

Why Does Japan's Saving Rate Decline So Rapidly?

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The views expressed in this paper are those of the authors and not those of the Ministry of Finance or the Policy Research Institute.

# Why Does Japan's Saving Rate Decline So Rapidly?<sup>\*</sup>

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## Abstract

The saving rate in Japan has declined rapidly. Analyzing the possible four factors that could affect the saving rate in general, compared with theoretical implications, the data suggest that all elements might have a negative impact on the saving rate during the late 90s and early 00s. Such a rapid decline of the saving rate might be caused by the fact that all factors have the same downtrend.

Structural factors, such as demography and changes of time preference, would keep the current trend of down pressure on the saving rate with high probability. On the other hand, it might be difficult to forecast the effect of cyclical factors, such as economic fluctuation and institutional reform, because their impacts on the future rates could depend on economic or social situation at that time. As a result, as there will be a strong downward pressure, the saving rate will continue to decline or level off at least.

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# 1. Introduction

It is said that Japan's saving rate was one of the highest in the world. The rate in the 80s and the early 90s had been over 10% steadily and higher than any other developed country. A number of academic studies have addressed why the saving rate in Japan was so high: Hayashi (1986) shows that prevalence of the extended family and bequests are singled out as probably the most important factor contributing to higher saving, while Horioka and Watanabe (1997) points out that the net saving for retirement and precautionary motives are of dominant importance.

In general, the saving rate is calculated by the gap between disposal income and consumption over disposal income, i.e., how much people save out of the total revenue during a period. From a macroeconomic perspective, the amount of saving would be equivalent to that of investment by definition. The economic growth theory, such as a Solow model, implies that a higher saving rate could lead to higher growth consistently. At the same time, in terms of money flow, higher saving could lead to a higher financing surplus of households, which may finance government debt and money demand of corporate sector. Therefore, the rate might be one of the key parameters for further economic development.

Since 1998, however, the figure has been in rapid downward trend as can be seen in Figure1. What has happened in the Japanese economy? This essay will focus on why this indicator has declined rapidly in Japan, considering the results and forecasting the movement of the rate in the future.

