

# A note on Japanese household debt: international comparison and implications for financial stability<sup>1</sup>

Shinobu Nakagawa<sup>2</sup> and Yosuke Yasui<sup>3</sup>

## Introduction

This paper aims to show the difference in vulnerability to financial shocks between Japan's household sector and its banking sector and between the Japanese and US household sectors. For this purpose, we examine recent developments in household financial assets and liabilities, securitisation and the distribution of household income and net worth in Japan, France, Germany, the United Kingdom and the United States.

The paper is structured as follows. Section 1 highlights the differences in household financial risk preferences (ie, financial balance sheet structure) among the above-mentioned countries. Section 2 focuses on recent developments in household debt, largely home mortgages, and shows that household leverage has grown rapidly in particular countries. Section 3 discusses the role of banks in securitisation, including the transfer of credit risk to the broader financial market. Section 4 documents the quite different distributions of income and net worth across Japanese and US families. Section 5 draws some implications from the foregoing with respect to household wealth buffers and resilience to shocks, and Section 6 concludes with a summary.

## 1. Overview of household financial balance sheets

The average Japanese household has a financial balance sheet that is far more conservative than that of the representative household in other industrialised countries: in the case of Japan, cash and deposits represent half of total financial assets (Table 1). In contrast, the ratio for US households is only 16%, while Europeans hold about one fourth to one third of financial assets in these safe and liquid products.

Why do Japanese households prefer deposits so much over more risky financial assets? After all, other financial instruments are well developed and heavily traded in Japan, unlike in some other Asian markets. Several reasons could apply, among them (1) a representative Japanese household needs a significant down payment to purchase a house and thus would like to avoid investing in risky financial assets such as stocks, (2) most elderly people, who hold a majority of retail deposits in Japan, were educated to believe – and still believe, to some extent – that saving (such as through bank deposits) is a virtue and that the indirect finance system works, and (3) there has been no rational reason to invest in risky assets in the deflationary or disinflationary environment that has enveloped the Japanese economy for many years.

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<sup>1</sup> The views expressed in this paper are solely those of the authors and do not necessarily reflect those of the Bank of Japan.

<sup>2</sup> Director, Head of Investment and Market Research, International Department, Bank of Japan.

<sup>3</sup> International Department, Bank of Japan.

Turning to the liability side, Japanese households have a smaller exposure to debt, such as home mortgages and consumer credit, than their Western counterparts (Table 1). For example, home mortgages in Japan – the single largest component of household debt in Japan, as it is in most other countries – account for 12% of the financial balance sheet (debt plus financial surplus), about half as much as in France and Germany (28%), the United Kingdom (28%) and the United States (23%).

Table 1  
Household financial balance sheets

	Japan (US\$T 13.8 as of end-December 2007)	United States (US\$T 45.3 as of end-December 2007)	France and Germany (US\$T 10.6 as of end-December 2006)	United Kingdom (US\$T 8.2 as of end-September 2007)
Deposits	51%	16%	32%	26%
Bonds	3%	9%	7%	1%
Stocks	11%	29%	16%	9%
Mutual funds	5%	11%	11%	6%
Life & pension insurance	26%			
Life & pension reserves		31%	29%	54%
Other <sup>1</sup>	5%	3%	6%	4%
Home mortgages	12%	23%	28%	28%
Consumer credit	2%	6%	1%	5%
Other <sup>1</sup>	10%	3%	2%	4%
Financial surplus	75%	68%	68%	62%

Note: Nonprofit organisations are included except for Japan. In France and Germany, long-term loans are assumed to be home mortgages, and short-term loans are assumed to be consumer credit.

<sup>1</sup> Others on the asset side in these countries are represented mainly by accounts receivable and financial derivatives, as households include private enterprises and nonprofit organisations in flow of funds statistics. In a same manner, others on the liability side are explained mostly by trade credits, accounts payable, and financial derivatives.

Sources: Bank of Japan; Bank of France; Board of Governors of the Federal Reserve System; Deutsche Bundesbank; UK Office of National Statistics.

