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of Japanese Households:  
The Role of Consumer Durables**



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## ABSTRACT

In Japan in the 1950s and 1960s the economic objectives for consumers, corporations and the government coincided. Consumers wanted to improve their standard of living, corporations tried to increase their productivity through modernisation and industrialisation and the government attempted to foster a new economic system to rebuild the devastated economy after the Second World War and to maintain employment security. The desire to purchase consumer durables for households was significant in stimulating development and the role of consumer durables was important in stimulating investment and the supply of financial capital through household savings. The government had to channel such savings to corporations in order to increase domestic supply and to satisfy the desire of households to purchase consumer durables to increase the standard of living.

## POSTWAR CONSUMPTION PATTERNS OF JAPANESE HOUSEHOLDS: THE ROLE OF CONSUMER DURABLES

### Introduction

Recently, Japanese economic power has grown apace in world commodity and financial markets. Japan's balance-of-payments has been in surplus since 1985 and it is presently the largest asset-holding country in the world. The rapid emergence of the Japanese economy is one of the more striking developments in the international economy since the Second World War.

Japan's phenomenal economic growth after the Second World War is referred to as the 'Japanese miracle'. After the Second World War, the Japanese economy was in ruins. About 25 per cent of its capital stock was destroyed, and Japan had to absorb huge numbers of repatriates. At that time, the most important economic policies of the Japanese government were recovery of the capital stock and maintaining employment security for the swollen labour force.

To promote industrial production in the 1950s, the Japanese government implemented the Preferential Production Plan and devised industrial policy based on negotiations between the government (mainly the Ministry of International Trade and Industry), corporate management and labour union leaders.

Japanese monetary policy as instigated by the Ministry of Finance and the Bank of Japan created favourable conditions for Japan's economic recovery. The characteristics of the



Japanese financial system after the Second World War through to the 1980s include a low interest rate policy, establishment of short-term and long-term lending institutions, distinctions between the activities of commercial and trust banks and security companies and, lastly, foreign exchange controls by the government and a system of collateral security in borrowing money from financial institutions.

Through a combination of industrial and monetary policy, the government created a quasi-closed economy. Despite the government's low interest rate policy, financial funds held by households did not move abroad due to the foreign exchange controls that the government imposed. Imports of final products were restricted, especially before 1965, by the government's protectionist policies and regulations. On the other hand, the Japanese government promoted exports of quality goods such as steel, automobiles and electrical appliances.

In the initial period of recovery, households supplied funds to industry as loans through financial institutions. This indirect finance system, relying on bank loans rather than bond or equity markets, characterised the post-Second World War Japanese economy. The financial institutions attracted deposits from the household sector at government-mandated low interest rates and lent funds to corporations. The corporations had the advantage of access to a large amount of low cost investment funds in the *domestic* market. At this time, the government imposed strict foreign exchange controls in order to control import and investment flows. Through such economic policies, the government sought to promote exports and facilitate the importation of natural resources.

Japanese economic growth followed the pattern of 'modern economic growth' proposed by Kuznets (1966). Industrialisation, urbanisation and technological innovation were three factors crucial to modern economic growth. Kuznets (1966) wrote in relation to changes in the patterns of consumer spending due to modern economic growth that:

Urban life, with the anonymity of its dense population masses, with the detachment from earlier roots of the large immigrant component, and with the ease of observation and imitation of consumption patterns, may facilitate higher consumption levels by permitting greater play of the demonstration effect and by increasing sensitivity to new consumer goods. Here again the effects may be reflected in the trends in consumer expenditures relative to those of savings and capital formation, and in some components of total consumer expenditures more than others ...





Technological changes, the main source of modern economic growth, affect consumer goods by the creation of new types and by major changes in the old. Even in the case of food, modern canning, freezing, etc. are new processes that affect the total demand for food and its distribution among various categories and this must be reflected in the processing of the PTD component (processing, transportation, and distribution). Such technological changes are even more conspicuous when they lead to entirely new consumer goods — synthetic fiber textiles, household electrical appliances, radio and television sets, passenger cars, airplane transportation, and the like. The relative technological impact on consumer goods and on capital goods is difficult to measure, but this is not important in the present connection. However, it is important to recognise the continuous and far-reaching effect of technological changes on consumer goods — as would be revealed by a brief glance at the variety of consumer goods used in recently developed countries and resulting from relatively recent technological progress. (Kuznets 1966, pp.274–7).

Economic progress since the Second World War has led to more rapid changes in the socio-economic structure of Japanese households compared with the experience of the United States or Europe. The phenomena of industrialisation and urbanisation, together with technological innovation, have contributed to the increase in living standards of Japanese households in a relatively short period. After the Second World War the Japanese economy passed through three distinct phases: a period of recovery in the 1950s after the economic destruction wrought by the Second World War, rapid economic growth in the 1960s and the early half of the 1970s, and stable economic growth in the 1980s after the two oil shocks in 1973–74 and 1979–80. This paper focuses mainly on the first two phases.

