The Swedish Mortgage Market 2014

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Summary

A smoothly functioning credit market is fundamental to the ability of modest-wealth households to purchase a home. However, high indebtedness carries a risk for individual households, and can pose a risk to financial stability. It is therefore important for Finansinspektionen (FI) to monitor developments in household indebtedness. In order to limit such risks, FI has recently taken several measures – introduced a mortgage cap, increased risk weights for mortgages and submitted a proposal regarding individual amortisation plans.

All banks comply with the mortgage cap, and it continues to help keep loan-to-value ratios down. Average loan-to-value ratios are largely unchanged from last year, both for new loans and the mortgage stock as a whole. For new loans, the average loan-to-value ratio is approximately 70 per cent.

It is still possible to borrow to over 85 per cent of the value of the home by taking out a loan that is not collateralised by the home (known as an unsecured loan). Households with loan-to-value ratios above 85 per cent remain few, and pretty much all such households amortise.

Among households with new loans, the share with loan-to-value ratios between 75 and 85 per cent (i.e. immediately below the mortgage cap threshold) has increased from last year. At the same time, the proportion of such amortising households has declined. Out of the households with new loans and loan-to-value ratios above 75 per cent, eight out of ten households amortise their loans. This marks a reduction from last year, when nine out of ten amortised, but is higher than the year before.

Households have comfortable margins in their finances on the whole. Like in last year's report, FI's stress tests show that households granted new mortgages generally have good resilience to both interest rate hikes and loss of income.

Almost half of the households granted new mortgages in 2011, and which FI has been monitoring since, have amortised over the past year. This marks a large increase compared with the first year after which the loan was granted. At the same time, around one quarter of the households granted a new mortgage in 2011 have been granted new loans in the past year. The sum of the newly granted loans is higher than the sum of all amortisation payments, so the total debt of households to which loans were granted in 2011 has increased in the past year. However, it is a small proportion of households that accounts for a large part of the volume increase, and these had lower loan-to-value ratios to start with.

FI'S MORTGAGE SURVEY

FI has conducted its fourth comprehensive survey of the mortgage market. The survey is an important part of FI's work analysing developments in household indebtedness.

The survey consists of four sections answered by the banks: a sample of more than 26,000 new loans, a form for data on an aggregate level, qualitative questions and updated panel data from 2011 year's sample. Based on the responses from the banks, FI has analysed the current status of the mortgage market and the effects of the mortgage cap and also tested the sensitivity of the households to changes in the interest rate, a loss of income and a fall in housing prices.

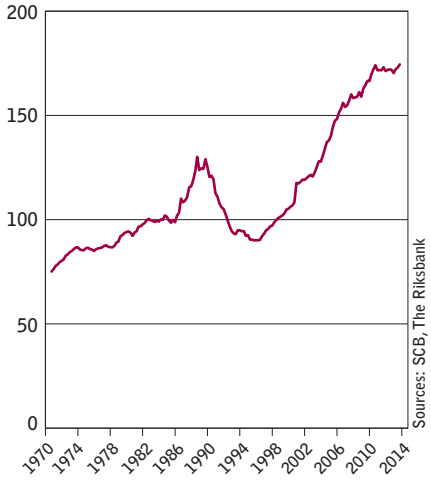
Appendix of diagrams

The Swedish Mortgage Market 2014 includes an appendix of diagrams that contains more diagrams than those included in the report as well as the numerical data on which the diagrams are based. This appendix can be downloaded from www.fi.se/mortgage2014.

Background

High indebtedness poses a risk for the individual household and can pose a risk to financial stability. Indebtedness is therefore a crucial matter which Finansinspektionen (FI) closely follows. The mortgage survey is an important part of FI's work to analyse developments in household indebtedness.

1. DEBT RATIO,
SWEDISH HOUSEHOLDS (per cent)



Note. Debt as a proportion of disposable income

A smoothly functioning credit market is fundamental to the ability of modest-wealth households to purchase a home. Households incurring debt is therefore natural, and reflects an important mechanism of a modern economy. However, the indebtedness of Swedish households is high in both a historical and international perspective (diagram 1).

When a household borrows money to purchase a home, it assumes a cost for a long time ahead, and is thus more vulnerable to reductions in income. The household also assumes an interest-rate risk because the cost of the loan can increase if interest rates rise. Finally, the household is also exposed to the risk of the value of the home decreasing, which would have a negative impact on the wealth of the household. If one or more of such risks materialises, individual households can end up in financial difficulty, and be forced to reduce their consumption to cope with the costs of the loan, or to restore their wealth. This could also pose problems for banks (which suffer credit losses) and the economy at large (which suffers lower consumption). FI therefore carefully monitors developments in indebtedness and has taken several measures to reduce the risks posed by high indebtedness to both individual households and financial stability.

FI implemented a mortgage cap to reduce the risk of households being exposed to negative equity in the event of a decline in house prices. FI has also implemented a risk weight floor for mortgages that ensures that the banks hold more equity that better reflects the credit risks present in their mortgage lending. In order to reduce the vulnerability that ensues from high indebtedness, it is important for FI to strengthen the amortisation culture of indebted households. To attain this objective, in the autumn 2013 FI proposed to the Government that all banks should offer individually tailored amortisation plans to customers granted new loans. The purpose is to equip households with the ability to make conscious amortisation choices by understanding the long-term consequences of indebtedness and amortisation.

DESCRIPTION OF THE SURVEY

The purpose of the mortgage survey is to describe the status of the mortgage market, evaluate the effects of the mortgage cap and analyse developments in household indebtedness. Just like in previous reports, FI attaches great importance to analysing the amortisation behaviour of households. This report also describes debt progression over time for the households granted new loans in 2011 and which were included in FI's sample.

Just like last year, FI compares the banks' methods of calculating the discretionary income of households after interest expenses, housing costs and other subsistence costs are paid. FI also analyses households' repayment ability, for instance by means of discretionary income calculations

and stress tests. As part of its stress tests, FI analysed the sensitivity to interest rate hikes, loss of income due to unemployment and house price declines among the households included in the new loans sample.

The survey includes data from Danske Bank, Handelsbanken, Länsförsäkringar Bank, Nordea, SBAB Bank, SEB, Skandiabanken and Swedbank. Lending for housing purposes from these eight banks represents around 97 per cent of the entire Swedish mortgage market. The information that was compiled this year consisted of the following four parts:

- Aggregate information about the mortgage stock as a whole and new loans.[1] The mortgage stock includes both existing loans and new loans. The variables were pre-defined by FI and the banks have totalled the underlying data themselves and reported the results at the aggregate level. In the report, data from this form is therefore called the *banks' calculations* and comprises information regarding lending volumes, amortisation and loan-to-value ratios for both the entire mortgage stock and new loans. FI has gathered this type of data since 2006 with figures going back to 2002.
- A comprehensive survey of a large number of new loans issued at the household level (micro data) is referred to in the report as *the sample*. The sample includes all new mortgage agreements entered into during the periods 27 August – 3 September 2013 and 26 September – 3 October 2013. In total 26,010 loans are included with information about, for example, the number of children at home, disposable income, the households' total loans, loans collateralised by the home, including home-related unsecured loans, interest rates, potential amortisation and the market value of the collateral. This is the fourth time FI has compiled such a sample. The previous samples cover 2009, 2011 and 2012.
- *Qualitative information*. A number of in-depth questions address topics such as information about the banks' valuation of homes, borrower assessments and views on high loan-to-value ratios and amortisation.
- *Panel data*. Contains updated information about households included in the 2011 sample. This means that the banks updated data regarding, for example, current debt, interest rates and information about amortisation for households that were included in the 2011 sample. This is the second time that FI has had access to this type of micro data, which enables analysing the behaviour of and changes among households over time.

1 The definition of new mortgages in both the banks' calculations and in the sample is strictly new borrowers and existing borrowers who raised new loans on existing collateral of such scope that the loan-to-value ratio increased by more than 50 per cent. New loans resulting from switching banks cannot be separated from strictly new loans and are therefore included in the sample. See also the description in the glossary.

Tables 1 and 2 present an overarching description of the households in the 2013 new loans sample.

