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Discussion Paper No. 973

**ARE THE JAPANESE UNIQUE?  
EVIDENCE  
FROM HOUSEHOLD SAVING  
AND BEQUEST BEHAVIOR**

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June 2016

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# **Are the Japanese Unique? Evidence from Household Saving and Bequest Behavior<sup>1</sup>**

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## **Abstract**

In this paper, we attempt to shed light on whether Japanese households are rational or if their behavior is influenced by culture and social norms by examining their saving and bequest behavior. To summarize our main findings, we find that Japan's household saving rate showed great volatility, was often low and even negative, and was high only during the 25-year period from around 1960 until the mid-1980s (if we exclude the war years) and that we can explain the high level of, and trends over time in, Japan's household saving rate via various socioeconomic and policy variables. This seems to suggest that the Japanese are not a saving-loving people and that their saving behavior is not governed by culture and social norms. Moreover, the bequest behavior of the Japanese suggests that they are less altruistic toward their children and less reliant on their children than other peoples, suggesting that the alleged social norm of strong family ties in Japan is largely a myth, and the Japanese do not appear to be appreciably more concerned about the continuation of the family line or the family business than other peoples, suggesting that the influence of the "ie" system is apparently not so pervasive either. However, we argue that these findings do not necessarily mean that culture and social norms do not matter.

**JEL Codes:** D10, D14, D64, D91, E21, H55, J11, Z10

**Key Words:** Altruism; bequest behavior; bequest division; bequest motives; Confucianism; culture; economic rationality; family ties; frugality; households; household behavior; household saving; "ie" system; Japan; Nihonjinron; parent-child relations; rationality; saving; saving behavior; social norms; values

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## 1. Introduction

Many economists assume that economic agents are “homo economicus” (economic man) and that they behave in accordance with economic rationality (i.e., that individuals or households behave so as to maximize their own utility and that firms behave so as to maximize their own profits). By contrast, many Japanese and non-Japanese believe that the Japanese are unique and that their behavior is governed largely by culture and social norms (the so-called “Nihonjinron” school of thought; see, for example, Sugimoto, 2015).

To what extent do the Japanese behave in accordance with economic rationality? To what extent is the behavior of the Japanese governed by culture and social norms? Are the Japanese unique in deviating from the rationality assumption to a greater extent than other peoples and in being influenced by culture and social norms to a greater extent than other peoples? The purpose of this paper is to provide answers to these questions based on evidence from household saving and bequest behavior.

In some earlier papers, I examined whether the Japanese are unique with respect to other aspects of household behavior. Horioka (1993a) examined whether or not the consumption patterns of the Japanese are unique and found that they were in the past but that they were converging rapidly to Western patterns. For example, the share of rice in total cereal consumption, the share of Japanese-style fresh cakes such as *youkan* and *manjuu* in total fresh cake consumption, the share of green tea in total tea consumption, and the share of Japanese alcoholic beverages such as *sake* and *shouchuu* in total alcohol consumption were very high just after the Second World War but fell sharply throughout the postwar period.

As another example, Horioka (2012) examined whether or not the borrowing behavior of the Japanese is unique, as one might expect from their alleged aversion to debt. He found that debt levels were indeed relatively low in Japan until the 1970s but that they increased sharply thereafter, becoming the highest in the Group of Seven countries until at least 2000.

These limited examples as well as the other examples in Horioka (1994 and 2006) suggest that the Japanese were indeed unique in the past but that their uniqueness has declined sharply over time. In this paper, we focus on two other aspects of Japanese household behavior (saving and bequest behavior) to determine whether or not this conclusion holds in the case of these behaviors as well.

To summarize our main findings, we find that Japan’s household saving rate showed great volatility, was often low and even negative, and was high only during the 25-year period from around 1960 until the mid-1980s (if we exclude the war years) and that we can explain the high level of, and trends over time in, Japan’s household

saving rate via various socioeconomic and policy variables. This seems to suggest that the Japanese are not a saving-loving people and that their saving behavior is not governed by culture and social norms. Moreover, the bequest behavior of the Japanese suggests that they are less altruistic toward their children and less reliant on their children than other peoples, suggesting that the alleged social norm of strong family ties in Japan is largely a myth, and the Japanese do not appear to be appreciably more concerned about the continuation of the family line or the family business than other peoples, suggesting that the influence of the “ie” system is apparently not so pervasive either. However, we argue that these findings do not necessarily mean that culture and social norms do not matter.

The remainder of this paper is organized as follows. In section 2, we consider whether the saving behavior of Japanese households is rational or influenced by culture and social norms, and in section 3, we do a similar analysis for the bequest behavior of Japanese households. Section 4 is a brief concluding section.

## **2. Household Saving Behavior**

In this section, we present evidence on whether household saving behavior in Japan is rational or influenced by culture and social norms.

### **2.1. Theoretical Considerations**

What constitutes rational household saving behavior? If households are rational, they will save in order to reconcile differences in timing between income and consumption. For example, according to the so-called life-cycle model of saving, since households typically retire and experience a decline in income in old age, they will work, earn income, and save a portion of their income when young in order to prepare for life during retirement, and after they get old, they will retire and finance their living expenses by drawing down their previously accumulated savings. Similarly, rational households will also save in order to overcome shorter term fluctuations in their incomes. For example, farmers will save a large proportion of their income because they earn income only at harvest time but need to consume throughout the year. Moreover, rational households will engage in precautionary saving to prepare for unexpected contingencies such as illness, accidents, unemployment, etc.