In a series of works, Kuznets stressed the impact of structural changes in the industrial sector. Applying the Kuznets' hypothesis of modern economic growth, the present paper discusses population growth and per capita GNP growth in the Japanese economy after the Second World War. The focus is on the movements in consumption patterns and consumer durables and how these led to structural change in the industrial sector.

In Japan in the 1950s and 1960s, the economic objectives for consumers, corporations and the government coincided. Consumers wanted to improve their standard of living, corporations tried to increase their productivity through modernisation and industrialisation, and the



government attempted to foster a new economic system through industrial and monetary policies aimed at rebuilding the war-devastated economy and to maintain employment security.

Kuznets's main economic criteria for modern economic growth are steady population growth and a rise in per capita GNP where the rise in GNP is faster than that of population growth. Section 2 discusses living conditions in Japanese households after the Second World War, focusing on changes in GNP, per capita GNP, population and family composition of the household. Section 3, focusing on household behaviour, discusses the overall movement of consumption patterns. Section 4 presents various reasons for the high rate of saving the Japanese household sector maintained and explains how this was influenced by the decision to purchase consumer durables. I also elucidate the reasons which stimulated high levels of household savings and how these led to an increase in domestic investment. In considering Japan's economic growth, it is important to consider increases in both national supply capacity and domestic demand. Section 5 discusses the balance of investment and savings and their growth from the household standpoint and introduces data on the household savings rate. Section 6 presents some conclusions.

## **A higher standard of living**

The word 'miracle' has been used frequently in relation to Japanese economic development since the 1950s.<sup>1</sup> The *Long Term Estimates of the National Accounts from 1955 to 1969*, compiled by the Economic Planning Agency, reports that the growth rate of the nominal GNP from 1955 to 1970 was 15.7 per cent per annum and that of the real GNP was 10.0 per cent. A growth rate of 10 per cent means that after five years the economy increases 1.6 times compared to the base year, 2.6 times after ten years, and 4.2 times after fifteen years.

Although the era of high economic growth in the 1960s and 1970s lasted only fifteen years, economic growth quadrupled.<sup>2</sup> Following the oil shocks of 1973–74 and 1979–80, the growth rate of real GNP levelled at 4 per cent per annum.

In 1955 per capita GNP stood at ¥94,000, rising to ¥1,329,000 in 1975, a fourteen-fold increase during that period. After correcting for price increases, the real level of expansion in the same period was 410 per cent. The average growth rate of real per capita GNP for the 21 years from 1955 to 1975 was 7 per cent.

Table 1 indicates population size between 1950 and 1980 inclusive, with variations in the number of households and household members. The average growth rate of population from



1950 to 1975 was 1.5 per cent. The 1975 Population Census reports the population at 112 million with 33 million households. Therefore, the average number of household members was 3.40.

**Table 1 Population and number of households**

|      | Population<br>(million) | No. of households<br>(million) | Members<br>per household |
|------|-------------------------|--------------------------------|--------------------------|
| 1950 | 84                      | 16                             | 5.12                     |
| 1960 | 94                      | 22                             | 4.20                     |
| 1970 | 104                     | 29                             | 3.50                     |
| 1975 | 111                     | 32                             | 3.40                     |
| 1980 | 117                     | 35                             | 3.31                     |

Source: Statistics Bureau, *Population Census*.

In 1950 the average number of household members exceeded five, while in 1960 there were slightly more than four, indicating a trend towards fewer children in Japanese families. In the United States the decrease of the average household from five to four members took about 50 years whereas in Japan the same change was realised in only ten years.

The number of households in 1975 was 32,877, double that in 1950. The average growth rate in the number of households for 26 years was 3 per cent, which is twice as fast as the population growth rate. This trend reflects the rise in urbanisation during the era of high economic growth.

Per capita GNP in Japan was US\$477 in 1960, one-third of that in Germany, and one-sixth of that in the United States when Prime Minister Ikeda unveiled his famous income doubling plan. By 1975, per capita GNP rose to US\$4,471, two-thirds of that in Germany and three-fifths of that in the United States. This was the era of the Japanese 'miracle'.

In addition to increases in per capita GNP due to rapid economic growth, the level of national welfare has also increased. For example, through the development of medical care and health systems, life expectancy has reached 75 years for Japanese males and 80 years for Japanese females, a substantial improvement on the average life expectancy of 60 years recorded in the 1950s. In comparison, the life expectancy in the United States is currently 72.0 years for men and 78.9 years for women, while in Germany it is 71.5 years and 78.1 years respectively.



The rapid rise in per capita GNP translated into an enormous increase in Japanese households' consumption levels. Households can now afford many kinds of goods and services which were either unavailable or unaffordable after the Second World War.