TABLE 1. Geographic distribution of loans in the sample

	Greater Stockholm	Greater Göteborg	Greater Malmö	Rest of Sweden	Total
Share of no. households (%)	29	11	6	54	100
Share of volume of new loans (%)	42	13	6	39	100
Average loan size (SEK)	2 034 000	1 716 700	1 449 700	1 066 800	1 447 600
Average market value of the home (SEK)	3 429 600	2 814 800	2 264 000	1 640 300	2 336 900
Average disposable income (SEK/mon.)	44 000	41 000	38 600	35 000	38 500

TABLE 2. Age distribution of loans in the sample

	< 26 yrs	26-35 yrs	36-50 yrs	51-65 yrs	> 65 yrs
Share of no. households (%)	8	24	35	23	9
Share of volume of new loans (%)	6	30	38	19	6
Average loan size (SEK)	906 400	1 521 700	1 731 300	1 334 500	928 100
Average market value of the home (SEK)	1 222 900	2 102 300	2 690 300	2 462 200	2 238 800
Average disposable income (SEK/mon.)	28 000	36 400	43 200	41 200	28 500

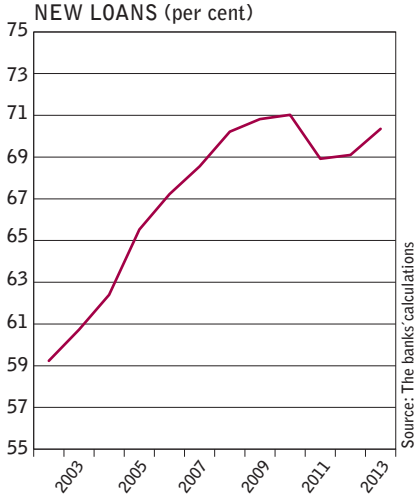
Note. The figures refer to the average per household, which, for example, means that the average disposable income can refer to the income of more than one person.

Source: FI's sample

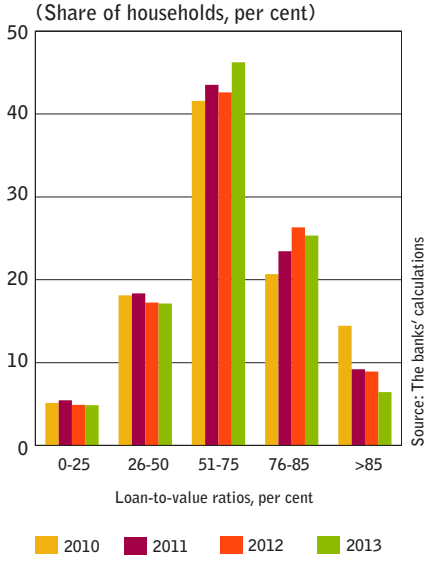
Swedish mortgage holders

The loan-to-value ratio of households granted new loans is still at around 70 per cent. As was the case last year, few households are granted loans with loan-to-value ratios above 85 per cent, and largely all of them amortise. Among those with loan-to-value ratios below the mortgage cap, fewer amortise.

2. LOAN-TO-VALUE RATIOS, NEW LOANS (per cent)



3. LOAN-TO-VALUE RATIOS IN THE MORTGAGE STOCK
(Share of households, per cent)



Indebtedness can be measured in different ways. The debt is often placed in relation to an economic variable in order to provide a more relevant picture. A common way of measuring indebtedness is to relate the debt to the value of the home that is the object of the loan. In the autumn of 2010 FI introduced general guidelines limiting the size of loans collateralised by homes. According to the mortgage cap, as the regulation is known, new loans collateralised by a home may not exceed 85 per cent of the market value of the home.[2]

The mortgage survey shows that all participating banks comply with the mortgage cap. The average loan-to-value ratio for households granted new loans is around 70 per cent and has increased marginally from last year (diagram 2). The average loan-to-value ratio for the entire mortgage stock is 65 per cent, just as in 2012.[3] In the past year, the share of the mortgage stock with a loan-to-value ratio above 85 per cent has declined, while the share of households with loan-to-value ratios between 51 and 75 per cent has increased (diagram 3).

Another way of measuring indebtedness is by relating the total debt of a household to its disposable income – that is, income after tax. This ratio is usually called the debt ratio of the household. The aggregate debt ratio for the entire Swedish population is just over 170 per cent (diagram 1). This aggregate figure also includes households that do not have any loans. FI's survey shows that the debt ratio among the households granted a new mortgage is 370 per cent on average.[4] The share of households with a debt ratio of between 300 and 600 per cent has increased from last year (diagram 4).

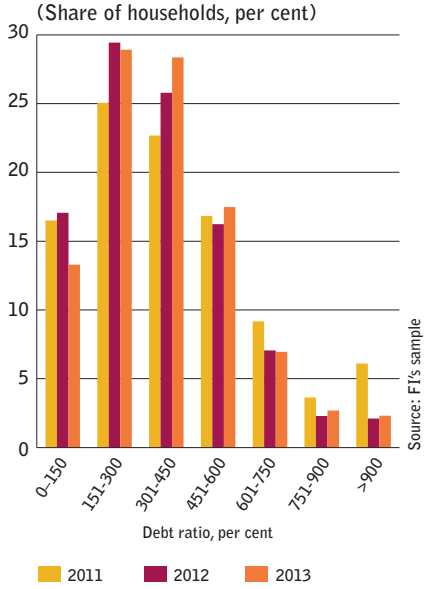
As in previous years, the new loans sample shows that households with the highest income are granted the largest mortgages. The average debt ratio for households granted new loans is relatively similar for different

2 However, it is possible to be granted an unsecured loan to finance purchasing a home, see the Unsecured loans section. For more information about the mortgage cap, see Finansinspektionen's general guidelines (FFFS 2010:2) regarding limitations to the size of loans collateralised by homes.

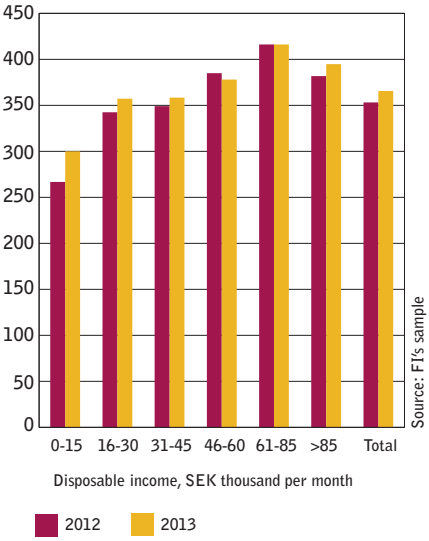
3 Figures have been calculated based on granted loans collateralised by the home, i.e. excluding home-related unsecured loans. All average loan-to-value ratios in the report are volume-weighted by the size of the mortgage, unless otherwise specified. Such a weighting means that a larger loan gives a greater weight to the average figure. The banks' reported figures for loan-to-value ratios at mortgage-stock level depends on their respective methods for valuing the properties that serve as collateral for existing loans.

4 The debt ratio of a household is calculated by dividing its total loans, including consumer loans, credit card debts, all home-related loans, etc. by its annual disposable income. The average debt ratio of households is calculated here as an arithmetic mean. The aggregate debt ratio is an income-weighted average and should therefore be compared with the sample's income-weighted average of around 380 per cent.

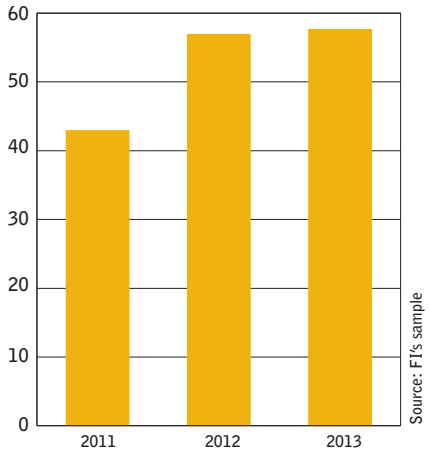
4. HOUSEHOLDS' DEBT RATIOS, NEW LOANS
(Share of households, per cent)



5. DEBT RATIO FOR DIFFERENT INCOME GROUPS, NEW LOANS
(per cent)



6. SHARE OF AMORTISING HOUSEHOLDS, NEW LOANS (per cent)



income groups, but slightly higher for those with higher income. The highest average debt ratio can be found among the households with disposable income exceeding SEK 60,000 per month (diagram 5).[5]

Amortisation is a way of reducing indebtedness. The share of households that were granted a new loan and that prepared an amortisation plan at the same time is largely unchanged from last year, amounting to 58 per cent (diagram 6). Of the households that have a loan-to-value ratio below 75 per cent, 40 per cent amortise their mortgages, just like last year. Half of the banks in the survey state that they grant unamortised loans for a maximum of five years for loans with loan-to-value ratios below 75 per cent. One of the banks grants unamortised loans for ten years, while others do not have any specific threshold for unamortised loans.