## 2. Recent developments in household debt

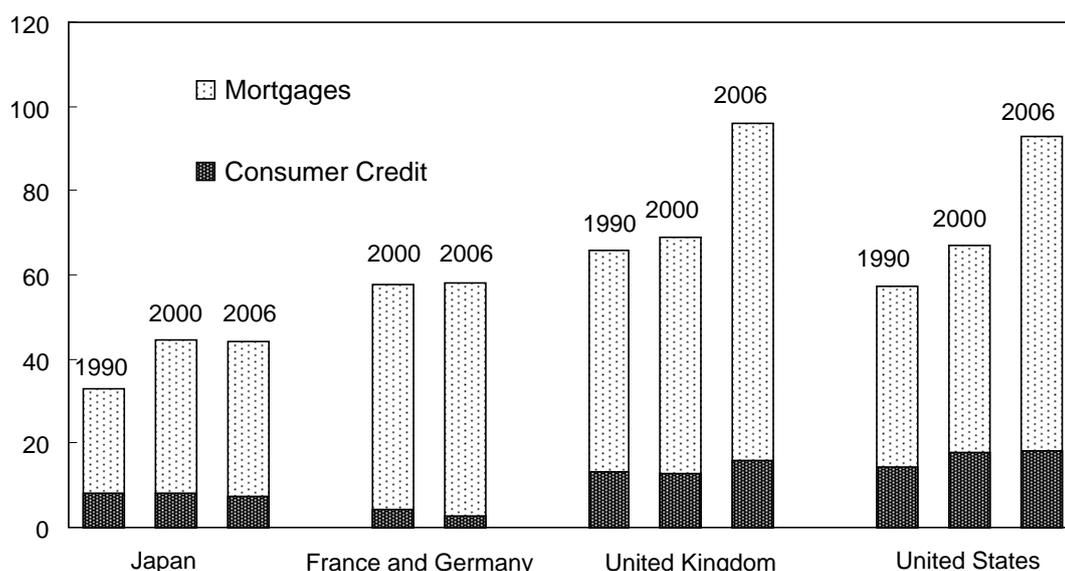
Since about 2001, housing markets have been a prominent source of global headlines: until early 2007 because of the boom, and afterwards because of the bust in countries that experienced the earlier euphoria, particularly the United Kingdom and the United States. How were the booms created? Why were the busts so severe?

The answer to both questions is, perhaps, the extent of household “leverage” (Graph 1). The ratio of household debt to nominal GDP has rapidly increased in recent years to reach almost

100% in both the UK and US economies. In contrast, Japan, along with France and Germany, did not experience such a significant increase in leverage. For Japan, the difference is due partly to the fact that its economy has been flying at low altitude, so to speak, in the 21st century, albeit with abundant liquidity supplied by a loose monetary policy.

Interestingly, Japanese households did not rely much on mortgage funding in the bubble period around 1990 (Graph 1). The representative Japanese household accumulated the large down payment required for purchasing a home on credit and, unlike many homeowners in the United States, did not subsequently extract equity from the house through additional bank loans.

Graph 1  
Household debt as a per cent of GDP



Note: See Table 1. Data for 1990 for France and Germany were not immediately available.

Sources: See Table 1.

We would thus argue that the conservative approach to debt taken by Japanese households mitigated the effects of the decade-long economic slump. Indeed, household bankruptcies were not widely recorded in that period because the quantity of safe and liquid buffer assets, such as bank deposits and postal savings, was always greater than debt on the average household balance sheet.

### 3. Role of the banking sector – securitisation

Who was the main character in the drama called “Japan’s lost decade”? As documented in many papers, the answer is the Japanese banking sector, which holds a large quantity of household deposits (in 2006, for example, about USD 7.0 trillion, or 152% of Japanese GDP) on the liability side of its balance sheet.