### **Overall trends in consumption patterns**

In Japan higher living standards are reflected by two trends: labour-saving devices which have replaced much manual domestic labour and the shift from home duties to external services, such as laundromats or take-away food.

With the proliferation of labour-saving devices, housewives' working hours have decreased and leisure hours have increased. Simultaneously, corporation advertising has increased consumers' knowledge about a variety of commodities and services, stimulating them to purchase goods of steadily improving quality at decreasing prices.

Engel's coefficient, indicating the ratio between expenditure on food and on total consumption, decreased during the 1950s and 1960s, and the shift in diet from cereals to fish, meat and vegetables, indicates that eating habits had become 'Westernised'. The expenditure on take-away food increased rapidly due to income growth and a desire for buying services instead of resorting to home production. Usually, Engel's law is verified in the cross-sectional data. However, because of the enormous increase in income during the era of high economic growth, the decrease in the budgetary allocation for food in the time series data is also evident among Japanese households.

In addition to the decrease of Engel's coefficient in the 1950s and 1960s, the change of consumption patterns, reflecting the changes in essential goods and services as defined by the theory, is also observed in the consumer behaviour of Japanese households. Maki (1983) analysed consumer behaviour for Japanese households from the 1950s to the mid-1970s using a complete demand system called the linear expenditure system (LES), which includes family size and consumer trends in addition to total expenditure and prices.

The series of consumption and expenditure data published in the Family Income and Expenditure Survey (FIES) compiled by the Statistics Bureau was used for the analysis. The data covers all households in cities with a population of 50,000 or more except for one-person households and households engaged in agriculture, forestry and fishing. This means that the data covers mainly households which comprise workers and individual proprietors.

Table 2, drawn from Maki (1983), indicates essential goods and services in 1960 and 1970, respectively.<sup>3,4</sup> Items which were in demand in 1960, but were regarded in 1970 as no



longer essential, are marked by a single asterisk, in the left-hand column in Table 2. These include the following six items: barley and other cereals (item 2), bread (item 3), fuel and light, excluding gas (item 35), cloth and thread (item 40), shoes and footwear (item 42) and stationery and writing supplies (item 53). On the other hand, there were eight items or services which became indispensable in 1970, marked by two asterisks in the right-hand column of Table 2. These were meat (item 8), non-alcoholic beverages (item 21), repairs and maintenance (item

**Table 2 Essential goods and services in 1960 and 1970**

| 1960                                      | 1970   |
|---|--|
| <b>Food</b>                               |  |
| Rice (item 1)                             | Rice (item 1)                                |
| Barley and other cereals (item 2) *       |  |
| Bread (item 3) *                          |  |
| Noodles and others (item 4)               | Noodles and others (item 4) Meat (item 8) ** |
| Leafy vegetables (item 10)                | Leafy vegetables (item 10)                   |
| Root vegetables (item 11)                 | Root vegetables (item 11)                    |
| Other vegetables (item 12)                | Other vegetables (item 12)                   |
| Processed food (item 14)                  | Processed food (item 14)                     |
| Condiments (item 15)                      | Condiments (item 15)                         |
| Cakes and candies (item 16)               | Cakes and candies (item 16)                  |
| Fruits (item 17)                          | Fruits (item 17)                             |
|   | Non-alcoholic beverages (item 21) **         |
| <b>Housing</b>                            |  |
| Water (item 25)                           | Repairs and maintenance (item 24) **         |
| Tableware (item 26)                       | Water (item 25) Tableware (item 26)          |
| <b>Fuel and light</b>                     |  |
| Gas (item 34)                             | Electricity (item 33) **                     |
| Fuel and light, excluding gas (item 35) * | Gas (item 34)                                |
| <b>Clothing</b>                           |  |
| Cloth and thread (item 40) *              | Japanese clothing (item 36) **               |
| Shoes and footwear (item 42) *            | Shirts and underwear (item 38) **            |
| Other clothing (item 45)                  | Other clothing (item 45)                     |
| <b>Miscellaneous goods and services</b>   |  |
| Medical care (item 46)                    | Medical care (item 46)                       |
| Toilet tissue (item 47)                   | Toilet tissue (item 47)                      |
| Detergent laundry (item 48)               | Detergent laundry (item 48)                  |
|   | User-operated transportation (item 51) **    |
| <b>Stationery and writing supplies</b>    |  |
| supplies (item 53) *                      | Reading and recreation (item 57) **          |
| Miscellaneous (item 59)                   | Miscellaneous (item 59)                      |

Source: Maki (1983).



24), electricity (item 33), Japanese clothing (item 36), shirts and underwear (item 38), user-operated transportation (item 51) and reading and recreation (item 57).

The change in Japanese consumption patterns was dependent not only on the supply structure of corporations in this period but also on the rapid increase in income, the change of relative prices of goods to services due to industrialisation, the decrease in family size due to urbanisation, and habit formation in consumer preferences.

