2 show the most popular and widely cited survey, *Objects for Savings,* conducted by the Central Council for Savings Promotion, an institute affiliated with the Bank of Japan, from 1974 to 1989. Figures in table 7.1 are the percentages of respondents who gave the top three motives for saving, while figures in table 7.2 are the percentages of respondents who gave the top motive for saving. Although there is a subtle difference between table 7.1 and table 7.2 because of differing relative weights on the evaluation, the data confirm that the four motives mentioned above are very important.

Another survey on motives for saving is the *Survey on Consciousness and Objects of Savings,* conducted by a research group at the Department of Sociology of the University of Tokyo. The results are in table 7.3. The survey was conducted in 1977, 1981, and 1985. The first part of the survey asks saving motives and consciousness without necessarily specifying objects of savings, while the second part asks for specific saving objects. The second part, namely specific objects, is roughly equivalent to table 7.2.

These three tables show, not the amount of savings for particular objects, but how people evaluate important saving motives and objects. For example, the most important object in table 7.2 (1989) is precautionary saving for illness and disaster, 34.2 percent. This number merely shows that 34.2 percent of respondents regard precautionary saving for illness and disaster as the most important object; it does not necessarily imply that the amount of saving for precautionary reasons is the largest. The tables suggest that motivation to save for children's education and marriage expenses is very high. As Horioka (1985, 1987) points out, however, the amount of saving for children's educational expenses and marriage expenses is quite marginal. I present later the amount of savings for housing.

The tables suggest that the importance of housing-related motive and object, namely purchase, construction, expansion, or renovation of land and house, has declined constantly over the past fifteen years. Table 7.1 shows that it is only the fifth most important, namely, 17.7 percent in 1989. It is the fourth most important (7.1 percent) in table 7.2. These percentages were 33.9 in 1979 and 17.3 in 1978, respectively. These are remarkable declines. It is possible to conclude that housing-related saving is no longer an important motive. We have to verify whether this is true for the amount of housing-related savings in addition to the housing-related motive and object, and to find the causes for this trend if it is true.

The two surveys have a serious drawback: neither asks about the bequest motive for and object of saving. As Hayashi (1986), Hayashi, Ando, and Ferris (1988), Hayashi, Ito, and Slemrod (1988), and Tachibanaki and Shimono (1986, 1991) pointed out, the life-cycle saving hypothesis with a bequest motive is quite plausible for Japan. An exception is Horioka (1990). Since the surveys do not touch on the bequest motive, we have to take account of the

Table 7.2 **The Most Important Motive for Saving (%)**

	Precautionary for Illness or Disaster	Children's Education and Marriage Expenses	Housing-Related	Consumption during Old Age	Consumer Durables	Travel and Leisure	Tax Payment	No Specific Aims	Other
1974	39.2	16.2	14.0	13.9	0.9	0.3	0.3	7.4	0.7
1975	42.2	16.4	13.9	13.0	0.8	0.3	0.3	7.7	0.9
1976	39.0	15.8	15.2	14.4	0.9	0.4	0.4	7.4	0.9
1977	32.9	20.4	16.9	14.8	0.8	0.7	0.3	6.9	0.9
1978	34.5	17.6	17.3	13.2	1.1	0.9	0.4	6.9	0.8
1979	34.4	18.1	16.9	13.9	0.9	0.8	0.7	6.4	0.6
1980	36.1	18.3	15.4	11.3	0.9	0.8	0.8	5.9	0.7
1981	39.0	17.9	16.2	13.4	1.4	1.1	0.8	7.6	0.7
1982	38.7	19.5	13.2	15.3	1.4	1.1	0.7	7.0	0.7
1983	36.1	20.7	14.3	15.4	1.3	0.9	1.0	7.0	0.7
1984	34.4	18.3	12.3	15.5	1.1	1.0	0.9	6.5	0.7
1985	31.4	18.1	9.0	16.6	0.9	0.5	0.7	6.6	1.0
1986	31.6	17.6	9.9	15.9	0.8	0.3	0.5	7.1	0.9
1987	33.0	16.2	9.0	19.2	0.9	0.6	0.9	6.4	0.7
1988	39.3	18.5	8.6	21.3	1.3	0.4	0.9	7.4	0.7
1989	34.2	16.8	7.1	23.7	0.9	0.4	0.6	6.7	0.9

Source: Central Council for Saving Promotion, *Public Opinion Survey on Saving* (in Japanese) (various issues).

Table 7.3 Motives and Objects for Saving (%)

	1977	1981	1985
Motives			
Consumption during old age	39.5	42.3	45.9
Precautionary for illness and disaster	75.0	73.1	71.5
Particular objects and purposes	42.3	40.1	38.1
Raising revenue	5.9	5.4	6.6
Nonspecific	10.3	3.1	2.9
Objects			
Children's educational expenses	56.8	57.3	59.1
Marriage expenses (own and children's)	30.3	31.2	32.9
Housing-related	57.9	52.0	42.3
Opening independent business	8.0	5.9	5.2
Working capital of business	11.8	11.1	11.5
Durable goods such as car and furniture	18.4	21.5	23.6
Travel and leisure	22.2	28.4	33.0
Other	2.8	2.5	3.3

Source: Department of Sociology, University of Tokyo, *Survey on Consciousness and Objects of Savings* (in Japanese).

contribution of this motive in judging the relative importance of saving motives. It is likely that the relationship between housing and bequests is crucial. Also, the surveys do not deal with repayment of loans, which is one of the important components of savings, as will be argued later. In other words, they do not cover all components of savings.

It is interesting to inquire into the effect of age on saving motives and objects. Figure 7.1 shows the percentages of objects by age class. This figure was drawn using the same source as table 7.1 (i.e., the top three important objects). Several interesting observations are possible based on this figure. First, uncertain expenditure for illness and disaster is the highest over all age classes. The Japanese are risk-averse regardless of age. Second, consumption during old age increases directly with age. Third, children's educational expenses decline fairly drastically as people become older. These two are fairly natural outcomes of the life stages. Finally, the housing-related saving object decreases gradually with age from 30 percent in the twenties to 8.4 percent in the seventies.

In summary, life stages are crucial to determine the importance of saving motives and objects. With respect to housing-related savings, younger ages (say ages 20–40) give a heavier weight to housing motives than middle or older ages. This does not necessarily imply, however, that younger people save more for housing. As will be shown later, middle-aged and sometimes older people save a lot if we take account of repayment of housing loans.

I have examined how people in Japan assess saving motives and objects. The

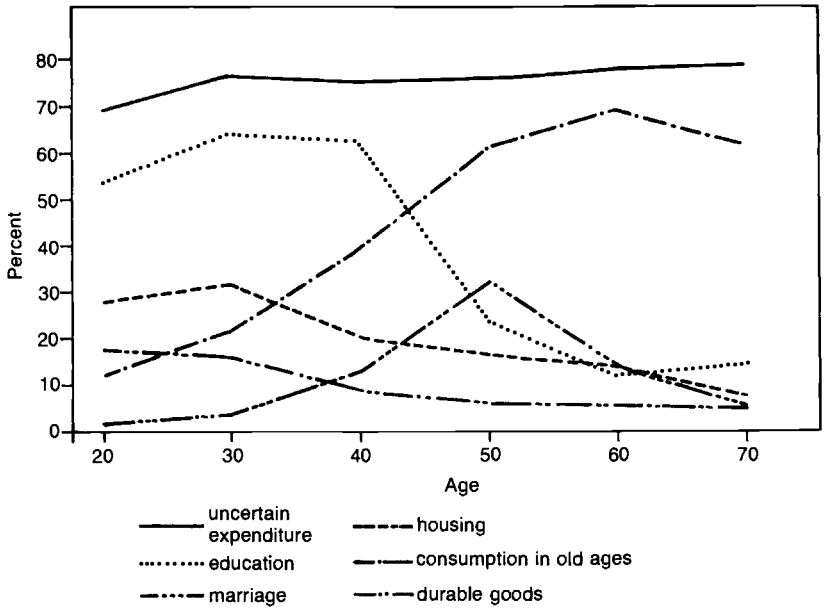

Fig. 7.1 The effects of age on saving motives and objects
Source: Central Council for Saving Promotion, *Public Opinion Survey on Saving* (1987).