On existing loans in the mortgage stock, just over 62 per cent of the households amortise, which is a slightly higher share than for new loans. This might suggest that households with loans that are unamortised at the time of granting the loan do not start to amortise until around a few years later. Out of the households granted new loans in 2011, a much larger proportion amortised in the second year after the loan was granted than in the first year (see the section Debt progression over time).

The banks state that the most common reasons for mortgages being unamortised is the choice of households to amortise more expensive consumer loans, or them having a low loan-to-value ratio. The sample shows that the households that have unamortised loans have repayment ability more or less equal to that of the sample as a whole.[6] Hence, this indicates that such households have chosen to refrain from amortising, even though they are in a financial position to do so.

UNSECURED LOANS

Even after the introduction of the mortgage cap, it is possible to borrow to over 85 per cent of the value of the home by taking out a non-collateralised loan (known as an unsecured loan). In the new loans sample, the total volume of unsecured loans is just over 1 per cent of the total loan volume, which is unchanged from last year. If such loans are included, the average loan-to-value ratio of the new loans sample thus increases from around 70 per cent to just over 71 per cent. The unsecured loans thus only have a negligible effect on the average loan-to-value ratio.

There are still few households with a loan-to-value ratio above 85 per cent, and the share has decreased from last year. The share of households granted new loans with loan-to-value ratios above 85 per cent has fallen from 11 to 9 per cent (diagram 7).[7]

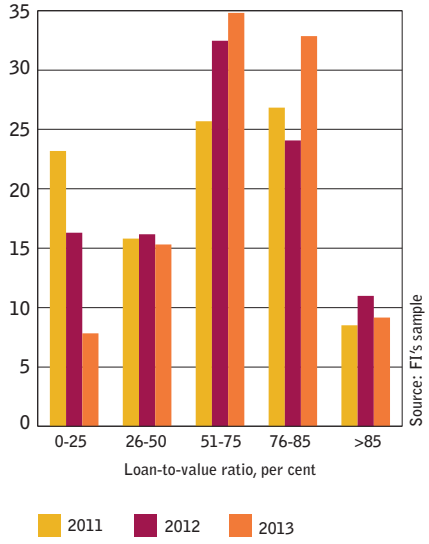
The fact that there are banks that offer unsecured loans in connection with mortgages does not mean that they fail to meet FI's mortgage cap guidelines. The purpose of the mortgage cap is to ensure that borrowers seeking mortgages do not take on loans that are too heavy for them, which ensures that they have a safety buffer for a potential decline in

5 Just over 65 per cent of the households in the new loans sample in 2013 have disposable income of between 16,000 and 45,000 per month, which can be compared with just over 70 per cent in 2012.

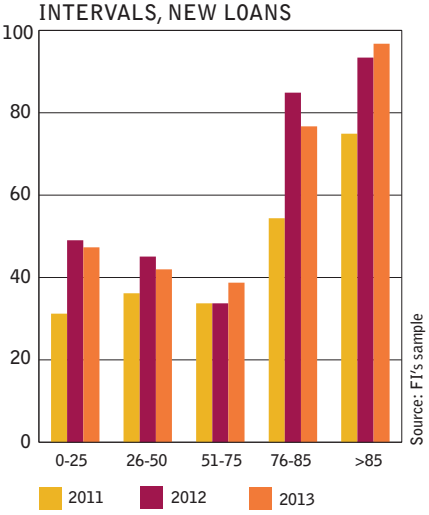
6 According to a discretionary income calculation. For more information on this, see the section Households' payment ability.

7 The figures include unsecured loans.

7. HOUSEHOLDS BROKEN DOWN BY LOAN-TO-VALUE RATIO, NEW LOANS
(per cent)



8. AMORTISING HOUSEHOLDS IN VARIOUS LOAN-TO-VALUE RATIO INTERVALS, NEW LOANS



Note. Corresponds to the number of amortising households in each loan-to-value ratio interval as a share of the total number of households in the interval. The sample also includes households granted loans before 2010 and that have now switched banks. These are not covered by the mortgage cap, which explains why there are households that have a loan-to-value ratio above 85 per cent and which do not amortise.

house prices, and to better equip them to cope with increases in interest rates. Because the new loans sample shows that largely all households with unsecured loans amortise the latter, households with an initially high loan-to-value ratio also gain a safety buffer relatively soon after the loan was granted. The share of amortising households with a loan-to-value ratio above 85 per cent has increased slightly since last year (diagram 8).

The share of households granted an unsecured loan is around 8 per cent in this year's sample.[8] The unsecured loans amount to SEK 140,000 per household on average, so the loan amount is unchanged from last year. The interest rate on unsecured loans is 4.7 per cent on average, and is hence slightly lower than last year. In this year's new loans sample, the average interest rate on unsecured loans is 2.1 percentage points higher than for loans collateralised by the home, known as the bottom loan (table 3). Households with low equity but solid income and hence sufficient margins can afford to pay the extra interest expense incurred by an unsecured loan. At the same time, the difference in interest rates encourages households to amortise the unsecured loan faster.

TABLE 3. Average interest rate levels in the sample (per cent)

	2012	2013
Average interest rate, bottom loan	3,2	2,6
Average interest rate, top loan[9]	4,2	3,3
Average interest rate, unsecured loan	5,5	4,7

The average loan-to-value ratio for households granted an unsecured loan is just shy of 94 per cent. This can be compared with the corresponding figure for households in the sample without unsecured loans, which is around 70 per cent. At the same time, the new loans sample shows that largely all households with unsecured loans amortise and on average reach a loan-to-value ratio of 85 per cent in 6.5 years.[10] The majority of the banks included in the survey require that unsecured loans be amortised within around 10 years.

How much discretionary income a household has out of its disposable income after paying interest expenses, housing costs and subsistence costs is a measure of the household's payment ability.[11] Out of the households granted an unsecured loan, a slightly larger proportion is in the lower discretionary income interval compared with the entire new loans sample (diagram 9). At the same time, the average debt ratio for households with unsecured loans is around 350 per cent, which is lower than the average for the entire sample.

Out of the households between the ages of 16 and 25, around 16 per cent have been granted an unsecured loan in connection with purchasing a home (diagram 10). Low-income households can be helped by a co-sig-

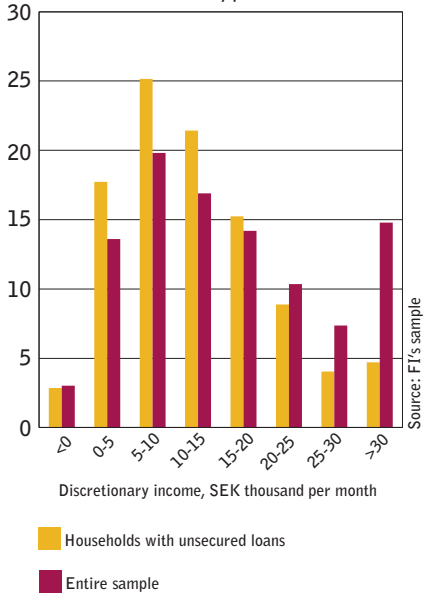
8 The reason for the share of households with unsecured loans being lower than the share of households with a loan-to-value ratio above 85 per cent is that some households have switched banks and transferred a loan granted before the mortgage cap came into effect. Such loans are not covered by the mortgage cap.

9 The top loan is the part of the mortgage that exceeds the bottom loan threshold. A majority of the banks that offer top loans define them as loans between 75 and 85 per cent of the market value of the home.

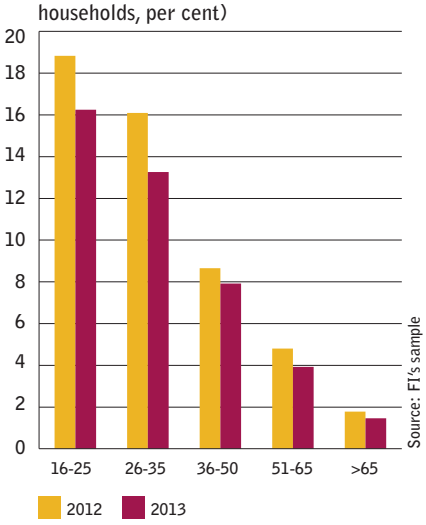
10 In the calculation, nominal house prices are assumed to be unchanged.