Changes to the list of essential goods between 1960 and 1970 testify to the rapid change in Japanese consumption patterns during this short space of time. In the food categories, the fact that barley and other cereals (item 2) and bread (item 3) vanished from the menu for essential goods, and meat (item 8) and non-alcoholic beverages (item 21) appeared as essential items, reflects the improvement in eating habits due to economic growth while the appearance of repairs and maintenance (item 24) in housing during 1970 indicates the accumulation of consumer durables during these eleven years.<sup>5</sup>

Demand for coal and charcoal from the fuel and light category (item 35), ceased while demand for electricity (item 33) surfaced in 1970. The demand for electricity is linked with the growth in electrical goods. The change from cloth and thread (item 40) to shirts and underwear (item 38) indicates the shift of consumer behaviour to the purchase of finished products. This change resulted from mass production, reduced commodity prices and the change of marketing channels.

Finally, some interesting variations appeared under miscellaneous goods and services. The fact that user-operated transportation (item 51) and reading and recreation (item 57) became indispensable indicates the improvement in household standards of living from 1960 to 1970.

The 23 essential goods and services in 1960 are subsistence-oriented while the data for 1970 show marked improvement in eating habits and greater recreational opportunities, reflecting an overall improvement of household living standards due to economic growth.

### **The role of consumer durables in the high economic growth era**

This section clarifies the characteristics of household consumption and savings related to the purchasing of consumer durables after the Second World War. Japanese households aspired to the lifestyle prevailing in the United States. Since the 1950s, through radio, TV, movies, newspapers and magazines which popularised the US way of life, Japanese households gained



knowledge about consumer durables such as refrigerators, washing machines, vacuum cleaners and automobiles. Japanese households also wanted to improve their diet.

The change in consumption patterns is revealing. In 1952, the growth rate of radios was 67.6 per cent, that of electric fans 2.8 per cent, and that of refrigerators only 1 per cent. 1953 is generally accepted as the first year of home electrification when Japanese households aspired to buy washing machines, vacuum cleaners and refrigerators, calling them the ‘three *Jingi*’.<sup>6</sup> Before explaining the growth of consumer durables, the stimulus to households’ purchase of consumer durables is explained in Table 3 by journalistic catch-phrases or the corporate advertisements used in the 1950s and 1960s.

**Table 3 The stimulus of purchasing consumer durables**

|      |  |
|------|--|
| 1953 | The first year of home electrification<br>‘The three <i>Jingi</i> ’ (TV sets, refrigerators and washing machines) or (refrigerators, vacuum cleaners and washing machines) |
| 1959 | Private transportation   |
| 1966 | Second electric appliances boom<br>‘3Cs’ (colour TV sets, coolers [air conditioners] and cars)   |
| 1968 | ‘New 3Cs’ (cottages, central heating and cookers (electric ovens))   |

*Note:* Achievement of the ‘new 3Cs’ is still a target for most Japanese households even in the 1990s.

*Source:* *Weekly Asahi* (1988, 1990).

Due to the catch-phrases coined by journalists and corporations, Japanese households identified the desirable consumer durables and sought to realise their dreams by increasing their savings. This was mainly because of the immature financial market and liquidity constraints caused by a system of collateral security in which money was borrowed from financial institutions.<sup>7</sup>

It is useful to describe one aspect of the liquidity constraints connected with capital market imperfections. For the household, there are two kinds of assets, human and material assets. Human assets are obtained from present and future income, and non-human assets consist of financial and real assets.

With ideal capital markets, human and non-human assets can be readily substituted. When households want to buy expensive consumer durables, there is no difference between



borrowing against future income and non-human assets: the characteristics of human and non-human assets are identical.

Commercial banks usually discriminate between human and non-human assets for mortgage loans and this occurred during the transition period in the 1950s and 1960s. From the viewpoint of uncertainty, human assets are a high risk compared with non-human assets because of defaults arising from unemployment or death in the household. This means that uncertainty is more pronounced in future labour income streams than present non-human assets.

Such capital market imperfection generates liquidity constraints for households. Liquidity constraints contribute to delays between the desire to purchase consumer durables and the realisation of such purchases. The accumulation of financial assets occurs between the desire to purchase consumer durables and the realisation of the purchase. However, during the 1950s and 1960s delays were limited because of the price decrease due to technological innovations fuelled by new investment and also because of the economies of scale on the supply side and greater household income.

In April 1959 Emperor Akihito and Empress Michiko were married. Producers of black and white TV sets found that consumers were eager to buy them. One week before the marriage, the number of TV owners exceeded two million. Live TV coverage of the ceremony accelerated the distribution of black and white TV sets. In 1960 domestic (Toshiba) colour TV sets were sold for ¥420,000, which was about 90 per cent of the disposable average annual income for a household. The Tokyo Olympics were held in 1964. During the games, colour TV sets with large screens were installed at the corners of busy shopping districts such as the Ginza (Tokyo) and Umeda (Osaka), stimulating a boom in sales of colour TV sets.

