FINANSINSPEKTIONEN

The Swedish Mortgage Market

14 APRIL 2016

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Summary

Households need to even out their consumption over their lifetime and it is therefore important that they are able to take on debt. However, the indebtedness of Swedish households can entail risks, both for individual consumers and banks and for macroeconomic and financial stability. Indebtedness is therefore a crucial matter which Finansinspektionen (FI) monitors closely, and the mortgage survey is an important part of its follow-up. FI has introduced several measures in order to manage the risks, such as introducing a mortgage cap and increasing risk weights on mortgages. FI will also introduce an amortisation requirement as of 1 June 2016.

The average debt-to-income ratio for households with new mortgages increased from 387 per cent to 406 per cent between 2014 and 2015. This means that households in general are borrowing more in relation to their income, which most likely is largely due to house prices rising faster than household income. At the same time, the average loan-to-value ratio has decreased slightly. It is currently around 65 per cent, which is approximately one percentage point lower than in 2014. This means that the households on average are borrowing somewhat less in relation to the value of the home than they did before.

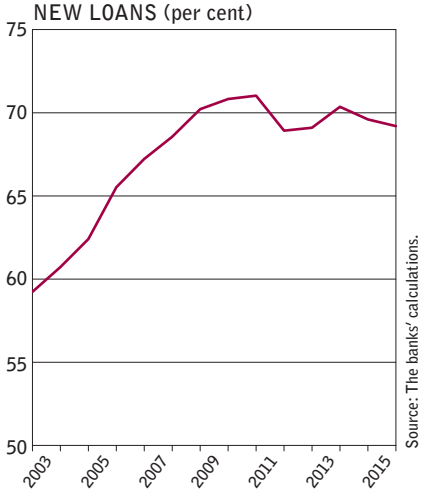
Even though households are borrowing more in relation to their income, in general they have sufficient margins for making their payments. FI's stress tests show that few households with new mortgages would experience problems repaying their loans if interest rates were to rise or if their income were to decrease. In recent years the share of households with smaller margins has also become smaller.

Since 2011 it has become more common to amortise. In 2015, 67 per cent of all households with new loans amortised them, which is a clear increase from 2011, when the corresponding figure was only 44 per cent. It is primarily households with loan-to-value ratios above 70 per cent that amortise, while amortisation among households with lower loan-to-value ratios is less common. FI's proposed amortisation requirement, which encompasses households with new loans and loan-to-value ratios above 50 per cent, will increase the number of households that amortise further.

Background

Indebtedness of Swedish households can pose risks to both individual consumers and banks as well as macroeconomic and financial stability. Indebtedness is therefore a crucial matter which FI closely follows. Approximately 80 per cent of household loans consists of mortgages. The mortgage survey plays an important part in FI's work to analyse household borrowing behaviour and indebtedness.

1. LOAN-TO-VALUE RATIO, NEW LOANS (per cent)



Source: The banks' calculations.

Note. The loan-to-value ratio refers to a volume-weighted average, i.e. it is calculated taking account of loan size, such that large loans have a greater impact on the average. The calculations are based on all new mortgages for each year.

A well-functioning credit market is fundamental to the ability of households of limited wealth to purchase a home. The possibility for households to incur debt therefore fulfils an important function in a modern economy, but indebtedness also poses risks to both households and banks and the economy at large. Between 2000 and 2010, the indebtedness of Swedish households increased sharply. Mortgages increased faster than both the value of the households' homes and the size of the households' income. The average size of the loan in relation to the value of the home (the average loan-to-value ratio) for households with new mortgages increased rapidly during this period (Diagram 1).

Since 2010, the rate at which loan-to-value ratios increased has slowed even though house prices have increased sharply. But household debt in relation to income continues to rise and is high, both from a historical and an international perspective.

Households run several risks linked to indebtedness. When households borrow money to purchase a home, they assume a cost for a long period of time into the future and thus become more vulnerable to economic shocks. The mortgage expense of households is mainly affected by the interest rate level. When interest rates rise, so does mortgage expense, which can cause problems for heavily indebted households. Owning a home also poses a risk that the households' wealth will be impacted negatively if the value of the home goes down. Declining house prices can be particularly problematic for households with large loans in relation to the value of the home, because they risk ending up in a situation where the size of their debt is larger than the size of their assets. If households experience severe difficulty in repaying their loans, this can also entail a risk that banks will suffer credit losses.

Besides the direct risks to households and banks, excessive indebtedness can also affect the economy at large. In the event of economic shocks, households may be forced to adapt in order to be able to repay their debt or restore their balance sheets. Such adaptation usually entails households cutting back on consumption. If many households reduce their consumption at the same time, this can create or magnify an economic downturn. In order to gain an accurate overview of these various risks, it does not suffice to look at the indicators on an aggregate level. The mortgage survey contains detailed data at the household level and is thus an important part of FI's analysis of the risks associated with the indebtedness.

FI has successively taken measures to mitigate the various risks posed by household indebtedness. 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.[1] FI has also implemented a risk weight floor for mortgages that ensures that the banks hold more capital in relation to their mortgages that better reflects the credit risks present in their mortgage lending. In order to reduce the sensitivity that follows from high leverage, FI believes that relatively highly leveraged households ought to reduce their debt over time. FI is therefore about to introduce an amortisation requirement. The amortisation requirement is planned to apply as of 1 June 2016.

THE SURVEY DESCRIBES THE MORTGAGE MARKET[2]

The purpose of the mortgage survey is to describe the status of the mortgage market and analyse the risks associated with household indebtedness. The survey also serves as an important basis on which to evaluate the effects of measures that were implemented previously, such as the mortgage cap and, soon, FI's amortisation requirement, for FI to be able to assess if changes are needed to the rules on the mortgage market. In addition, the survey also provides an important basis for FI's supervision of the banks' mortgage operations.

As in previous mortgage surveys, FI also evaluates this year the payment ability of the households included in the sample of new loans by means of monthly calculations and stress tests. As part of its stress tests, FI analysed sensitivity to interest rate hikes, loss of income due to unemployment and house price declines. This is an important element in assessing the households' payment ability, and hence the credit risks of banks.

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 more or less all lending on the Swedish mortgage market. This year's report is based around three sections.[3]

- Information regarding existing and new loans in the mortgage stock.[4] The variables used in the survey were defined by FI and the banks have totalled the underlying data themselves and reported the results at the aggregate level. Data from this part is therefore referred to in the report as the banks' calculations. The form the banks filled in includes information about lending volumes, amorti-

1 However, it is possible to be granted an unsecured loan to finance a home. 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.

2 In addition to the results presented in this report, a diagram appendix with more statistics and diagrams is also available on FI's website: www.fi.se/bolan2016eng.

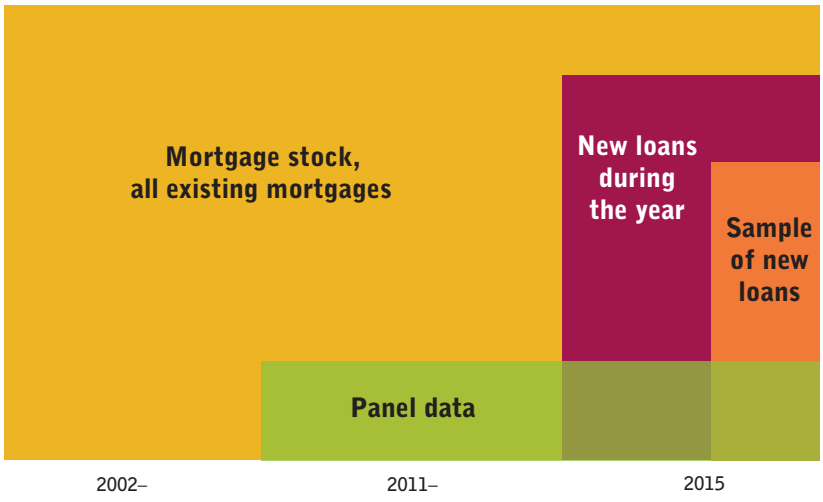
3 In previous years, the report has also used panel data that contains updated information about households that were part of the samples for each respective year. When analysing the panel data, FI noted that it contained some deficiencies. It is therefore not included in this year's report.

4 The definition of new mortgages in both the banks' calculations and the sample are strict new loans in which the terms and conditions that affect the interest rate on the loan are determined for the first time. This includes both households that expanded their existing loans and households that raised a loan for the first time. In previous years, some of the expanded loans were removed, but in this year's survey all of the expanded loans are included. New loans resulting from customers switching banks cannot be separated from strict new loans and are therefore included in the sample. Also see the definition in the glossary.

sation and loan-to-value ratios. FI has gathered this type of data since 2006 with figures going back to 2002.

- Information about a large number of new loans issued at the household level (micro data), referred to in the report as "the sample". The sample includes all new mortgage agreements entered into during the periods 27 August–3 September 2015 and 28 September–5 October 2015. In total 31,222 households are included after the data has been cleaned[5] 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 rate levels, any amortisation and the market value of the collateral. This is the sixth time FI has compiled such a sample. The previous samples cover 2009, 2011, 2012, 2013 and 2014. Ahead of this year's survey, FI conducted extensive harmonisation work to improve comparability between the years. This means that the results in this report are not identical to those of previous reports.
- Qualitative information. A number of in-depth questions address topics such as information about the banks' valuation methodology for homes, assessment of the households' economy and the banks' view on high loan-to-value ratios and amortisation.