11 For more information about discretionary income calculations, see the section Households' payment ability.

9. HOUSEHOLDS WITH UNSECURED LOANS, DISCRETIONARY INCOME (share of households, per cent)



10. UNSECURED LOANS IN DIFFERENT AGE GROUPS (share of households, per cent)



Note. Corresponds to the number of households in each age interval that have been granted an unsecured loan as a share of the total number of households in the interval.

ner outside of the household, such as a parent, when applying for a mortgage. The co-signer is, like the primary borrower, liable for payment, providing security for both the bank and the primary borrower. It is also possible to supplement mortgage collateral with another home. For young borrowers, this might be the home of the parents or other relative.

HOUSEHOLDS WITH LOAN-TO-VALUE RATIOS ABOVE 75 PER CENT

The share of households with new loans and loan-to-value ratios above 75 per cent and up to 85 per cent, i.e. just below the mortgage cap, has increased from last year (diagram 7). Just shy of 20 per cent of the households in the sample have a loan-to-value ratio of exactly 85 per cent, which is also more than last year (diagram 11). This suggests that the mortgage cap continues to have a limiting and normative effect. The average loan-to-value ratio for households with a loan-to-value ratio above 75 per cent and up to 85 per cent is 83 per cent, and is hence in the upper area of the interval.

In this year's survey too, all the banks polled state that they apply the recommendation of the Swedish Bankers' Association and require amortisation for loans with loan-to-value ratios above 75 per cent.[12] In this year's new loans sample, eight out of ten households with loan-to-value ratios over 75 per cent amortise. This is a slightly lower share than last year, when nine out of ten amortised, but is higher than in the 2011 survey. Out of the households with loan-to-value ratios above 75 per cent, those with loan-to-value ratios above 75 per cent and up to 85 per cent amortise to a lesser extent than last year. The share of amortising households with loan-to-value ratios above 85 per cent has increased (diagram 8).

Unlike in the new loans sample, in the mortgage stock, more borrowers with a loan-to-value ratio of above 75 per cent and up to 85 per cent amortise (diagram 12).

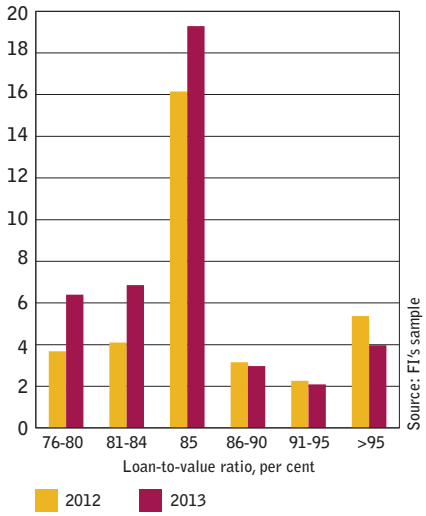
Besides amortising according to a prepared plan, households can amortise their loans through larger lump-sum payments. For the majority of the banks able to report aggregate lump-sum payment figures, and distinguish such volumes from loans redeemed early, lump-sum payments account for around a third of the total amortisation volume. Because the new loans sample only captures the prepared amortisation plan of a household, and not actual amortisation payments, lump-sum payments are not included.[13] For more information about lump-sum payments, see the section Debt progression over time.

The polled banks state that loans with a loan-to-value ratio above 75 per cent but below 85 per cent must be paid down to 75 per cent within an average of 13 years. This is largely confirmed by the new loans sample, which shows that amortising households with a loan-

12 In order to promote a healthy amortisation culture, in December 2010 the Swedish Bankers' Association issued a recommendation regarding mortgage lending, according to which borrowers should amortise the part of their mortgage above 75 per cent of the market value. This recommendations were revised in March 2014, see note 15.

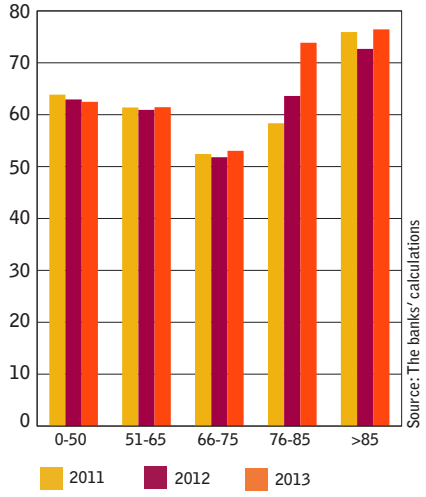
13 According to the majority of the banks, extra lump-sum payments are permitted on fixed-rate loans, although an early repayment charge or prepayment penalty is charged. Changing the amortisation plan for fixed-rate loans is possible among most banks, with specific terms and conditions applying.

11. SHARE OF HOUSEHOLDS BROKEN DOWN BY LOAN-TO-VALUE RATIO, (per cent)



Note. Shows the number of households in different loan-to-value ratio intervals as a share of the total number of households in the new loans sample. The households not shown in the diagram (58 per cent) have a loan-to-value ratio lower than or equal to 75 per cent. The bar for 85 per cent shows the share of households that have a loan-to-value ratio between 84.5 and 85.5 per cent.

12. AMORTISATION, MORTGAGE STOCK



to-value ratio above 75 per cent reach a loan-to-value ratio of 75 per cent after 12 years on average (table 4).

TABLE 4. Repayment periods[14]

Number of years for borrowers over a certain loan-to-value ratio to reach the latter through amortisation.

	New loans	Mortgage stock
85 per cent	6,5	8
75 per cent	12	10

It is not just amortisation payments, and hence the size of the loan, that affect the loan-to-value ratio, but also the value of the home serving as collateral for the loan. The loan-to-value ratio thus depends on the house price trend. When calculating the repayment periods in table 4, FI assumes that house prices are unchanged, which is conservative because it means prices declining in real terms. If it is assumed instead that the house price trend is in line with inflation, or with a rate of increase matched by disposable income progression, the period for reaching a certain lower loan-to-value ratio would be shorter. Assuming that the house price trend is in line with inflation, and that current amortisation behaviour remains unchanged, it would take just shy of three years for a household with a loan-to-value ratio[15] of 94 per cent to bring it down to 85 per cent.

Thus far, it is too early to see the effects of the individually tailored amortisation plans proposed by FI to the Government last autumn.[16] The plans are part of a process to strengthen the amortisation culture among indebted households, and are to provide households with an understanding of the implications of their mortgage for the future – for example the size of the loan upon retirement, when a clear drop in income occurs. Individually tailored amortisation plans enable households to make conscious choices by clarifying the future financial limitations brought about by a low level of saving today.

Some of the banks in the survey state that they have performed analyses regarding the level of indebtedness that is sustainable in the long run. For the banks that have stated a value of a suitable level of indebtedness, this level varies between a 60 and 75 per cent loan-to-value ratio. One bank answers that a suitable indebtedness level for a household – with a loan-to-value ratio below 75 per cent – is judged based on current and future income and other assets. Two of the banks have a rule of thumb accor-

14 Assuming that a household continues to amortise the same amounts as established when the loan was granted, irrespective of the loan-to-value ratio, that no lump-sum payments are made and that house prices are kept constant.

15 For households with loan-to-value ratios above 85 per cent, the average loan-to-value ratio is 94 per cent.

16 In October 2013, FI submitted a proposal to the Government stating that banks should offer individually tailored amortisation plans to households granted loans. In order to speed up the proposal, which requires an amendment to the law, FI contacted the Swedish Bankers' Association (SBA), which endorsed the proposal. In connection with the agreement with FI, SBA revised its recommendation regarding amortisation, and clarified that amortisation down to a loan-to-value ratio of 75 per cent should occur over a period of 10–15 years. All polled banks have responded that they intend to follow the updated recommendation. On 19 March 2014, SBA revised its recommendation once more, which now involves banks requiring amortisation, with repayment periods of 10–15 years, on all loans with a loan-to-value ratio above 70 per cent. Also, individually tailored amortisation plans are to be gradually introduced during the spring and be fully applied as of 1 July.

ding to which a borrower's total debt should not exceed five times the gross annual income of the household, and another bank is considering introducing a limitation regarding indebtedness in relation to income.

Households' payment ability

In order to assess households' payment ability, the banks use discretionary income calculations. FI's review shows that there are great differences in the assumptions on which the calculations are based. FI's stress tests, which are based on similar calculations, show that households with new mortgages generally have comfortable margins in their finances, and hence sound repayment ability.