The 1960s featured a proliferation of electrical appliances in Japanese households. Black and white TV sets, refrigerators, washing machines and vacuum cleaners became popular and the rate of distribution was very high. This occurred when the income of Japanese households reached a level sufficient to purchase these kinds of consumer durables.<sup>8</sup> However, it took time for the increased use of more expensive consumer durables such as automobiles due to insufficient household income and financial assets.

The normal price (namely, sales price divided by disposable income) of automobiles and colour TV sets, and the level of financial assets for households, are indicated in Table 4.<sup>9</sup>

The price in 1955 for automobiles, though they were not a new product, was about two and a half times the average annual income of households. After eight years, the price and annual income ratio was below unity (0.98), and in 1971 it became half the annual income. In the 1970s





many cars were imported from the United States. These were a status symbol, their size and image indicating wealth. US cars did not suit Japanese traffic conditions and, therefore, were not intended for a large number of Japanese households.

**Table 4 Prices for automobiles and TV sets, and financial assets for households, 1953–80**

|      | Automobiles    | B&W TVs        | Colour TVs     | Financial assets |
|------|----------------|----------------|----------------|------------------|
| 1953 | —              | 175,000 (0.63) | —              | —                |
| 1954 | —              | 125,000 (0.41) | —              | —                |
| 1955 | 800,000 (2.57) | 89,500 (0.28)  | —              | —                |
| 1956 | —              | 79,800 (0.24)  | —              | —                |
| 1957 | 675,000 (1.88) | 76,500 (0.21)  | —              | —                |
| 1958 | 767,000 (1.99) | 66,500 (0.17)  | —              | —                |
| 1959 | 695,000 (1.69) | 60,000 (0.14)  | —              | 275,900          |
| 1960 | —              | 51,000 (0.11)  | 420,000 (0.93) | 297,300          |
| 1961 | —              | 46,500 (0.09)  | —              | 396,500          |
| 1962 | —              | 52,000 (0.09)  | 198,000 (0.35) | 365,400          |
| 1963 | 583,000 (0.98) | —              | 230,000 (0.39) | 507,200          |
| 1964 | —              | —              | 178,000 (0.27) | 560,600          |
| 1965 | —              | 48,900 (0.06)  | —              | 658,900          |
| 1966 | —              | —              | —              | 711,900          |
| 1967 | 560,000 (0.80) | —              | 159,000 (0.18) | 777,500          |
| 1968 | —              | 42,800 (0.04)  | 148,000 (0.15) | 873,600          |
| 1969 | —              | —              | 131,000 (0.12) | 1094,900         |
| 1970 | —              | —              | 108,000 (0.08) | 1262,300         |
| 1971 | 694,000 (0.50) | —              | 95,000 (0.06)  | 1419,100         |
| 1972 | —              | —              | 93,000 (0.06)  | 1730,400         |
| 1973 | 743,000 (0.41) | —              | 89,800 (0.04)  | 1935,300         |
| 1974 | 817,000 (0.36) | 39,800 (0.01)  | 105,000 (0.04) | 2252,000         |
| 1975 | 833,000 (0.32) | —              | 92,800 (0.03)  | 2636,000         |
| 1976 | 960,000 (0.34) | —              | —              | 3151,000         |
| 1977 | —              | —              | —              | 3486,000         |
| 1978 | —              | —              | 87,800 (0.02)  | 3722,000         |
| 1979 | 989,000 (0.28) | —              | —              | 4023,000         |
| 1980 | —              | —              | —              | 4734,000         |

*Notes:* Automobile makes: 1953–58: Datsun  
 1959–70: Nissan Bluebird, 4-door sedan  
 1971–79: Nissan Bluebird 4-door deluxe sedan  
 Parentheses in the table show the price and annual income ratio.

