Risk profile of households and the impact on financial stability

Wimboh Santoso and Made Sukada[1]

Introduction

The household sector has the power to influence the overall economy, in part because of its size and its significant exposure to the financial sector. It also plays an important role in monetary and financial stability as the behaviour of households with respect to resource allocation – including their saving and spending decisions – affects market prices. Moreover, in line with the development of new financial products and the evolution of risk management in financial institutions, there has been a tendency to shift risks to households. Therefore, there is a growing need for specific attention to be paid to the household sector's risk profile, which has become an important input into monetary and financial policymaking.

This paper is organized as follows. The Introduction provides the motivation for the paper. The second section outlines the reasons why the household sector is important for monetary and financial stability and why we use the balance sheet approach in analysing the risk profile of households as related to financial stability. The third section discusses the preliminary findings of a survey of household balance sheets carried out by Bank Indonesia (BI) in 2007. The fourth section discusses the characteristics and the composition of Indonesian household debt and its impact on monetary and financial stability. The last section discusses the issues identified in the analysis and the policies that can address them.

Households and monetary and financial stability

The household sector, like the corporate sector, is part of the real sector in the economy, in which it plays an important role for many reasons. Household debt has increased at a rapid pace over the past few decades, raising concerns over its sustainability and, therefore, its consequences for the financial system and the macroeconomy as a whole (Debelle (2004)). The increase in the level of household debt may have been encouraged by macroeconomic stability, financial product innovations and legal or institutional regulations, while market imperfections, together with the effect of moral hazard on the behaviour of some lenders, may have boosted household debt to excessive levels, resulting in the growth of non-performing loans (Rinaldi and Sanchis-Arellano (2006)).

The household sector acts not only as a surplus sector but also as a deficit sector. As a surplus sector, households may allocate their funds – generated from incomes, wages and other sources – to financial assets such as bank deposits, shares and other securities, or to non-financial assets such as houses, land and other fixed assets. As a deficit sector, households receive funds from financial and non-financial institutions to finance consumption and investment or saving.

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As both a surplus and a deficit sector, households are affected by and, in turn, affect monetary policy through different transmission channels (see Figure 1):

- *The interest rate channel.* When the central bank lowers interest rates, households may shift their portfolio investments into non-interest bearing assets and have an incentive to increase consumption and borrowing. This, in turn, generates demand, thereby stimulating supply. As a result, the production sector will need more financing.

- *The credit channel.* Households may cut their expenditures when banks raise the interest rates on loans (bank lending channel) in response to tighter monetary policy. Higher interest rates reduce households' access to bank lending, creating a credit crunch.

- *The exchange rate channel.* In an open economy with a non-fixed exchange rate regime, expansionary monetary policy affects exchange rates since lower interest rates make deposits denominated in domestic currency less attractive. Depreciation makes domestic goods cheaper than imported goods and stimulates domestic demand, which in turn leads to an increase in aggregate output. However, deep local currency depreciation sharply increases the debt burden of companies whose borrowings are denominated in foreign currency, affecting these companies' ability to expand, or even forcing them to scale back their operations. This situation affects incomes and wages, dampening domestic demand for goods and services.

- *The wealth channel.* A rise in the prices of assets (both financial assets, such as equities, and real estate) improves household and corporate balance sheets. As their net worth rises, both households and firms have more collateral to borrow against to finance consumption (households), investment (households and firms) and operational expansion (firms). Strong corporate growth also benefits households, who will likely see an improvement in their incomes or wages.

Figure 1

Households and monetary policy
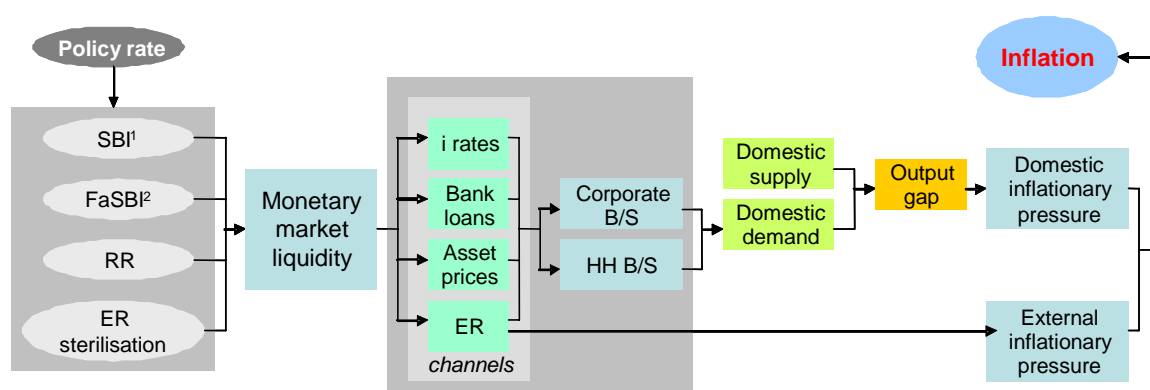
[1] BI Certificate. [2] Fine tune interest rate instrument.

Households also play an important role in financial stability (see Figure 2). Traditionally, systemically important financial institutions – big banks in particular – have been the focus of financial stability assessments since they have borne and managed most of the risks in the financial system. However, with the financial institutions' development of sophisticated risk management techniques and innovative and increasingly complex financial products in recent decades, some types of risk have been shifted to households. Development of risk management techniques and financial products is in line with the stricter policies and

standards imposed on financial institutions by regulators in response to the development of financial market infrastructure (IMF (2005)).