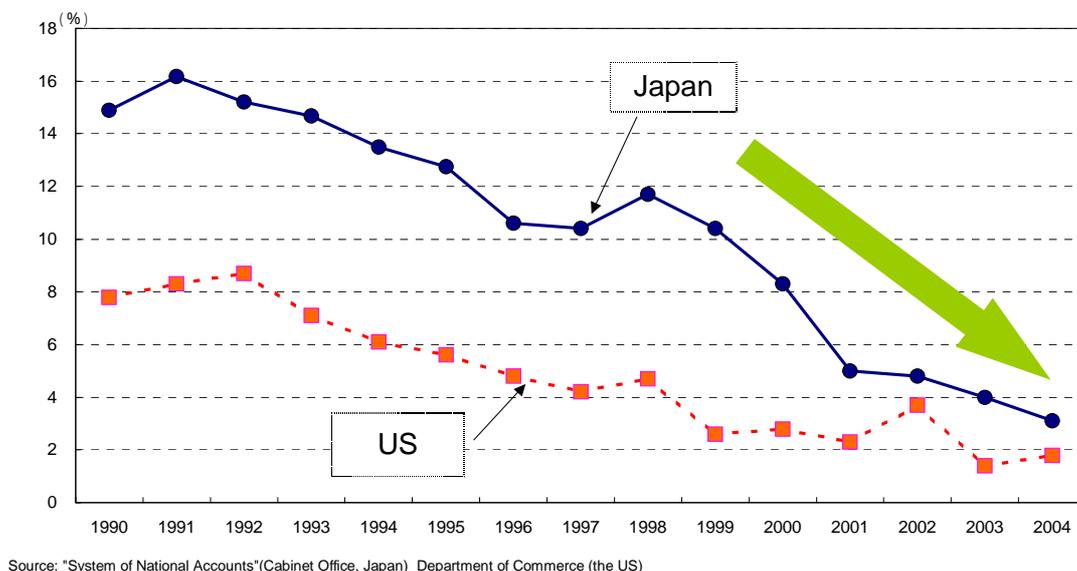


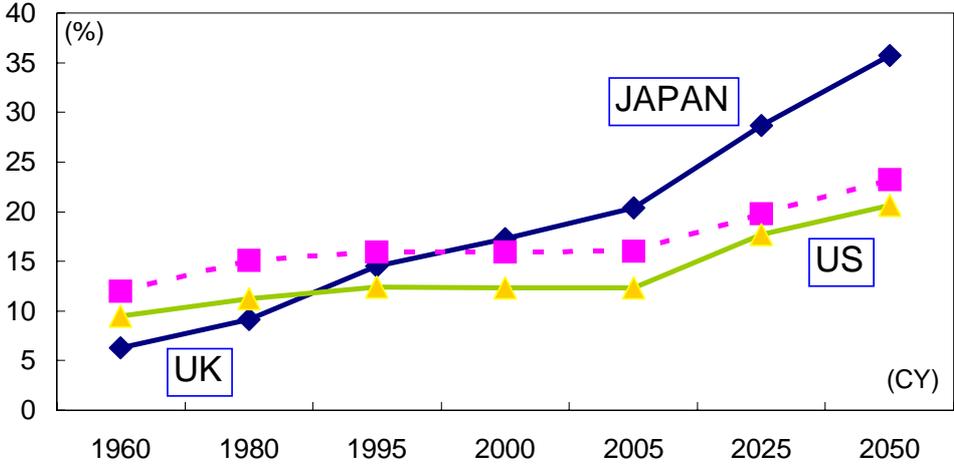
FIGURE1 Saving Rate in Japan and the US (CY)

Some may argue that Japanese people were so risk-averse that people would much prefer saving to spending. It is true that we can observe that not only the saving rate until the early 90s, but also the ratio of safe asset in *financial* asset might be higher than in other countries. On the other hand, as the Japanese have more tendencies to hold house ownership, which is a risk asset in *real* asset, the combined risk ratio on *both financial and real* asset has not been so low. This indicates that the hypothesis that the Japanese would be risk-averse may not be supported. The change of trend should be explained by not only a simple and rough viewpoint, but a mixture of various causes.

This paper will be organized as follows: Chapter 2 will analyze the possible four factors that could affect the saving rate in general. After these considerations about both positive and negative impacts, the forecast of saving rate in Japan will be given in chapter 3. Chapter 4 will present conclusions along with some policy recommendation.

## 2. What has caused the downtrend of the saving rate in Japan?

First of all, the demographic aging process has accelerated in dynamic trends. With a rapid aging, the ratio of elderly population has been highest in developed countries, while old-age index, the ratio of people over 65 to the total population, will be 35.7% in 2050 (see Figure2).

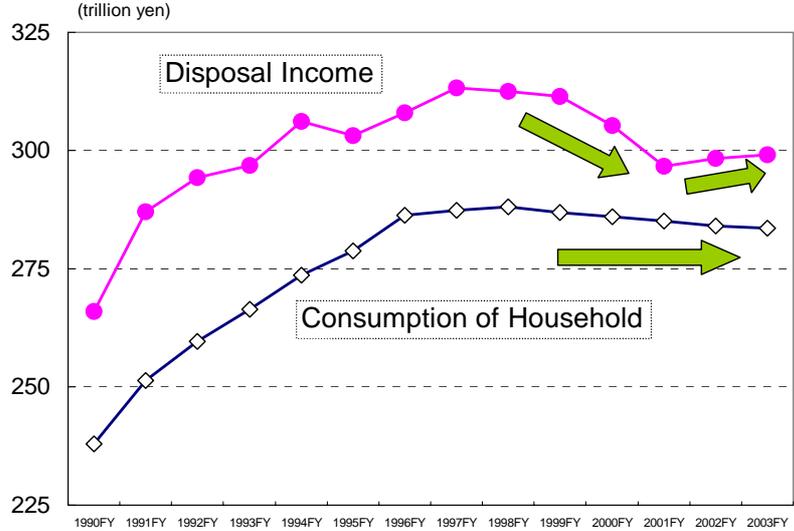


Source: "White book of aging"(Japanese Government)