What are some possible ways in which culture and social norms may influence household saving behavior? The Japanese may save relatively more (1) because they are a saving-loving people (it is part of their national character), (2) because of the influence of Confucian teachings, which regard frugality and diligence as virtues

(see, for example, Garon, 1996, pp. 164-165), and/or (3) because they are more risk-averse (worry more) than other peoples.

How can we determine whether or not the saving behavior of Japanese households is explained better by economic rationality or by culture and social norms? If the saving behavior of Japanese households is attributable to culture and social norms, (1) Japan's household saving rate should be high both absolutely as well as relative to that of other countries, (2) Japan's household saving rate should be stable at a high level (since culture and social norms are presumably relatively stable over time), and (3) it should not be possible to explain the high level of, and trends over time in, Japan's household saving rate via socioeconomic and policy variables.

## **2.2. Data on the Level of, and Trends over Time in, Japan's Household Saving Rate**

Table 1 shows data on household saving rates (defined as the ratio of net household saving to net household disposable income) in 1975, 1995, and 2015 for the member countries of the Organisation for Economic Co-operation and Development (OECD) for which data are available. As can be seen from this table, in 1975, Japan had an extraordinarily high household saving rate (22.8%), which put Japan in second place among the 18 OECD countries for which data were available, with only Italy showing a higher household saving rate (26.9%). By 1995, however, Japan's household saving rate had fallen sharply to 12.2% and its rank had fallen to 10<sup>th</sup> among the 24 OECD countries for which data were available. Moreover, by 2015, Japan's household saving rate had fallen further to a mere 2.4% and its rank had fallen to 24<sup>th</sup> (3<sup>rd</sup> from the bottom) among the 26 OECD countries for which data were available, with only Denmark (-4.1%) and Finland (0.8%) showing lower household saving rates. Thus, Japan's household saving rate used to be one of the highest in the OECD (if not the world) but is now one of the lowest in the OECD (if not the world).

Figures 1 and 2 show long-term trends in Japan's household saving rate during the prewar and postwar periods, respectively. As can be seen from these figures, Japan's household saving rate has been very volatile during the prewar as well as postwar periods. It was indeed high (defined as being in excess of 15%) during certain periods (for example, the war years of 1938-44 and the high-growth period from around 1960 until the mid-1980s), but it was not always high and was often low and even negative. In particular, it has been declining steadily for the past 4 decades after peaking at 23-25% in the mid-1970s and has been negative since 2013. Furthermore, the extraordinarily high household saving rate during the war years (as high as 44%) was due primarily to forced saving arising from severe shortages of goods, rationing, moral suasion from the government, and the forced

purchase of government bonds. Thus, it was only during the quarter of a century from around 1960 until the mid-1980s that Japan's household saving rate was high because of people's own volition.

In sum, Japan's household saving rate showed great volatility, was often low and even negative, and was high only during the 25-year period from around 1960 until the mid-1980s (if we exclude the war years), which roughly coincides with Japan's high growth period. Since culture and social norms are presumably relatively stable over time, we would expect Japan's household saving rate to have been stable at a high level both absolutely as well as relative to other countries if it were determined primarily by culture and social norms. Hence, the fact that it was so volatile and often low or even negative suggests that it was *not* determined primarily by culture and social norms.

### **2.3. Evidence on the Impact of Socioeconomic and Policy Variables on Japan's Household Saving Rate**

If Japan's household saving rate is determined primarily by culture and social norms, socioeconomic and policy variables should not be able to explain the high level of, or trends over time, in Japan's household saving rate. In this subsection, we will consider whether or not this is the case.

One factor that is often found to be an important influence on the household saving rate is the age structure of the population (see, for example, Horioka, 1989; Horioka and Terada-Hagiwara, 2012; and Grigoli, et al., 2014). As explained earlier, the working-age population should save and the elderly population should dissave so the share of the elderly in the total population should have a negative impact on the saving rate of the household sector as a whole.

Table 2 shows data on the share of the elderly (those aged 65 and older) in the total population in the member countries of the OECD in 1975, 2000, and 2015. As can be seen from this table, the share of the elderly in Japan's total population was the lowest in the OECD (7.9%) in 1975 if we exclude Korea, which was not yet a member country of the OECD at the time. Moreover, Horioka (1989) found that the low share of the elderly was the main cause of Japan's high saving rate at the time.

Since then, however, the share of the elderly in the total population in Japan has increased sharply and ranked 3<sup>rd</sup> in the OECD in 2000 (17.2%) and was the highest in the OECD in 2015 (28.9%). Horioka (1991, 1997) found that the sharp increase in the share of the elderly is the main cause of the sharp decline in Japan's household saving rate since the mid-1970s. Thus, the age structure of Japan's population can explain not only the high level of Japan's household saving rate but also trends over time therein.