Figure 2

Households and financial stability
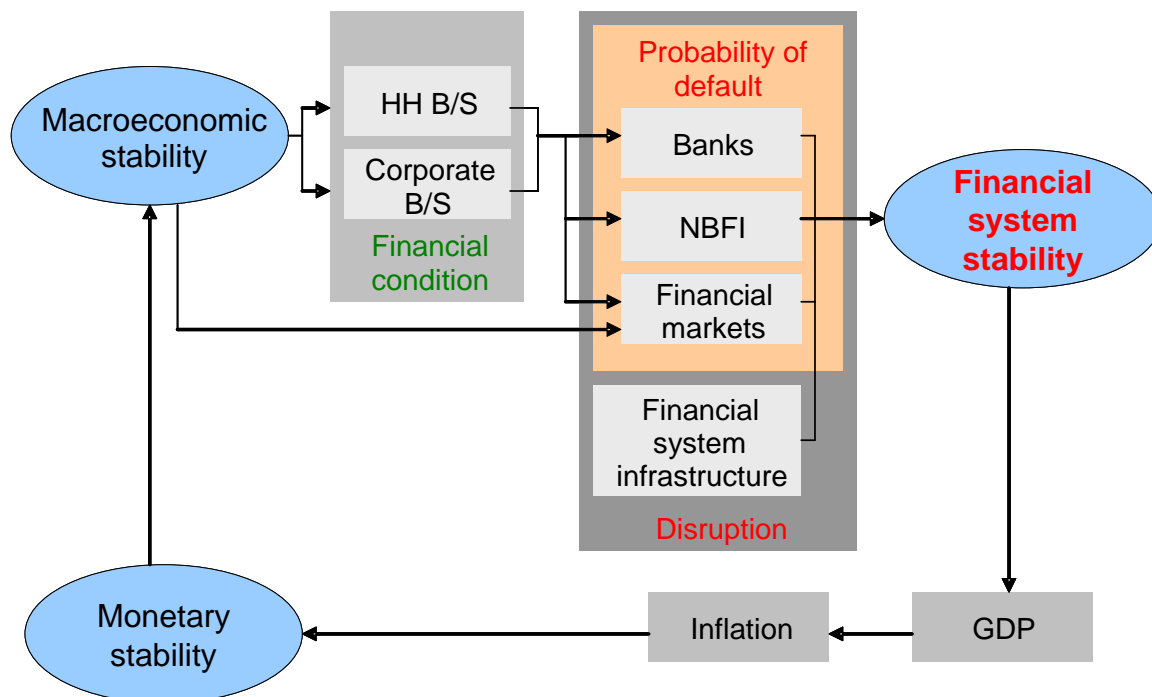
Financial stability assessments should therefore begin focusing on households. Even though, in the current conjuncture, households seem to have enough of a financial cushion to face shocks, there is no guarantee that conditions will not be different in the future when households may face larger shocks, such as changes in interest rates, income or employment status (Benito et al (2007)).

There are various channels through which risks flow to and from households as the ultimate bearers of financial risks in the system (IMF (2005)). Households are exposed to risks in their capacity as depositors, insurance beneficiaries, equity investors and bondholders. And households are also a source of financial risks in their capacity as borrowers from financial institutions. These risks are of various types, including market risks, inflation risks, investment planning and reinvestment risks and longevity risks. Consequently, the potential costs to the public sector would be enormous should households fall short in their different capacities, especially where the government is the insurer of last resort.

It is therefore necessary to assess the exposure of households to all sectors of the economy. The productivity, risk exposure and financial condition of households can be measured more accurately if seen in the form of a balance sheet, income statement and statement of cash flow (Samphantharak and Townsend (2006)). Figure 3 shows the household sector's balance sheet and its relationships with the balance sheets of the corporate, public and financial sectors.

The balance sheet approach to the surveillance of financial system stability examines the positions (or stock variables) of sectoral and aggregate assets and liabilities in measuring and analysing risks in a country's economy (Haim and Levy (2007); Allen et al (2002)). The national balance sheet accounts, which consist of the balance sheets of the financial sector (banks, institutional investors and others), the private sector (the business and household

sectors) and the public sector (the government and central bank), constitute the main tool in this approach. Since it is based on the assets and liabilities held by each sector, this approach enables us to look at economic activities in order to see the financial risks to which each sector is exposed and the relationships between sectors that could intensify any shocks and cause a crisis. With financial globalisation, the balance sheet approach has become more important. More frequent crises have led to the deterioration of the balance sheets of all sectors, since problems in one sector's balance sheet have spilled over to other sectors' balance sheets (Kohsaka and Enya (2006)).