In order to determine how much a household can borrow and the extent of the risk associated with the loan, it is important that the banks have a solid understanding of the repayment ability of households. FI therefore follows up on how the banks perform their borrower assessments. In addition, FI also performs its own calculations of the payment ability of households, in both present conditions and in stressed conditions (with e.g. heightened unemployment or higher interest rates).

THE BANKS' ASSESSMENT OF THE PAYMENT ABILITY OF HOUSEHOLDS

In order to assess the payment ability of a household, the banks use a discretionary income calculation before granting a mortgage. Such a calculation provides both the bank and the household with an idea of how much remains of the disposable income of the household after paying interest expenses and other housing and subsistence costs. When applying for a loan, the customer provides information about income and any other debt. The bank then verifies this information by performing a credit check. Taxes and costs associated with housing, i.e. interest rates, amortisation and maintenance costs, are deducted from the income. Finally, it is also common to deduct a standardised amount for subsistence costs[17]. In order to ensure sound resilience for households to increases in interest rates, the banks use a specific interest rate in their calculations, known as a discretionary income interest rate. It is usually much higher than the actual mortgage rate currently paid by the bank's customers.

Although the banks' calculations follow the same principles, the results can vary tremendously between banks. This is because different banks make different assumptions about interest rates and other costs. The discretionary income interest rate used by the eight banks participating in FI's mortgage survey varies between 5.9 and 8 per cent. The banks' average discretionary income interest rate is 7.2 per cent. Because interest expense often constitutes a large part of the total housing cost, such differences can have major implications for whether or not a household is granted a loan.

The banks also differ in terms of the subsistence costs they use in their calculations. Subsistence costs for a household consisting of one adult vary, for example, between SEK 6,300 and SEK 10,200, and for a household with two adults and two children between SEK 15,500 and SEK 21,900. This can be compared with the subsistence cost benchmark of the Swedish Consumer Agency of SEK 5,480 for one adult and SEK 15,000 for a family of two adults and two children, or the social security

17 Subsistence costs refer to expenses for e.g. food, consumables and phones, but not expenses linked to the home such as rent/tenant-owner association fee, electricity or maintenance.

allowance criteria of the National Board of Health and Welfare for equivalent household types, which amount to SEK 3,880 and SEK 11,630, respectively.[18]

WHAT IS THE DISCRETIONARY INCOME OF HOUSEHOLDS?

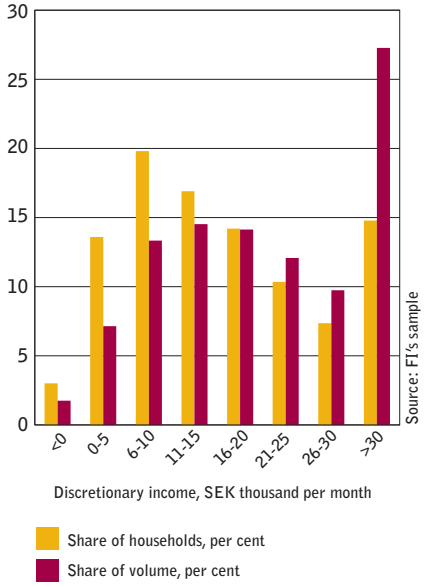
In order to investigate the payment ability of new borrowers, FI has calculated their monthly discretionary income. The calculation was performed in a similar way to that of the banks.[19] In order to get an idea of the payment ability of households at the time of granting the loan, the interest expense calculations are based on the interest actually paid by households, and not on the banks' discretionary income interest rate. The households' amortisation expense is based on the amortisation plan set up when the loan was granted.

FI's calculation uses an average of the banks' subsistence costs. The size of the subsistence costs for each individual household depends on the size of the latter (number of family members) and type of home (tenant-owner apartment, single-family dwelling or holiday home). Because the banks' calculations are based to a greater extent on household-specific costs, for e.g. tenant-owner association fees and maintenance costs for single-family dwellings, or costs for e.g. a car or boat, FI's calculation is not as precise as the banks' calculations.[20]

On the whole, households with new mortgages have comfortable margins in their finances. On average they have a monthly discretionary income of SEK 17,400[21] after paying housing and subsistence costs. This equates on average to a surplus of around 40 per cent of the households' disposable income. However, the spread between different households is large. According to FI's calculations, just over 15 per cent of households have a monthly discretionary income of less than SEK 5,000. The total debt of such households equals around 9 per cent of total debt in the sample (diagram 13).

Although all banks state that they generally require households to have a surplus in the discretionary income calculation, loans do get granted to households with a deficit. The banks participating in the survey state that the main reasons for households with a deficit being granted loans is that they have a low loan-to-value ratio combined with substantial assets, or there are other people in the household whose income was not included in the calculation. This is confirmed to a certain extent by the new loans sample, which shows that households with a deficit in the dis-

13. DISCRETIONARY INCOME BREAKDOWN
(Share of households, per cent)



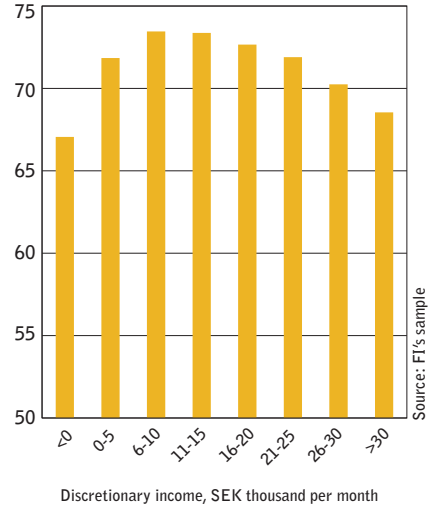
18 The Swedish Consumer Agency states that its calculations are based on a fundamental need for goods and services required to cope with daily life in modern society, irrespective of the household's income. It is not a case of either a subsistence level or excessive consumption, but a reasonable standard of consumption. For further information see the Swedish Consumer Agency's report (in Swedish only): "Report 2013:14 The Swedish Consumer Agency's calculations of benchmarks."

19 See Appendix 1 for a detailed description of FI's discretionary income calculation.

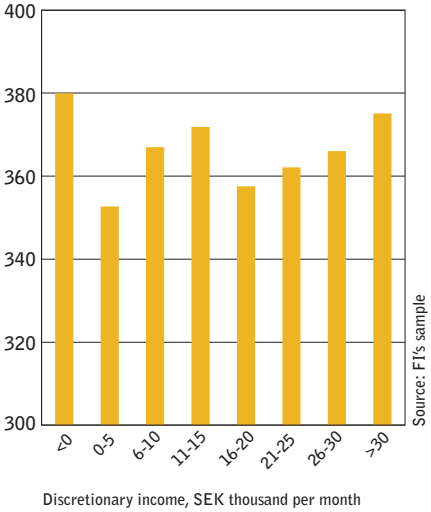
20 For example, FI's calculation does not consider the fact that the housing cost (heating, tenant-owner association fee, etc.) is probably higher for large households because they commonly have larger homes. It is therefore probable that FI underestimates the discretionary income of single-family dwellings, but somewhat overestimates it for large households.

21 "Discretionary income "refers here to the surplus of the household according to a calculation using the banks' average subsistence costs and the actual interest and actual prepared amortisation plan.

14. LOAN-TO-VALUE RATIO FOR VARIOUS DISCRETIONARY INCOME INTERVALS (per cent)



15. DEBT RATIO IN VARIOUS DISCRETIONARY INCOME INTERVALS (per cent)



cretionary income calculation have a lower loan-to-value ratio than other households on average (diagram 14).

The households with the lowest discretionary income per month take out smaller loans on average than households with large surpluses, but they also have lower income. The average debt ratios are thus relatively similar between households with varying discretionary income. Irrespective of the size of the surplus or deficit, households are on average granted loans that are between 3.5 and 3.8 times greater than their annual disposable income (diagram 15).[22]

The youngest (under 26 years of age) and the oldest (over 65) age groups have the lowest income and also the lowest average surpluses. They amount to around SEK 10,000 per month. Around 13 per cent of the households over 65 years of age show a deficit in their calculation, while the corresponding figure for those under 26 years of age is just shy of 4 per cent (diagram 16). Combined, these age groups account for around 11 per cent of the total volume of new loans.

STRESS TESTS

In order to study the vulnerability of households to changed financial conditions, FI performs stress tests. In the stress tests, FI tests how households are affected in different negative scenarios such as higher interest rates, increased unemployment and a drop in house prices. Interest rate hikes and unemployment affect the repayment ability of households in that their discretionary income decreases, while falling house prices affects the value of the home and hence the loan-to-value ratio of households. In order to analyse how households are affected by the negative scenarios, FI calculates the share of households that show a deficit in the discretionary income calculation, and how many households that show negative equity.