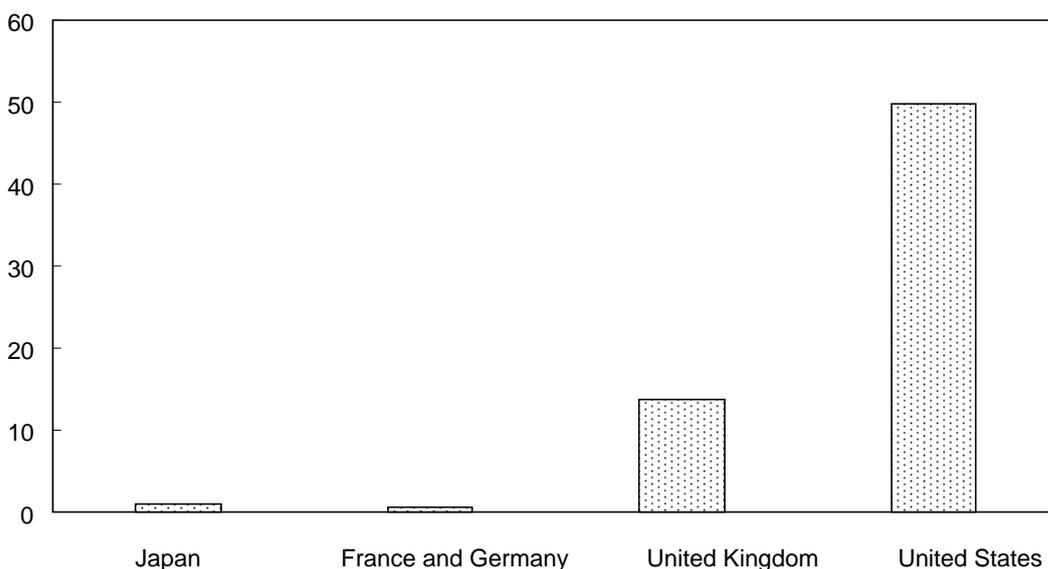
The lower level of securitisation in Japan relative to that in the United Kingdom and the United States (as shown in Graph 2 in the case of mortgages) has meant that Japanese banks have had to hold a larger proportion of loans and securities on their books. As long as the demand for corporate loans is sufficient – as it was in the bubble period, for example – this indirect money transmission system works well. However, once a significant portion of

booked assets turns sour, as they did beginning around 2000 (Graph 3), banks immediately begin to face a deterioration of capital. Banks in Japan are, after all, asset gatherers; in other words, credit risks are eventually concentrated in the Japanese banking system, which has not changed fundamentally in decades.

Securitisation markets are, in contrast, well developed in the United Kingdom and the United States. UK and US banks are eager to transfer credit risks to a variety of investors in the financial system, including life insurers, pension funds and hedge funds. We basically agree with the view of the International Monetary Fund that the spreading of credit risk through such transfers is an important source of financial stability. However, at the same time, we may now have to admit that – particularly for the markets in which off-balance sheet securitisation has deeply penetrated the credit markets – once credit, liquidity or other shocks occur, they could trigger the onset of risk contagion across a wide range of economic agents, including households.