FIGURE 1. Mortgage survey content



5 "After the data has been cleaned" refers to the processing performed by FI of the data reported to the authority. In this process, deficient, extreme or erroneous observations are removed.

Tables 1 and 2 present a general description of the households in the 2015 sample.

TABLE 1. Geographic distribution of loans in the sample

	Greater Gothenburg	Greater Malmö	Greater Stockholm	Rest of Sweden	Other major cities	Total
Share of households (%)	11	6	30	32	21	100
Share of volume new loans (%)	12	6	43	21	18	100
Average debt (SEK)	2,397,774	1,952,063	2,912,510	1,359,485	1,799,959	2,071,351
Average market value of the home (SEK)	3,390,362	2,572,114	4,334,616	1,676,590	2,355,294	2,864,292
Average income (SEK/mo)	43,474	40,983	46,531	37,299	40,480	41,750

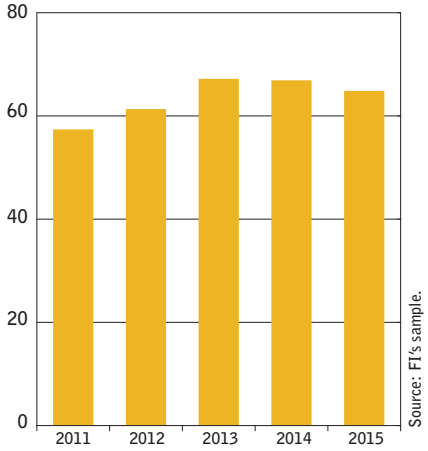
TABLE 2. Age distribution of loans in the sample

	18–30	31–50	51–65	65+	Total
Share of households (%)	18	48	24	10	100
Share of volume new loans (%)	20	55	20	6	100
Average debt (SEK)	1,676,029	2,405,770	2,023,938	1,269,767	2,071,351
Average market value of home (SEK)	1,974,923	3,188,387	2,956,265	2,675,002	2,864,292
Average disposable income (SEK/mo)	33,145	46,194	43,609	31,072	41,750

Swedish mortgage holders

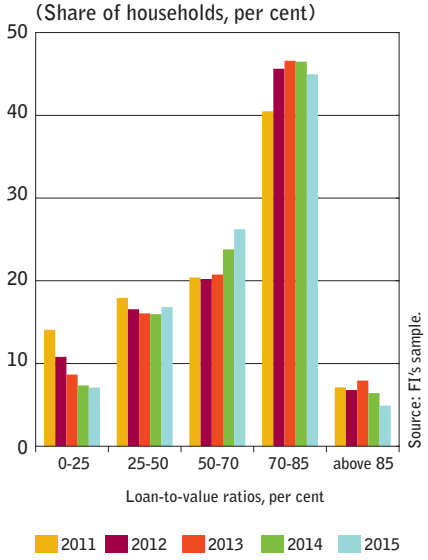
Households are borrowing less than before in relation to the value of their home but more in relation to their income. The share of households granted loans exceeding 85 per cent of the value of the home has continued to decline. More households with new loans are amortising, but among the households with loan-to-value ratios between 50 and 70 per cent, almost half are not amortising. Amortisation of new loans is therefore expected to increase once the amortisation requirement is implemented.

2. AVERAGE LOAN-TO-VALUE RATIO
(Per cent)



Note. Arithmetic mean.

3. DISTRIBUTION
OF LOAN-TO-VALUE RATIOS
(Share of households, per cent)



Household 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 method is to relate the debt to the value of the home that is the object of the loan, i.e. the loan-to-value ratio for the household's home. The loan-to-value ratio gives an indication of the level of vulnerability of a household to changes in house prices. It is in part a matter of the risk of the household ending up in a situation where the size of its debt is larger than the size of its assets and in part the wish of households that have sustained a drop in house prices to restore their balance sheets, i.e. the relationship between assets and liabilities. If house prices decline, affected households can be expected to reduce their consumption to increase their savings. The more loans a household has, the larger its tendency to reduce its consumption.[6]

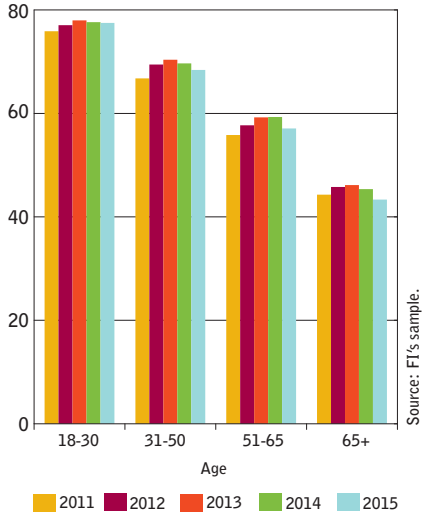
Another way of measuring indebtedness is to relate the total debt of a household to its disposable income – that is, income after tax and transfers. This ratio is usually called the debt-to-income ratio of the household. The debt-to-income ratio primarily gives an indication of the level of vulnerability of a household to shocks in its cash flows, i.e. income and expense. If the debt-to-income ratio is high, the household must allocate a larger portion of its income to repaying loans, giving it less scope for other expenditure or saving. Households with high debt-to-income ratios are hence more vulnerable to higher interest rate levels or loss of income than those with lower debt-to-income ratios.

LOAN-TO-VALUE RATIOS ARE BASICALLY UNCHANGED

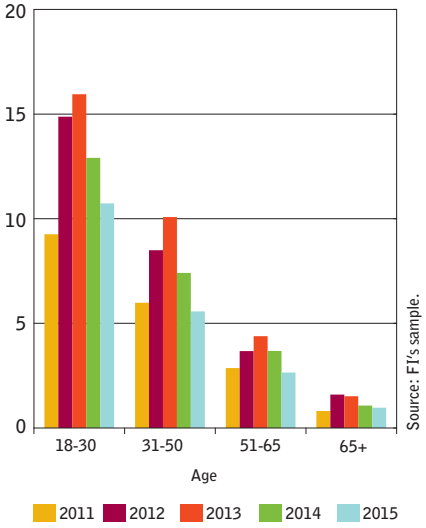
FI's sample shows that households with new mortgages had on average a loan-to-value ratio of 65 per cent in 2015, which is basically unchanged from 2013 and 2014 (Diagram 2). For the entire mortgage stock, the loan-to-value ratio is around 61 per cent. However, this figure is volume-weighted, meaning that it is calculated by adding a weight for the size of the loan, and is thus not directly comparable with the average loan-to-value ratio for the sample. The average loan-to-value ratio is calculated as an arithmetic mean, which means the volume is not weighted. The volume-weighted loan-to-value ratio for the sample was just above 68 per cent. Because the average loan-to-value ratio better reflects the risks faced by households, the analysis will focus on this measure from now on.

6 See FI's memoranda "Stability risks associated with household indebtedness", Ref. 14-15503, and "Proposal for new rules regarding amortisation requirements" Ref. 14-16628 for a more detailed discussion of the risks related to household indebtedness.

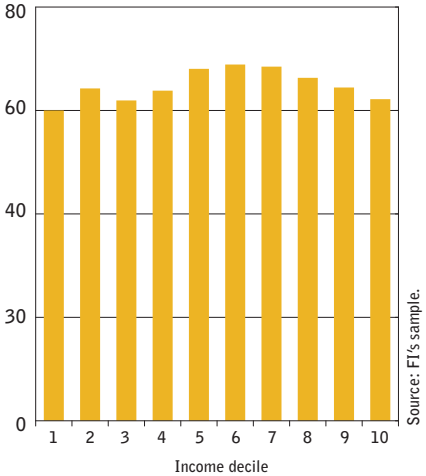
4. LOAN-TO-VALUE RATIOS IN DIFFERENT AGE GROUPS (Per cent)



5. UNSECURED LOANS IN DIFFERENT AGE GROUPS (Share of households, per cent)



6. LOAN-TO-VALUE RATIO IN DIFFERENT INCOME GROUPS (Per cent)



Note. For the thresholds for the income deciles see footnote 9.

Almost half of the households in the sample have a loan-to-value ratio that exceeds 70 per cent (Diagram 3). This is a slightly smaller share than in the 2014 sample.[7] It has instead become more common with loan-to-value ratios of 50 to 70 per cent. The share of households with loan-to-value ratios above 50 per cent is thus basically unchanged compared with 2014.

It is still possible to borrow more than 85 per cent of the value of the home even after the introduction of the mortgage cap by taking out a non-collateralised loan (known as an unsecured loan). However, it is clear that the mortgage cap has had a normative effect on the mortgage market, and the percentage of households with a loan-to-value ratio in excess of 85 per cent has decreased since 2011. Approximately 15 per cent of the households in the sample have a loan-to-value ratio of 84.5–85.5 per cent, which is in line with the results in 2014.

