FINANCIAL STABILITY 2011

(Extract and summary for the OECD WPFS 2011)

DANMARKS NATIONAL BANK 2011

The Households

The households' debt accounted for approximately 3 times the annual disposable income at end-2010, which is substantially more than in the other Nordic countries. Households still have considerable net wealth, but only a small proportion is liquid, and the distribution of net wealth is uneven. The combination of high debt and many illiquid assets has increased the exposure of Danish households to e.g. changes in interest rates and temporary loss of income.

Variable-rate loans, many of them with deferred amortisation, now account for most of the debt. The low interest rates in recent years have made it easier for households to service their debt. At the same time, the higher exposure to changes in interest rates means that higher interest rates will have a more severe impact on household finances. Furthermore, the financing pattern shows that for loans raised since 2004 the loan amount is, on average, higher for variable-rate and deferred-amortisation loans than for fixed-rate loans with amortisation. This pattern would indicate that the households with the most risky loans have not ensured that they are sufficiently robust. The current range of financing options and the advice offered may encourage households to hold smaller financial buffers related to real property than traditional loan types. High exposure among many households may have a negative impact on financial stability. In the coming years, the households should ensure that their finances are sufficiently robust. Lenders should perform realistic "stress tests" of the households' ability to service their debt under different conditions when offering advice and considering loan applications.

HOUSEHOLD GROSS DEBT AND WEALTH

Banking institutions and mortgage-credit institutes are exposed to the households' ability to service their loans as well as the value of the assets, primarily houses, pledged as collateral for the loans. Danish household debt amounted to approximately kr. 2,700 billion in 2010, having doubled since 2001, when it was approximately kr. 1,300 billion. The household debt to disposable income ratio has increased from just over 200 per cent to just over 300 per cent, cf. Chart 40. Danish households differ from other Nordic households by having a higher debt ratio, reflecting factors such as the easily accessible and well-developed Danish mortgage-credit market and differences in pensions.[1]

Despite their high level of debt, Danish households have overall fared well through the financial crisis in recent years. The arrears ratios of mortgage-credit institutes remain low, while losses on households in the banking sector have been limited compared with the crisis in the early 1990s, reflecting a lower level of unemployment and interest rates in the current situation.

In the period from 2001 to 2010, the assets of Danish households rose at an even higher rate than their debt. Net wealth increased from just over 360 per cent of disposable income in 2001 to just over 460 per cent in 2010, cf. Chart 41, driven mainly by growing pension wealth and a rise in unlisted shares.

While the Nordic countries were at the same level in 2001, Denmark and Sweden had somewhat higher net wealth than Norway and Finland by 2010. Cross-country comparisons of net wealth are subject to some uncertainty, however, especially in terms of the size of housing wealth and unlisted shares.

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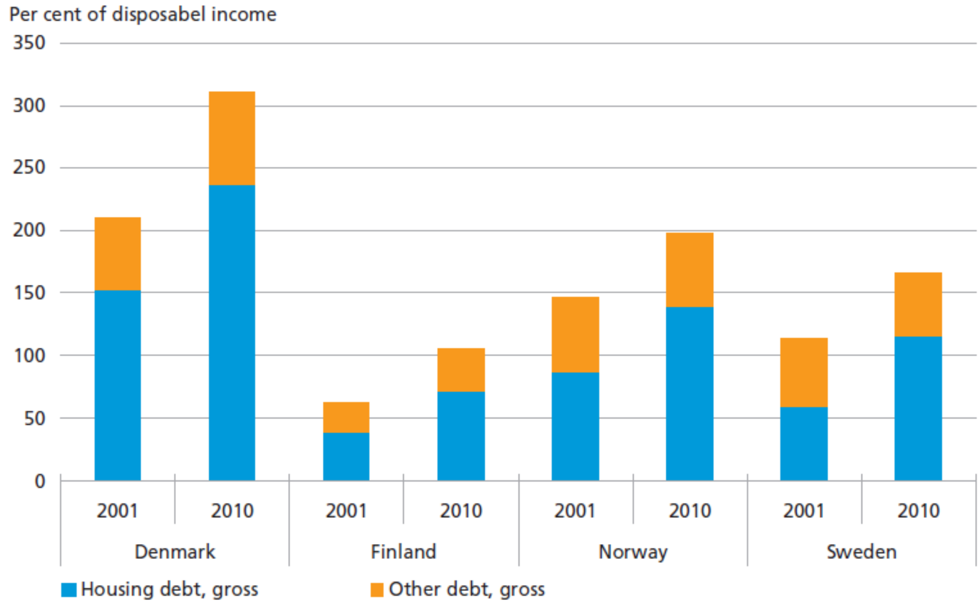
[1] The IMF has constructed an index of the level of development of national financial markets for housing loans. According to this index, Denmark has one of the world's most well-developed financial markets for housing loans, cf. IMF, The Changing House Cycle and the Implications for Monetary Policy, World Economic Outlook, Chapter 3, 2008.