Figure 3

Household and sectoral balance sheets
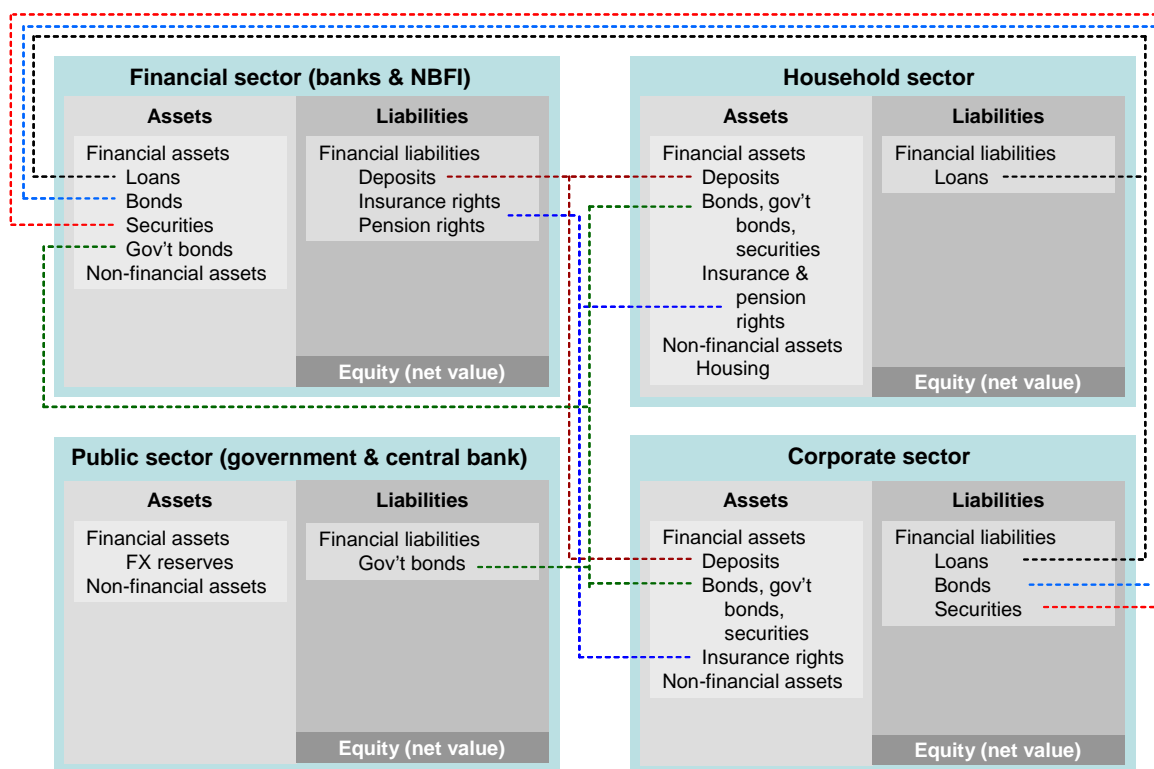
Sources: Allen et al (2002); authors.

In establishing an analytical framework for assessing a threat to financial stability, one may focus on four types of balance sheet mismatches that can help us determine a country's ability to service debt when it is faced with a shock (Allen et al (2002)):

- Maturity mismatches, where the liabilities due in the short term cannot be covered by liquid assets so that (1) a sector is unable to cover its contractual commitments, especially when it cannot roll over its debt, or (2) a sector is exposed to the risk of rising interest rates;

- Currency mismatches, which may expose a sector to foreign exchange rate risk that may lead to a capital loss;

- Capital structure problems, where a sector relies heavily on debt rather than on equity in its financing, to the point that it is vulnerable to a cash flow shock; and

- Solvency problems, where a sector's total assets (including the present value of future cash inflows) are inadequate to cover its liabilities (including contingent liabilities).

This paper focuses on maturity mismatches and solvency problems, the two types of mismatches that are relevant to households.

Household sector balance sheet in Indonesia

Understanding the importance of monitoring the household sector in Indonesia, BI has applied the balance sheet approach framework to this sector. However, in contrast with the financial and corporate sectors, the availability of data on Indonesia's household sector is limited, hampering attempts to construct a balance sheet. Hence, as a first step, BI conducted a household survey at the end of 2007 in six regions around the country.

We recognise that the data gathered from those six regions (individually and/or as a group) are too limited to give us a representative picture of the risks posed by the household sector to the financial system and of the financial risks to which the household sector is exposed. However, this initial survey paves the way for a national household survey in the near future. Given the limited availability of time series data, we found that household balance sheets can be used in a preliminary analysis of the risk profile of Indonesian households.

Concepts and methodologies

The six regions covered in the survey are Daerah Istimewa Yogyakarta (DIY), Jawa Timur (Jatim), Bogor-Depok-Tangerang-Bekasi (BoDeTaBek), Jawa Barat (Jabar), Jawa Tengah (Jateng) and Sumatera Barat (Sumbar). These particular regions were selected because of their unique and distinctive social, economic and cultural characteristics. In constructing the survey, we relied on definitions commonly used in other countries (eg Australia, the Netherlands, Singapore and the United Kingdom) in order to obtain results that can be compared across countries. However, there are still some potential comparability problems, since not all definitions are applicable to each region.

The term "household" basically refers to individuals who live in or share the same dwelling. Another definition is as follows: "A household includes all the persons who occupy a housing unit. A housing unit is a house, an apartment, a mobile home, a group of rooms or a single room that is occupied (or, if vacant, is intended for occupancy) as separate living quarters. Separate living quarters are those in which the occupants live and eat separately from any other persons in the building and which have direct access from the outside of the building or through a common hall. The occupants may be a single family, one person living alone, two or more families living together or any other group of related or unrelated persons who share living arrangements. (People not living in households are classified as living in group quarters.)"[2]

However, in this paper, we use the definition of household from Badan Pusat Statistik (National Statistics Agency of the Republic of Indonesia): "a person or a group of people living in physical/census building or part thereof who make common provision for food and other essentials of living".[3]

Since the survey was conducted for the purpose of monitoring financial stability, we construct the households' balance sheets in a way that enables us to assess the households' relationships with the financial sector. Hence, the balance sheets list assets, liabilities and net worth (see Table 1).

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[2]   See US Census website, http://quickfacts.census.gov/qfd/meta/long_71061.htm.

[3]   See Badan Pusat Statistik website, at www.bps.go.id/sector/socwel/index.html.