Of the households in the 2015 sample, around 5 per cent had taken out unsecured loans in connection with the financing of the purchase of the home. The total volume of unsecured loans was 0.7 per cent of total new lending. This is somewhat lower than in 2014, when just under 7 per cent of households were granted unsecured loans and the volume of unsecured loans accounted for around 0.9 per cent of new lending. The average size of an unsecured loan in 2015 was around SEK 150,000, which is SEK 10,000 higher than in 2014. The majority of the banks included in the survey state that an unsecured loan must be paid off within ten years, which is confirmed by FI's data, in which more or less all households with unsecured loans amortise.

As expected the loan-to-value ratios are highest for the young households. Loan-to-value ratios then decline as the age rises (Diagram 4).[8] This is probably because young households do not generally have the same possibility to use saved capital as a down payment for their home. This is also apparent by the fact that unsecured loans are more common among younger age groups, although this has become less common since 2013 (Diagram 5).

The differences in average loan-to-value ratios between various income groups are relatively small (Diagram 6).[9] Loan-to-value ratios are highest in the middle income brackets. A reasonable explanation for why the loan-to-value ratios do not vary so much across income groups is that households with higher income also buy more expensive housing. Consequently, the income groups have approximately the same loan need in relation to the value of the home.

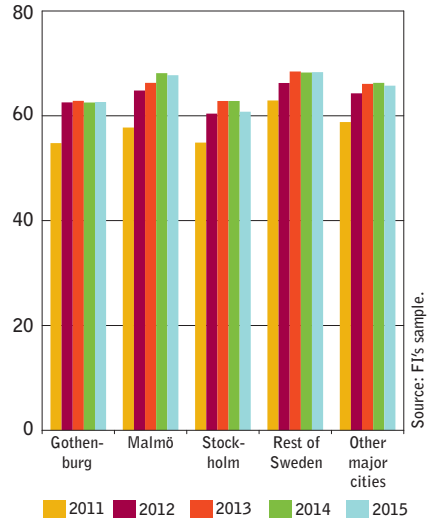
Average loan-to-value ratios are lower in Stockholm and Gothenburg than in the rest of Sweden, which has also been the case in previous years (diagram 7). This applies to all age groups. In general, the regional differences are quite small. The loan-to-value ratio decreased

7 FI includes unsecured loans when calculating loan-to-value ratios in this report. Hence, the fact that there are households with loan-to-value ratios above 85 per cent does not mean that the banks are in breach of the mortgage cap.

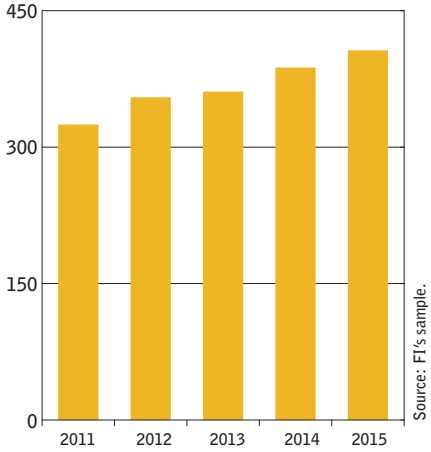
8 FI breaks down households into different age groups based on the age of the primary borrower.

9 The thresholds for the income deciles are: **1**: 0–20,747 SEK, **2**: 20,747–24,891 SEK **3**: 24,891–29,850 SEK, **4**: 29,850–35,383 SEK, **5**: 35,383–40,070 SEK, **6**: 40,070–44,360 SEK, **7**: 44,360–48,750 SEK, **8**: 48,750–55,047 SEK **9**: 55,047–63,614 SEK and **10**: 63,614–1,431,100 SEK.

7. LOAN-TO-VALUE RATIO IN VARIOUS REGIONS (Per cent)

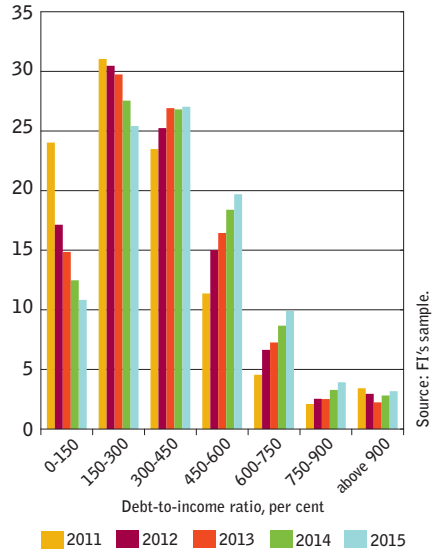


8. AVERAGE DEBT-TO-INCOME RATIOS (Per cent)



Note. Arithmetic mean.

9. DISTRIBUTION OF DEBT-TO-INCOME RATIOS (Share of households, per cent)



somewhat between 2014 and 2015 in all regions apart from the Gothenburg area.

DEBT-TO-INCOME RATIOS HAVE INCREASED

Households have gradually borrowed more in relation to their income since 2011 (Diagram 8). In 2015, the average debt-to-income ratio[10] for households with new loans amounted to 406 per cent, which is 19 percentage points higher than 2014. Most households have a debt-to-income ratio of between 150–300 and 300–450 per cent (Diagram 9). But it is not unusual with even higher debt-to-income ratios and the share of households with a debt-to-income ratio between 450 and 750 per cent has increased steadily since 2011. This is probably primarily due to house prices, and thus the need of households to borrow, increasing more rapidly than households' income.

The debt-to-income ratios vary significantly between income groups, but in general the households with the highest income are the most indebted (Diagram 10). The fact that households with high income have high debt-to-income ratios is probably due to several factors. For example, these households may primarily live in metropolitan areas where house prices are higher and, thus, the amount of the loan larger. They may also have more wealth and therefore believe that they have sufficient buffers to handle a higher level of indebtedness.

The 31–50 age group has the highest average debt-to-income ratio (Diagram 11). Despite income on average being lowest among the youngest and oldest households, these households are not the most indebted. FI's data shows that the average debt-to-income ratios, in contrast to the loan-to-value ratios, are higher in the metropolitan areas than in the rest of the country. The highest debt-to-income ratio is in the Stockholm region, where it amounted to 528 per cent.

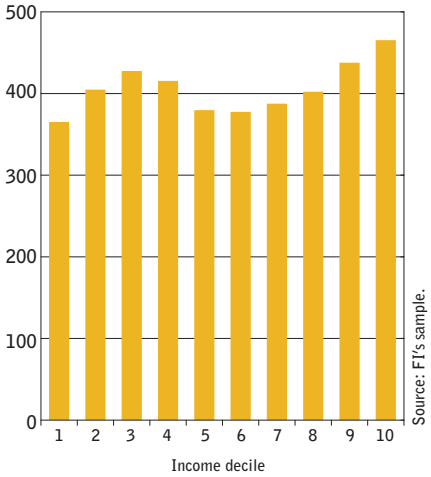
In order to gain a more complete picture of the risks associated with household indebtedness, it is important to look at both the loan-to-value ratio and the debt-to-income ratio. The greatest risk is posed by households with both a high debt-to-income ratio and a high loan-to-value ratio, because they could be vulnerable both to a drop in house prices and increased expenditure or reduced income. In the sample, however, the relationship between the debt-to-income ratios and loan-to-value ratios of households is relatively weak, although households with high loan-to-value ratios generally have a somewhat higher debt-to-income ratio (see diagram B2 in Appendix 2). For the most heavily mortgaged households, i.e. those with a loan-to-value ratio exceeding 85 per cent, the average debt-to-income ratio is distinctly lower than for households with a loan-to-value ratio of between 50 and 85 per cent.

AMORTISATION PAYMENTS HAVE INCREASED SLIGHTLY

Loan amortisation enables households to reduce their debts and hence their loan-to-value ratio and debt-to-income ratio. In order to counteract the macroeconomic risks posed by relatively highly leveraged house-

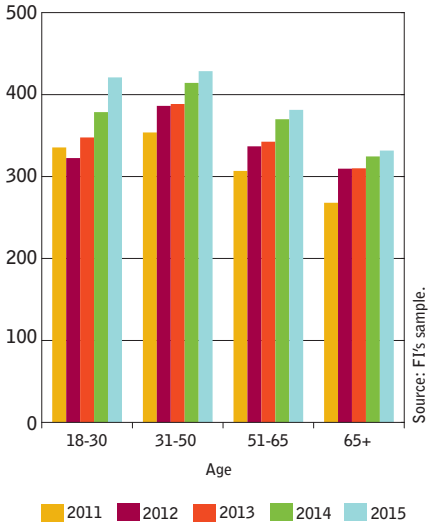
10 Households' debt-to-income ratio is calculated by dividing all debt, which includes consumer credit, credit card debts, all home-related loans, etc., by annual disposable income. The aggregate debt-to-income ratio is calculated as the sum of households' total debt in relation to the sum of their incomes, while the average debt-to-income ratio is an average of the households' individual debt-to-income ratios.