next task is to investigate the extent to which people prepare to achieve these motives and objects. Table 7.4 suggests that the ratio of "considerably insufficient" and "utterly insufficient," totaling 49.0 percent, is not so high for housing-related saving motive in comparison with savings for life during old age, totaling 74.8 percent, or for illness and hospitalization, totaling 65.6 percent. Therefore, the Japanese attempt to prepare a fairly sufficient amount of savings for housing purposes, and they worry a lot about their insufficient amount of savings for life after retirement and for health problems. This table again shows that saving for housing is no longer a major motive.

7.3 Housing Purchase and Living Conditions

This section examines the issues that indicate the relationship between savings and housing. It must be emphasized that all households do not buy houses. Some prefer rental houses to owner-occupied houses, and never buy a house during their lives. Also, some hold multiple homes, used as second homes or villas at vacation areas or rented as homes or rooms. These second homes and rental homes are not my major concern; only 1.7 percent of the population hold second homes or villas currently. Since housing statistics do not provide useful information on the number of houses or rooms rented out by individuals or on the amount of rents, I ignore these issues. An important issue is that

housing quality in Japan is generally poorer than that in other industrialized countries, although no evidence is provided here. This may imply that the Japanese have to continue their high saving rates in order to improve the quality of their housing stock.

One remark must be added with respect to the quality of homes in Japan. Owner-occupied homes and rental homes are not close substitutes because the two categories are very different in the number of rooms per home and in the floor area. In general, owner-occupied homes have a larger number of rooms and larger areas than rental homes. This reflects largely the difference in the number of family members. Single-person households or married couples without children tend to live in rental homes with a smaller number of rooms when they are young, while older married households with children, and parents in some cases (called a merged family), tend to live in owner-occupied homes with a larger number of rooms. Thus, getting married and having children are important incentives to switch from rental homes to owner-occupied homes. Also, it is often suggested that the lack of qualified rental homes caused by the Land Lease Law and Building Lease Law is serious. These facts suggest that, because rental homes and owner-occupied homes are demanded by different households, they are not close substitutes.

Figure 7.2 shows that the lack of close substitution is verified by the data. Two peaks of total area per home are distinguished for rental homes and owner-occupied homes. The distinction is more apparent for national levels than for urban, condensed areas. Yoshikawa and Ohtake (1989) made an important contribution to the study of saving and labor-supply behavior, by taking account of this separation.

Since age was crucial for the determination of the saving motive for housing, it is useful to know at what age households obtain their own homes. Table 7.5 shows the percentage of households who have their own homes for various age classes and various years. First, more than 50 percent of households in 1988 have their own homes at ages 35–39, and more than 70 percent at ages over 45. Second, the majority of households obtain their homes when they are

Table 7.4 **The Extent of Preparations for Each Saving Motive (%)**

	Sufficient	Considerably Insufficient	Utterly Insufficient	No Need to Prepare	No Answer
Consumption during old age	19.6	34.1	40.7	4.6	1.0
Illness and hospitalization	28.2	37.6	28.0	4.3	1.9
Housing-related	18.1	18.1	30.9	29.7	3.2
Children's education	20.6	28.2	14.5	31.0	5.7
Children's marriage	12.4	17.6	34.2	31.2	4.6
Own marriage	14.6	28.1	29.2	23.8	4.3

Source: Economic Planning Agency, *Survey on Life Preference* (in Japanese) (1985).

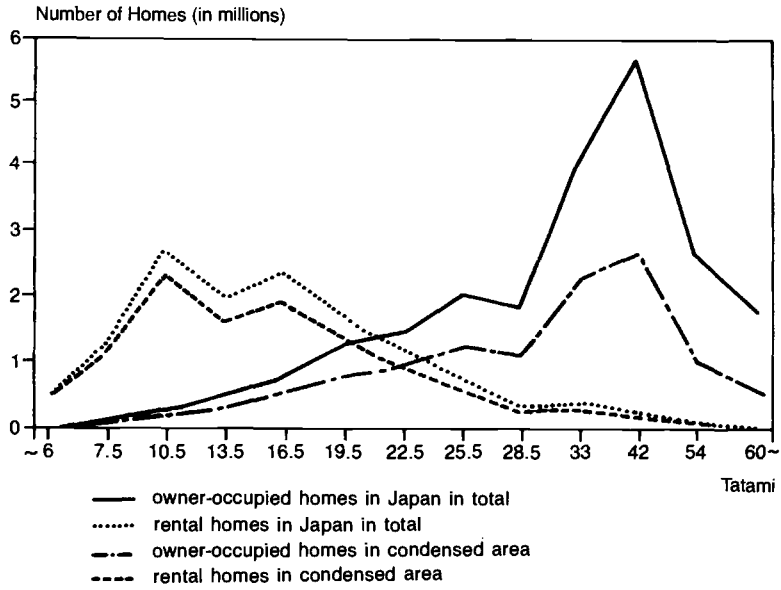

Fig 7.2 The number of tatami mats and housing status
Source: Maki 1988, based on Management and Coordination Agency, *Housing Survey* (1963).

Table 7.5 The Rate of Owner-Occupied Homes by Age Class (%)

	1968	1973	1978	1983	1988
Total	59.1	58.4	59.0	62.0	61.1
Less than 25	16.5	11.4	9.9	7.6	5.0
25–29	27.9	26.0	27.9	24.8	17.8
30–34	48.9	48.2	44.4	45.5	38.6
35–39			58.0	59.8	56.2
40–44	67.4	68.7	66.8	68.2	65.8
45–49			73.4	73.1	72.5
50–54	74.9	76.6	77.1	77.0	74.7
55–59			79.0	80.1	78.9
60–64	79.8	78.9	77.9	78.3	80.2
65 and over			75.9	76.1	77.0

Source: Management and Coordination Agency, *Survey on Housing* (in Japanese) (various years).

Table 7.6 **The Relationship between Housing Loan and Owner-Occupied Homes (%)**

	Total	Owners	Renters
Prefer owner-occupied home despite heavy housing loan	53.9	62.9	30.7
Prefer rental home because of heavy housing loan	31.9	20.8	60.3
Do not know	14.2	16.2	9.0

Source: Management and Coordination Agency, *Survey on Housing in Large Urban Areas* (in Japanese) (1986).

between ages 30 and 49, and in particular between 35 and 44 in 1988. This is important to understanding the relationship between housing and saving. Third, about 20 percent of households never own their homes throughout their lives. Fourth, when we look at ages younger than 25 and 25–29, ownership rates have declined constantly and significantly. This is true also for middle-aged generations, say, 30–44 from 1983 to 1988, although the rate of decrease is less significant than that for younger generations. The decrease in the rates of owner-occupied homes might be explained by a drastic increase in land prices in urban areas and a change in tastes (i.e., some people prefer rental homes to owner-occupied homes, for convenience and avoiding the heavy financial burdens caused by housing loans).