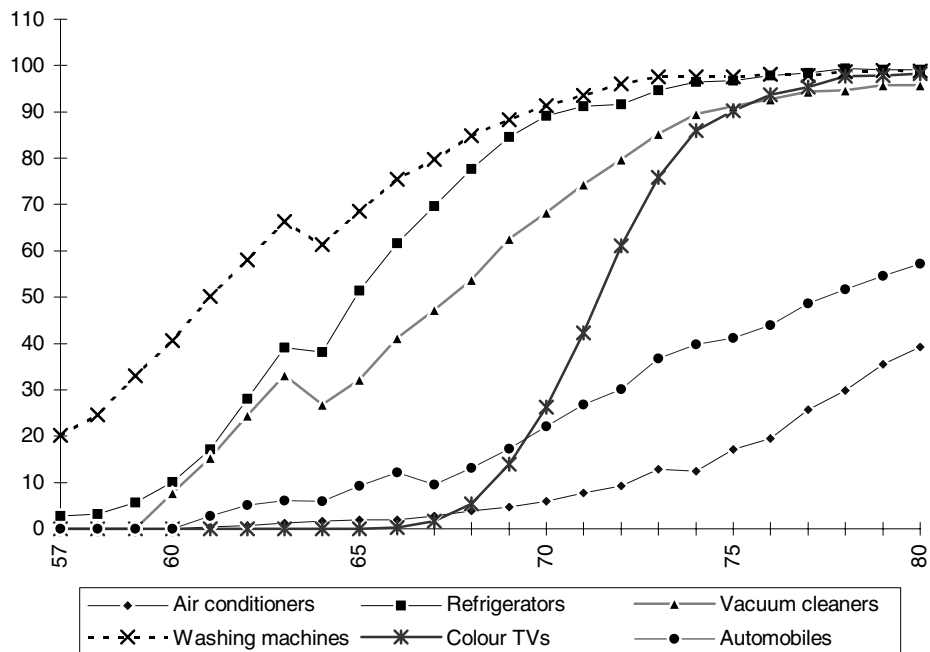
*Source:* *Weekly Asahi* (1990).



On the other hand, colour TVs were a new product and had no competition. Because of technological advances, colour TV was superior to black and white TV and movies. As innovation proceeded quickly and prices fell rapidly, there was no room left in the Japanese colour TV market for US and European corporations.

The second electrical appliance boom began in the late 1960s when households wanted to purchase durable goods popularly referred to as the '3Cs': colour TV sets, 'coolers' (air conditioners) and cars.<sup>10</sup> The proliferation of these expensive consumer durables was due to the rapid increase in household income and increased mass production and technological innovations which made these items more affordable. The distribution of consumer durables is indicated in Figure 1 where there is a gap between 1963 and 1964 because the Economic Planning Agency enlarged the sample size in the *Consumer Movement Survey*.

**Figure 1 Diffusion of consumer durables**





By 1970, the growth rate of refrigerators and washing machines was over 90 per cent. By 1975, over 95 per cent of households had refrigerators, vacuum cleaners, washing machines and colour TVs. On the other hand, the growth rate of air conditioners and automobiles was not as rapid as other consumer durables due to the high price/income ratio and, in the case of cars, because of the inadequate transportation network in Japan. Considering the relatively high prices of consumer durables and the number of households, expenditure on consumer durables contributed significantly to an increase in domestic demand.

What is the relationship between the household savings rate and the growth rate of consumer durables? As indicated in Table 4, the level of financial assets for households was low in the 1950s and 1960s, totalling ¥275,900 (about US\$766) in 1959. If households wanted to purchase durable goods, they had to save and accumulate funds. Consumer finance for commodities and services, excluding mortgage loans for housing, began in 1960. However, due to the low level of financial assets, the credit capacity of households was limited. Therefore, when households wanted to purchase consumer durables, they faced liquidity constraints, which stimulated saving. Between the 1950s and 1960s, consumer durables were new products for Japanese households and households were eager to purchase them. Therefore, due to liquidity constraints, the amount of excess-saving was considerable.<sup>11</sup>

### **Investment–saving balance and data on the household saving rate**

Literature on the Japanese economic miracle suggests that the high rate of saving played a critical role in facilitating rapid economic growth. Ito (1992) emphasised that one of the main factors contributing to rapid economic growth after the Second World War was the high level of investment facilitated by the high level of saving.

However, the investment and savings units are different from each other. The investment unit is corporations. Based on profit maximisation they sought increases in productivity. To increase productivity, corporations introduced research and development (R&D) investment and technological innovation and stimulated expansion. On the other hand, the main savings unit in the quasi-closed economy was households.

One of the objectives of households is to improve their standard of living through utility maximisation. To improve their standard of living after the 1950s, they wanted to purchase consumer durables such as refrigerators, TV sets, vacuum cleaners, air conditioners and automobiles.



Consumer durables exert two effects on the investment and savings balance. Corporations affect the investment for consumer durables and, due to the existence of liquidity constraints, there is a stimulus to accumulate financial assets in order to purchase expensive consumer durables in the future.

The household savings rate after the Second World War has been published in the *Family Income and Expenditure Survey* (FIES), compiled by the Statistics Bureau since 1951. The household savings rate of workers' households in urban areas was only 2.0 per cent in 1951, 4.3 per cent in 1952, 5.8 per cent in 1953, 7.4 per cent in 1954, and 9.2 per cent in 1955, rapidly increasing to 11.8 per cent by 1956.

During the period of economic take-off in Japan, households saved at a high rate compared to the increase in disposable income, and therefore the household savings rate increased sharply.<sup>12</sup> Consumer durables were almost all new products for households and many kinds of consumer durables appeared in the market annually. Because of the excess-savings due to liquidity constraints during the time lag between accumulating financial assets and purchasing consumer durables, corporations easily obtained funds through financial institutions at a lower rate compared with world capital markets.