The fact that a household shows a deficit in its calculation does not mean that it cannot cope with its interest payments. If the household has savings, these can be used to manage the deficit. Or, households can adapt their costs. For instance, they can come to an arrangement with the bank to temporarily suspend amortisation, or reduce consumption. Hence, households with a deficit cannot be equated to credit losses for the banks.

Interest rate sensitivity

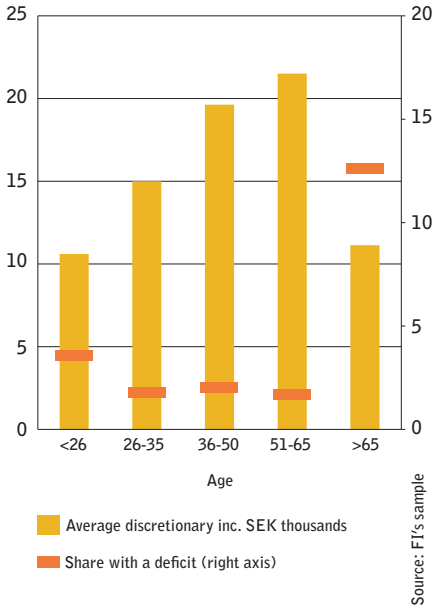
Current interest rates are historically very low. They can thus be expected to rise ahead. When a household takes on a loan, it is important that it allows for potential interest rate increases over time, i.e. current interest rates should not be taken for granted. One way a household can shield itself from interest rate volatility is by opting for a fixed interest rate over a certain period of time. However, many households opt for a variable (3-month) rate, at least on part of the mortgage.[23] Hence, changes in interest rates can quickly impact the finances of a household, whether interest rates rise or fall.

In order to study the extent to which households are affected by rising interest rates, FI calculates the share of households that show a deficit in the discretionary income calculation for various increases to the interest rate. The increase is to the rate paid by the household when the loan was

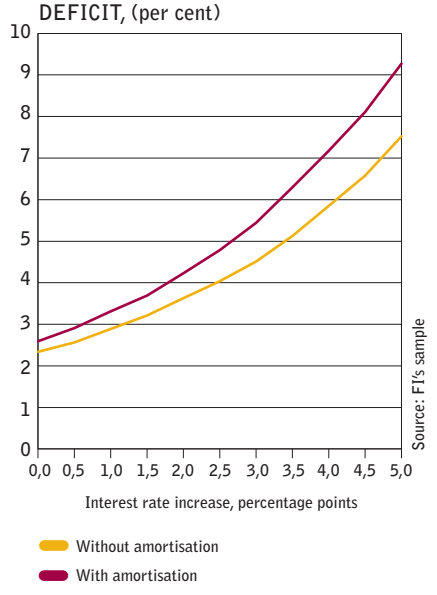
22 Households with a deficit account for just below 2 per cent of the total loan volume in the sample, see diagram 13.

23 At the end of August 2013, around 65 per cent of new mortgages were granted at a variable rate.

16. DISCRETIONARY INCOME OF DIFFERENT AGE GROUPS



17. INTEREST RATE INCREASE, SHARE OF HOUSEHOLDS WITH A DEFICIT, (per cent)



Note. An amortisation period of 15 years down to a loan-to-value ratio of 70 per cent, in accordance with the recommendation of the Swedish Bankers' Association, is assumed.

granted. Furthermore, interest expenses are calculated on the total loans of the households, and not just on their mortgages.[24] In order to study how different amortisation behaviour affects the result, the calculations are performed both with and without an amortisation assumption. When amortising, it is assumed that households follow the recommendation of the Swedish Bankers' Association of reaching a loan-to-value ratio of 70 per cent in 15 years.

For an interest rate increase of 3 percentage points, just over 4 per cent of households show a deficit in their calculations. This is about 2 percentage points more than at the outset. For an increase of 5 percentage points, the corresponding share is just over 7 per cent. Such households account for around 8 per cent of the total lending volume in the sample. Assuming that households amortise, the figures are somewhat higher (diagram 17). Older households (over 65) and households with a high debt ratio are over-represented among those that show a deficit. The share of households with a deficit is somewhat lower than last year.[25]

Unemployment and a decline in house prices

Unemployment can have a major impact on a household's ability to cope with its payments, especially if the borrower is not covered by an unemployment benefit fund. The sensitivity of households to a loss of income has been tested in the sample by simulating an increase in unemployment. It is assumed that each adult borrower under the age of 67 can become unemployed. The stress test is independent of prevailing unemployment in the Swedish economy and of the existing unemployment in the sample. Because the banks usually require households to have a secure financial situation in order to be granted a loan, unemployment and the risk of unemployment among new borrowers in the sample are probably much lower than among the population as a whole. The rise in unemployment in the new loans sample thus cannot be interpreted such that Swedish unemployment would rise by a certain number of percentage points from the current level.

In FI's stress test, it is assumed that a certain proportion of borrowers under 67 become unemployed.[26] Those affected are randomly determined. The stress test is performed both assuming that some of the borrowers carry unemployment insurance and will receive financial benefits, and assuming that no borrowers carry an insurance.[27] None of the banks

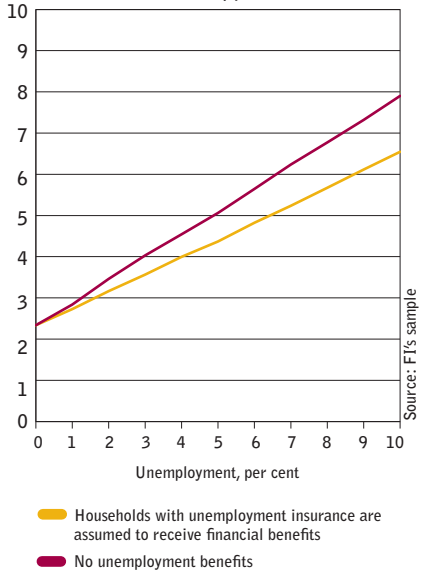
24 If the interest rate on a mortgage rises, it is reasonable to assume that the interest rates on other loans will also rise.

25 It should be noted that these calculations are stylised examples. Normally, income usually increases quickly when interest rates are high, which curbs the effect on household finances.

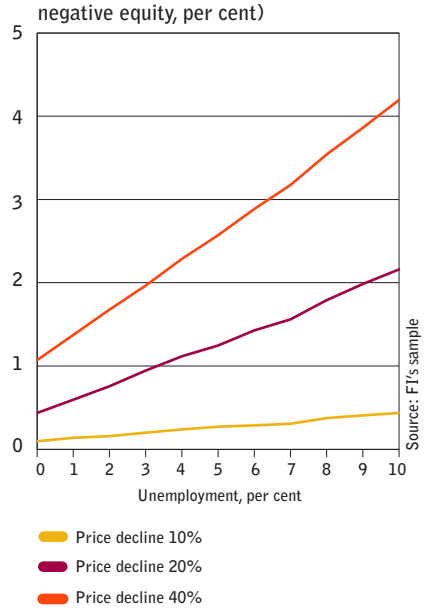
26 In order to manage a household potentially having one or more working members, the effects of unemployment are calculated at borrower level. In households with more than one working borrower, it is assumed that both contribute equally to the household's total income.

27 FI assumes that 71 per cent of borrowers have an unemployment insurance. The income of these households drops to 80 per cent of original income in the first 200 days and subsequently to 70 per cent of the original salary up to 300 days. Income may however not exceed the maximum amount of SEK 680 per day. 30 per cent of those unemployed are assumed to be in long-term unemployment. Long-term unemployment refers to people who have been unemployed for more than 200 days. Furthermore, it is assumed that for 32 per cent of those in long-term unemployment the benefits expire. The income of these people and those affected by unemployment and who are not covered by an insurance amounts to SEK 320 per day, known as the basic amount.

18. HOUSEHOLDS WITH A DEFICIT
(Share of households, per cent)



19. HOUSEHOLDS WITH A DEFICIT
(Share of households with a deficit and negative equity, per cent)



in the survey state that they require borrowers to carry an unemployment insurance to be granted a loan. In the stress test, unemployment implies a reduction in the household's income, whether or not the individual carry an insurance. Based on the new household income levels, FI studies how large a share of the households show a deficit in their discretionary income calculation.