10. AVERAGE DEBT-TO-INCOME RATIO IN DIFFERENT INCOME GROUPS (Per cent)

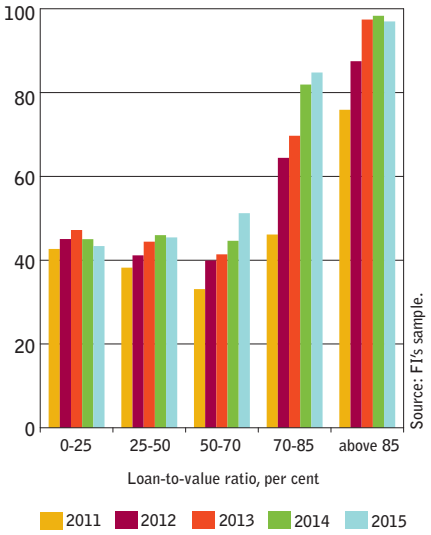


Note. For the thresholds for the income deciles see footnote 9.

11. AVERAGE DEBT-TO-INCOME RATIO IN DIFFERENT AGE GROUPS (Per cent)



12. SHARE OF AMORTISING HOUSEHOLDS (Per cent)



holds, FI has proposed that an amortisation requirement be introduced as of 1 June 2016 (see the box Effects of FI's proposed amortisation requirement).

The share of amortising households with new mortgages has continually increased in the years during which FI has gathered data regarding the Swedish mortgage market (Diagram 12).[11] In 2015, 67 per cent of all households with new loans amortised. This marks a clear increase from 2011, when the corresponding share was only 44 per cent. Compared with 2014, the share of households that amortise only increased slightly in terms of all households regardless of loan-to-value ratio. However, among households with loan-to-value ratios of 50–70 per cent, the share that amortise increased by 7 percentage points, although only half of these households amortise. Under FI's proposed amortisation requirement, all households with a loan-to-value ratio in excess of 50 per cent must amortise when taking out new loans.[12] The average debt-to-income ratios for households that amortise increased from SEK 1,830 to SEK 1,930 between 2014 and 2015.

There is a clear difference in the share of households that amortise among the households with a loan-to-value ratio above and below 70 per cent, respectively. This is probably due to the Swedish Bankers' Association former recommendation regarding amortisation for households with loan-to-value ratios above 70 per cent. Of the households with loan-to-value ratios above 70 per cent, around 86 per cent amortise while the corresponding figure for households with loan-to-value ratios of 50–70 per cent is 51 per cent.

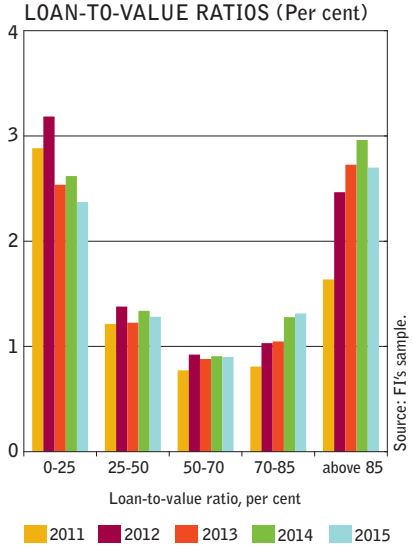
In the mortgage stock, i.e. if the data also includes existing loans, approximately 65 per cent of households amortise. This is an increase of around three percentage points since 2014. For existing loans, too, amortisation is more common among households with high loan-to-value ratios.

For households with loan-to-value ratios of 70–85 per cent, the amortisation amounts in relation to the size of the loan have increased since 2011 (see Diagram 13). For all households, however, this change is not as clear. This is probably due to some households borrowing more in relation to their income but not wanting to spend more of their income on amortisation. In 2015 amortisation amounted on average to 1.34 per cent of households' loans, which is slightly lower than in 2014, when the corresponding figure was 1.41 per cent. This decrease can be seen primarily among households with a loan-to-value ratio below 50 per cent, but also among households with a loan-to-value ratio above 85 per cent. The fact that households with low loan-to-value ratios amortise a lot in relation to their loans is because their loan amounts are small. Looking instead at amortisation payments in relation to household income, they payments have clearly increased over time. In 2015, households amortised around 3.3 per cent of their income, while the

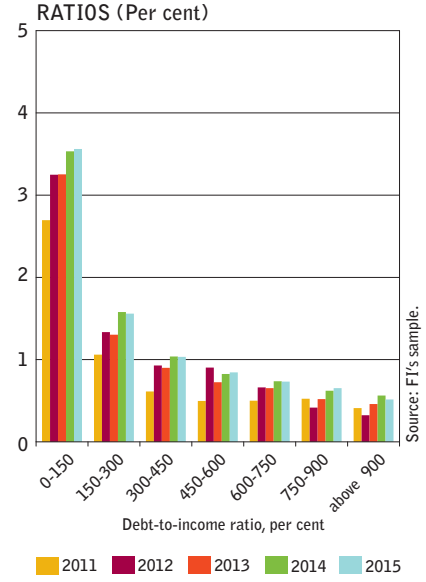
11 In the mortgage survey, FI has information about how much households plan to amortise each month at the time of the loan being issued. However, it is not possible to ensure that this actually happens based on the sample data. Lump-sum payments, i.e. amortisation in excess of the set plan, are not captured by FI's data either.

12 FI's proposed amortisation requirement makes it possible for banks to grant exceptions to the requirement for five years for households that have purchased a newly built home. These households therefore do not need to amortise even if they have a loan-to-value ratio in excess of 50 per cent.

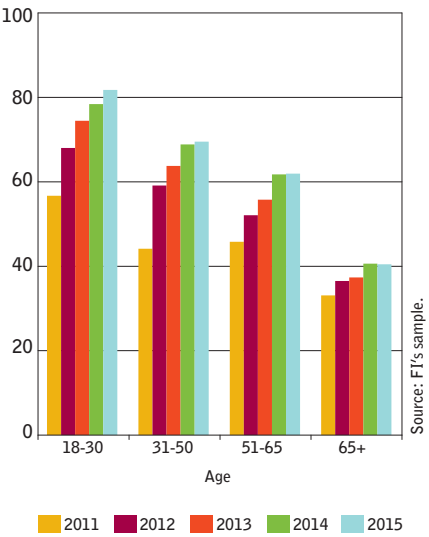
13. AMORTISATION AS A SHARE OF THE LOAN AMOUNT FOR DIFFERENT LOAN-TO-VALUE RATIOS (Per cent)



14. AMORTISATION AS A SHARE OF THE LOAN AMOUNT FOR DIFFERENT DEBT-TO-INCOME RATIOS (Per cent)



15. AMORTISING HOUSEHOLDS FOR VARIOUS AGE GROUPS (Share of households, per cent)



corresponding figure in 2014 was 3.2 per cent and in 2011 1.8 per cent. The higher loan-to-value ratio a household has, the more they amortise in relation to their income.

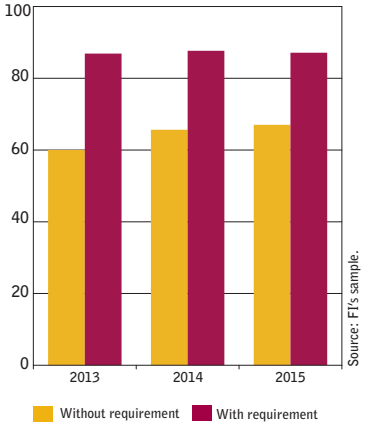
It is more common for households with low debt-to-income ratios to amortise, and average amortisation in relation to the size of the loan is higher for these households (Diagram 14). Amortisation in relation to loans decreases when debt-to-income increases. However, households with high debt-to-income ratios place a larger portion of their income on amortisation than households with lower debt-to-income ratios.

Younger households amortise to a greater extent than older households (Diagram 15). This is probably mainly because they also have higher loan-to-value ratios. However, amortisation has increased to more or less the same extent in all age groups in recent years. The regional differences in amortisation behaviour are generally small, although amortisation is slightly less common in the metropolitan areas than in the rest of Sweden.

Effects of FI's proposed amortisation requirement[13]

In December 2015, FI submitted a proposal for an amortisation requirement for consultation.[14] In brief, the proposal entailed that new mortgages must be amortised by 2 per cent of the total loan amount annually if the loan-to-value ratio exceeds 70 per cent, and by 1 per cent of the total loan amount annually if the loan-to-value ratio is between 50 and 70 per cent. In FI's consultation memorandum, the effects of the amortisation requirement are analysed based on the 2014 sample. FI has now performed a similar analysis using the 2015 data. An overview of the effects of the requirement is shown in Diagrams R1–R5 below.

R1. SHARE OF AMORTISING HOUSEHOLDS (Per cent)

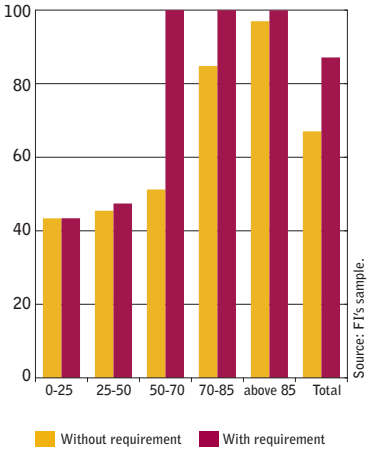


In terms of the share of households that amortise, the banks are almost following the amortisation requirement today for households with loan-to-value ratios above 70 per cent. Of these households, around 85 per cent amortise today (Diagram R2). However, the amortisation amounts for these households are less than what would be required once the requirement enters into force (Diagram R3). For households with loan-to-value ratios between 50 and 70 per cent, only roughly half amortise today. The share of households with loan-to-value ratios between 50 and 70 per cent therefore can be expected to increase sharply as a result of the requirement.