Because of the liquidity constraints faced by households, the rate of debt repayment was low. In Figure 2, savings are broken down into increases in financial and real assets and decreases in debt. Decreases in debt are divided into two categories: decreases in mortgage loans for housing, and decreases in loans for credits and instalments. Repayment of debt for credit and instalments represent a small percentage in this category. It is clear from Figure 2 that household saving patterns were strongly influenced by liquidity constraints.

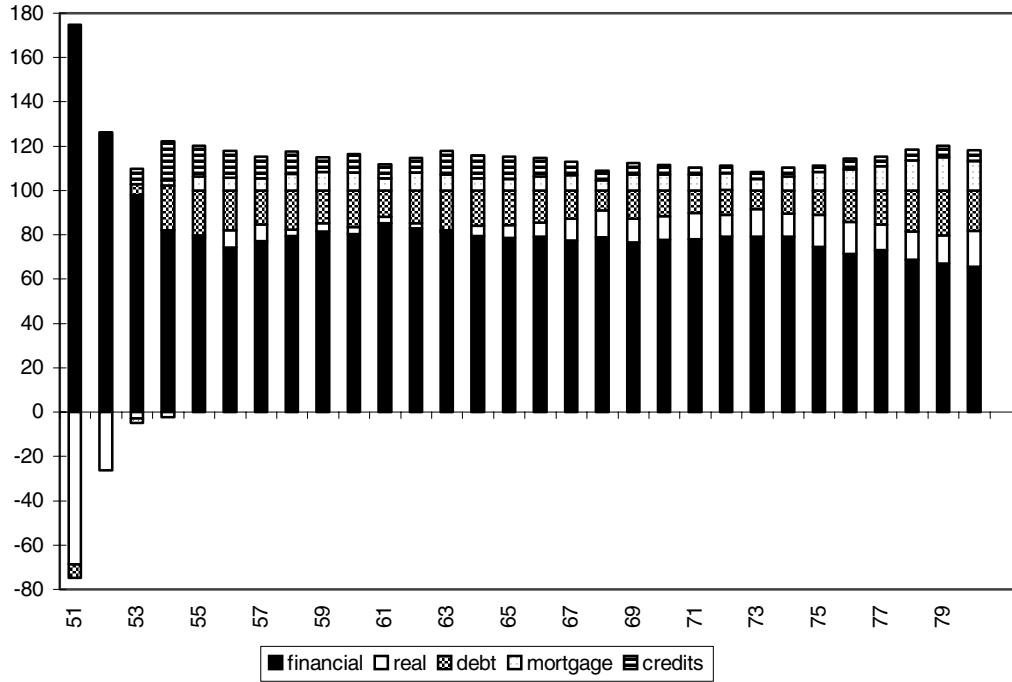
## Conclusion

This paper considered the importance of consumer demand in the development process. While most development theories focus on the supply side, especially innovations in technology and the quality of human capital, equally important is the innovation of society as a whole through a desire to improve standards of living.

In the 1950s and 1960s the objectives of the industrial sector and consumers coincided in Japan; the former sought modernisation and industrialisation and the latter sought an improvement in standards of living through the purchase of expensive consumer durables. Due to the existence of liquidity constraints, consumers had to save before purchasing consumer durables. As a result, households supplied investment funds to industries through financial institutions.



Figure 2 Contents of saving



Source: FIES, Statistics Bureau.

Focusing on the period of economic take-off in Japan, the correlation between the purchase of consumer durables and the household savings rate is clear. The household savings rate was low in Japan before the 1950s but increased sharply during the period of economic take-off. This is because households wanted to purchase consumer durables to improve their standard of living. Because of liquidity constraints, households had to save before purchasing consumer durables. At that time in Japan, the increase in the standard of living was associated with increased purchases of consumer durables.

The desire to purchase consumer durables for households was important to stimulate development, especially after the Second World War. The role of consumer durables was significant both in stimulating investment and the supply of financial capital through household savings. In the development process, the government had to funnel these savings to corporations in order to increase the domestic supply and to satisfy the desire of households to purchase consumer durables to increase their standard of living.