Assuming that 10 per cent of borrowers become unemployed, and that some of them carry an unemployment insurance, just over 6 per cent of households show a deficit. Combined, these households account for 5 per cent of the total lending volume in the sample. Without unemployment insurance, the corresponding share of households is just shy of 8 per cent (diagram 18). Unemployment of 10 per cent for mortgage holders probably equates a much higher unemployment for the entire Swedish population. As a comparison, unemployment in Sweden rose just over 8 percentage points during the crisis of the 1990s and by 2.5 percentage points in the latest financial crisis.

In order to gauge how many households would have a remaining loss if they were forced to sell their home in connection with a drop in house prices, FI also performs a combined simulation in which unemployment increases concurrently with a drop in house prices. The result is described by stating how large a share of households have both a deficit in their discretionary income calculations and, at the same time, have a loan-to-value ratio exceeding 100 per cent, i.e. they experience negative equity. As pointed out earlier, there are many ways for households with a deficit to adapt, besides selling their home. The share of households with a deficit and with negative equity should hence not be seen to be the share of households with new loans that would be forced to sell at a loss in a given stress scenario. The proportion would probably be lower if the scenario actually transpired.

With a drop in house prices of 20 per cent and unemployment of 10 per cent, around 2 per cent of the households in the sample both show a deficit and negative equity. The loans of such households account for just below 2 per cent of the total lending volume in the sample. For a decline in house prices twice that size, the corresponding share of households is just over 4 per cent and the volume share is around 3.5 per cent (diagram 19). Compared to last year's survey, there is a slightly higher share of households that both show a deficit and negative equity.

Debt progression over time

Around half of the households granted a new loan in 2011 have amortised in the past year. At the same time, around a quarter of the households have been granted new loans, and the sum thereof is higher than the sum of the amounts amortised. Hence, the total debt of households granted loans in 2011 has increased in the past year, just as it did the year before. However, it is a small proportion of households that accounts for a large part of the volume increase, and these had lower loan-to-value ratios to start with.

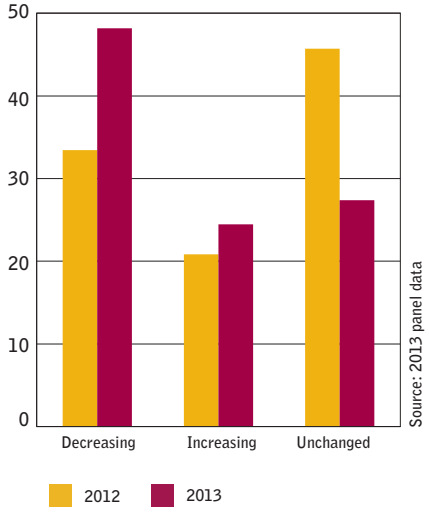
One way of studying the amortisation behaviour of households is to follow the same households over time and study how their debt changes. For two years, FI has been following the households granted new loans in the autumn of 2011 and has, on an annual basis, gathered updated information about such households.[28] All the results in this chapter are based on this supplementary data (the panel) and differ from the new loans sample, to which reference is otherwise made in this report, which consists of households granted new loans in 2013.

TOTAL DEBT

In 2013[29] the debt of almost half of the households granted new loans in 2011 decreased. Hence, a greater share of households amortised in 2013 than in 2012[30], when a third of the households reduced their debt. This might suggest that households do not start to amortise their loans immediately when the loan is granted, but do so later on. Almost half the households granted new loans in 2011 had unchanged debt in 2012. This share fell to just over one quarter in 2013. At the same time, around a quarter of the households increased their debt in 2013, marking a slight increase from 2012 (diagram 20).

Although the majority of households have either had unchanged or reduced debt, the total lending volume for households granted a new loan in 2011 has increased. The lending volume increased by 7 per cent in 2012 and 11 per cent in 2013.31 In other words, in both the first and second

20. CHANGE IN DEBT
(Share of households, per cent)



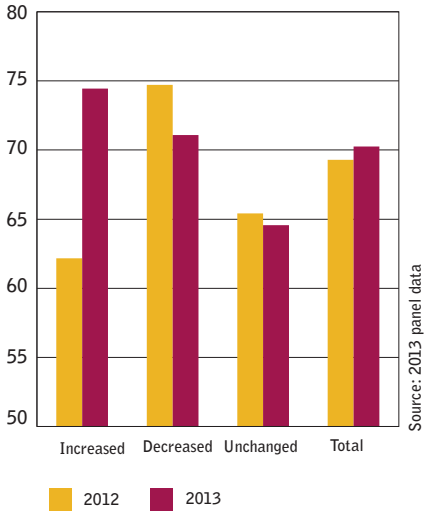
28 The banks included in the survey have, on an annual basis, updated information regarding factors such as current debt and information about amortisation for the households included in the 2011 new loans sample. The 2013 panel consists of the households granted loans in 2011 and which still had the loans in 2012 and 2013, amounting to 7,985 households. Because there are households that switch banks or pay off their loans, the number of households declines each year. The 2012 panel consisted of 9,851 households and the results reported in the memorandum Analysis of households' current loan-to-value ratios and amortisation behaviour in Sweden (http://www.fi.se/upload/43_Utredningar/90_samverkan/2013/pm3_131025.pdf) are therefore not directly comparable with the 2012 figures provided in this report.

29 Refers to the change between September 2012 and September 2013.

30 Refers to the change between September 2011 and September 2012.

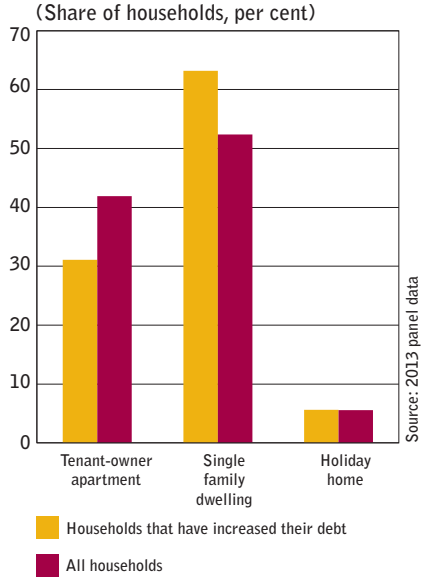
31 FI has previously stated that the increase in debt between 2011 and 2012 was 11 per cent. This figure is not directly comparable with the figures in this year's panel because the datasets do not contain the exact same households. Households drop out of the panel over time because they switch banks or repay their entire loan, and the current panel contains around 20 per cent fewer households than that which formed the basis of the stated figure.

21. LOAN-TO-VALUE RATIO



Note: The diagram shows the average loan-to-value ratio for households with increasing, decreasing or unchanged debt from 2012 to 2013.

22. THE COLLATERAL OF BORROWERS WHO HAVE INCREASED THEIR LOANS
(Share of households, per cent)



year, the total increase for the households granted new loans was greater than the total amortisation volume for households that reduced their loans.32

HOUSEHOLDS WITH INCREASING DEBT

A quarter of the households granted a new loan in 2011 increased it in the second year. However, a small proportion of households accounted for a large proportion of the volume increase. In the second year, 5 per cent of the households accounted for 80 per cent of the volume increase, and in the first year 5 per cent of the households in the panel accounted for a full 90 per cent of the volume increase.

At the same time, the households with growing debt had a lower loan-to-value ratio than other households in the panel the year prior to the loan being increased. On average, that group had a loan-to-value ratio of 62 per cent in 2012, which was below the average loan-to-value ratio for all households in the panel. After increasing the loan, the average loan-to-value ratio rose to 74 per cent in 2013, which is higher than the average loan-to-value ratio of the entire panel (diagram 21). Just under half of the households that increased their loans also saw a rise in the market value of their home.

According to the banks, renovation or reconstruction are the primary reasons for households increasing their loans. The fact that there are few households that take on large loans, rather than many households taking on small loans, supports this explanation. Also, households with single-family dwellings, which potentially have a greater need for renovation, account for a greater part of the increase (diagram 22).

Almost 40 per cent of borrowers who have increased their debt are between the ages of 36 and 50. Out of the households in this age group, just over a quarter increased their loans in 2013. There are no major regional differences for borrowers who have increased their loans compared with all households.

The average debt ratio for borrowers who increased their loans in 2013 is around 380 per cent. It is thus higher than the average of the entire panel, which is around 340 per cent. At the same time, households with higher disposable income are more inclined to increase their loans (diagram 23).