13 In its analysis of the effects of the amortisation requirement, FI assumes that households that amortise more than what will be required once the requirement enters into force will continue to do so. Since FI cannot distinguish between households that purchased a newly built home and households that purchased an existing home, FI assumes that all households with loan-to-value ratios in excess of 50 per cent are subject to the requirement. FI calculates the average amortisation as a share of the household's loan for all households, i.e. including households that do not amortise.

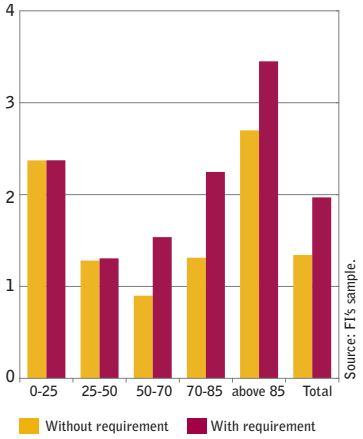
14 See Finansinspektionen's consultation memorandum "Proposal for new rules regarding mortgage amortisation requirements", Ref. 14-16628.

R2. SHARE OF AMORTISING HOUSEHOLDS FOR DIFFERENT LOAN-TO-VALUE RATIOS (Per cent)



Note. The amortisation requirement implies that mortgages should be amortised by 2 per cent annually if the loan-to-value ratio is above 70 per cent and by 1 per cent if the loan-to-value ratio is between 50-70 per cent. Mortgages with a loan-to-value ratio below 50 per cent are not affected.

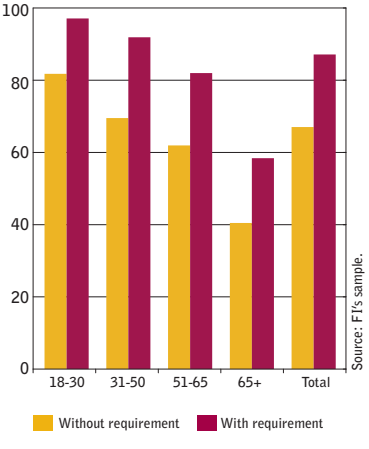
R3. AMORTISATION AS A SHARE OF THE LOAN AMOUNT FOR DIFFERENT LOAN-TO-VALUE RATIOS (Per cent)



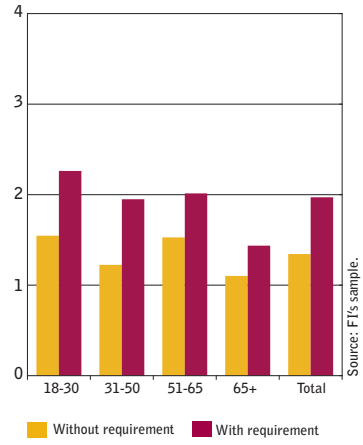
Note. The amortisation requirement implies that mortgages should be amortised by 2 per cent annually if the loan-to-value ratio is above 70 per cent and by 1 per cent if the loan-to-value ratio is between 50-70 per cent. Mortgages with a loan-to-value ratio below 50 per cent are not affected.

Most young households already amortise today. This is most likely because in general they have higher loan-to-value ratios (see Diagram 4) and banks therefore make higher demands in terms of amortisation. FI's analysis shows that the amortisation requirement has slightly larger effects for older households in terms of how many more will need to start amortising (Diagram R4). Based on the size of the amortisation payment in relation to households' loans, the effects are the same for all households between the ages of 18 and 50, while those that are older than 50 are slightly less affected (Diagram R5). A more detailed analysis of the effects of the amortisation requirement based on the 2015 data will be presented in the forthcoming decision memorandum regarding amortisation requirements.

R4. SHARE OF AMORTISING HOUSEHOLDS FOR AGE GROUPS (Per cent)



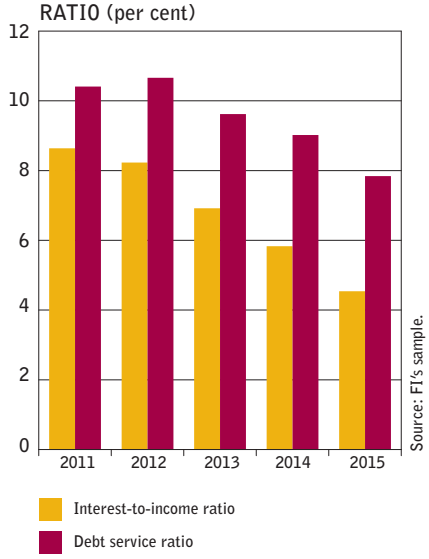
R5. AMORTISATION AS A SHARE OF THE LOAN AMOUNT FOR AGE GROUPS (Per cent)



Households' payment ability

Both banks and FI assess households' payment ability. FI's calculations and stress tests show that households' payment ability and resilience have improved in the past few years. As a whole, FI makes the assessment that the risk for widespread credit losses for the banks as a result of mortgages is small.

16. AVERAGE INTEREST-TO-INCOME RATIO AND DEBT SERVICE RATIO (per cent)



Source: FI's sample.

Note. Shows interest service and total debt service as a share of household disposible income.
The payments are based on the interest rate and amortisation amounts established when the loan was granted.

A customary method of measuring household debt is to look at the interest-to-income ratio or debt service ratio. These ratios show how much of their disposable income households spend on mortgage payments, i.e. interest payments and amortisation. The interest-to-income ratio only pertains to interest payments, while the debt service ratio also includes amortisation. The average interest-to-income ratio and debt service ratio have dropped in the last few years (diagram 16). This means that households on average have a larger share of their income remaining once their mortgage expenses are paid. Although these ratios are sometimes used to assess the payment ability of a household, they constitute a relatively blunt instrument of measurement. Therefore, the banks use more detailed calculations to get a more exact overview of the financial situation of households.

THE BANKS' ASSESSMENT OF HOUSEHOLDS' PAYMENT ABILITY

When the banks grant a mortgage, they assess the household's payment ability. Since these calculations are important from a consumer protection perspective and play a central role in the banks' risk management, FI carefully monitors the banks' methods. In their assessments of households' payment ability, the banks use discretionary income calculations at the time of the loan application. This calculation is an estimate of how much of the household's disposable monthly income is left after paying interest expense and other housing and subsistence costs. In conjunction with the loan application, households therefore provide information about, for example, income and other debts. The bank then reconciles the information against a credit check. Taxes and housing-related expenses – such as operating costs, interest expense and amortisation payments – are then deducted from income. The bank also deducts subsistence costs such as food, telephony and insurance. Because interest expense depends on the general interest rate level and can thus change, the banks use what are known as imputed rates of interest, which are much higher than the interest rate that the household will actually have to pay when the loan is granted. In this way, the banks ensure that the households are able to handle higher interest rates. The average imputed rate of interest for 2015 was around 6.5 per cent, which can be compared with the average mortgage rate in the sample of 1.7 per cent.

The banks say that they are restrictive in granting exceptions to the minimum level in their discretionary income calculations, but they do make exceptions at times. Almost 3.5 per cent of the households in the sample were granted an exception, which is approximately the same share as in 2014. The exceptions are normally granted when the household either has other major assets, additional income that has not been included in the calculation, a low loan-to-value ratio or a temporary bridging loan. In the sample, the loan-to-value ratios in 2015 had simi-

lar distribution for all households, regardless of whether they had a deficit or surplus.

FI'S ASSESSMENT OF THE HOUSEHOLDS' PAYMENT ABILITY

FI evaluates the margins for the households in the sample by conducting its own calculations of the households' monthly surplus.[15] FI uses the interest rate that applies at the time the loan is granted, and not a higher imputed rate of interest, as the banks do. Hence, FI's calculations cannot be compared directly with those of the banks. Households' resilience to rising interest rates is instead analysed through stress tests (see "Stress tests indicate good margins"). In some cases, it is interesting to see the effect of amortisation and FI therefore makes two calculations, one without amortisation and one with the actual amortisation agreed upon when the mortgage was granted.

The calculations follow the same structure as the banks' discretionary income calculations, but differ in certain respects. FI calculates the households' net income by deducting tax, in accordance with a predetermined scale, from gross income and then adding child benefits.[16] In order to estimate the housing and subsistence costs of households, standardised costs are used based on an average of the standards that banks state they sometimes use.[17] Standardised costs are dependent on the household's type of housing, size and composition, and do not refer to the households' expense level at the time the mortgage is granted. Instead, standardised costs refer to the costs that are judged to be necessary and therefore cannot be avoided if the household were to encounter financial difficulties.