Surveys of people who live in the two largest urban areas, Tokyo and Keihanshin, confirm that the above reasons are valid. The rate of housing purchase plans among renters has declined drastically (32.5 percent in 1977, 27.4 in 1982, and 15.2 in 1986). On the basis of table 7.6, about two-thirds of renters do not want to commit to the heavy financial burdens of a housing loan and prefer living in rental homes, when we exclude households who did not answer the question.

I must emphasize that favoring rental homes is, at this stage, restricted to households who are in large urban areas. Table 7.7 gives the percentage of those renters who plan to obtain owner-occupied homes in various regions. The rate of housing purchase plans is considerably higher in rural areas than in urban areas. Also, the rate decreases as the size of urban areas increases. This reflects the much higher increase in land prices in large urban areas than in rural areas. Some people in urban areas are obliged to abandon their housing purchase plans unless they receive extra revenues, such as bequests.

A recent survey conducted by the Ministry of Post and Telecommunication, *Survey on Financial Asset Choices of Households,* gave the reasons for not wanting to obtain owner-occupied homes (table 7.8). Among renters, 40.6 percent of households responded that the prices of land and a home are too high to buy, and 37.0 percent responded that it is difficult to find financial sources for housing. A total of 77.6 percent of households replied that they cannot

Table 7.7 **Housing Purchase Plan among Renters, by Location (%)**

	Have a Plan						
	Total	12 Largest Cities	Medium-sized Cities	Small Cities	Rural Areas	No Plan for a While	No Plan at All
1985	46.4	42.6	40.7	52.4	57.1	33.2	13.2
1986	49.6	49.2	46.8	53.2	51.5	31.2	12.6
1987	51.0	45.0	52.6	53.9	58.5	28.2	14.6
1988	45.1	35.3	45.9	53.6	54.6	32.1	14.6
1989	46.5	42.0	45.7	48.4	53.9	29.9	16.2

Source: Central Council for Saving Promotion, *Public Opinion Survey on Saving* (in Japanese) (various years).

Table 7.8 **Reasons for Not Wanting to Own Home (%)**

Reason	Total	Owners	Renters
Prices of land and house too high	16.5	8.6	40.6
Rental home preferred	3.8	0.2	14.5
Financial sources difficult to find	16.4	9.6	37.0
Owner-occupied home just obtained	12.5	15.8	1.9
Satisfaction with current home	55.4	68.1	17.4
Uncertainty about future	19.6	14.4	35.5
Other	3.7	2.7	7.6

Source: Ministry of Post and Telecommunication, *Survey on Financial Asset Choices of Households* (in Japanese) (1990).

afford to buy a home. If the prices of land and a home were low enough, households would be able to buy homes even if finding financial resources were difficult. In other words, a cause for lack of financial resources is that housing and land prices are too high. Therefore, it is concluded that the fundamental reason for the inability to buy homes is their extremely high prices.

The above conclusion is in particular applicable to large urban areas such as Tokyo and Keihanshin. Nihon Keizai Shinbunsha (1988) initiated a timely and valuable survey right after the period of sky-rocketing land prices in the Tokyo metropolitan area, *Survey on the Effect of Land and Housing Prices on Consumption.* The survey was given exclusively to people who live in the Tokyo metropolitan area. The survey provides us with several interesting observations. First, nearly 70 percent of renters and about 60 percent of homeowners say that they have to give up on obtaining their ideal homes because the cost is too high. "Ideal" in Japan means a moderately spacious house with a garden in a good neighborhood. Second, a very high proportion (about 50 percent) of

households switch from ideal houses to "collective homes, i.e., condominiums" as secondary targets. Third, about 30 percent of renters believe that they would enjoy their lives (spending money on other items) without owning their homes and worrying about paying off housing loans. The majority of people in the Tokyo metropolitan area have abandoned the idea of having owner-occupied houses and will have to buy collective homes if they want to own a home.

In what way have households lost their incentive for buying homes? The *White Paper on Households' Living Conditions* (*Kokumin Seikatsu Hakusho*), published by the Economic Planning Agency (1989), calculated the degree of ability to buy homes for several representative cases (table 7.9), using the formula

$$\text{Ability} = \frac{\text{Attainable housing loan and financial assets}}{\text{Housing price (land and housing construction)}} \times 100,$$

where the attainable housing loan was calculated assuming that the annual repayment is 25 percent of annual income. The maximum amount is borrowed from the public housing loan program (to get a cheaper rate of interest), and the rest is from private banks. Households borrow for the maximum duration allowed legally. Annual incomes are for various locations, and the price of land and a house are from various sources.

Table 7.9 shows severe conditions for housing purchases. In 1988, the price of a house (detached) in Tokyo was over 80 million yen, and the price of a collective home was over 60 million yen. The price of a house in smaller cities was 26 million yen. The average in Tokyo is 167 square meters of land and 89 square meters of floor area, and in smaller cities the average is 247 square meters of land and 101 square meters of floor area. (Incidentally, the average

Table 7.9 **Housing Prices and Ability to Buy**

	Tokyo, House		Tokyo, Collective Home		Region House	
	Price (million yen)	Ability (%)	Price (million yen)	Ability (%)	Price (million yen)	Ability (%)
1979	25.52	64.2	24.75	70.3	14.50	89.7
1980	29.99	60.3	31.82	60.0	18.91	85.1
1981	34.23	56.6	33.35	61.2	20.79	82.7
1982	39.04	52.8	32.86	65.8	23.08	80.8
1983	39.93	55.6	32.93	70.7	23.51	85.0
1984	40.73	59.2	32.62	77.3	23.89	90.1
1985	43.22	60.2	34.65	78.3	24.14	97.0
1986	56.98	48.3	33.99	85.8	24.35	102.8
1987	85.31	35.5	45.64	69.3	25.04	113.3
1988	83.61	38.6	56.33	61.7	26.01	113.4

Source: Economic Planning Agency, *White Paper on Households' Living Conditions* (1989).

floor area of the collective home in Tokyo is 78 square meters.) The ability to buy a house is 38.6 percent for a (detached) house and 61.7 percent for a collective home in Tokyo, and 113.4 percent for a house in smaller cities. Average households in Tokyo are unable to afford owner-occupied homes, while average households in smaller cities can afford them with a considerable margin.

More important, the ability to buy a house or even a collective home in Tokyo has declined constantly. The decrease in the former is more apparent than that in the later. Also, the decrease is more serious in recent years, due largely to the drastic increases in the price of land in 1986–1988 in the Tokyo metropolitan area. The increase in land prices spread to Osaka and Nagoya in 1988 and 1989. The current housing price/annual income ratio in Tokyo is about seven to nine, and it is about four to six in rural areas. It is difficult to buy a house at the Tokyo ratio.

I do not discuss here the reasons for this drastic increase in land prices in urban areas. I merely point out that only two strategies remain for younger people buying homes: move to rural areas or pray for windfall income (receiving a bequest or marrying a son or a daughter of the extremely rich).

7.4 Bequests and Housing

This section examines whether the joke about windfall income has roots in reality. I have pointed out a fairly solid consensus of strong bequest motives among the Japanese. It is interesting and useful to investigate the relationship between bequests (and gifts) and housing, and the effect of bequests (and gifts) on savings. Invaluable data on bequests became available quite recently.

First, I examine the effect of bequests and gifts on the extent of owner-occupied homes. Table 7.10 shows the ratio of owner-occupied homes, and the motive for owning homes (i.e., whether households bought a home or obtained it through a bequest or gift) by region, age, occupation, and income class.