HOUSEHOLD DEBT

Chart 40

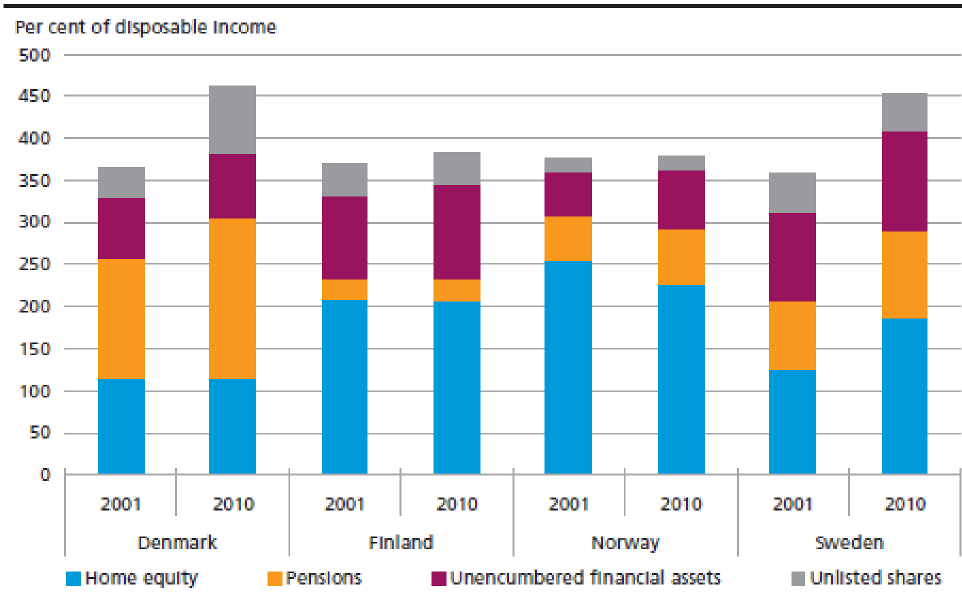


Note: Debt of the aggregate household sector, i.e. including the self-employed e.g. farmers. In 2010, Danish households had unutilised mortgage loans totalling approximately kr. 60 billion. These loans increase the gross debt and assets.

Source: Own calculations based on figures from Danmarks Nationalbank, Statistics Denmark, Eurostat, Statistics Finland, Statistics Norway and Statistics Sweden.

NET HOUSEHOLD WEALTH

Chart 41



Note: Net wealth of the aggregate household sector, i.e. including the self-employed e.g. farmers. Home equity is the difference between the housing market value (excluding agricultural land and other undeveloped land owned by the household sector) and total housing loans. Share certificates regarded as financial assets in the national accounts are included as housing wealth. Pension wealth is estimated net values based on tax rates reported in the OECD report "Pensions at a Glance, 2011". Unencumbered financial assets are financial assets other than pension assets and unlisted shares less non-housing debt. Unlisted shares also include unlisted equity securities.