FIGURE2 Movement of Old-Age Index (Japan, UK and US)

The life-cycle theory, one of representative consumption theory, shows that while a rational household may save some of the income in youth, they may spend their savings after their retirement. According to this theory, if the proportion of elderly population to the total population increased, the overall saving rate will decrease. Horioka and Watanabe (1997) finds that Japanese households save at each life stage for appropriate motives that greatly vary by age, which are highly consistent with the life-cycle model. Furthermore, some empirical studies, such as Koga (2006), indicate that an aging population was a major cause of the sharp decline in the Japanese saving rate in the 90s, while the estimated life-cycle curve is hump shaped, which is consistent with the prediction of the theory.

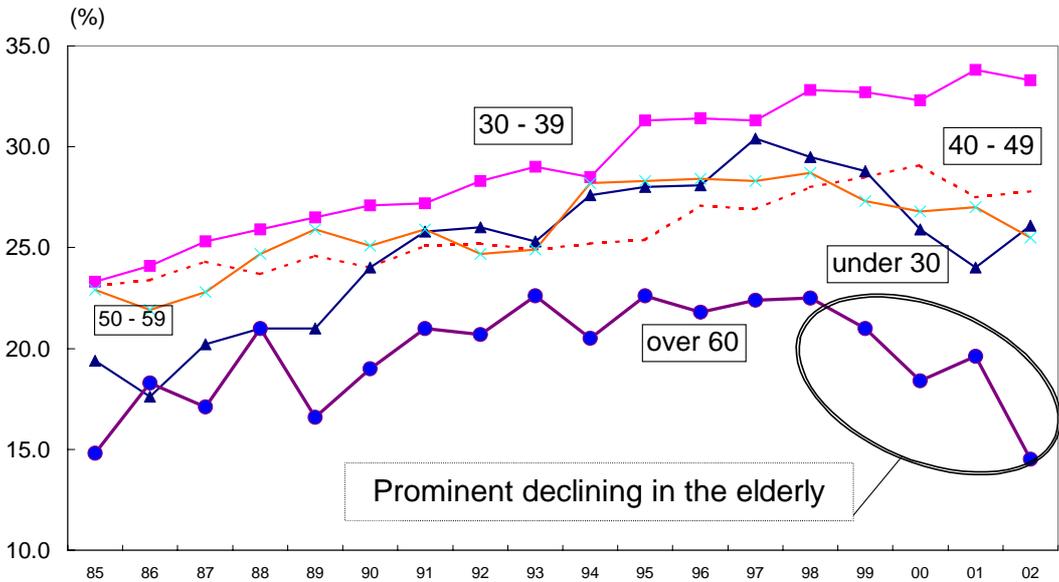
Secondly, the balance of disposal income and consumption has changed by economic fluctuation. By definition, the increase of the gap between income and consumption could lead to a rise of the saving rate. According to the Permanent Income Hypothesis, as the income increased more than expected, the saving rate might rise temporarily because of delay on adjustment of consumption levels. On the other hand, a decrease of the income with economic stagnation could depress the saving rate by inertial consumption, which is called “ratchet effect”, as seen from FY1998 up to FY2002 in Figure3. Hayashi (1985) illustrates that the permanent income hypothesis applies to about 85 percent of the population consisting of wage earners empirically, and income changes account for only a small fraction of the movements in consumption. In addition, it is well known that this hypothesis equals to the above-mentioned life-cycle theory in a special setting.