Table 1

Balance sheet of Indonesia's household sector

Assets	Liabilities
Financial assets	Bank loans
Cash	Loans from non-bank financial institutions
Bank deposits	Other loans
Insurance, cooperatives, post office deposits	
Accounts receivable	
Stock, bond, mutual fund investments	
Pension funds and other investments	
Non-financial assets	
Gold and jewellery	
Vehicles	
Houses and buildings	
Land	
	Net worth (assets minus liabilities)

In our analysis of maturity mismatches and solvency problems, we use the following ratios:

- The ratio of total liabilities to income, to show the extent to which household income covers household liabilities.

- The ratio of total bank liabilities to income, to show the extent to which household income covers the household's bank liabilities.

- The debt servicing ratio (the ratio of instalment and interest payments to income), to show the proportion of household income used to pay for goods purchased on an instalment plan and interest on loans.

- The gearing ratio:

  – The ratio of total liabilities to total assets, to show to what extent assets cover liabilities.

  – The ratio of total liabilities to current assets, to show the extent to which current assets cover liabilities.

  – The ratio of total liabilities to fixed assets, to show the extent to which fixed assets cover liabilities.

- Household net worth, which is calculated by subtracting liabilities from assets.

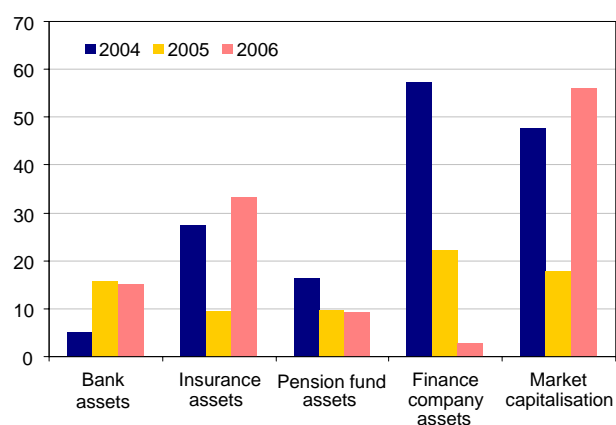**Indonesia's financial system and household sector**

Since the Asian financial crisis in the late 1990s, Indonesia's financial system – particularly banks, insurance companies and capital markets – has been steadily strengthened, as demonstrated by the growth of asset value over the past few years (Graph 1). While Indonesia's capital markets (ie both equity and bond markets) have grown rapidly, Indonesia's financial system is still dominated by banks: the ratio of the banking sector's assets to GDP was around 51.4% at the end of 2006 (Graph 2). Given the key role the banking sector plays in Indonesia's financial system, this paper will focus on the risk profile of households with respect to this sector.

The household survey carried out by BI shows that, as in other developing countries, the majority of household assets in the six regions are non-financial assets, particularly housing, which accounts for around 79.7% of total household assets (Table 2 and Graph 3). However, one reason housing accounts for such a large share of household assets is the rise in housing prices over the past few years. This, in turn, suggests that Indonesian households are sensitive to housing price movements (Graph 4).

With regard to financial assets, households tend to put their funds in bank deposits instead of investing them in the bond or equity markets. On average, bank deposits account for over 40% of total household financial assets (Graph 5), suggesting that the majority of households in the six regions still do not have an adequate understanding of either banking or non-banking financial products. Banking deposit products, especially current and time deposits, are an exception.
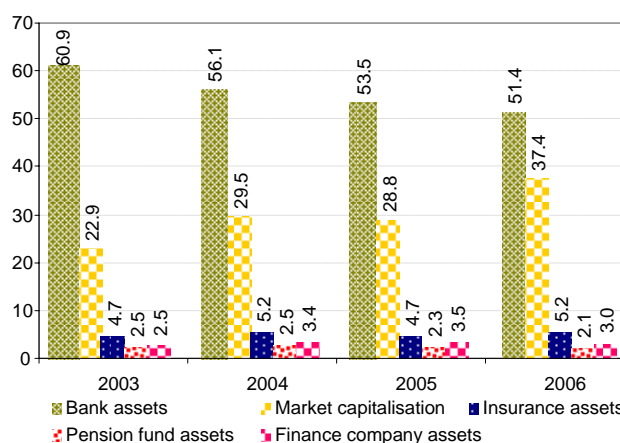
Graph 1

Asset value

Year-end percentage change

Source: Bapepam-LK.

Graph 2

Indonesia's financial system

In per cent of GDP

Source: Bapepam-LK.

Table 2

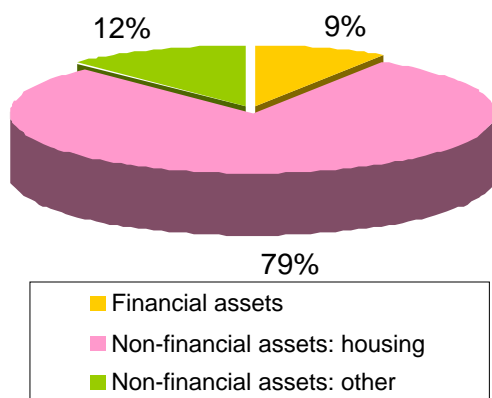**Household assets**

As a percentage of total

Assets	Region						Total six regions
	DIY	Jatim	BoDe-TaBek	Jabar	Jateng	Sumbar	
Financial assets	7.4	8.0	11.1	11.5	5.5	10.8	9.0
Non-financial assets							
Housing	79.7	80.7	73.7	77.4	84.6	76.8	78.9
Other	12.9	11.3	15.2	11.1	9.9	12.5	12.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: BI Survey.