As for other socioeconomic and policy variables that affect the household saving rate, the fact that public pension benefit levels were low, making it necessary for households to save in preparation for life during retirement; the fact that housing loans and other forms of consumer credit were not readily available, making it necessary for households to save in advance of housing purchase and other large purchases; and the fact that the government engaged in a variety of saving promotion activities and adopted extensive tax breaks for saving such as the *maruyuu* system can also help explain why Japan's household saving rate was so high during the high-growth period. Moreover, the fact that public pension benefit levels were greatly improved, the fact that consumer credit became more widely available, and the fact that government saving promotion activities and tax breaks for saving were largely eliminated can help explain why Japan's household saving rate has declined so sharply in recent decades (refer to Horioka, 1990, 1993b, and 2008, for a more detailed discussion and Garon, 1997 and 2006, for more on government saving promotion activities).

#### **2.4. Conclusion re Household Saving Behavior**

Our analysis of the saving behavior of Japanese households showed that Japan's household saving rate showed great volatility, was often low and even negative, and was high only during the 25-year period from around 1960 until the mid-1980s (if we exclude the war years) and that we can explain the high level of, and trends over time in, Japan's household saving rate via various socioeconomic and policy variables. All of these findings seem to suggest that the saving behavior of Japanese households is rational and is not influenced by culture and social norms.

However, another possibility is that the saving behavior of Japanese households is influenced by social norms but that social norms change over time, due in large part to changes in the socioeconomic and policy environment. For example, perhaps the high-saving norm of past years arose partly due to the low level of public pension benefits, the unavailability of consumer credit, and the prevalence of government saving promotion activities and tax breaks for saving whereas the current low-saving norm arose partly due to the improvement in public pension benefit levels, the increasing availability of consumer credit, and the scaling back of government saving promotion activities and tax breaks for saving.

Garon (1997 and 2006) shares my belief that social norms (e.g., the culture of thrift in many Asian countries) are not immutable and that they are shaped by government policies and institutions, especially saving promotion. He writes: "Thrift is not a timeless Asian value, nor is it unique to Asians. But influenced by the pervasive moral



suasion efforts of governments and allied groups, many Asian peoples have come to embrace thrift as what they perceive to be an enduring Asian value, and a key marker of their national identities (Garon, 2006, p. 186).”

### **3. Household Bequest Behavior**

In this section, we present evidence on whether household bequest behavior is rational or influenced by culture and social norms.

#### **3.1. Theoretical Considerations**

What are some examples of rational household bequest behavior? (1) The individual does not leave a bequest to his/her children because he/she wants to enjoy his/her own life. (2) The individual does not make special efforts to leave a bequest to his/her children but leaves whatever is left over. (3) The individual leaves a bequest to his/her children as a way of inducing them to provide care and attention during old age (see, for example, Bernheim, Shleifer, and Summers, 1985, who call this type of behavior the “strategic bequest motive”). (4) The individual leaves a bequest to his/her children even if he/she gets nothing in return because he/she loves (cares about) his/her children (see, for example, Becker, 1991). All 4 scenarios are rational but they differ in important respects. Scenarios (1), (2), and (3) presuppose a selfish individual whereas scenario (4) presupposes an altruistic individual; the individual does not leave a bequest in scenario (1), may or may not leave a bequest in scenarios (2) and (3), and definitely leaves a bequest in scenario (4); there is a *quid pro quo* for leaving a bequest in scenario (3) but not in scenario (4).

What are some possible ways in which culture and social norms may influence household bequest behavior? (1) Parents may leave bequests to their children (especially their eldest son), and children (especially the eldest son) live with, and take care of, their parents in Japan because family ties are strong due to the influence of Confucian teachings. (2) Children may carry on the family line or the family business and parents may leave a bequest to them as a *quid pro quo* for doing so in Japan because of the family (“ie”) system (a theoretical formulation of this type of behavior is provided by Chu, 1991). (3) Children may live with, and take care of, their parents in Japan because there is a culture of shame (“haji”) in Japan and children are afraid of being criticized by others for not taking care of their parents.

### **3.2. Evidence on Bequest Motives and Bequest Division from a Household Survey**

How can we determine whether or not the bequest behavior of Japanese households can be explained better by economic rationality or by culture and social norms? In order to shed light on this question, we analyze data from the “Preference Parameters Study of Osaka University,” which was conducted by the 21st Century Center of Excellence Program “Behavioral Macrodynamics Based on Surveys and Experiments” (2003-07) and the Global Center of Excellence Program “Human Behavior and Socioeconomic Dynamics” (2008-13). This household survey was conducted simultaneously in China, India, Japan, and the United States and includes many questions about bequest motives and bequest division so it is ideally suited to the analysis at hand.

Tables 3 and 4 show the results from this survey concerning bequest motives and attitudes toward bequest division, respectively. We will discuss only some of the results shown in these tables due to space limitations, but these data are analyzed in more detail in Horioka, 2014 (see Horioka, et al., 2000, and Horioka, 2002 and 2009, for similar data from other sources).