Source: Own calculations based on figures from Danmarks Nationalbank, Statistics Denmark, Eurostat, Statistics Finland, Statistics Norway and Statistics Sweden.

Furthermore, household net wealth cannot be considered in isolation from the rest of the economy. For instance, the size of the government debt and pressure on public finances from demographic changes could mean that households must expect higher taxes or poorer public service in the future. This points towards a build-up of household net wealth. The public sectors in Denmark, Finland, Norway and Sweden all have low debt levels or net wealth. In Norway, the massive public oil wealth may reduce the incentive of Norwegian households to save.

Denmark stands out from the other countries in that a large part of net wealth is pension savings. The rise in Danish household pension wealth during the last 20-30 years has taken place as labour-market pensions have become more widespread. Due to the high level of pension wealth, large segments of the elderly of the future will enjoy relatively high incomes when they retire. This e.g. reduces the need for people to be free of debt before they retire. Thus the widespread use of labour-market pensions may have contributed to increasing household debt. However, since pension wealth is less liquid than other household assets, this development has rendered households more vulnerable.

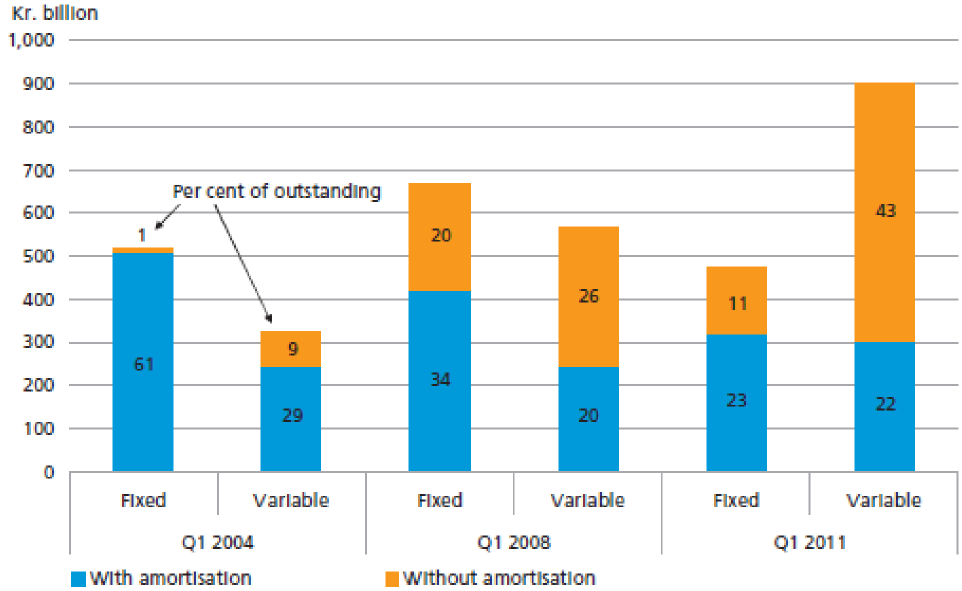
The combination of high debt, many illiquid assets and a preceding period with falling house prices has increased the exposure of households to e.g. changes in interest rates and temporary loss of income. Despite the large and increasing net wealth, households should therefore ensure that their finances are sufficiently resilient in the coming years. Lenders should perform realistic "stress tests" of the households' ability to service their debt under different conditions when offering advice and considering loan applications.

Composition of mortgage-credit debt

Household debt is comprised primarily of mortgage-credit loans. Traditionally, mortgage-credit loans were fixed-rate loans with ongoing amortisation. Product development and liberalisation in the mortgage-credit sector have widened the scope for variable-rate loans and deferred-amortisation loans. While increasing the flexibility of households, both loan types may also augment the risk to individual households and to society in general if the opportunities are not used expediently.