Changes in standardised costs overestimate cost increases over the past year

The banks' methods and standardised costs used as the basis for the calculations vary. FI therefore uses the average of the banks' subsistence cost calculations per month. These costs in 2015 amounted to almost SEK 9,200 for one adult and SEK 22,700 for two adults and two children.[18] These costs are significantly higher than in 2014 when the costs

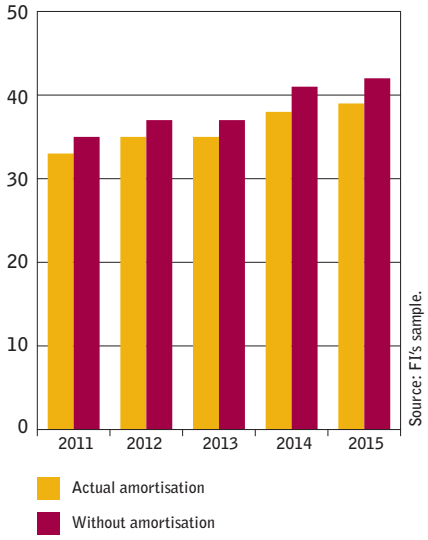
15 See Appendix 1 for a more detailed description of FI's calculation of monthly surplus.

16 According to the tax schedule, income less than SEK 5,400 per month is not taxed, income between SEK 5,400 and 37,500 is taxed at 30 per cent of the gross amount, income between 37,500 and 53,750 is taxed at 50 per cent and income above 53,750 at 60 per cent.

17 The banks have access to more detailed information about households, and may therefore use household-specific information such as actual tenant-owned apartment charges and operating expenses for single-family dwellings that are based on the size of the home of the household. Because FI does not have access to sufficiently detailed information about the homes of the households, standardised costs are used instead. Hence, FI's calculations are not as precise for individual households as the banks' calculations. Furthermore, the banks can also sometimes take into consideration the financial assets of households in their assessment of household payment ability. Because FI lacks such information, this is not possible in FI's analysis. The banks' methods for determining households' ability to pay vary between banks. By using a standardised calculation that is the same for all banks, FI is able to make consistent comparisons between banks.

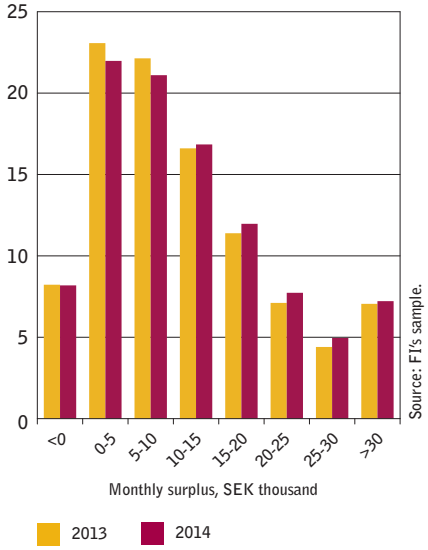
18 The Swedish Consumer Agency's benchmarks are between SEK 5,950 and SEK 16,100 for each household size. The Swedish Consumer Agency states that its calculations are based on a fundamental need for goods and services required to cope with daily life in modern society, irrespective of the household's income. It

17. AVERAGE MONTHLY SURPLUS AS A SHARE OF DISPOSABLE INCOME (Per cent)



Note. Actual amortisation is according to what was established when the loan was granted.

18. HOUSEHOLDS' MONTHLY SURPLUS AT AN INTEREST RATE OF 7 PER CENT
(Share of households, per cent)



were SEK 8,100 for one adult and SEK 20,200 for two adults and two children. The increase is due to major revisions made by some of the banks to their standardised costs. Since the general price level measures using a consumer price index with a fixed interest rate (CPIF) increased by 0.9 per cent in 2015, the increase in subsistence costs, which totalled 12.4 per cent for two adults and two children, is not a good estimate of how the actual costs have increased. FI has therefore opted to start with the subsistence costs in 2015 and thereafter calculate the costs for previous years using the CPIF trend. The reason that FI has chosen CPIF and not the consumer price index (CPI) is to avoid counting interest expense twice.[19]

HOUSEHOLD MARGINS ARE SOUND

The margins of households are sound in general. According to FI's calculations, households in the sample have on average a surplus of SEK 19,000 per month after housing and other subsistence costs are paid.[20] This means that the surplus on average is 39 per cent of the disposable income, which is slightly higher than in 2014 when the average surplus was 38 per cent (Diagram 17).

One cause of the increase in the surplus of households is that the interest rates they pay are on average 0.5 percentage points lower than last year. However, even at the given interest rate level, there are fewer households with small margins (Diagram 18). Hence, the increased surplus of households between 2015 and 2014 also depends on factors other the level of the interest rate.

Looking at all households, just over 12 per cent of the households had a monthly surplus of less than SEK 5,000, which can be compared with more than 14.5 per cent in the 2014 sample. The percentage of households with a deficit at the time the mortgage was granted amounted to 2.2 per cent in 2015, which is basically the same as in 2014.

The proposed amortisation requirement has no considerable impact on household surplus. On average, the surpluses as a share of income decrease by 3 percentage points with the proposed amortisation requirement compared with the surpluses with actual amortisation. The households that earn the least would on average have just over SEK 350 less of a surplus each month, and the households with the highest income would have approximately SEK 2,400 less on average.

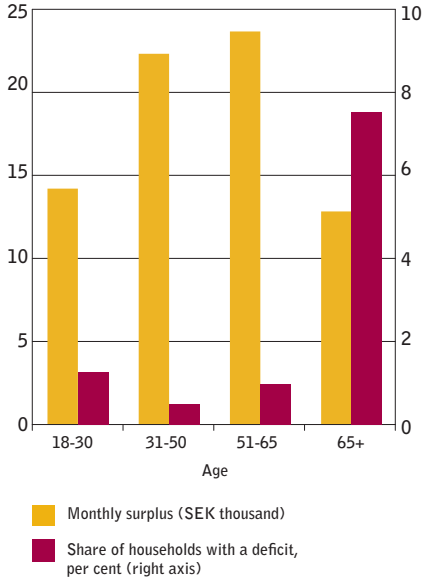
As in previous years, the youngest (up to 30) and oldest (over 65) households have the lowest average monthly surpluses (Diagram 19). The surpluses for households up to 30 have increased from SEK 13,300 in 2014 to approximately SEK 14,200 in 2015. More than one per cent of the households up to 30 and 7.5 per cent of households that are over 65 have a deficit, according to FI's calculation. These shares are the same as in 2014. For other age groups, the average surpluses amount to SEK 23,000– 24,000, and less than one per cent of these households show a deficit.

represents neither a subsistence minimum nor excessive consumption, but rather a reasonable standard of consumption. Costs for, for example, pre-school are not included. For further information see Swedish Consumer Agency Report 2013:4 (Swedish only): "Konsumentverkets beräkningar av referensvärden"

19 The calculation only applies to subsistence costs. The cost for the home is calculation as the average of the banks' calculations.

20 The calculation is based on the banks' average standardised costs using the actual interest rate and the actual amortisation plan.

19. MONTHLY SURPLUS IN DIFFERENT AGE GROUPS
(SEK thousand, per cent (right axis))



Source: FI's sample.

STRESS TESTS INDICATE HEALTHY MARGINS

In order to study the resilience of households to changes in their financial circumstances, FI performs so-called stress tests. In the stress tests, FI estimates how the households' payment ability is affected by rising interest rates, unemployment, or a drop in the value of the home. Interest rate increases and unemployment lead to the households having smaller monthly surpluses, while a drop in house prices leads to an increase in the households' loan-to-value ratio. FI has analysed four possible negative scenarios:

- higher interest rate
- higher unemployment
- higher interest rate and a fall in the price of the home
- higher unemployment and a fall in the price of the home.

In the first two scenarios, the share of households that would have a deficit in their monthly calculation is calculated, and in the last two scenarios the share of households that would both have a deficit and a loan-to-value ratio exceeding 100 per cent is calculated.

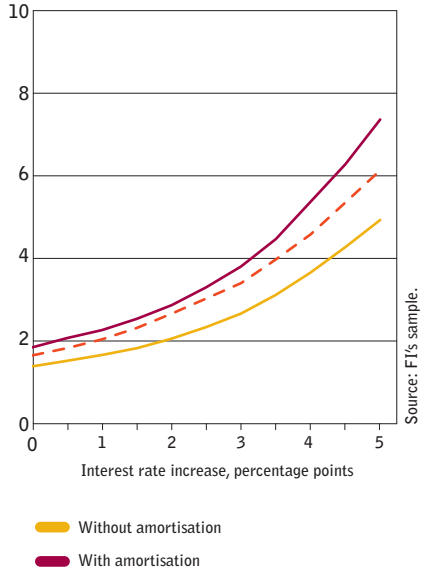
The fact that a household has a deficit in the stress tests does not necessarily mean that it would have difficulties paying its loan instalments if a similar scenario were to happen in reality. For example, the household could draw on savings to cover temporary deficits. It might also have the possibility of cutting back on consumption or agreeing with the bank on a temporary suspension of its amortisation instalments, which is possible according to FI's proposed amortisation requirements, and deferring interest payments. A deficit in accordance with FI's calculations can therefore not be equated to credit losses for the banks. At the same time, there may also be expenses that are not captured by FI's monthly calculations that the households cannot avoid. The fact that a household has a surplus in FI's stress test is therefore no guarantee that households cannot suffer payment difficulties. The stress tests only show the extent to which the households could be expected to handle their payments and thus is not an indication of the effects the households' adjustments could have on the economy.