Source : "System of National Accounts" (Cabinet Office, Japanese Government)

FIGURE3 Disposal Income and Consumption

Thirdly, an institutional factor such as the reform of social security system has served to dispel anxiety about the future through weakening the financial risk. By analyzing the saving rate by generations, we could conclude that while the level of the saving rate in the elderly group has exceeded that in other groups at all times, the saving rate of the elder itself has decreased over recent periods (see Figure4). Enrichment of the old-age pension and establishment of the public long-term care insurance might cut their financial risk in the future and accelerate their withdrawal. Although previous researches, such as Horioka and Watanabe (1997), pointed out that net saving for the retirement and precautionary motives was empirically significant, current institutional improvements may enable them to forecast lower risk in the future and alleviate this kind of motive for saving.

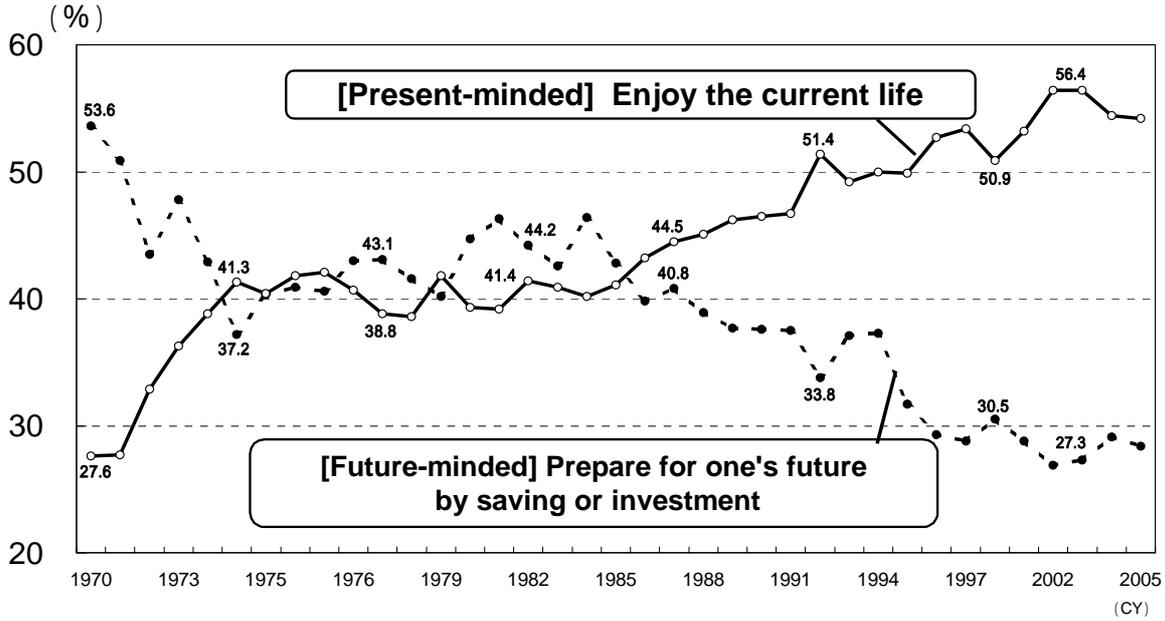


Source: "The Family Income and Expenditure Survey" (Ministry of Internal Affairs and Communications)

**FIGURE4 Savings Rate By Age Bracket**

Finally, the change of life style has led to stimulate the consumption of durable goods through adjustment of time preference. Diversification, or reversal, of values may result in more qualitative repletion in current daily life with less saving. According to the inquiry survey conducted by the Japanese government, there is a growing tendency for the Japanese people to place much value on current life than the future since 1987 (see Figure5). This result suggests that households may become more selfish than before, as Horioka (2002) states that

a selfish lifecycle model is the dominant model of household behavior in Japan and more applicable than in the US. Furthermore, as Horioka (2002) also shows that the dynasty model is no longer of dominant importance in Japan, it implies that typical behavior might be shifted from the model with the strategic bequest motives such as Hayashi (1986), who suggested prevalence of the extended family and bequests were the most important factor for saving. The slogan of “saving is a virtue” could be a relic at this moment.