Graph 2

**Residential mortgage-backed securitisation as a per cent of GDP, 2006**

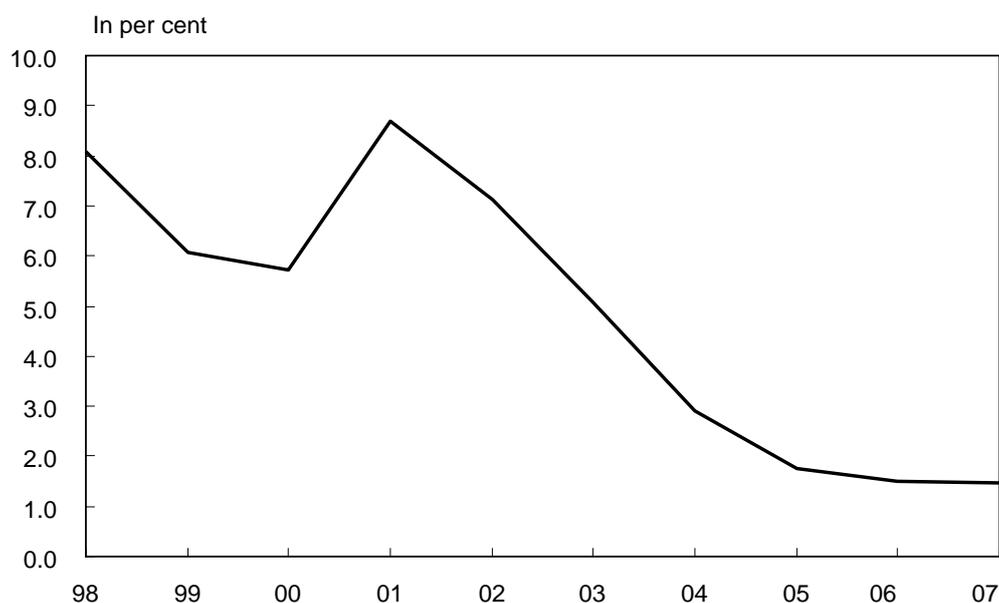


Note: US data include securities associated with home and multifamily residential mortgages.

Sources: Board of Governors of the Federal Reserve System; Japanese Ministry of Land, Infrastructure, Transport and Tourism; European Securitisation Forum.

Graph 3

### Ratio of nonperforming loans in major Japanese banks



Note: Fiscal years beginning in April; nonperforming loans based on figures under the Financial Reconstruction Law divided by total loans outstanding; major banks include city banks and trust banks.

Source: Bank of Japan.

## 4. Distribution of household income and net worth

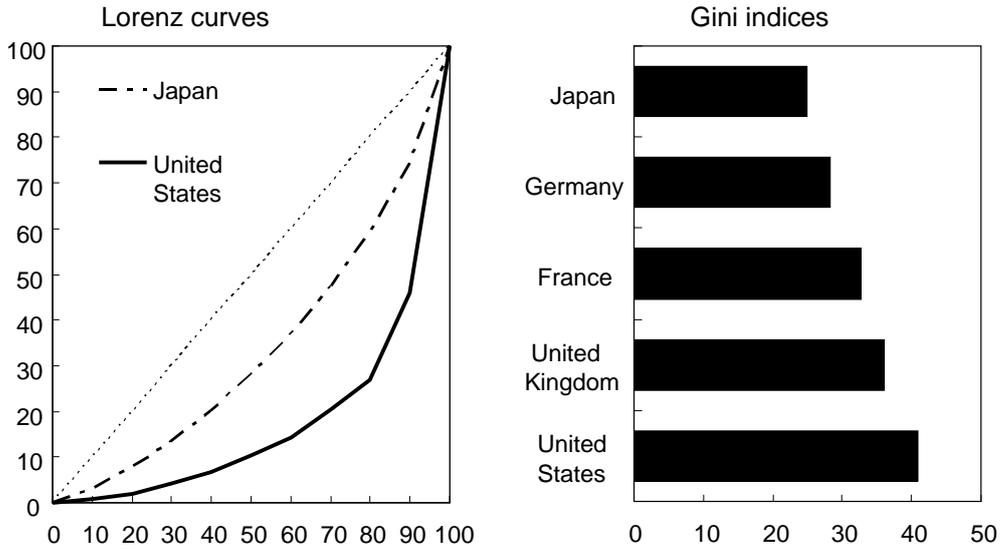
In this section we compare the financial vulnerabilities of the Japanese and US household sectors through indicators of the distribution of income and net worth.

We approach the question first through Lorenz curves for Japanese and US household income (Graph 4, left-hand panel). Both curves deviate from a perfectly egalitarian 45 degree line, but the extent of the deviation is obviously greater for the United States, where the difference between the highest and lowest income groups is far greater than in Japan. The Gini indices (Graph 4, right-hand panel) show that income inequality is greater in the United States than in the United Kingdom, France and Germany as well as Japan, where this measure of inequality is the lowest of the five countries.

We turn next to the distribution of net worth (ie, all assets, including homes, minus all liabilities) across family income groups. Net worth is one measure of a family's ability to absorb financial shocks. The richest income quintile of US households (the fifth quintile) holds 63% of total net worth, and the second richest holds 19% (Graph 5). In contrast, net worth is much more evenly distributed in Japan, mainly because of its progressive tax system.