#### **3.2.1. Evidence relating to the Strength of Family Ties**

As can be seen from Table 3, the proportion of respondents who plan to leave a bequest to their children no matter what is low in Japan (32.6%) and China (35.3%) and high in India (75.7%) and the United States (66.4%), and conversely, the proportion of respondents who do not plan to leave a bequest to their children or do not plan to make special efforts to leave a bequest to their children is by far the highest in Japan (58.6%) and much lower in China (37.0%), the United States (28.5%), and India (3.8%). Similarly, as can be seen from Table 4, the proportion of respondents who plan to divide their bequest equally among their children (an altruistic behavior) is high in all 4 countries but much lower in China (70.3%) and Japan (72.7%) than in the United States (92.6%) and India (84.2%). All of these results suggest that Americans and Indians are much more altruistic than the Japanese and Chinese.

Another interesting result from Table 3 is that the proportion of respondents who plan to leave a bequest to their children only if their children provide care or economic assistance during old age is relatively high in India (17.4%) and China (15.3%) but much lower in the United States (2.7%) and Japan (4.8%), suggesting that Americans and the Japanese do not expect their children to take care of them during old age to the same extent as Indians and the Chinese.

Thus, the bequest behavior of Japanese households suggests that they are not very altruistic toward their children and that they do not expect their children to take care of them during old age. This suggests that family ties in Japan are not any stronger than in other countries and that, if anything, they are weaker.

### **3.2.2. Evidence relating to the Strength of the “Ie” System**

As can be seen from Table 3, the proportion of respondents planning to leave a bequest to their children only if their children carry on the family business is by far the highest in China (7.5%) and much lower in India (2.4%), Japan (1.1%), and the United States (0.3%). Similarly, as can be seen from Table 4, the proportion of respondents planning to leave a larger bequest to children who carry on the family business or to their eldest son or daughter (who typically carries on the family line) is higher in China (8.1%) and Japan (7.9%) than in India (0.5%) and the United States (0.8%) but low even in Japan and China. Thus, the “ie” system affects bequest behavior in Japan to some extent but only to a very limited extent and less than in China.

### **3.3. Conclusion re Household Bequest Behavior**

Our analysis of the bequest behavior of the Japanese showed that they are less altruistic toward their children and less reliant on their children than other peoples, suggesting that the alleged social norm of strong family ties in Japan is largely a myth, and that the Japanese do not appear to be appreciably more concerned about the continuation of the family line or the family business than other peoples, suggesting that the influence of the “ie” system is apparently not so pervasive either. It thus appears that the bequest behavior of the Japanese is not very heavily influenced by culture and social norms.

However, there is another possibility—namely, that social norms matter but that they change over time largely in response to changes in the socioeconomic and policy environment.<sup>3</sup> For example, perhaps the social norm in the olden days was for children to take care of their elderly parents partly because public pensions and other government social insurance programs were underdeveloped, meaning that people had no choice but to rely on their children. However, public pensions were greatly improved in 1973 and the public long-term care system was introduced in 2000, alleviating the need for the elderly to rely on their children, and this may have led to the

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<sup>3</sup> In fact, there is some econometric evidence that social norms affect bequest behavior and parent-child relations (see, for example, Wakabayashi and Horioka, 2009, and Horioka, et al., 2016).

weakening of the preexisting social norm.

With respect to the impact of the introduction of the public long-term care system in 2000, Tsutsui, et al. (2014) found that there was a pronounced change in people's attitudes as well as behavior after the introduction of this system, with the proportion of children feeling obligated to take care of their parents declining and daughters-in-law (who used to be the primary caregivers) being less likely to take care of their parents-in-law. This is an excellent example of a case in which changes in a country's socioeconomic and policy environment (in particular, its government policies) caused changes in the social norms of that country.

#### **4. Conclusion**

In this paper, we attempted to shed light on whether Japanese households are rational or if their behavior is influenced by culture and social norms by examining their saving and bequest behavior. Judging from our findings concerning these aspects of household behavior, it appears that Japanese households behave rationally within the socioeconomic and policy environment in which they are situated and that the impact of culture and preexisting social norms is relatively limited.

However, this does not necessarily imply that social norms do not matter. It could be that social norms matter but that they are not fixed and that they change in response to changes in the socioeconomic and policy environment. In other words, the socioeconomic and policy environment affects household behavior directly as well as indirectly via their impact on social norms. Thus, my answer to my initial question "Are the Japanese unique?" is "no." They are the same as other peoples to the extent that they behave rationally in the context of the socioeconomic and policy environment in which they are situated. If their behavior is different from that of other peoples, it is because they are faced with a different socioeconomic and policy environment, which leads to the emergence of different social norms.

The view that "people are rational" and the view that "people's behavior is influenced by culture and social norms" are not necessarily mutually exclusive and it is quite possible for both views to hold simultaneously. This is because social norms are not fixed, change in response to changes in the socioeconomic and policy environment, and have a basis in rationality. Indeed, Japan is an excellent example of this.