Graph 3

Household assets

As a percentage of total assets

12%   9%

79%

■ Financial assets
■ Non-financial assets: housing
■ Non-financial assets: other
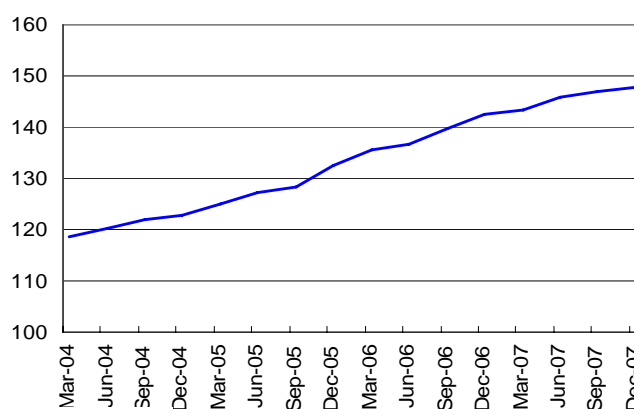
Source: BI Survey.

Graph 4

Residential property price index

Source: BI.

Graph 5

Household financial assets

As a percentage of total financial assets

20%

46%

28%

6%

■ Bank deposits ■ Non-bank deposits ■ Investments ■ Other
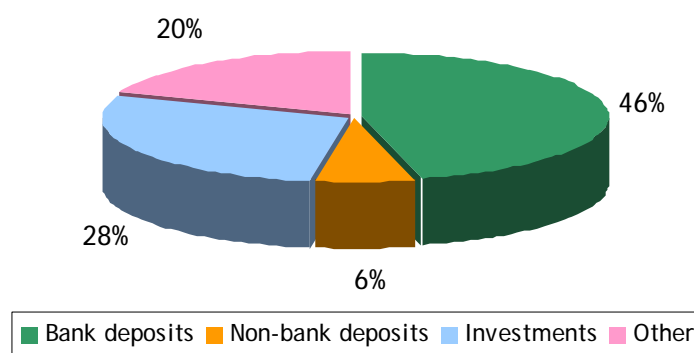
Source: BI Survey.

Furthermore, the majority of households have not yet been targeted by the marketing efforts of financial institutions, especially for non-banking deposit products. Consequently, households that are laymen when it comes to financial products still prefer to put some of their funds in bank deposits (Table 3), even though bank deposit rates tend to be declining. This may represent an opportunity loss for these households, but it also suggests that they have not been directly exposed to market risk.

Table 3

**Household financial assets**

As a percentage of total financial assets

Assets	Region						Total six regions
	DIY	Jatim	BoDe-TaBek	Jabar	Jateng	Sumbar	
Financial assets							
Bank deposits	39.6	46.5	48.3	57.8	46.0	37.0	46.1
Non-bank deposits	7.5	4.9	2.8	5.6	13.6	7.4	6.5
Investments	29.9	26.3	28.9	27.2	12.3	34.5	27.9
Other	23.0	22.3	20.0	9.5	28.1	21.2	19.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: BI Survey.

Graph 6

Household funding

As a percentage of total assets

0.5%
0.3%
2.0%
97.2%

Non-bank liabilities · Other · Bank liabilities · Net worth
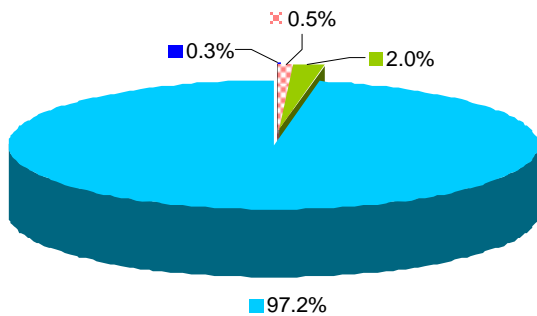
Source: BI Survey.

Graph 7

Household liabilities

As a percentage of total liabilities

19%
9%
72%

Bank liabilities · Non-bank liabilities · Other
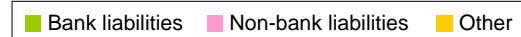
Source: BI Survey.

Table 4

Household funding

As a percentage of total assets

Funding	Region						Total six regions
	DIY	Jatim	BoDe-TaBek	Jabar	Jateng	Sumbar	
Bank liabilities	3.0	1.5	1.9	2.3	1.5	1.3	2.0
Non-bank liabilities	0.3	0.2	0.7	0.1	0.2	0.3	0.3
Other	0.4	0.5	1.6	0.4	0.3	0.2	0.5
Net worth	96.2	97.9	95.9	97.2	98.1	98.2	97.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: BI Survey.

Table 5

Household liabilities

As a percentage of total liabilities

Liabilities	Region						Total six regions
	DIY	Jatim	BoDe-TaBek	Jabar	Jateng	Sumbar	
Bank liabilities	80.9	69.4	45.3	82.3	76.7	73.7	71.4
Non-bank liabilities	8.6	8.2	15.9	2.5	8.6	13.9	9.5
Other	10.5	22.4	38.8	15.2	14.7	12.4	19.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: BI Survey.

On the financing side, although the majority of households have had little exposure to financial products, including banking products, the survey found that bank loans were the preferred source of external funding. Households finance their assets externally through funding sources such as bank, non-bank and other liabilities and internally by drawing on their net worth (accumulation of personal income). On average, households tend to rely heavily on net worth for financing their assets – this is how more than 90% of total assets are financed (Graph 6 and Table 4) – followed by bank liabilities (around 2%), other sources and non-bank liabilities, in that order. And most household debt is in the form of bank loans, although households can turn to other financing sources, such as pawnshops. The ratio of bank liabilities to total liabilities was more than 70% (Graph 7 and Table 5).