Graph 4

**Lorenz curves and Gini indices for the distribution of income**

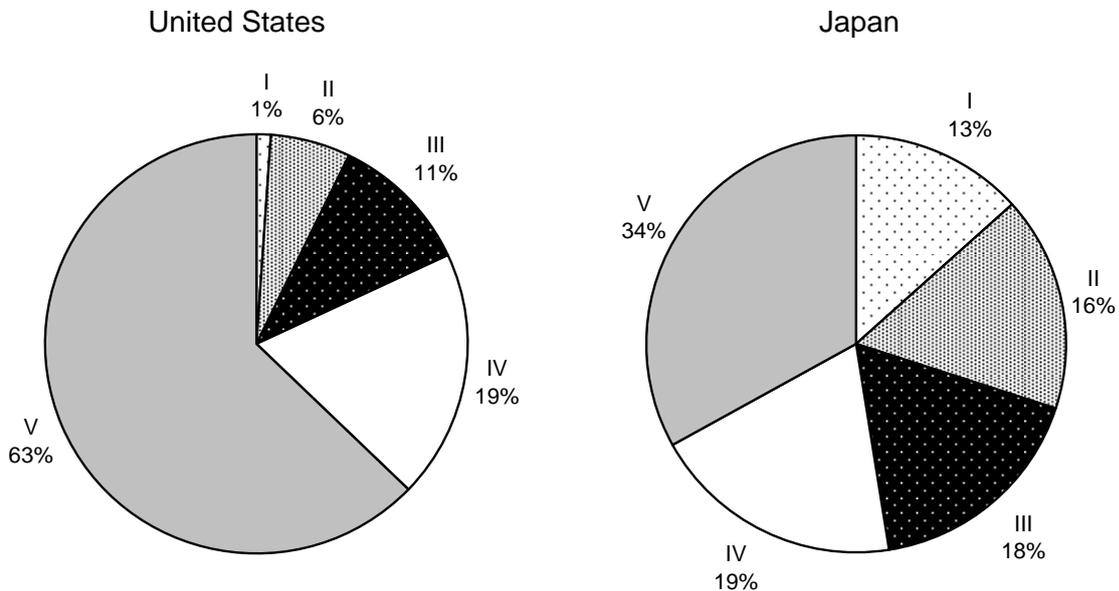


Note: Lorenz curves are for 2004 and plot population on the horizontal axis and income on the vertical axis; both axes are in per cent. Gini indices are based on the United Nations' Human Development Report 2007/2008 and indicate the extent of maldistribution of income; the higher the number, the more concentrated is the distribution.

Sources: Board of Governors of the Federal Reserve System; United Nations; Japan Ministry of Internal Affairs and Communications (Statistics Bureau).

Graph 5

**Distribution of net worth by income quintile, 2004**



Note: In the United States, the mean value of pretax income in 2004 was \$10,800 for the first quintile, \$26,100 for the second, \$43,400 for the third, \$69,100 for the fourth and \$204,300 for the fifth. In Japan, the mean value of pretax income in 2004 was ¥1.857 million for the first quintile, ¥3.498 million for the second, ¥4.966 million for the third, ¥6.991 million for the fourth, and ¥12.285 million for the fifth; \$1 is equivalent to ¥104.12 as of end-2004.