## References

- Becker, Gary S. (1991), *A Treatise on the Family*, enlarged edition (Cambridge, Massachusetts, USA: Harvard University Press).
- Bernheim, B Douglas; Shleifer, Andrei; and Summers, Lawrence H. (1985), "The Strategic Bequest Motive," *Journal of Political Economy*, vol. 93, no. 6 (December), pp. 1045-76.
- Chu, C. Y. Cyrus (1991), "Primogeniture," *Journal of Political Economy*, vol. 99, no. 1 (February), pp. 78–99.
- Economic and Social Research Institute, Cabinet Office, Government of Japan (2011), *Annual Report on National Accounts of 2011* (Tokyo, Japan: Media Land).
- Economic and Social Research Institute, Cabinet Office, Government of Japan (2016), *Annual Report on National Accounts of 2016* (Tokyo, Japan: Media Land).
- Economic Planning Agency (1978), *Yearbook of National Income Statistics* (Tokyo, Japan: Ministry of Finance Printing Bureau).
- Economic Planning Agency (2000), *Annual Report on National Accounts of 2000* (Tokyo, Japan: Ministry of Finance Printing Bureau).
- Garon, Sheldon (1997), *Molding Japanese Minds: The State in Everyday Life* (Princeton, NJ, USA: Princeton University Press).
- Garon, Sheldon (2006), "The Transnational Promotion of Saving in Asia: 'Asian Values' or the 'Japanese Model'?" in Sheldon Garon and Patricia Maclachlan, eds., *The Ambivalent Consumer: Questioning Consumption in East Asia and the West* (Ithaca, New York, USA: Cornell University Press), pp. 163-187.
- Grigoli, Francesco; Herman, Alexander; and Schmidt-Hebbel, Klaus (2014), "World Saving," IMF Working Paper WP/14/204, Western Hemisphere Department, International Monetary Fund, Washington, D.C., USA.
- Horioka, Charles Yuji (1989), "Why Is Japan's Private Saving Rate So High?" in Ryuzo Sato and Takashi Negishi, eds., *Developments in Japanese Economics* (Tokyo, Japan: Academic Press/Harcourt Brace Jovanovich, Publishers), pp. 145-178.
- Horioka, Charles Yuji (1990), "Why Is Japan's Household Saving Rate So High? A Literature Survey," *Journal of the Japanese and International Economies*, vol. 4, no. 1 (March), pp. 49-92.
- Horioka, Charles Yuji (1991), "The Determinants of Japan's Saving Rate: The Impact of the Age Structure of the Population and Other Factors," *Economic Studies Quarterly* (now called *Japanese Economic Review*), vol. 42, no. 3 (September), pp. 237-253.

- Horioka, Charles Yuji (1993a), "Consuming and Saving," in Andrew Gordon, ed., *Postwar Japan as History* (Berkeley, California, USA: University of California Press), pp. 259-292.
- Horioka, Charles Yuji (1993b), "Saving in Japan," in Arnold Heertje, ed., *World Savings: An International Survey* (Oxford, UK, and Cambridge, USA: Blackwell Publishers), pp. 238-278.
- Horioka, Charles Yuji (1994), "Japan's Consumption and Saving in International Perspective," *Economic Development and Cultural Change*, vol. 42, no. 2 (January), pp. 293-316.
- Horioka, Charles Yuji (1997), "A Cointegration Analysis of the Impact of the Age Structure of the Population on the Household Saving Rate in Japan," *Review of Economics and Statistics*, vol. 79, no. 3 (August), pp. 511-516.
- Horioka, Charles Yuji (2002), "Are the Japanese Selfish, Altruistic, or Dynastic?" *Japanese Economic Review*, vol. 53, no. 1 (March), pp. 26-54.
- Horioka, Charles Yuji (2006), "Are the Japanese Unique? An Analysis of Consumption and Saving Behavior in Japan," in Sheldon Garon and Patricia Maclachlan, eds., *The Ambivalent Consumer: Questioning Consumption in East Asia and the West* (Ithaca, New York, USA: Cornell University Press), pp. 113-136.
- Horioka, Charles Yuji (2008), "A Survey of Household Saving Behaviour," in Florian Coulmas, Harald Conrad, Annette Schad-Seifert, and Gabriele Vogt, eds., *The Demographic Challenge--A Handbook about Japan* (Leiden, Netherlands: Brill Academic Publishers), pp. 879-897.
- Horioka, Charles Yuji (2009), "Do Bequests Increase or Decrease Wealth Inequalities?" *Economics Letters*, vol. 103, issue 1 (April), pp. 23-25.
- Horioka, Charles Yuji (2012), "Japan and the Western Model: An Economist's View of Cultures of Household Finance," in Jan Logemann, ed., *Cultures of Credit: Consumer Lending and Borrowing in Modern Economies* (Houndmills, Basingstoke, Hampshire, England: Palgrave Macmillan Ltd.), pp. 243-256.
- Horioka, Charles Yuji (2014), "Are Americans and Indians More Altruistic than the Japanese and Chinese? Evidence from a New International Survey of Bequest Plans," *Review of Economics of the Household*, vol. 12, no. 3 (September), pp. 411-437.
- Horioka, Charles Yuji; Fujisaki, Hideki; Watanabe, Wako; and Kouno, Takatsugu (2000), "Are Americans More Altruistic than the Japanese? A U.S.-Japan Comparison of Saving and Bequest Motives," *International Economic Journal*, vol. 14, no. 1 (Spring), pp. 1-31.
- Horioka, Charles Yuji; Gahramanov, Emin; Hayat, Aziz; and Tang, Xueli (2016), "Why Do Children Take Care of Their Elderly Parents? Are the Japanese Any Different?" NBER Working Paper no. 22245 (May),