Interest rate sensitivity

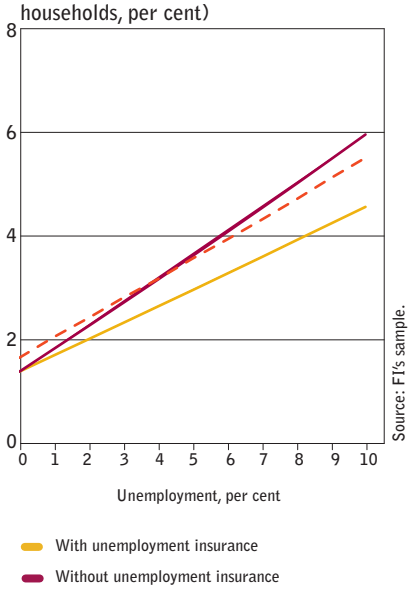
Interest rates are currently at historically low levels and there is reason to expect them to increase in the future. The fact that households have buffers in their finances helps them handle higher interest rate expenses. They can also protect themselves against higher interest rates by fixing their mortgage rate for a long period of time. FI's sample shows that around three out of four households have a fixed interest term of less than a year.

FI calculates the households' sensitivity to interest rates by increasing the mortgage rate in order to see how many households would have a deficit in their monthly calculation. The increment to the interest rate is added to the actual interest rate that the household was obliged to pay at the time of loan application. Hence, the highest interest rate increment of 5 percentage points entails an average interest rate of 6.7 per cent, because the average interest rate in the sample is 1.7 per cent. Interest expense in the stress test are calculated using households' aggregate loans – not just mortgages – because in a scenario of increasing mortgage rates it is reasonable to assume that interest rates would rise for all of the households' debt. In the stress test, all interest rates are treated as being variable, so

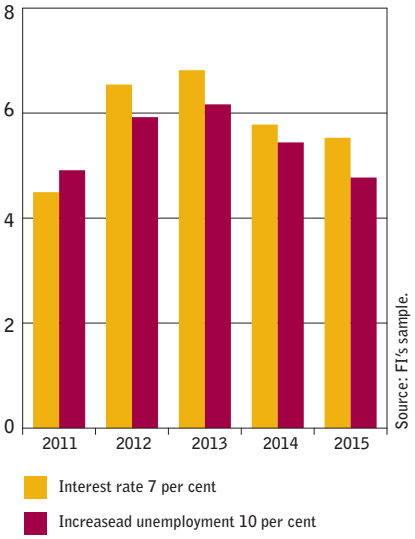
20. HOUSEHOLDS WITH A DEFICIT FOLLOWING AN INCREASE IN THE INTEREST RATE
(Share of households, per cent)



21. HOUSEHOLDS WITH A DEFICIT FOLLOWING AN INCREASE IN UNEMPLOYMENT (Share of households, per cent)



22. SHARE OF HOUSEHOLDS WITH A DEFICIT AT AN INTEREST RATE OF 7% OR FOLLOWING AN INCREASE IN UNEMPLOYMENT OF 10% (Per cent)



Note. Calculation with increased unemployment is based on an interest rate of 2%.

the increase to the interest rate affects all loans. This means that the households' sensitivity to interest rates is overestimated.

An increase to the interest rate of 5 percentage points would mean that the share of households with a deficit rises to 7.4 per cent (Diagram 20). The debts of such households also equal 7.1 per cent of the total lending volume. However, if households can suspend their amortisation payments, only 4.9 per cent have a deficit. The share of households with a deficit increases the most in the age group 65+. This group also has the highest share of households with deficits to start with. Households with a high debt-to-income ratio are also overrepresented among those with a deficit in the event of a 5 percentage point increase to the interest rate, which is natural because the debt-to-income ratio can be said to be an indicator of interest rate sensitivity. Fewer households have small margins compared with last year despite the households on average borrowing more in relation to their income. In 2014, an interest increment of 5 percentage points and an assumption that households can defer their amortisation payments resulted in 6 per cent of the households having a deficit. The difference can be explained to some extent by the fact that interest rates were lower on average in 2015 than in 2014, although the change is also due to a drop in the share of households with small margins (Diagram 18).

Unemployment

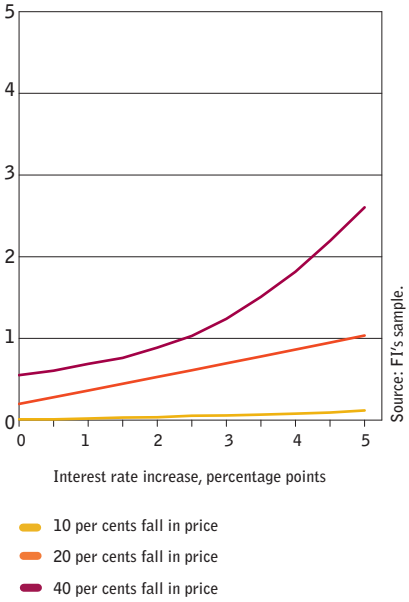
Unemployment can bring about a sharp deterioration in a household's financial situation, especially if those affected do not have unemployment insurance. FI has analysed the ability of households to cope with interest payments and other housing and subsistence costs given a simulated increase in unemployment.[21] The stress test is not dependent on present unemployment levels in Sweden or the sample. The risk of households in the sample being affected by unemployment is probably lower than for society at large, because the banks require households to have a solid financial position before being approved for a mortgage. The rise in unemployment in the stress test thus cannot be interpreted as the Swedish unemployment rising by a certain number of percentage points from the current level.

In practice, the stress test is a simulation in which a share of borrowers under 67 years of age are randomly assumed to become unemployed, whereupon the income of the household declines.[22] The new income of the households then forms the basis for a new monthly calculation, and in the same way as for interest rate sensitivity, FI studies how many

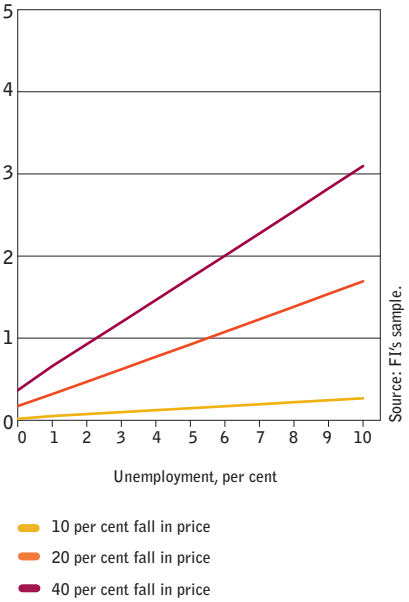
21 In the stress test for unemployment and a decline in prices, it is assumed that households suspend their amortisation payments.

22 FI assumes that 73 per cent of borrowers are covered by an unemployment benefit fund. In terms of unemployment benefit funds, it is assumed that income 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 760 per day. 28 per cent of those unemployed are assumed to be in long-term unemployment. Long-term unemployment refers to households that have been unemployed for more than 200 days and therefore receive lower compensation. Furthermore, it is assumed that the benefits of 30 per cent of those in long-term unemployment expire. The income of these people and those affected by unemployment and who are not covered by an unemployment benefit fund amounts to SEK 365 per day, known as the basic amount. In order to ensure that the outcome is robust, the random selection is repeated 10,000 times. Every borrower under the age of 67 can become unemployed in the stress test, which means that both borrowers in households with more than one adult can be affected. The diagrams show an average of all outcomes.

23. HOUSEHOLDS WITH DEFICIT AND LTV OVER 100 PER CENT, COMBINED INTEREST RATE INCREASE AND FALL IN HOUSE PRICES (Per cent)



24. HOUSEHOLDS WITH DEFICIT AND LTV OVER 100 PER CENT, COMBINED UNEMPLOYMENT AND FALL IN HOUSE PRICES (Share of households, per cent)



households would have a deficit. The stress test is performed once with the assumption that some of the borrowers are covered by unemployment insurance, and once with the assumption that no borrowers are covered. None of the banks state that they generally require borrowers to have unemployment insurance to be granted a loan.

Diagram 21 shows that almost 4.6 per cent of households have a deficit in their monthly calculation if 10 per cent of the borrowers are assumed to be unemployed. Such households account for around an equivalent share of the total lending volume in the sample. If none of the borrowers have unemployment insurance, the share with a deficit would be around 1.4 percentage points higher. The share of households with a deficit in equivalent categories was up to one percentage point higher last year, which corroborates the view that the margins of households have increased slightly. Because the banks require mortgage holders to have a sound financial position, an unemployment level of 10 per cent among borrowers in the sample would probably imply a much higher level for the population as a whole.