First, about 30 percent of homeowners obtained their homes through bequests and gifts. This figure is fairly low, for two reasons: the number of children was large in the past, and thus some children have not received any bequests; second, regional mobility of the labor force was quite high, so many children sell inherited houses. For 70 percent of households, some may have bought their homes by using all or part of the financial resources that were left them by their parents or by selling the parents' home. The latter is likely to occur when children move away from their parents' place of residence. Therefore, 30 percent should be understood as a minimum rate that signifies the importance of bequests and gifts in housing purchases. In reality, more than 30 percent should be assigned to the influence of bequests and gifts when we assess housing purchases. Also, many households anticipate that they will receive bequests in the future. These households are not covered in this survey.

Second, there is considerable variation both by region and by city size in the importance of bequeathed homes. Tokyo, Kanto, Kinki, Chugoku, and Hok-

Table 7.10 **The Ratio of Owner-Occupied Homes and the Motives for Homeowning by Region, Age, Occupation, and Income Class (%)**

	Owner-Occupied (*A*)	Bought (*B*)	Bequest and Gift (*C*)	*C/A*
Total	68.5	48.4	20.1	29.3
Region				
Tokyo	54.3	37.9	16.4	30.2
Kanto	70.1	53.4	16.7	23.8
Shinetsu	83.7	53.2	30.5	36.4
Tokai	71.0	47.6	23.5	33.1
Hokuriku	77.3	45.5	31.8	41.1
Kinki	69.3	49.5	19.8	28.6
Chugoku	63.7	48.2	15.5	24.3
Shikoku	62.0	35.5	26.4	42.6
Kyushu	67.6	47.3	20.4	30.2
Tohoku	77.5	48.9	28.7	37.0
Hokkaido	68.1	58.4	9.7	14.2
City size				
Tokyo (23 districts)	53.2	34.0	19.1	35.9
Ten largest cities	58.9	47.0	11.9	20.2
More than 150 thousand	66.3	49.7	16.5	24.9
More than 50 thousand	71.3	53.8	17.9	25.1
Less than 50 thousand	74.3	50.2	24.1	32.4
Rural area	77.7	47.0	30.8	39.6
Age				
Less than 29	17.5	10.9	6.6	37.7
30–39	45.1	31.6	13.5	29.9
40–49	71.2	51.9	19.3	27.1
50–59	80.4	56.9	23.5	29.2
60–69	86.0	60.4	25.7	29.9
70–79	78.0	48.9	29.1	37.3
Occupation				
Farmers	81.2	27.3	53.9	66.4
Self-employed	74.2	51.4	22.8	30.7
Employees	62.3	46.1	16.2	26.0
Managers	77.4	61.0	16.4	21.2
Professional	61.5	47.1	14.4	23.4
None	82.7	56.5	26.2	31.7
Other	57.7	33.8	23.9	41.4
Income (millions of yen)				
Less than 2	71.2	39.8	31.4	44.1
2–3	64.0	43.2	20.8	32.5
3–4	54.8	37.5	17.3	31.6
4–5	58.9	39.1	19.9	33.8
5–7	69.1	51.4	17.7	25.6
7–10	77.8	56.0	21.8	28.0
10–15	83.6	66.8	16.8	20.1
15 or more	85.4	68.0	17.5	20.5
No answer	67.8	47.0	20.8	30.7

Source: Ministry of Post and Telecommunication, *Survey on Financial Asset Choices of Households* (in Japanese) (1989).

kaido have relatively lower rates of bequests. Urban areas except for Tokyo (twenty-three districts only) also show lower rates, while rural areas and smaller cities show higher rates. These observations suggest that children who continued to live near their parents and did not move to larger urban areas tend to receive bequests. (Hokkaido is a special case because it is a frontier.)

Third, the timing of a transfer is universally distributed, although a somewhat higher rate is observed at ages under twenty-nine and over seventy. More important, occupation of children does matter in the determination of bequests. Farmers have a very high rate, 66.4 percent. "No occupation," "other occupations," and self-employed follow. The cases of farmers and self-employed are very natural; the other two categories may be associated with female heads of household after their husband's death. Employees, managers, and free professions show lower rates. It is likely that they moved to larger urban areas in order to find jobs and that most of them are second or third sons.

Fourth, income does not have a strong influence on the importance of bequests. The highest rate of bequests is observed among households whose incomes are less than 2 million yen. Most of those households would be retired or female heads. An interesting observation is that the rate decreases as income levels increase.

Table 7.10 demonstrates the effect of bequests on housing. One difficulty with the data, however, is that it does not identify the case in which children moved away from a parent's place of residence. (I call them changers for short.) Table 7.11 takes account of changers in city, town, or village. The table suggests, first, that the distinction between changers and nonchangers is crucial with respect to the effect of inheritance on the rate of landholding. Much higher rates of inheritance are observed among nonchangers, while most of the changers obtained land with their own financial resources. Incidentally, the rate of inheritance for self-employed people is higher than that for employees. Second, contribution of gifts is not negligible, but fairly important for employees. A gift is normally transferred before the parent's death. Third, although it was anticipated that many households would use all or part of an inheritance or a gift to buy new land, they did not. An exception is changers and employees. However, the rate is just over 10 percent. Inheritances and gifts were transferred largely to first sons (in most cases), and other sons and daughters (in some cases). This is responsible for explaining the above observations. In return for gifts, children are expected to live with their aging parents or to give financial aid and other help. This is a Japanese form of the so-called strategic (gift-exchange) bequest.

So far I have been concerned with bequests and gifts that have been received. To forecast what will happen, in particular the bequests and gifts that will be left, gives us information to predict the relationship between housing and the savings rate. We will look now at the current generations, who will leave bequests and gifts to their heirs.

The survey conducted by the Ministry of Post and Telecommunication, ex-

Table 7.11 How Households Obtained Land

	No Changers, Self-employed	Changers, Self-employed	No Changers, Employed	Changers, Employed
Inheritance	62.0	19.5	36.5	11.9
Inherited present home totally	56.8	11.7	34.8	7.8
Used inheritance as financial resource to buy new land	3.1	3.9	0.9	3.0
Used inheritance as part of financial resource to buy new land	2.1	3.9	0.9	1.1
Gift	7.4	3.9	12.1	14.1
Gifted totally	5.3	2.9	7.8	3.3
Used part of gift	2.1	1.0	4.3	10.8
Own financial resources	23.2	68.9	41.7	68.8
Not available	7.4	9.7	9.6	5.2

Source: Keizai-Seisaku Kenkyusho, *Bequest and Its Effect* (in Japanese) (1989).

Notes: For males aged 55–64 in the Tokyo metropolitan area. Changers include locational changes in prefecture or city, town, and village.

amined above, provides us with valuable information. According to the survey, among households whose ages are over sixty, 64.0 percent want to leave some form of bequest, on average 65.96 million yen. I find this a strong bequest motive, and the average amount that they plan to leave is considerably higher. With respect to forms of bequests and gifts, 57.0 percent of households plan to give "through land and house," and 24.2 percent "through financial assets." The majority regard land and a house as vehicles for intergenerational transfer, and financial assets play only a limited role. (See Barthold and Ito [1992], who estimated the amount of intergenerational transfers based on tax data and confirm this statement.)

It is possible to present a table showing the effect of region, city size, occupation, and income class on the choice between land/house and financial assets as inheritance vehicles. Since I observe no significant difference from table 7.10, I do not present it here. The only difference is the effect of income. The degree of desire to bequeath land, house, and financial assets, as well as the amount that households plan to leave, increases as income level increases. This is not surprising in view of the fact that the quality and quantity of bequests and gifts are largely determined by the desires of households who leave them.