At the end of the 1st quarter of 2011, variable-rate loans accounted for 66 per cent of total loans, while deferred-amortisation loans accounted for 54 per cent, cf. Chart 42. Variable-rate deferred amortisation loans accounted for 43 per cent. The households' use of variable-rate loans and deferred amortisation loans has changed significantly during recent years. In the 1st quarter of 2004, 39 per cent of loans were variable-rate loans, while deferred-amortisation loans, which were introduced in 2003, accounted for approximately 10 per cent.

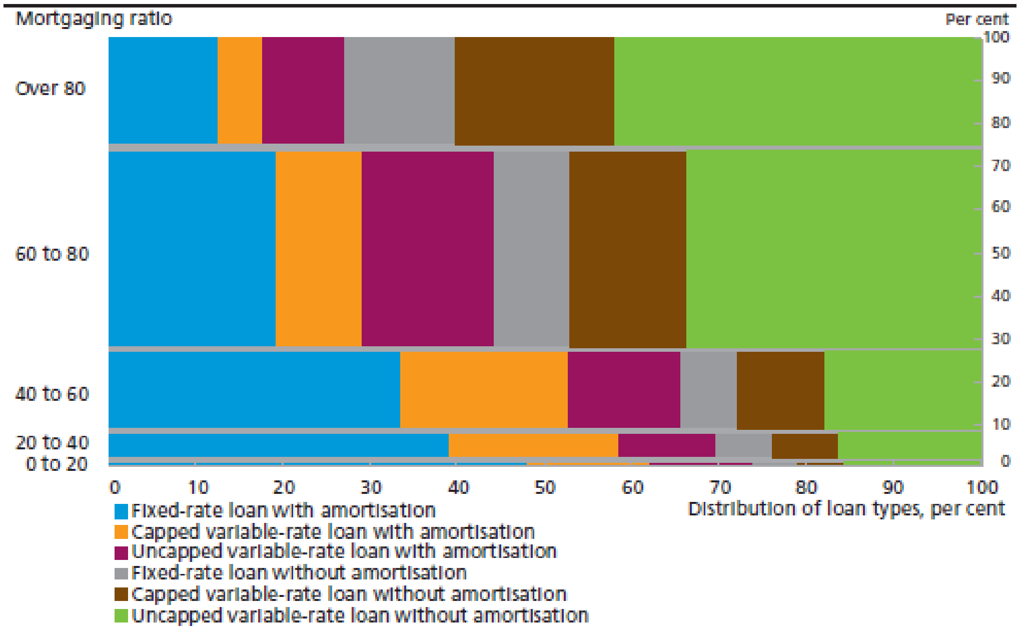
HOUSEHOLD MORTGAGE-CREDIT DEBT BROKEN DOWN BY LOAN TYPE Chart 42



Note: Based on the mortgage-credit institutes' lending against owner-occupied dwellings as collateral. The figures in the bars in this Chart show the percentages of fixed/variable-rate loans with/without amortisation, respectively. Variable-rate loans comprise adjustable-rate loans and loans based on long-term bonds with variable rates.

Source: Danmarks Nationalbank.

CORRELATION BETWEEN LOAN TYPES AND MORTGAGING RATIOS FOR SINGLE-FAMILY HOMES AND OWNER-OCCUPIED FLATS, END-2010 Chart 43



Note: For a more detailed description of the data set, see Box 8. The Y axis shows the percentage distribution of the household loans by mortgaging ratio for five groups: 0 to 20, 20 to 40, 40 to 60, 60 to 80 and over 80 per cent. The X axis shows the percentage distribution of loan types within the respective mortgaging ratio groups. This distribution is weighted by the outstanding bond debt. The outstanding bond debt and property values have been calculated as at 31 December 2010.

Source: Own calculations.