Household margins have improved over time

In order to investigate how households' resilience has changed over time, FI made two standardised calculations for 2011–2015. The first calculates the share of households that have a deficit in the monthly calculations at a 7 per cent interest rate. The second calculation studies the share of households that have a deficit at a 2 per cent interest rate and an unemployment rate that is 10 percentage points higher. Diagram 22 shows that there are fewer households with small margins compared to 2013.

Decline in house prices combined with higher stress

FI also develops the stress analysis by combining interest increments or higher unemployment with declining house prices. The results show the share of households that end up with a deficit in addition to negative equity, i.e. the value of their home being less than the size of their loan. The aim of the analysis is to provide an indication of how many households would continue to be in debt if they were forced to sell their house due to impaired payment ability. As already pointed out, households in practice can also adapt in ways other than by selling their homes if their situation changes. If a similar scenario had happened in reality, it is therefore not certain that households that end up with a deficit in the analysis would be forced to sell their homes.

If the interest rate increases by five percentage points at the same time as house prices decline by 20 per cent, more than one per cent of household would have a deficit at the same time as the loan-to-value ratio exceeds 100 per cent (Diagram 23). If prices were to fall by 40 per cent, the corresponding figure would be instead 2.5 per cent of households. In the same stress test in 2014, 3.9 per cent of the households have a deficit and a loan-to-value ratio of more than 100 per cent.

In a scenario of house prices declining 20 per cent and 10 percent of the borrowers becoming unemployed, one per cent of households with new mortgages would have a deficit and simultaneously a loan-to-value ratio exceeding 100 per cent (Diagram 24). If prices were to drop double that amount, by 40 per cent, 2.5 per cent of households would have a deficit while the value of their home would be less than their mortgage. In the 2014 sample, this figure was 3.2 per cent.

The stress tests show as a whole that most households that have taken

out new mortgages have sufficient margins for handling negative scenarios such as higher interest rates, higher unemployment or a decline in house prices. Even in the event of severe stress, few of the households experience problems with their payments. All stress tests also show that the number of households with small margins have decreased compared with the previous year, even if the improvement in some cases is marginal.

Appendix 1 – FI's monthly calculation

The banks' discretionary income calculation contains detailed information about mortgage holders' household-specific information that is registered upon loan application. This includes actual tenant-owner apartment charges and operating costs for the individual household. In the absence of information, the banks use standardised costs, depending on household size and composition, and type of home. FI's monthly calculation employs an average of these standardised costs (see below) for all households of the same type. The standardised costs only take into account the type of home, and not its size. Because the size of a home can have a major bearing on costs, such as for heating, FI's calculations are not as precise for individual households as those of the banks.

TABLE B1. FI's standardised costs in the monthly calculation (SEK)

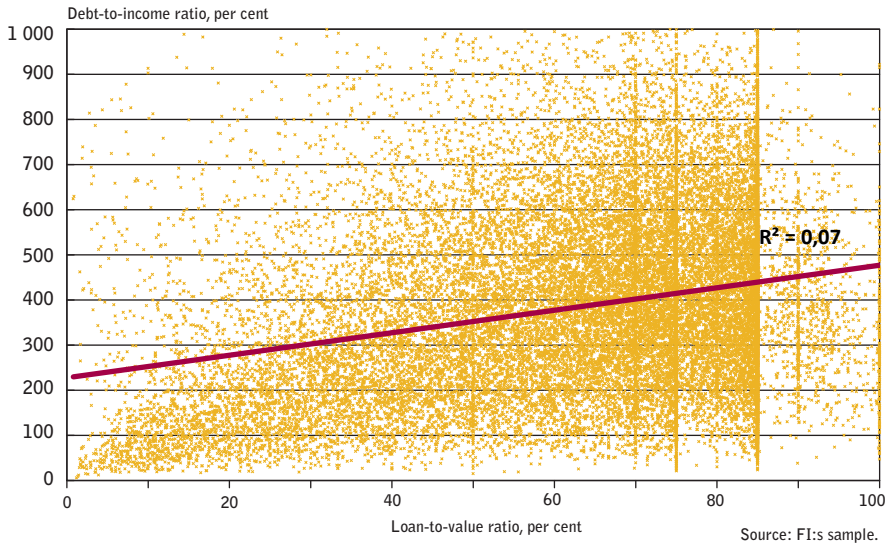
	2015	2014	Swedish Consumer Agency
Cost of living			
1 adult	9,200	9,100	5,950
2 adults	15,900	15,800	10,520
per child	3,400	3,400	2,800
Operating expenses			
Single-family dwelling	4,000	4,000	
Tenant-owned apartment	3,400	3,200	
Holiday home	1,700	1,900	

The standardised costs in the table are based on an average of the standardised costs stated by the banks for 2015. To the right are the corresponding standardised costs used in the 2014 report (which have been raised in this year's report since FI conducted a new stress test for 2011–2014) and the Swedish Consumer Agency's estimate of costs to achieve a reasonable consumption standard.

Appendix 2 – Correlation between loan-to-value ratio and debt-to-income ratio

The diagram below shows the loan-to-value ratio and debt-to-income ratio for each household in the survey, respectively. Each dot represents one household.

DIAGRAM B2. Relationship between loan-to-value ratio and debt-to-income ratio, new loans



Source: FI:s sample.

Glossary

Aggregate data Aggregate data consists of the sum of the values from different individuals or categories.

Balance sheet A balance sheet shows the relationship between a company's or a household's assets and liabilities. It is the financial position at a given point in time.

Bridging loan A bridging loan is a form of financing that facilitates the purchase of a new home even if the existing home has not been sold yet. A bridging loan has a short term and is settled when the original home is sold.

Collateral The property that is pledged as security for a loan. This means that the lender has the right to the property in the event the borrower is not able to pay back the debt.

CPIF Consumer Price Index (CPI) is a measure of subsistence costs and is used to measure the rate of inflation. CPI with a fixed interest rate (CPIF) removes the effect of interest rate changes in mortgages that is inherent in CPI.

Debt service ratio The debt service ratio is calculated as households' total interest and amortisation expense in relation to disposable income.

Debt-to-income ratio A measure of indebtedness that is defined as the households' total debt divided by their annual disposable income.

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

Discretionary income interest rate An interest rate used in the calculation of discretionary income to determine households' interest expenses. The discretionary income interest rate is higher than the current lending rate and is used to test the resilience of households to interest rate increases.

Disposable income A household's income after tax but before paying for all lending costs, housing costs and subsistence costs. Since the banks' definition of the household's income can differ, FI has calculated its own disposable income.

Income deciles Income deciles are created by grouping households according to their disposable income. Each income decile contains one tenth of the households in the sample, where income decile 1 contains households with the lowest income, and income decile 10 the households with the highest income.

Interest-to-income ratio The interest-to-income ratio is calculated as the household's actual interest rate expense divided by the household's disposable income and demonstrates how much of its income the household spends on interest rates expense.

Loan-to-value ratio The ratio between the size of the loan and the market value of the home. In the mortgage survey, the calculation of the loan-to-value ratio differs slightly between the sample and the data for existing loans (the mortgage stock). For existing loans, the loan-to-value ratio is calculated using the loans collateralised by homes. In the sample, any unsecured loans attributable to financing a home have been included in the loan-to-value ratio calculation.

Market value The price that is determined when a good or service is traded

on a market. For homes the market value in general is considered the price at which the apartment can be expected to be sold for on the open market.

Microdata Microdata is data at the individual or company level. Examples of microdata include individual income, size of a loan, agreed interest rate, location of the home, age, etc. In this report, microdata is data at the household level.

Monthly surplus Households' monthly surplus is the part of their disposable income that remains after paying for subsistence costs, operating expense and mortgage expense.

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

New loans New loans or strict new loans refer to new mortgages taken out by either new or existing borrowers. For existing borrowers, the new loan may refer to a loan on either new collateral or existing collateral. For new borrowers, the loan can arise in the form of a new home or by switching banks. It is not possible to distinguish loans arising from switching banks from other loans and they are therefore included in FI's data. Loans with renegotiation terms or existing loan agreements that are extended are not included.

Panel data Panel data in the Mortgage Survey 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.

Risk weight floor A bank's risk-based capital need is calculated using risk-weighted assets. In order to calculate risk-weighted assets, every asset is multiplied by a specific risk weight, which is based on each asset's individual credit risk. Swedish banks use internal models to calculate their risk weights. FI's implemented risk weight floor means that there is a lower limit to how low the risk weights that the banks use may be.

Sample A sample is a selection of a larger population. The information in the sample is used to draw conclusions about the entire population. The Mortgage Survey includes a sample of new loans from the population of all new loans.

Standardised cost Estimated average amount for various housing costs and subsistence costs.

Stress test FI's stress tests estimate how the households' payment ability is affected by different types of "stressed" situations. Such situations could arise if the interest rate increases, if a household suffers the loss of employment or if the value of a home declines.

Unsecured loans A loan that is granted without any collateral or security. 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.

Volume-weighted average A volume-weighted average is calculated by taking into account the volume of the observations. For example, the size of the loan is used as a weight when the volume-weighted interest rate is calculated. Observations with large volumes thus have a larger impact on the average.

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