Table 6

Liquidity mismatch ratios

In per cent

Regions	Total liabilities income		Bank liabilities income		Instalment + interest payment income	
	Total[1]	Bank[2]	Total[1]	Bank[2]	Total[1]	Bank[2]
DIY	31.5	45.2	25.4	37.8	12.6	16.7
Jatim	15.8	26.8	11.1	20.1	13.0	20.1
BoDeTaBek	24.8	26.5	10.6	11.3	6.3	15.1
Jabar	na	na	15.3	40.0	4.8	14.0
Jateng	14.9	57.0	11.5	49.2	11.1	18.4
Sumbar	9.7	7.8	7.2	8.4	5.5	7.8

[1] The ratio is calculated using data from all respondents. [2] The ratio is calculated using data from respondents that had bank liabilities.

Source: BI survey.

To analyse the quality of household exposure to the financial sector, we look at several ratios that could indicate whether Indonesian households have problems with maturity mismatches and solvency. Maturity mismatches would be indicated by the ratios of total household liabilities and households' bank liabilities to income. According to the household survey, these ratios are around 7% and 40%, respectively, in the six regions, which is relatively low by international standards. The comparable total liabilities to income ratio in Australia, for example, was around 160% in early 2007 (Ryan and Thompson (2007)). The debt servicing ratio of households – the ratio of instalment and interest payments to income – is dropping in line with trend declines in domestic interest rates. Total household instalment and interest costs are now at most 20% of income. These low ratios show that Indonesian households will be able to cover their liabilities when these mature (Tables 6 and 7).

Table 7

Solvency ratios

In per cent

| Regions | Total liabilities | | | | | |
| | Total assets | | Current assets | | Fixed assets | |
	Total[1]	Bank[2]	Total[1]	Bank[2]	Total[1]	Bank[2]
DIY	3.8	5.9	71.5	116.2	4.1	6.4
Jatim	2.1	3.3	32.5	54.5	2.3	3.6
BoDeTaBek	6.1	6.5	76.6	60.6	6.9	5.4
Jabar	2.8	14.9	na	na	na	na
Jateng	1.9	9.2	32.2	135.0	2.0	9.8
Sumbar	1.8	3.2	17.9	52.0	2.0	3.5

[1] The ratio is calculated using data from all respondents. [2] The ratio is calculated using data from respondents that had bank liabilities.

Source: BI survey.

Moreover, the household gearing ratio – the ratio of household liabilities to total assets – is less than 1 (100%), suggesting that if household income does not cover liabilities, the value of household assets is great enough to cover them. The minimum household gearing ratio also shows that the net worth of households is high enough to become an important source of funds.

Household debt in Indonesia

As discussed in the previous section, households in Indonesia have relatively limited exposure to financial assets and are less reliant on external sources of financing than households in other countries such as Australia. The involvement of households in the financial sector tends to be mostly with the banking sector; they own few non-bank financial assets and seek little consumer financing from non-bank financial institutions, although this is increasing. Nonetheless, the rapid development of financial sector services amidst favourable economic conditions in the post-crisis period has increased the degree of

monetisation in the country as well as household interaction with financial institutions, particularly banks.
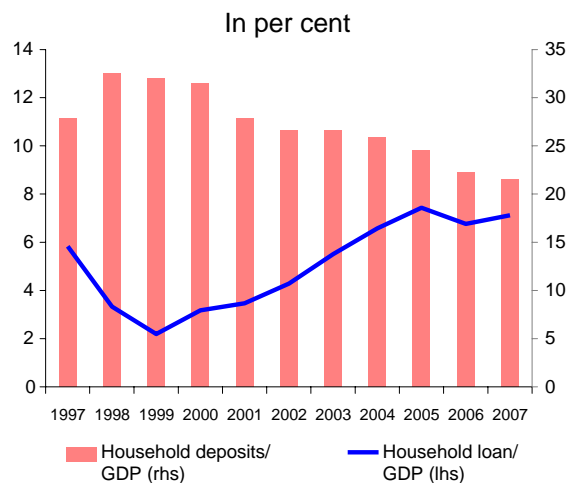
Graph 8	Graph 9
Growth of household deposits and loans	**Ratio of household savings and loans to GDP**
	In per cent
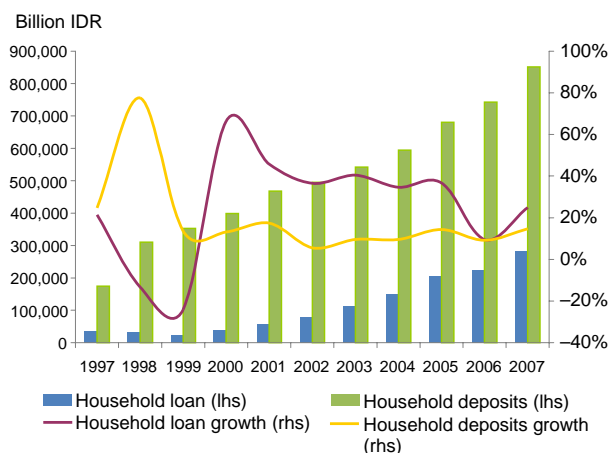
IDR = Indonesian rupiahs.

Source: BI.

Source: BI.