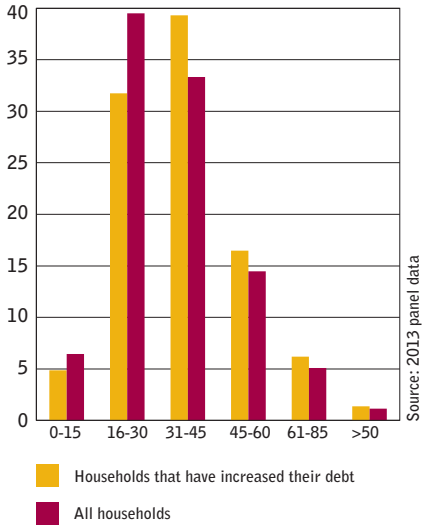
HOUSEHOLDS WITH DECREASING DEBT

The households in the panel that reduced their debt did so either by means of regular amortisation according to an amortisation plan, or lump-sum payments. Out of the households that had a set plan, almost 60 per cent amortised according to or in excess of that plan in the second year. This equals more than double the corresponding figure in the first year, which was 23 per cent. One reason for the plans not being followed might be that they have changed after 2011. An amortisation plan may, however, only be changed subject to the bank's approval. Another reason might be that such households amortised according to their amortisation plan, but also took on a new loan.

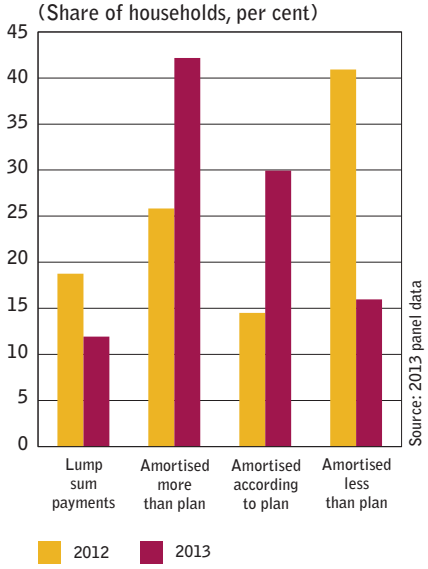
Out of the households that reduced their debt in the second year, just over 40 per cent amortised in excess of their plan, and 30 per cent amor-

32 At the same time, average disposable income for the entire Swedish population rose almost 5 per cent between 2011 and 2012, and by just over 3 per cent between 2012 and 2013. Source: National Institute of Economic Research.

23. BREAKDOWN OF INCOME – BORROWERS WHO HAVE INCREASED THEIR LOANS
(Share of households, per cent)



24. BREAKDOWN OF HOUSEHOLDS WITH DECREASING DEBT
(Share of households, per cent)



tised according to the established plan. Both of these shares have increased substantially from the first year. Just over 10 per cent made lump-sum payments; that is, they amortised without having a predetermined amortisation plan, while 15 per cent amortised less than their plan.[33] Both of these shares have decreased from 2012 (diagram 24).

The households that reduced their debt in the second year had, in 2013, a loan-to-value ratio in line with the average of the entire panel. The households with unchanged debt from 2012 to 2013 had the lowest loan-to-value ratio (diagram 21).[34]

33 Data does not provide sufficient information to differentiate between whether this group did not follow its amortisation plan, or if it followed the plan but also took on a new loan.

34 The slight decrease in the loan-to-value ratio of such households from 2012 to 2013 is due to an adjustment in the market value. The banks address market values in different ways. In certain cases, the entire mortgage portfolio is revalued, which leads to an automatic revaluation of the individual collateral. In other cases, the borrower might have to actively request collateral revaluation.

Appendix – FI's discretionary income calculation

The banks prepare the calculation in a dialogue with the customer and are thus highly apt to take account of household-specific factors such as the actual fee for tenant-owner associations. The size of the home is another consideration of potentially great significance. For single-family dwellings in particular, energy costs are a relatively large expense. In the absence of household-specific costs, standardised costs are used. FI's discretionary income calculation uses an average of the standardised costs that the banks have stated they use. The monthly cost of the household depends on the size of the latter, i.e. how many adults and children it contains, and type of home. Because FI does not have access to detailed data about the home, the same standard increase is used for all homes of the same type.

FI'S STANDARDISED COSTS in the discretionary income calculation

	2013	2012	Swedish Consumer Agency
Standardised costs			
1 adult	8 000	7 800	5 500
2 adults	13 850	14 200	9 550
per child	2 900	2 850	2 700
Maintenance costs			
Single-family dwellings	4 100	3 800	
Tenant-owner apartments (incl. fee of SEK 2,550)	3 450	3 100	
Holiday homes	1 450	1 450	

The standardised costs in the table are based on an average of the standardised costs stated by the banks. Corresponding standardised costs from last year's survey, and the estimation of the Swedish Consumer Agency of the costs of attaining a reasonable consumption standard, are shown to the right.

Glossary

Bottom loan The portion of a mortgage that is collateralised by the best part of the home, normally up to 75 per cent of the market value of the home. This means that the probability is high that the bank will recover the loan amount even if the home must be sold at a market value lower than the loan. Some banks currently offer bottom loans up to loan-to-value ratios of 80 and 85 per cent.

Credit instructions A document for internal use at a bank that provides guidelines for the bank's lending practices regarding e.g. amounts, maturities, amortisation and collateral.

Debt ratio A measure of indebtedness that is defined as the households' total debt in relation to their annual disposable income. In the sample the households' total debt is measured as the sum of all of their loans.

Discretionary income calculation The calculation and analysis that is usually conducted by the bank when a borrower applies for a loan. It is a measure of how much of a household's disposable income is left after paying housing and subsistence costs.

Discretionary income interest rate A interest rate used in the calculation of discretionary income to determine households' interest expenses. This interest rate is higher than the current interest rate to test the resilience of households to interest rate increases.

Disposable income A household's income after tax before paying for all borrowing costs, housing costs and any maintenance obligations. While the banks' definitions may vary somewhat, disposable income generally consists of income from employment or business, pensions, child benefits, other tax-free income and, in certain cases, capital income. The banks' definitions vary from the definition for national accounting purposes.

Interest rate ratio A measure of the extent of a household's income that goes to interest expense. The interest rate ratio is defined as the household's actual interest expense in relation to its disposable income.

Loan-to-value ratio A percentage that describes the portion of the market value of a home that is leveraged. If the market value of the home decreases, the loan-to-value ratio increases, given that the loan is held constant. In the survey, the calculation of the loan-to-value ratio differs slightly between the sample and the aggregate data (the banks' calculations). The loan-to-value ratio of the aggregate data is calculated as the loans collateralised by homes (bottom and top loans). According to the mortgage cap guidelines, new loans collateralised by a home may not exceed 85 per cent of the market value. In the sample, any unsecured loans attributable to financing a home have also been included in the loan-to-value ratio calculation.

Mortgage stock The total volume of outstanding loans collateralised by homes.

New loans New loans or strictly new loans refer to new mortgages via either new or existing borrowers. For existing borrowers, the new loan may refer to a loan on either new collateral or existing collateral. For the latter, the loan-to-value ratio must increase by more than 50 per cent to be included as a new loan. For new borrowers, the loan may be the result of switching banks. It is not possible to distinguish these loans from other loans and they are therefore included. Renegotiated loans and renewals of existing loan agreements are not included.

Panel data Panel data in this context is a data set that consists of a group of borrowers, the features of which have been observed during more than

one time period. This data is used to analyse the behaviour of and changes among the borrowers over time.

Repayment period The timeframe within the customer have repaid a loan. The actual repayment period for a bottom loan is often longer than for a top loan or unsecured loan. Standardised costs Estimated average amounts for various housing and subsistence costs that the bank uses in its discretionary income calculation.

Top loan The portion of the mortgage that exceeds the bottom loan threshold, normally between 75 and 85 per cent of the market value of the home. The quality of the collateral for the top loan is therefore poorer than that of the bottom loan. This means that the risk that the bank will not recover the top loan from a sale of the home after a fall in prices is higher than for the bottom loan. Banks therefore charge a higher interest rate for the top loan.

Total lending Mortgages, unsecured loans for housing purposes, other unsecured loans, educational loans and other loans.

Unsecured loan A loan granted without any collateral or guarantee. The banks often charge a higher interest rate for unsecured loans than collateralised loans such as top and bottom loans. In this survey, unsecured loans only include loans issued at the same time as a loan that is collateralised by a home or that can be related to financing a home in any other way.

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