- National Bureau of Economic Research, Cambridge, MA, USA.
- Horioka, Charles Yuji, and Terada-Hagiwara, Akiko (2012), “The Determinants and Long-term Projections of Saving Rates in Developing Asia,” *Japan and the World Economy*, vol. 24, no. 2 (March), pp. 128-137.
- Ohkawa, Kazushi, and Shinohara, Miyoei, eds. (1979), *Patterns of Japanese Economic Development: A Quantitative Appraisal* (New Haven, Connecticut, USA: Yale University Press).
- Organisation of Economic Co-operation and Development (OECD), *OECD Economic Outlook*, volume 1992, issue 2; volume 2012, issue 2; and volume 2015, issue 2.
- Sugimoto, Yoshio (2015), *An Introduction to Japanese Society*, 4<sup>th</sup> edition (Cambridge, UK: Cambridge University Press).
- Tsutsui, Takako; Muramatsu, Naoko; and Higashino, Sadanori (2014), “Changes in Perceived Filial Obligation Norms among Coresident Family Caregivers in Japan,” *Gerontologist*, vol. 54, no. 5, pp. 797-807.
- United Nations, Department of Economic and Social Affairs, Population Division (2013), *World Population Aging 2013* (New York, NY, USA: United Nations).
- Wakabayashi, Midori, and Horioka, Charles Yuji (2009), “Is the Eldest Son Different? The Residential Choice of Siblings in Japan,” *Japan and the World Economy*, vol. 21, issue 4 (December), pp. 337-348.

Table 1: An International Comparison of Household Saving Rates (%)						
Country	1975		1995		2015	
Australia	14.9	7	5.3	17	8.9	7
Austria	9.9	11	12.7	8T	8.7	8
Belgium	16.5	5	16.4	4	4.0	18
Canada	12.7	8	9.3	14	4.1	17
Czech Republic	NA	3	8.1	15	5.5	14
Denmark	7.1	14	0.2	23	-4.1	26
Estonia	NA		4.2	21T	2.9	22T
Finland	5.7	15	4.2	21T	0.8	25
France (gross)	20.2	3	15.7	5	14.9	4
Germany	15.1	6	11.2	12	9.5	5
Greece	19.0	4	NA		NA	
Hungary	NA		14.4	6	9.0	6
Ireland	NA		NA		6.9	13
Italy	26.9	1	16.6	3	3.8	20
Japan	22.8	2	12.2	10	2.4	24
Korea	NA		18.5	1	7.2	12
Luxembourg	NA		NA		17.3	2
Netherlands	3.9	18	14.3	7	8.5	9
New Zealand	NA		-3.5	24	3.4	21
Norway	4.2	17	4.9	20	8.4	10
Portugal (gross)	NA		12.7	8T	7.6	11
Slovak Republic	NA		5.0	19	3.9	19
Spain (gross except 2015)	11.8	9	17.4	2	2.9	22T
Sweden	4.7	16	7.5	16	15.8	3
Switzerland	7.6	13	12.1	11	17.8	1
United Kingdom (gross)	11.4	10	9.4	13	4.3	16
United States	8.9	12	5.2	18	4.9	15
OECD Mean	12.4		9.8		6.9	
Notes: The left-hand figure for each year shows the household saving rate, which was calculated as the ratio of household saving to household disposable income, while the right-hand figure for each year shows each country's rank among the OECD member countries for which data are available. "NA" denotes "not available," and "T" denotes "tie." All saving rate figures are in net terms except for those marked "gross."						
Data Source: Organisation for Economic Co-operation and Development (2015) and earlier issues of same						