Graph 10	Graph 11
Household debt	**Consumer financing from non-bank institutions**
Bank consumer loans	
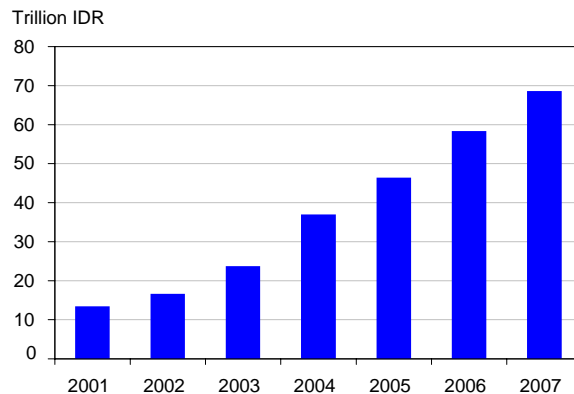
Source: BI.

Source: BI.

Households have become a net surplus unit for banking as the level of household savings significantly exceeds loans. So far, individual bank deposits[4] account for about 60% of total bank deposits. However, as depicted in Graph 8, since 2000 household loans have grown rapidly at an average rate of 36% annually, while savings have grown steadily at an average

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[4]   Individual bank deposits consist of current account deposits, demand deposits, savings and time deposits.

of 12% annually. Consequently, the share of household debt[5] in total bank lending increased substantially, from 15% in 2000 to 28% in 2007; as a percentage of GDP, household debt more than doubled (Graph 9). Innovation in consumer finance products, including the promotion of such products, has been a major contributing factor in the growth of household debt, since it has resulted in relaxed borrowing constraints, giving households more access to credit.

Looking at the composition of household debt from the banking sector, in 2007 housing loans accounted for around 30% of total household loans, while credit cards and other personal loans accounted for 8% and 62%, respectively. Meanwhile, consumer financing from non-bank financial institutions has also grown rapidly in recent years, especially auto loans and loans for other consumer products.

Housing loans

Housing loans grew rapidly during 2001–07, by 41% a year, on average, compared with personal loans, which grew by 31% a year. On the demand side, this is likely to have been driven by the post-crisis economic recovery, which led to increased household incomes and greater capacity to borrow. Interest rates have had a significant negative impact on demand for mortgages for large homes, but not for small homes. On the supply side, banks created innovative products that have improved households' access to loans for houses and apartments – for example, low or even zero down payments, a higher loan-to-value ratio (LVR), additional loan facilities for interior design and purchases of home furnishings, etc. Moreover, a change in banking regulation that reduced the risk weighting for residential mortgages in the loan loss provisioning ratio from 50% to 40% has also encouraged banks to increase the supply of credit for housing.

State-owned banks no longer dominate the housing loan market. Thanks to increased competition among banks and less specialisation, private banks account for an increasingly large share of outstanding housing loans. The market share of state-owned banks, particularly those whose business is focused on housing loans, dropped from around 60% in 2001 to 40% in 2007.

Personal loans

Credit card and other personal debt has also grown strongly, by an average annual rate of 31% during 2001–07. The credit card market used to be dominated by foreign and joint venture banks; however, in the past few years, state-owned and private domestic banks have become increasingly large players in this market. Aggressive sales promotion by issuer banks (for instance, less stringent application requirements, reward packages, zero percent instalment facility) has contributed to the rapid growth of credit card transactions.

Other personal loans account for the majority of outstanding household debt, and auto loans account for the largest share in this group. Recent improved cooperation between banks and leasing companies has led to improvements in the way credit is granted for automotive vehicles, which has helped spur strong growth in auto credit outstanding. In addition to these innovations in the personal loans market, banks have also begun to offer unsecured personal loans, which generally have low outstanding but carry higher interest rates. This type of loan does not require as much detailed information from applicants as other loans.

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[5] As we do not have enough information to distinguish between households and other entities in consumer credit, we define overall consumer credit as household debt.

The quality of household debt is much higher than that of other types of debt, as seen in the lower non-performing loan (NPL) ratio for household debt than for overall bank credit, 3% and 5%, respectively, at end-2007 (while the NPL ratio for investment loans and working capital loans is around 3% and 4%, respectively).
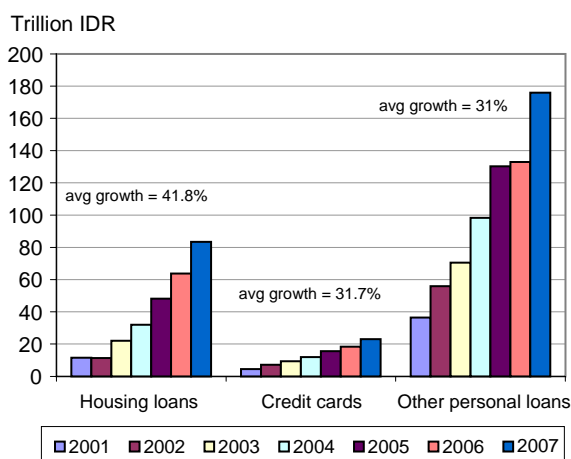
Graph 12	Graph 13
Household debt	**Ratio of household savings**
	As a percentage of total loans
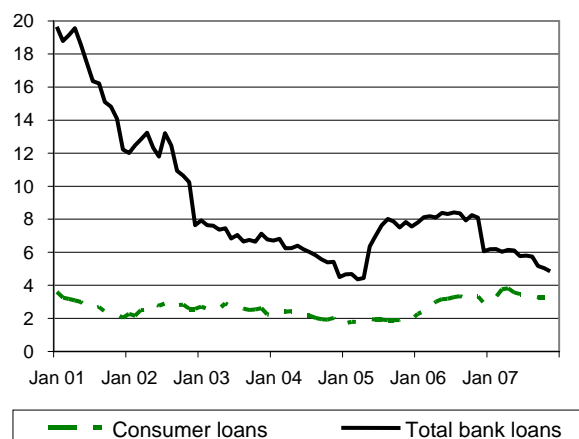
Source: BI.