Horioka (1990) proposed that no strong bequest motive is observed in the *Public Opinion Survey on Saving* used in this study. In his interpretation of the survey, 33 percent of Japanese households are not planning to leave a bequest to their children, and 22 percent plan to leave a bequest as part of an intrafamily implicit annuity contract. He concludes that no strong bequest motive exists in Japan, since the total of these two figures, 55 percent, is high. First, I find that 33 percent are talking about only an *intended* bequest. Although it is not possible to provide figures for *unintended* bequests, the percentage of households

who leave bequests would be much higher if both *intended* and *unintended* bequests were included. Second, the reason for leaving bequests does not matter when we investigate the contribution of intergenerational transfers. Whatever the reason (e.g., an intrafamily gift exchange), intergenerational transfer happened. I consider, therefore, that a bequest is an important source of intergenerational transfer.

Strong bequest motives (including unintended bequests) of people who may soon die have an important implication for the future course of the savings rate in Japan, because the majority of future generations will feel no need to save. Future generations anticipate that they will inherit great wealth (principally land and a house) sometime in the future. Therefore, they are unlikely to have a strong incentive to save, and it may be that the savings rate will decline considerably.

Two supplementary reasons explain why the above projection is likely. First, Japan faces a serious aging trend. The proportion of younger generations will decline, while the proportion of older generations will increase for the coming twenty or thirty years. This implies a decrease in the number of children who can receive bequests, and an increase in the number of parents who can bequeath. Thus, not only the probability of receiving bequests but also the amount of bequest per inheritance will increase under demographic changes (i.e., an aging trend).

Muramoto (1989) performed an interesting simulation to show that the above story is plausible for Japan. Table 7.12 gives various simulation results for households in their thirties. The average number of children decreases from 5.1 in 1965 to 2.3 in 1995, a vivid sign of the aging trend. The recently available data report this more strongly. Also, the proportion of unmarried people has increased. These demographic changes have an important effect on the probability of receiving bequests and the number of owner-occupied homes acquired through inheritance.

Table 7.12 shows the probability of receiving a bequest is above 80 percent in 1995, and more important, the probability of homeowning through inheritance is above 60 percent. The majority are able to own their homes through inheritance and are not obliged to take the trouble to save for housing purchase.

A large number of the elderly (not all of them) hold a relatively high level of wealth (both physical assets and monetary wealth), as will be shown. This supports the view that the amount of bequest per household head will be relatively high, and current younger generations predict that they will receive a high amount of inheritance in the near future. This depresses a motive for saving.

7.5 Housing Purchase, Housing Loan, and Saving

This section discusses the amount of saving (flow basis) and of financial assets (stock basis) for the particular purpose (i.e., housing). I examine whether

Table 7.12 **Households Who Are Able to Obtain Owner-Occupied Homes through Inheritances**

	Average Number of Children	Unmarried (%)	Probability of Receiving Bequest		Rate of Homeowning by Parents (%)	Probability of Homeowning through Inheritance		Households who Can Own Home through Inheritance	
			Model I (%)	Model II (%)		Model I (%)	Model II (%)	Model I (millions)	Model II (millions)
1965	5.1	4.3	39.2	38.4	82.3	32.3	31.6	2.54	2.49
1975	4.6	5.4	43.5	42.3	79.9	34.8	33.8	3.07	2.99
1985	3.1	9.2	64.5	61.5	77.6	50.1	47.7	4.96	4.72
1995	2.3	10.4	87.0	82.4	77.6	67.5	63.9	5.37	5.08

Source: Muramoto 1989, using sources such as the census, *Demographic Changes*, and the *Housing Survey*.

Notes: Model I assumes that everybody gets married, while Model II includes some unmarried. The expected probability of receiving a bequest is calculated from the expected amount of a bequest and the number of children. The probabilities and the number of households are for people in their thirties.

the amount of saving differs between owner-occupied homeowners and renters. I also examine the relationship between housing loans and saving.

It is not an easy task to estimate the amount of saving and financial assets for particular purposes, say housing or preparing for unexpected events, although statistics on motives of saving for particular purposes are available. Individuals and households are unable to identify exactly the amount for a particular purpose except in a few cases, such as education and marriage. Horie (1985) adopted a skillful method and simplifying assumptions. Briefly, he used a combination of two sources, the stock level of monetary assets or the consumption level for each purpose, and the annual change in motives of saving for each purpose. The second source is the same as the public opinion survey on saving motives that was examined before. Of course, we have to accept significant measurement errors. Nevertheless, his attempt is a valuable contribution.

Table 7.13 presents the component of saving (flow basis) and of monetary assets (stock basis) for four major purposes: (1) future consumption except for durable goods and rents, (2) future consumption of durable goods, (3) buying land and a house, and (4) consumption in old age and unexpected events.

The following equations were used to estimate figures in table 7.13.

$$\frac{\Delta A_1}{\Delta A_0} = \frac{CG \times a_1 \times p_1}{T} \qquad \frac{\Delta A_2}{\Delta A_0} = \frac{CDK \times a_2 \times p_2}{T}$$

$$\frac{\Delta A_3}{\Delta A_0} = \frac{IHLK \times a_3 \times p_3}{T} \qquad \frac{\Delta A_4}{\Delta A_0} = \frac{PREC \times a_4 \times p_4}{T}$$

CG is consumption expenditure at constant price, excluding durable goods and rents; *CDK* is stock value of durable goods; *IHLK* is asset value of land and house; *PREC* is asset value for precautionary saving motive; $a_i (i = 1, 2, 3, 4)$ is the share of importance for each motive; and $p_i (i = 1, 2, 3, 4)$ is the price level of each item. T is defined by

$$T = (CG \times a_1 \times p_1) + (CDK \times a_2 \times p_2) + (IHLK \times a_3 \times p_3) + (PREC \times a_4 \times p_4).$$

The most important component is consumption in old age and unexpected events, and is around 50 percent according to Horie's study. The next most important is buying land and a house, which is our major concern. Its importance, however, is lower in most years (except for 1973) than consumption in old age and unexpected events. Nevertheless, it is impressive that the sum of the two components is about 80 percent.

With respect to saving for buying land and a house, I base two observations on table 7.13. The share of A_3 on the flow basis gave an increasing trend (with a minor fluctuation) until 1979, and showed a slight decrease in 1982. The share on the stock basis (i.e., the share in total monetary assets) gave a continuously increasing trend. I therefore conclude that the amount of savings for buying land and a house has increased gradually until recently. This is due

Table 7.13 Component of Saving for Four Major Purposes (%)

	Flow Basis				Stock Basis			
	$\Delta A_1/\Delta A_0$	$\Delta A_2/\Delta A_0$	$\Delta A_3/\Delta A_0$	$\Delta A_4/\Delta A_0$	A_1/A_0	A_2/A_0	A_3/A_0	A_4A_0
1964	16.8	1.6	23.6	58.0	16.5	1.8	21.9	59.8
1967	15.2	1.2	29.9	53.7	16.2	1.6	24.6	57.6
1970	13.2	1.2	37.0	48.6	15.2	1.4	28.5	54.9
1973	12.4	0.7	43.4	43.5	14.2	1.2	33.4	51.3
1976	14.1	0.5	35.3	50.1	14.0	0.9	35.0	50.1
1979	13.7	0.5	39.3	46.5	14.0	0.8	35.8	49.4
1982	14.1	0.4	36.4	49.1	14.0	0.7	36.4	49.0

Source: Horie 1985.