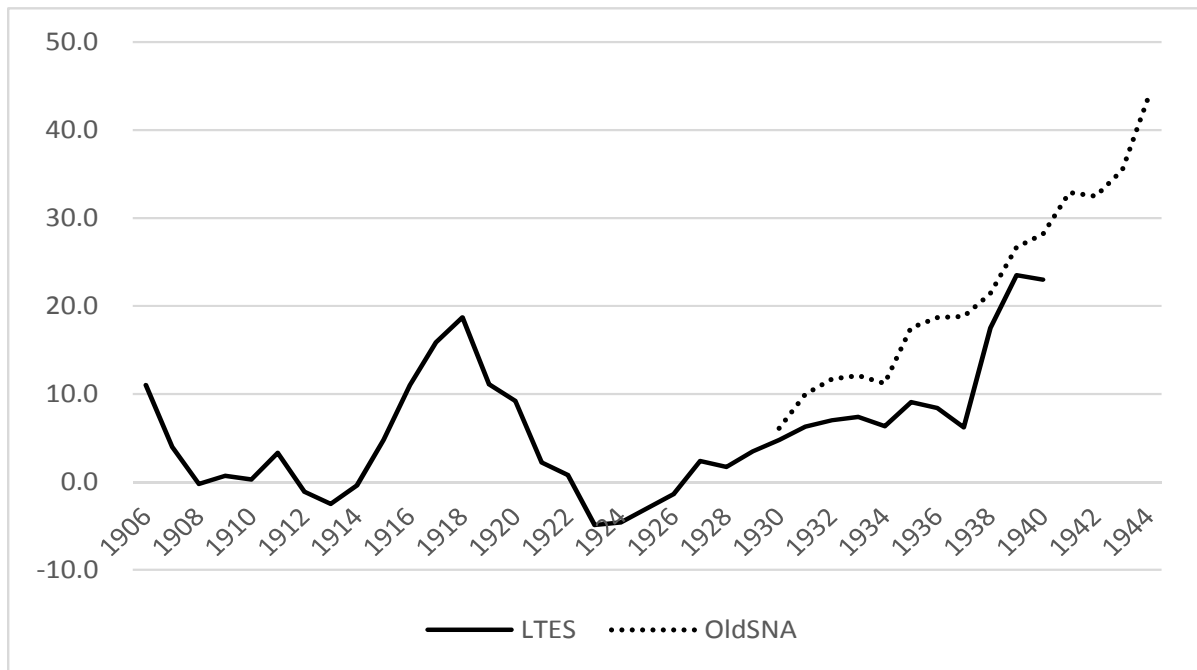


<b>Table 2: An International Comparison of the Share of the Elderly Population (%)</b>						
Country	1975		2000		2015	
Australia	8.7	19T	12.3	19T	18.6	19
Austria	14.9	2	15.6	10T	24.3	7
Belgium	13.9	5	17.0	4T	23.7	8
Canada	8.5	21	12.6	18	20.7	17T
Czech Republic	12.9	9	13.8	16	23.1	10
Denmark	13.4	8	15.0	13	22.5	11
Finland	10.6	15	14.9	14	25.2	5
France	13.5	7	16.0	7T	22.2	12
Germany	14.8	3	16.4	6	24.6	6
Hungary	12.6	10T	14.6	15	21.2	16
Ireland	11.0	13	11.3	22	16.3	23
Italy	12.0	12	18.1	1	25.7	3
Japan	7.9	22	17.2	3	28.9	1
South Korea	3.6	23	7.1	23	16.9	22
Netherlands	10.8	14	13.6	17	21.9	13T
New Zealand	8.7	19T	11.7	21	18.5	20T
Norway	13.7	6	15.4	12	21.8	15
Portugal	9.9	18	15.6	10T	20.7	17T
Spain	10.0	17	17.0	4T	23.6	9
Sweden	15.1	1	17.4	2	25.4	4
Switzerland	12.6	10T	16.0	7T	27.1	2
United Kingdom	14.0	4	15.8	9	21.9	13T
United States	10.5	16	12.3	19T	18.5	20T
OECD Mean	12.6		16.0		24.4	
Notes: The left-hand figure for each year shows the share of the elderly (the population aged 65 and older) in the total population, while the right-hand figure for each year shows the rank of each country among the OECD member countries included in the table. "T" denotes "tie."						
Data Source: United Nations (2013)						

<b>Table 3: An International Comparison of Bequest Motives</b>				
The proportion of respondents holding each view (%)	China	India	Japan	U.S.
I plan to leave an inheritance to my child(ren) no matter what	35.25	75.66	32.58	66.41
I do not plan to leave an inheritance to my child(ren) under any circumstances because doing so may reduce their will to work	2.15	0.14	1.41	0.56
I plan to leave an inheritance to my child(ren) only if they provide care (including nursing care) during old age	10.10	11.49	4.06	2.08
I plan to leave an inheritance to my child(ren) only if they provide financial assistance during old age	5.17	5.95	0.70	0.63
I do not plan to make special efforts to leave an inheritance to my child(ren) but will leave whatever is left over	37.03	3.84	58.58	28.54
I do not plan to leave an inheritance to my child(ren) under any circumstances because I want to use my wealth myself	2.80	0.54	1.62	1.52
I plan to leave an inheritance to my child(ren) only if they carry on the family business	7.50	2.38	1.06	0.26
Total	100.00	100.00	100.00	100.00
Number of observations	2071	1866	3696	3034
Notes: The figures show the proportion of respondents excluding those who did not respond to this question and those who replied that they want to leave a bequest to their child(ren) but won't because they don't have the financial capacity to do so.				
Data Source: Preference Parameter Survey of Osaka University, 2012 survey except for rural China, for which the 2010 survey was used. The results for the urban and rural surveys for China and India were weighted by the proportions of the urban and rural populations in each country (52/48 percent in China and 32/68 percent in India). Adapted from Horioka (2014).				