Source: "Opinion survey on daily life"(Cabinet Office, Government of Japan)

**FIGURE5 Time preference; Future-minded or Present-minded**

As a result of speculation about four factors that could affect the saving rate in general, it might be concluded that all have a negative impact on the saving rate during the late 90s and early 00s. This could explain why the saving rate has decreased so rapidly.

**3. Will the declining of the rate continue?**

How will the saving rate in Japan move in the future? The first factor noted above will continuously have a negative impact on the saving rate in the future, because there can be no doubt that the population will age and fewer babies will be born from the view of the expansion of job opportunities for women.

Future economic recovery of Japanese economy could lead to pushing up the disposal income. Does the saving rate change by that? Assuming the Keynesian consumption function, an increase of the income could raise consumption almost proportionally. In this case, a booming economy hardly stimulates the rate. On the other hand, the Permanent Income Hypothesis suggests that a level of consumption may be constant with no relation to income fluctuation, so that income increase would raise the rate according to this theory.

Also, we have to consider the apprehension for future life such as the sustainability of social securities and tax increase that will be caused by the institutional factor. Unless the appropriate policy response will be conducted when additional reforms will be needed to tackle emerging risks, that situation could have a positive effect on the saving rate for a precautionary motive.

In addition, the change of time preference on consumption behavior could affect the rate continuously. Though it may be difficult to forecast exactly, in general, the trend with changing the role and shape of the family will be lasting to some extent because of its spreading effect on the social structure.

Taking the various situations into consideration, these factors could be divided into structural and cyclical ones. Demography and changes of time preference would be the structural one, which means a structural change of the society and is expected to keep the current trend to some extent, while aging will especially continue to be an observable and robust trigger. On the other hand, economic fluctuation and institutional reform would be the cyclical one, which means a temporal phenomenon, so that its trend is expected to be more changeable in the short run. Institutional reform could affect the rate cyclically in that its achievement could depend on economic situations such as accumulated government debt, mostly resulting from supplementary budgeting to conduct economic slowdown. Both of cyclical ones would have uncertainty whether it would have a positive or negative impact on the saving rate in future because of its psychological fluctuation and cyclical aspect.

Considering the above factors, it seems to be a higher possibility that the falling elements will dominate others for a certain period because downward pressure by structural factors would have more stability than others. As a result, we could suppose that the saving rate will fall off, or make the level hold at least. Simultaneously, financial surplus in households will decrease further through contraction of the saving-investment balance.

## 4. Conclusion

The movement of the saving rate in Japan has been surprisingly rapid. Analyzing the possible four factors that could affect the saving rate in general, compared with theoretical implications, the data suggest that all elements might have a negative impact on the saving rate during the late 90s and early 00s. Such a rapid decline of the saving rate might be caused by the fact that all factors have the same downtrend.

These four factors could be divided into structural and cyclical factors by their properties. Structural factors, such as demography and changes of time preference, would keep the current trend of down pressure on the saving rate with high probability. On the other hand, it might be difficult to forecast the effect of cyclical factors, such as economic fluctuation and institutional reform, because whether their impacts on the saving rate are positive or negative could depend on economic or social situation at that time. As a result, it is safe to say that, as there will be a strong downward pressure, the saving rate will continue to decline or level off at least.

In terms of further economic growth and smoothing money flow, it is concluded that higher saving rate would be desirable. In order to weaken this prospective downtrend, a social policy to affect the birth rate or an economic policy to stimulate the saving behavior such as a tax incentive on interest will need to be considered.

Strictly speaking, empirical studies should be needed to examine how much each factor could affect on the saving rate, especially for policy-making. As you can see, it is true that the qualitative approach in this essay has the limitation that the analysis suggests only intuitive conclusions based on relative comparison. Furthermore, constructing theoretical model with above factors would be helpful to illustrate the forecasting and its implication more precisely.

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