Notes: A_1 = future consumption except for durable goods and rents; A_2 = future consumption of durable goods; A_3 = buying land and house; A_4 = consumption in old age and unexpected events.

largely to the increase in housing prices, according to Horie (1985). I find an interesting contrast between the motives for saving and the amount of savings with respect to housing-related savings, because the former shows a decreasing trend, while the latter shows a minor increasing trend.

Horie also calculated the household savings rate by adding the annual payment for purchasing land and a house to the previous saving amount and dividing the sum by disposable income. He found that about 60 percent of the household savings rate was for land and a house. This is an overestimation of the saving rate. It is desirable to adjust it by subtracting the amount of depreciation for the house, as Horioka (1988) pointed out. Horioka found that housing-related saving was less important than was popularly believed.

It would be interesting to inquire into the effect of housing purchase plans and the difference in the amount of monetary assets and of debt. *Family Saving Survey* and *National Survey of Family Income and Expenditure* provide us with useful information on these issues. Since these data have been examined by various authors such as Maki (1988) and Horioka (1988), I avoid detailed interpretations and make only brief comments.

Table 7.14 shows statistics from *Family Saving Survey.* First, financial conditions such as yearly income, monetary assets, and net monetary assets (i.e., monetary assets minus debt) are considerably better for owner-occupied householders than for renters. Based on this table, age and the number of earners per household are not the variables that differentiate earning capacity between homeowners and renters. Therefore, it should be understood that the genuine earning capacity of homeowners is higher than that of renters. These capabilities may be higher education, working at larger firms, and so forth.

One important aspect of the higher amount of monetary and net monetary assets of homeowners is the influence of initial wealth. As discussed above, a nonnegligible proportion of homeowners obtained their houses through inheritance. Therefore, they did not have to make a down payment or commit to a

Table 7.14 Housing Purchase Plan and Economic Conditions (in millions of yen)

	Average	30–34	35–39	40–44	45–49
Owners of Homes					
Households planning to buy within 3 years					
Earners per household	1.81	1.37	1.55	1.52	1.98
Yearly income	9.54	4.95	9.12	10.76	10.15
Monetary asset	34.35	7.90	11.42	21.15	28.61
Debt outstanding for purchase of house/	14.52	4.04	7.73	31.04	21.06
land	13.85	3.14	7.20	30.68	21.02
Net monetary asset	19.83	3.86	3.69	−8.99	7.55
Households planning to buy at 3 years or later					
Earners per household	1.86	1.53	1.46	1.56	1.89
Yearly income	8.60	7.57	6.04	9.51	10.78
Monetary asset	18.37	13.06	9.19	13.32	20.21
Debt outstanding for purchase of house/	4.83	9.90	5.54	7.43	3.88
land	3.93	8.90	4.24	5.00	1.58
Net monetary asset	13.54	3.16	3.65	5.89	16.33
Households without plans to buy					
Earners per household	1.62	1.39	1.47	1.59	1.80
Yearly income	6.72	5.41	5.93	6.72	7.63
Monetary asset	14.39	5.57	7.79	9.13	11.88
Debt outstanding for purchase of house/	4.37	7.06	6.24	6.81	5.86
land	3.82	6.62	5.62	6.29	5.09
Net monetary asset	10.02	−1.49	1.55	2.32	6.02
Renters					
Households planning to buy within 3 years					
Earners per household	1.43	1.40	1.25	1.45	1.65
Yearly income	6.80	5.21	6.23	7.47	8.02
Monetary asset	14.71	7.23	12.59	15.03	11.37
Debt outstanding for purchase of house/	1.59	2.00	0.73	0.48	0.98
land	1.36	1.95	0.54	0.27	0.11
Net monetary asset	13.12	5.23	11.86	14.55	10.39
Households planning to buy at 3 years or later					
Earners per household	1.36	1.29	1.30	1.56	1.50
Yearly income	5.97	4.84	5.88	6.54	8.64
Monetary asset	9.32	5.11	9.83	8.70	19.32
Debt outstanding for purchase of house/	1.65	0.72	2.79	2.58	1.06
land	1.29	0.39	2.74	2.36	0.96
Net monetary asset	7.67	4.39	7.04	6.12	18.26
Households without plans to buy					
Earners per household	1.35	1.25	1.19	1.40	1.60
Yearly income	4.96	4.39	4.94	5.24	6.06
Monetary asset	6.31	4.09	5.95	6.00	7.16
Debt outstanding for purchase of house/	0.81	0.50	0.63	1.14	1.06
land	0.52	0.25	0.34	0.85	0.66
Net monetary asset	5.50	3.59	5.32	4.86	6.10

Source: Management and Coordination Agency, *Family Saving Survey* (1989).

housing loan. It implies that their monetary wealth accumulation had an advantage from the beginning. Unfortunately, neither *Family Saving Survey* nor *National Survey of Family Income and Expenditure* has relevant statistics to confirm this implication. However, my previous examination of bequests and inheritances supports this.

Second, households who plan to buy or build homes show higher amounts of yearly income and particularly monetary assets, regardless of the home status, than do households who have no plans. One interesting observation is that the amount of monetary assets among renters jumps considerably between age 30–34 and 35–39, because this age class corresponds to the highest rate of obtaining homes, and a large down payment is required.

Third, households in owner-occupied homes have relatively high amounts of debt. Consequently, their net monetary wealth is smaller and occasionally negative. Also, 80–90 percent of total debt outstanding is due to housing loans. This supports a view that households have to rely on housing loans when they have no other sources such as bequests and gifts, and the amount of housing loans is necessarily very high.

Fourth, as noted previously, some households gave up buying and building homes, saying that the financial burden is too severe. Yoshikawa and Ohtake (1989) took up this issue and found in their econometric study that a 20 percent increase in the price of housing would lower the renters' initial savings rate of 20 percent by about 0.25 percent. They attribute the decrease in the personal savings rate since 1974 to this factor. However, they examined only renters. Households in owner-occupied homes are influenced to a lesser extent. Excess consumption is also reported in other studies, implying that households who have not committed to housing loans have extra resources for consumption. Related to this, the effect of capital gains due to an increase in housing prices on consumption has been considerable recently.

National Survey of Family Income and Expenditure shows the rate of saving for each category of housing status. In 1984, the household saving rate (ages 30–49) was 16 percent for homeowners, 11 percent for renters who plan to buy homes within five years, and 7 percent for renters who have no plans. These numbers are reported in Maki (1988). The higher saving rate of homeowners is caused by the fact that their repayment of housing loans is one form of savings (flow basis), and the lower rate of saving of renters is caused by the fact that their payment of rent is counted as consumption, which reduces saving unavoidably.