Source: BI.

Implications for monetary policy and financial stability

The growing share of household debt in total outstanding bank loans may raise concerns about the implications for monetary and financial stability should the economy undergo any changes or be exposed to a shock.

Home ownership can play a significant role in monetary policy transmission due to the wealth effect. The consumption effect of rising house prices is uncertain and subject to distributional effects, depending on who is getting the increased housing wealth (Mishkin (2007)). Given that housing wealth is spread more evenly across the population than wealth generated by financial assets such as stocks, and that housing prices are less volatile than stock prices, some economists argue that housing should have a larger wealth effect than stocks. However, the "bequest motive" may reduce the consumption effect of housing wealth – ie if homeowners plan to live in their houses until they die, bequeathing them to their children.

An analysis of the data indicates that this is the case in Indonesia. Even though housing is the largest asset owned by Indonesian households, most homeowners intend to leave their houses to their children rather than to reap the benefits of rising house prices. In addition, given Indonesia's less developed financial markets, products enabling homeowners to refinance or borrow against their homes (for example, through home equity loans) to increase consumption are limited. Thus, housing prices are not a significant channel for monetary transmission in Indonesia.

In contrast, interest rates and consumer bank lending are effective channels for monetary policy transmission with respect to inflation in Indonesia (Graphs 14 and 15). As shown in
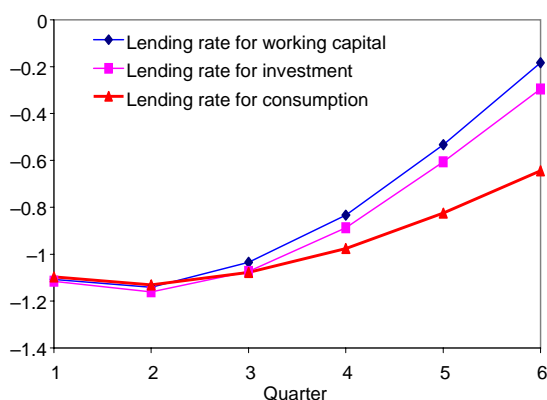
Graph 15, interest rates on consumer loans are more sensitive to policy rates than interest rates on business loans financing working capital and investment.[6]

The relatively low NPL ratio of household debt, combined with the higher interest rate spreads on consumer loans than on business loans, has induced banks to provide more consumer credit to households, utilising existing excess liquidity. Thus, the increasing demand for consumer credit should be supported by adequate supply (and capacity to supply) to dampen inflationary pressures. To address concerns about non-performing credit card debt, which is trending upwards, banks should also be more prudent in approving new credit cards, taking into account applicants' ability to repay.

All in all, since Indonesia's households have assets in excess of their liabilities and have relatively little exposure to financial assets, they pose little threat to the financial sector.
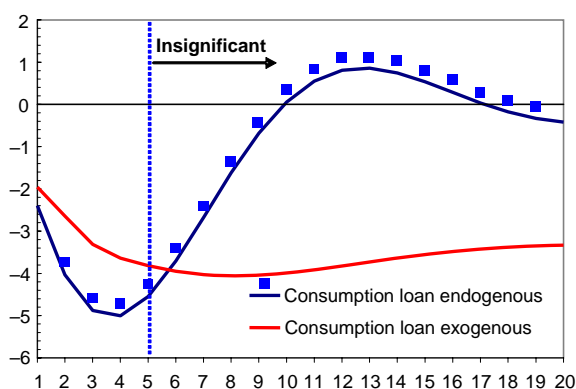
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Graph 14

**Cumulative response
of inflation to SBI rate**

- Lending rate for working capital
- Lending rate for investment
- Lending rate for consumption

Source: BI.

Graph 15

**Cumulative response
of inflation to changes in SBI rate
through consumer credit**[1]

Insignificant

- Consumption loan endogenous
- Consumption loan exogenous

[1] Graph 15 demonstrates the relative importance of consumer credit as a channel for monetary transmission using vector auto regression (VAR) methods, following Morsink and Bayoumi (2001). The strength of the channel is indicated by comparing two sets of impulse responses: the blue line shows the response of inflation to one standard deviation changes of SBI-one month through the channel of consumer lending, while the red line represents the response of inflation to one standard deviation changes of the BI rate while blocking any responses within the VAR that passed through the variable of consumer lending (consumer lending is treated as exogenous).

Source: BI.

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[6] Interest rates on consumer loans are highly correlated with inflation rates (–0.24) compared with lending rates for working capital (–0.21) and investment (–0.17).

Conclusions

From a financial stability perspective, Indonesian households pose a minimal threat to the financial sector. As indicated by their net worth, the value of their assets is much higher than the value of their liabilities. Indonesian households' high net worth and the large share of fixed assets (as opposed to financial assets) in total household assets suggest that there is considerable scope for financial institutions to market their products – particularly insurance-related products, capital market products and banking deposit products – to households. Meanwhile, banks and non-bank financial institutions can create new loan products based, for example, on the use of housing as collateral. In that connection, BI is considering launching a banking customer education programme to ensure that Indonesian households are better informed about financial products. Also, given the limited balance sheet data for Indonesian households around the country, BI needs to conduct a national survey to obtain a broader picture of the financial sector risks posed by households as well as those to which they are exposed.

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