<b>Table 4: An International Comparison of Bequest Division</b>				
The proportion of respondents holding each view (%)	China	India	Japan	U.S.
I plan to divide my inheritance equally among my children.	70.28	84.17	72.67	92.55
I plan to leave more or all to the child (children) who has less earning capacity.	6.42	0.04	4.39	1.38
I plan to leave more or all to the child (children) who has greater needs.	1.95	0.13	3.90	3.06
I plan to leave more or all to the child (children) whom I like more.	0.90	0.00	0.75	1.43
I plan to leave more or all to the child (children) who lives with me.	4.11	6.99	14.38	0.94
I plan to leave more or all to the child (children) who lives near me.	1.84	4.63	4.07	0.74
I plan to leave more or all to the child (children) who helps me with housework.	2.09	1.96	4.49	0.69
I plan to leave more or all to the child (children) who provides nursing care.	11.60	5.63	12.82	0.54
I plan to leave more or all to the child (children) who provides financial assistance.	2.56	1.25	4.85	0.59
I plan to leave more or all to the child (children) who carries on the family business.	4.25	0.41	5.04	0.10
I plan to leave more or all to my eldest son or daughter even if he/she does not live with me, does not live near me, does not help me with housework, does not provide nursing care, does not provide financial assistance, and does not carry on the family business.	3.82	0.07	2.83	0.74
Total	105.92	100.46	108.08	100.94
Number of observations	733	1780	3118	2457
Notes: The figures show the proportion of respondents excluding those who did not answer the question about bequest motives, those who replied that they would not leave a bequest, and those who have zero or one child. Those who responded that they would divide their bequest unequally but did not answer the follow-up question about bequest division were assumed to have the same distribution of answers for the follow-up question as those who answered the follow-up question.				
Data Source: Preference Parameter Survey of Osaka University, 2012 survey except for rural China, for which the 2010 survey was used. The results for the urban and rural surveys for China and India were weighted by the proportions of the urban and rural populations in each country (52/48 percent in China and 32/68 percent in India). Adapted from Horioka (2014).				

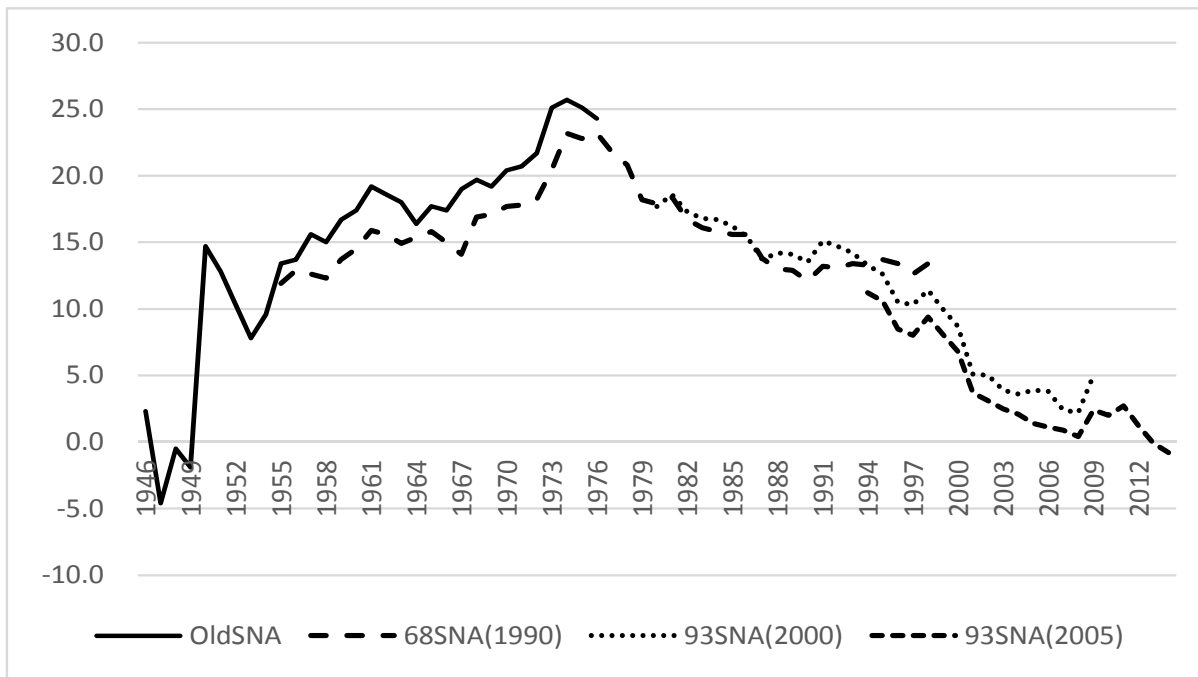
**Figure 1: Prewar Trends in Japan's Household Saving Rate (%)**



Notes: The household saving rate was calculated as the ratio of household saving to household disposable income, where household saving was calculated as private saving minus corporate saving. LTES denotes Long-term Economic Statistics, and OldSNA denotes Old System of National Accounts.

Data Source: Ohkawa and Shinohara (1979), pp. 261-270.

**Figure 2: Postwar Trends in Japan's Household Saving Rate (%)**



Notes: The household saving rate was calculated as the ratio of household saving to household disposable income. OldSNA denotes Old System of National Accounts, 68SNA(1990) denotes the New 1968 System of National Accounts with a benchmark year of 1990, 93SNA(2000) denotes the New 1993 System of National Accounts with a benchmark year of 2000, and 93SNA(2005) denotes the New 1993 System of National Accounts with a benchmark year of 2005.

Data Sources: Ohkawa and Shinohara (1979), pp. 261-270, for the OldSNA data for 1946-1950; Economic Planning Agency (1978) for the OldSNA data for 1951-76; Economic Planning Agency (2000) for the 68SNA(1990) data; Economic and Social Research Institute (2011) for the 93SNA(2000) data; and Economic and Social Research Institute (2016) for the 93SNA(2005) data.