It would be useful to examine the role of housing loans in housing purchase and in the relationship between consumption and saving. As emphasized previously, a lot of households rely on housing loans, and repayment of them implies saving. Table 7.15 presents the incidence of housing loans and their amounts for various housing conditions, incomes, and ages. Owners of collective homes show a rate of loan commitment almost twice as high as that for owner-occupied (detached) houses. Also, the amount of debt is almost double,

Table 7.15 **Outstanding Debt by Housing Status, Income, and Age**

	1981		1985	
	Rate (%)	Debt (millions of yen)	Rate (%)	Debt (millions of yen)
Housing status				
Owner-occupied detached house	32.3	2.54	33.9	2.49
Owner-occupied collective home	63.1	5.03	60.5	5.04
Renter of private detached house	5.7	0.44	5.2	0.52
Renter of private collective home	2.1	0.41	3.2	0.43
Renter of public home	2.2	0.28	4.0	0.37
Home or room owned by organization	10.2	0.68	8.8	0.70
Annual household income (in millions of yen)				
Less than 2.5	13.3	0.90	15.0	1.14
2.5–3.5	15.9	1.09	15.5	0.93
3.5–4.5	26.8	2.02	24.1	1.64
4.5–6.0	34.9	2.54	31.7	2.47
6.0 and over	38.3	4.25	40.3	4.27
Household head's age				
10–29	8.8	0.74	7.0	0.52
30–39	27.7	2.19	28.0	2.18
40–49	30.2	2.46	40.3	3.14
50–59	24.7	1.87	26.1	1.73
60 and over	12.5	1.22	12.3	1.00

Source: Department of Sociology, University of Tokyo, *Survey on Consciousness and Objects of Savings* (in Japanese).

for two reasons. On the one hand, the price of collective homes is on average higher than the price of (detached) houses partly because collective homes are constructed mainly in urban areas, while houses are constructed in both urban and rural areas. On the other hand, households, who prefer houses to collective homes, are likely to have had higher income and/or monetary assets and so do not require higher amounts of housing loans. It is also possible that many households inherited their houses from parents. We should not forget that construction of collective homes is a recent phenomenon (for about twenty or at most thirty years) in Japan, which does limit the number of inheritances at this stage.

Further, both the rate and the amount of housing loans increase as the household income level increases. This is because high-income households normally buy more expensive homes and are less likely to face liquidity (i.e., borrowing) constraints than low-income households.

Finally, households in their forties have the highest rate and amount of housing loans. Those in their thirties and fifties follow, and those in their twenties and sixties commit to housing loans very marginally. This observation is consistent with the statement that households attempt to buy and build homes if

necessary when they reach their thirties with mostly housing loans, and terminate their repayments in their late forties or fifties. This is one of the typical life courses of the Japanese. I emphasize that the existence of inheritance alters such courses considerably.

How heavy is the burden of housing loans, particularly repayment? Since repayment of housing loans is one of the components of savings, it is worthwhile to examine a time-series change. Figure 7.3 shows the historical change in the ratio of debt outstanding (and debt for housing) to annual income. This ratio clearly shows a gradual but steady increase. Currently, it reaches over 40 percent. It is quite natural that some households feel too heavy a burden from housing debt and give up purchasing homes.

The most important consequence of housing loans is its "contractual, committed, or forced saving." (I call it forced saving for short.) Normally, a housing loan contract is kept for over twenty years. Households have to repay its interest and principal until the end of a contract. During the period, forced saving continues. According to Muramoto (1989), the average monthly repayment is 69,500 yen for houses with the public-housing loan program, and 94,240 yen for houses with pension-program housing loans.

The two major types of forced saving are repayment of loans (mostly housing and sometimes durable goods) and contribution to life and casualty insurance and pensions. Obviously, the repayment of housing loans and contribution to life insurance are the most important. Tachibanaki and Shimono (1988) found that forced saving had increased continuously in Japan. Incidentally, over 50 percent of saving in Japan is forced saving, and the repayment of housing loans is responsible for this higher rate, based on the monthly amount of repayment.

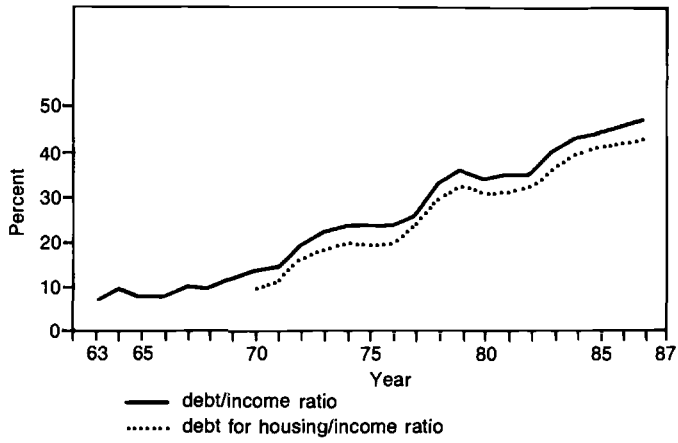

Fig. 7.3 The ratio of debt outstanding (and housing loan) to annual income (%)
Source: Management and Coordination Agency, *Family Saving Survey* (various years).

This high rate of forced saving has several economic implications. First, since households have difficulty in modifying the amount of forced saving, the degree of fluctuation in the saving rate in Japan is necessarily lowered nowadays. Second, a higher rate of forced saving is observed among households whose ages are between thirty-five and fifty-five years, because they show the highest rate and the largest amount of housing loans. I emphasize that, historically speaking, the highest rate of forced saving is in the 1980s and 1990s, since these generations are a large share of the population. The importance of forced saving will decline in the twenty-first century, partly because Japan will face an aging society that does not have large housing loans, and partly because households will rely on housing loans less and less in anticipation of obtaining homes relatively easily through inheritances (see Tachibanaki 1991).

Unlike the scenario above, a large number of households are currently obliged to bear a heavy burden of repayment of housing loans. Households who have lower annual incomes have to bear a heavier burden, about 25 percent of annual income for the first quintile income class and 21 percent for the second one, than those who have higher annual incomes, 16.3 percent for the fourth quintile class and 14.0 percent for the fifth one. These are the ratios of the annual repayment to annual income estimated by the Public Housing Loan Agency. In other words, the poor are obliged to accept a higher rate of forced saving than the rich. It is not surprising that a considerable number of poor households give up homes because of a heavy repayment burden.

It is useful to investigate the extent to which households are obliged to abandon the idea of housing purchase plans because of the heavy repayment burden. Maki (1988) performed an interesting simulation study, investigating the difference between an increase in housing prices and an increase in interest rates for housing loans. Table 7.16 shows the results, obtained under several behavioral assumptions of consumption and housing purchase for households

Table 7.16 **Simulation of Housing Purchase by Housing Price and Interest Rate**

	Housing Price (millions of yen)	Real Interest Rate of Deposit (%)	Real Interest Rate of Loan (%)	Retirement Age	Rate of purchase by Age (%)				Accumulated Purchase Rate (%)
					32	37	42	47	
Actual					4	26	15	4	49
Simulated									
1	30	3	5	60	5	13	16	14	48
2	27	3	5	60	9	18	23	19	69
3	33	3	5	60	2	8	10	10	30
4	30	3	6	60	4	13	16	11	44
5	30	3	5	60	5	16	19	18	58

Source: Maki 1988.

and income distribution. Rows 1, 2, and 3 give the effect of a change in housing prices, while rows 1, 4, and 5 give the effect of a change in interest rates for housing loans. The simulation suggests that the effect of housing prices is more important than that of interest rates with respect to the rate of housing purchases. Increasing the housing price from 30 million yen to 33 million yen lowers the purchase rate from 48 percent to 30 percent, and decreasing the price to 27 million yen raises the rate to 69 percent. Increasing the interest rate from 5 percent to 6 percent lowers the purchase rate from 48 percent to 44 percent, and decreasing interest to 3 percent raises the rate to 58 percent. An increase in housing prices is a more serious obstacle than an increase in interest rates, so long as we are concerned only with a rational and economic calculation.

However, there are at least two reasons for proposing that the effect of interest rates for housing loans is equally crucial. First, the previous simulation pays no attention to differences among income classes. As we saw, lower-income classes bear a heavier burden caused by housing loans than higher-income classes. Consequently, a higher proportion of the lower-income classes is obliged to give up house buying, because of the heavy repayment burden. Second, the rational and economic calculation is not the sole criterion to buy homes. Some households may dislike the psychological burden of repayment of housing loans and lose incentive to buy a home, even if they have enough financial resources. They may also like to spend their financial resources on items other than housing.