Variable-rate and/or deferred-amortisation loans are most frequently used for homes with a high mortgaging ratio, cf. Chart 43. For homes with a mortgaging ratio of between 60 and 80 per cent or over 80 per cent, the most risky loan types with deferred amortisation and variable rate account for 34 per cent and 42 per cent, respectively, according to an analysis of mortgage-credit loans in a small section of Danish households, cf. Box 8.[1]

DATA RELATING TO THE HOUSEHOLDS' MORTGAGE-CREDIT LOANS	Box 8
The data applied in the analysis is based on a small cross-section of Danish households. The data set contains information on the mortgage-credit loans of each household and an estimate of the market value of its home. Information on the annual income is also included, but only for households wishing to mortgage more than 60 per cent of the value of their home at the time of mortgaging. Consequently, in calculations including income, data has a selection bias. With this selection, homeowners that are not included seen as a group have more home equity when the loan is taken out and lower average indebtedness than the sector overall. When the income data is used, only households with disposable incomes exceeding kr. 100,000 at the time of disbursement are included. Disposable income is based on information on annual income before tax.	

The most risky loan types have appealed less to households with a low mortgaging ratio. One reason for this is that these households have, to a larger extent, obtained their loans before the introduction of adjustable-rate and deferred-amortisation loans.

A corresponding analysis in *Financial stability*, 1st half 2009, based on data from 2008, showed the same trend, but the combination of high mortgaging ratios and higher-risk borrowing has been reinforced during recent years. Thus variable-rate loans (uncapped) without amortization have risen from 17 per cent of the outstanding bond debt in homes with mortgaging ratios between 60 per cent and 80 per cent in 2008 to 34 per cent in 2010, as stated above.

Historically, interest rates on variable-rate loans have been lower than rates on fixed-rate loans. This reflects that borrowers with variable-rate loans assume an interest-rate risk that does not exist for fixed-rate loans. This interest-rate risk may materialise in the form of higher repayments in case of interest-rate rises. If a home is fully leveraged, with a deferred-amortisation loan, a financial buffer is not created on an ongoing basis through instalments. For loans raised since 2004, the loan amount is, on average, higher for variable-rate and deferred-amortisation loans than for fixed-rate loans with amortisation. A representative[2] household with annual income after tax in excess of kr. 350,000 and variable-rate loans with deferred amortisation typically borrows the equivalent of about 4 times its net annual income, cf. Chart 44. A household choosing fixed-rate loans with amortisation typically borrows about 3 times its annual income. This could indicate that households have taken advantage of the lower repayments on adjustable-rate and deferred-amortisation loans to service higher loans. This tallies well with the observation that, in the period until 2008, higher house prices were driven, to a considerable extent, by the access to deferred-amortisation loans and low interest costs on variable-rate loans.[3]

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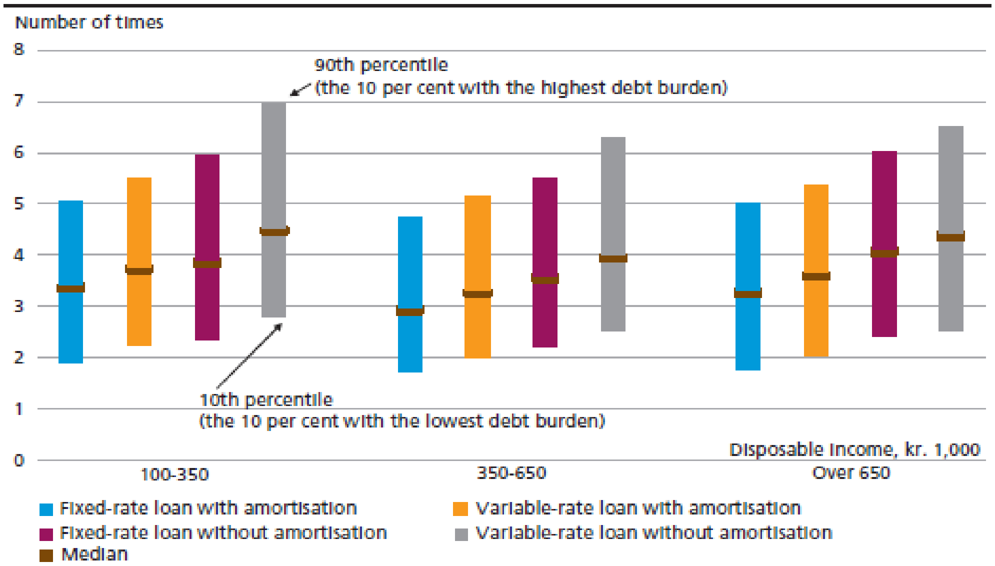
1 Mortgage-credit loans can be taken out for up to 80 per cent of the value of the home, but mortgaging ratios may also rise beyond 80 per cent if the value of the house falls.