## **Appendix: Classification of total expenditure into fifty-nine items**

### ***Food categories***

Cereals: Rice (item 1), Barley and other cereals (item 2), Bread (item 3), Noodles and others (item 4)

Dishes: Fresh fish (item 5), Shellfish (item 6), Dried and salted fish (item 7), Meat (item 8), Milk and eggs (item 9), Leafy vegetables (cabbage, spinach, lettuce, etc.) (item 10), Root vegetables (potatoes, carrots, onions, etc.) (item 11), Other vegetables (string beans, pumpkin, cucumbers, etc.) (item 12), Dried vegetables and seaweed (item 13), Processed food (item 14), Condiments (item 15)

Table luxuries: Cakes and candies (item 16), Fruits (item 17), Sake and shochu (item 18), Beer (item 19), Other alcoholic beverages (whiskey, wine, etc.) (item 20), Non-alcoholic beverages (item 21)

Food away from home (item 22)

### ***Housing categories***

Rent (item 23), Repairs and maintenance (item 24), Water (item 25), Tableware (item 26), Kitchen utensils (item 27), Electrical appliances (bulbs, cooking appliances and heating appliances) (item 28), Radio and television receivers (item 29), Electromotive appliances (washing machines, refrigerators, vacuum cleaners, electric fans and air conditioners) (item 30), Furniture (item 31), Other furniture and utensils (sewing machines, etc.) (item 32)

### ***Fuel and light categories***

Electricity (item 33), Gas (item 34), Other fuel and light (fuel oil, coal, and liquid propane) (item 35)

### ***Clothing categories***


Japanese clothing (kimono, obi, etc.) (item 36), Western clothing (suits, dress, etc.) (item 37), Shirts and underwear (item 38), Gloves and socks (item 39), Cloth and thread (item 40), Bedding (item 41), Shoes and other footwear (item 42), Umbrellas (item 43), Hats, bags and



accessories (item 44), Other clothing (sports outfits, cleaning, costume and rental formal wear) (item 45)

***Miscellaneous goods and services***

Medical care (item 46), Toilet paper (item 47), Laundry detergent (item 48), Other toilet care (toilet articles, preparations, barbershops, beauty parlours, and baths) (item 49), Public transportation, and telephone and telegram (item 50), User-operated transportation (item 51), Education (item 52), Stationery and writing supplies (item 53), Reading (books, newspapers and magazines) (item 54), Admission and broadcast licences (item 55), Recreational goods (film, flowers, toys, records and musical instruments) (item 56), Other reading and recreation (travelling costs, religious and welfare activities) (item 57), Tobacco (item 58), Other miscellaneous goods and services (item 59).





## Notes

- \* An earlier version of this paper was presented at the Third Europe–Japan History Conference held at Kyoto University in March 1996. I am grateful for comments from Brian Girvin, Richard Griffiths, Ryutaro Komiya and Toshiaki Tachibanaki.
- 1 A variety of factors contributed to rapid economic growth in Japan after the Second World War, including: destruction of capital goods and stocks during the Second World War, subsequent plant modernisation and the introduction of borrowed technology from the United States; effective industrial policies; cheaper energy, especially petroleum; the GATT and IMF systems of free trade and a weak yen; large domestic markets; ensured access to the US market; younger managers and political leaders after the Second World War; the quality control (QC) system; and a stable political system.
- 2 If the rate of economic growth is 1 per cent, it takes 140 years to quadruple the level in the base year. If it is 3 per cent, then it takes about 50 years to quadruple the level in the base year.
- 3 The observation period is from 1958 to 1974. Consumption is measured on a household basis, and data for the family size are obtained by the FIES. Total expenditure is obtained as the sum of 59 expenditures. The classification of 59 expenditures is indicated in the Appendix.
- 4 The LES has the following theoretical characteristics: if the price of the item is inelastic, then the item is classified as necessary and indispensable; and, if the price of the item is elastic, then the item is classified as a luxury and is dispensable (for more detail, see Maki [1983]).
- 5 Barley and other cereals (item 2) became inferior to rice and other dishes. Meat (item 8) which was a luxury item in 1960 became an essential item in 1970.
- 6 ‘The three *Jingi*’ concept derives from the three Japanese imperial objects: the sword, the mirror and the jewel. Another version of the three *Jingi* in the late 1950s denoted washing machines, refrigerators and TV sets.
- 7 Following Hayashi (1987), there are three kinds of liquidity constraints: cash-in-advance constraints; quantity constraints on the amount of borrowing (credit rationing); and the case in which the loan rate available to consumers is higher than the rate at which they can lend (for a discussion of differential interest rates, see Maki [1993]).
- 8 Other consumer durables such as shavers, electric pots and electric rice ball steamers also sold well in the stores.
- 9 The financial assets distribution forms the shape of log-normal distribution; mode, median and mean (average) are different. Because of the characteristics of asset distribution, most households have less than the average amount of financial assets.





- 10 The year 1959 represented the start of private transportation (called family motorisation). The catch-phrase '3Cs' appeared in 1966. The catch-phrase 'new 3Cs' — that is, cottages, central heating and cookers (electric ovens), appeared in 1968. Achievement of the 'new 3Cs' is still a target for most Japanese households, even in the 1990s.
- 11 Even so, the substitution effect would come into play. For example, savings for emergencies would decrease in place of capital for consumer durables.
- 12 During the high growth era, the Japanese government decreased the income tax rate for households almost every year. This is one of the reasons, in addition to the high real GNP growth rates, that disposable income for households increased every year.





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