7.6 Housing and Wealth Accumulation

This section evaluates the relationship between housing and wealth accumulation. Land and a house are important sources of real (or physical) assets, and they have market values that can be assessed by both the current price and the historical price. One's gross asset or wealth value is the sum of physical assets and monetary assets, and net wealth is this sum minus debt. I am concerned with both gross wealth and net wealth and examine the effect of housing purchase on the course of wealth accumulation and distribution. Therefore, land and a house are analyzed in the framework of asset choices, and the return to physical wealth is examined.

Which group would increase their wealth more, homeowners or renters who never obtained homes? Homeowners' wealth increases by both physical and financial assets (sometimes including debt), while renters' wealth increases only in financial assets. The difference in the rates of return of physical assets and financial assets plays a crucial role.

Several studies have estimated the difference in wealth accumulation between homeowners and renters by using cohort data and cross-sectional data. Cohort data are certainly preferable for investigating wealth accumulation but are unavailable for Japan except indirectly. I examine several studies briefly.

Tachibanaki and Shimono (1986) examined transformed cohort data and found that the lifetime balance (i.e., bequest) is positive for a household who bought a home in the past. The longer a household owned its home, the higher the lifetime balance is. Most lifelong renters are unable to have a positive life balance and thus to leave any bequest. These results imply that households who bought homes even with housing loans could accumulate considerably more wealth than households who kept only financial assets and lived at rental homes. This study did not consider regional differences but took account of income classes and demographic differences.

Sanwa Soken (1990) also estimated cohort data, proposing that a household in a large urban area that buys a home with a housing loan will accumulate after thirty years wealth that is about 5.4 times higher than a household that rents and keep its initial financial asset for thirty years. In a rural area the difference is much smaller. This study assumes the recent rate of increase in land prices will continue for the next thirty years. This assumption is over-simplified.

The *White Paper on Household Living Conditions* in 1987 calculated the difference in wealth increase between homeowning and holding only financial assets. Figure 7.4 shows the average annual increases in wealth values. The year in the figure indicates that a choice among the four alternatives was made in that year, and the terminal year is 1986. Case I is choosing an owner-occupied house in Tokyo and repaying a housing loan; case II is choosing an owner-occupied house in cities other than Tokyo and repaying a housing loan; case III is choosing a rental home and paying rent that is half as much as

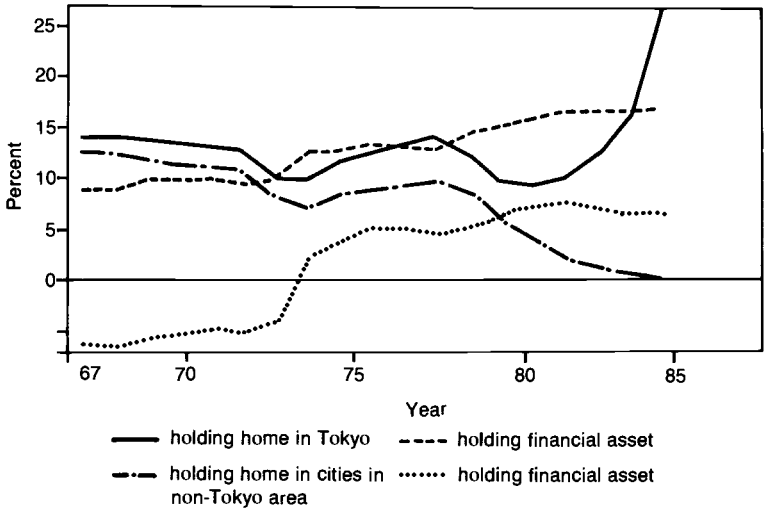

Fig. 7.4 Profitability of holding financial assets versus homeowning
Source: Economic Planning Agency, *White Paper on National Life Standard* (1987).

repaying a housing loan; and case IV is choosing a rental home and paying rent that is as much as repaying a housing loan. It is assumed that rent increases at the rate for the price of consumer goods, and that people decide to save or not, depending on whether they rent or they commit to a housing loan.

This study found a considerable fluctuation of the rate of increase in asset values among renters and homeowners. The above is true for all cities. The rate of increase for households in owner-occupied homes in the non-Tokyo area was higher in the past and has declined constantly. Holding only financial assets (i.e., renters) shows a higher rate of increase in asset values than homeowning currently. Homeowners in Tokyo had a higher rate of increase in asset values than renters in several years, but the order was reversed in other years. Currently, owner-occupied homes are considerably more advantageous in Tokyo. The difference between case III and case IV is very big. In other words, the amount of rent paid is crucial for the determination of the wealth increase. A renter who lives in an expensive home has to sacrifice an increase in wealth.

The above results suggest a need to examine whether households make a portfolio choice between physical assets and financial assets in a systematic way, to maximize the amount of their wealth. The rate of returns on physical assets and financial assets are key variables in the systematic demand theory. Tanigawa and Tachibanaki (1991) estimated a portfolio choice function for one real asset, namely land and a house, and four different financial assets by adopting a standard demand theory with a qualitative response econometric approach. They concluded that holding real assets could not be explained by such a standard portfolio demand theory. Therefore, it is possible that a household makes a decision about holding real assets not on the basis only of the rates of return on real assets and financial assets, but on the basis of various factors.

We can derive the following implications from the above studies. First, the difference between large urban areas (Tokyo and Kansai) and nonurban areas is important for the determination of total wealth accumulation and physical assets versus financial assets. Households in large urban areas accumulated wealth thanks to the recent increase in land prices. Takayama et al. (1990) estimated that the amount of total assets (both physical and financial) per household in Japan had increased from 20.8 million yen in 1984 to 34.3 million yen in 1987, while the total assets in Tokyo had increased from 42.7 million yen to 124.1 million yen during the same period. Households in Tokyo benefited greatly by obtaining their own homes for the purpose of wealth maximization.

Second, it is not certain yet whether households in rural areas should buy homes with housing loans to maximize wealth. If they do buy a house, however, it is certainly preferable to buy it at younger ages rather than older ages to maximize wealth.

Third, the above studies all ignored the contribution of inheritances. In other

words, the condition of initial wealth holding was not taken into account. If it was considered, the course of wealth accumulation would be quite different. I have already examined it to a certain extent in this paper. As Tachibanaki and Shimono (1991) pointed out, households who may receive larger amounts of bequests would be able to have higher rates of wealth accumulation than households who could receive smaller or no bequests.

Noguchi (1990) confirmed the above implication. According to the survey conducted by his group, the average current physical asset value of households who inherited land is about 200 million yen in the Tokyo area, while the average asset value of households who bought land with their own financial resources is about 86 million yen. The asset value of households who inherited in Saitama prefecture is three times higher than the asset value of households who bought land with their own financial resources.

Wealth distribution became a serious problem in contemporary Japan for the obvious reasons described above. Both owning land and a house in urban areas and inheriting land and a house are the important factors in Japan's unequal wealth distribution. This inequality is a serious and devastating problem, in my opinion. It may destroy the institutional socioeconomic background that led Japan to perform relatively well. See Tachibanaki (1989) for a more extensive argument on the subject.

7.7 Conclusion

This chapter gave an overview of the relationship between housing and saving in Japan. Various issues such as (1) saving motives and purposes, (2) housing purchase and housing conditions, (3) bequests and housing, (4) housing purchase, housing loan, and saving, and (5) housing and wealth distribution were examined. These interrelated issues determine the level of saving behavior.

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