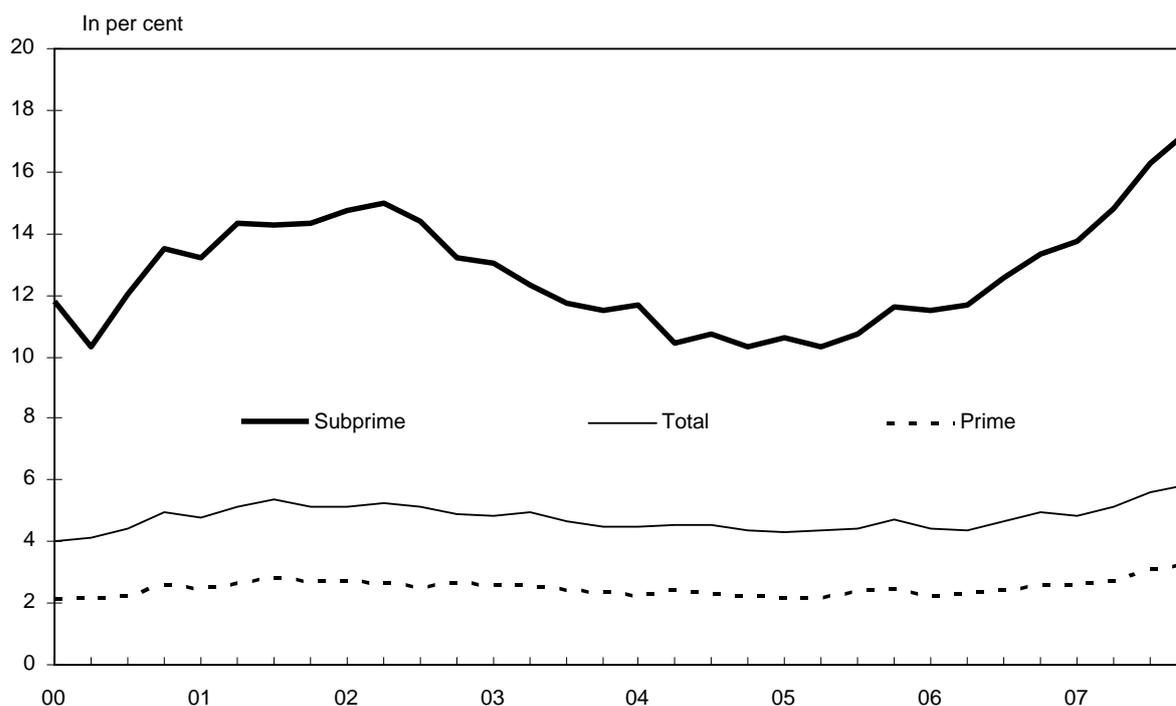
Sources: Board of Governors of the Federal Reserve System; Japan Ministry of Internal Affairs and Communications (Statistics Bureau).

## 5. Implications for financial stability

What does the difference in the distribution of income and net worth between the Japanese and US household sectors imply? Which of those sectors could be considered more resilient to financial shocks? And how does the Japanese household sector compare to the Japanese banking sector in that regard?

Recall that the current turmoil in global financial markets was triggered by the fast rise of delinquencies on US subprime home mortgages, on which most borrowers in the lowest two income quintiles have to rely. Compared to prime mortgages in the United States, US subprime products have had, since 2005, significantly rising delinquency rates (Graph 6). Relative to household income cohorts in Japan, the low-income household sector in the United States has only a small amount of assets to buffer them from financial shocks. In the United States, some shocks may thus tend to hit poor families harder than others, whereas in Japan, shocks would likely be spread through the whole household sector. We would venture to say that the Japanese household sector, far from being a shock originator, is rather a shock absorber, but risk concentrations in the Japanese banking system continue to be a matter to resolve.

Graph 6  
US mortgage delinquency rates



Note: Delinquent loans are those on which payments are past due 90 days or more.

Source: US Mortgage Bankers Association.

## 6. Summary

We compared the financial balance sheet of the typical Japanese household, especially its debt side, with its counterpart in other industrialised countries. We also compared the degree of debt securitisation and the distribution of household net worth in Japan with those

characteristics in selected other advanced economies. The differences we found can be summarised as follows:

- (1) Household leverage, relative to both safe and liquid assets and to GDP, is smaller in Japan than in other industrialised countries, and was so even during Japan's bubble period.
- (2) The finances of Japanese households were not severely damaged by the mid-1990s bursting of the bubble. Banks, however, with their large accumulation of household deposits on the liability side of their balance sheets, were a victim of their large holdings of defaulted corporate loans and the resulting capital deterioration during the bust; in response, banks tightened credit significantly during this period.
- (3) Household net worth in Japan is not highly concentrated. Thus, regardless of income level, Japanese households are in general resilient to shocks thanks to a sizeable buffer of assets and moderate leverage. The situation is quite different in the United States, where the distribution of net worth among households is highly skewed in favour of the highest-income cohorts. With only a thin buffer of assets, low-income families in the United States – the subprime cohorts – could be vulnerable to market shocks.