2 Median household in the data set, cf. Box 8.

3 Cf. Niels Arne Dam, Tina Saaby Hvolbøl, Erik Haller Pedersen, Peter Birch Sørensen and Susanne Hougaard Thamsborg, Developments in the market for owner-occupied housing in recent years – can house prices be explained? Danmarks Nationalbank, Monetary Review, 1st Quarter 2011, Part 2.

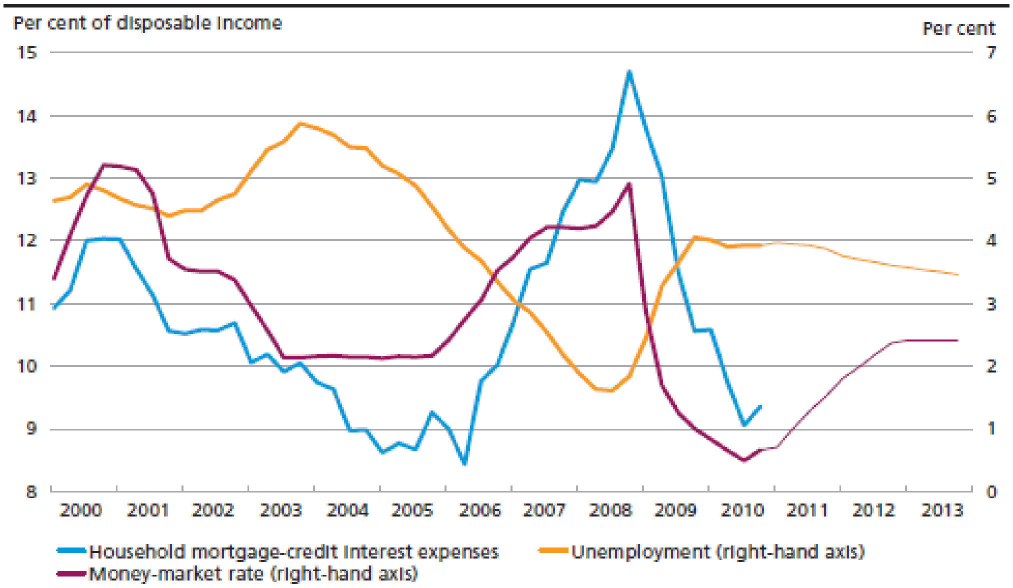
This pattern could indicate that the households with the most risky loans are less resilient in the event of interest-rate rises or loss of income. The current range of financing options and the advice offered can encourage households to operate with smaller financial buffers by way of home equity than traditional loan types. High exposure among many households has a negative impact on financial stability.

MORTGAGE-CREDIT DEBT AS A RATIO OF INCOME, BROKEN DOWN BY LOAN TYPE — Chart 44



Note: The data basis is households having obtained their mortgage-credit loans since the beginning of 2004. For a more detailed description of the data set, see Box 8. Mortgage-credit debt is calculated in terms of principals as a ratio of household disposable income at the time of disbursement. In order to separate the impact of different loan types, only households with just one type of loan are included. Variable-rate loans comprise adjustable-rate loans and loans based on long-term bonds with variable rates.
Source: Own calculations.

HOUSEHOLD MORTGAGE-CREDIT INTEREST EXPENSES, UNEMPLOYMENT AND 3-MONTH UNCOLLATERALISED MONEY-MARKET RATE — Chart 45



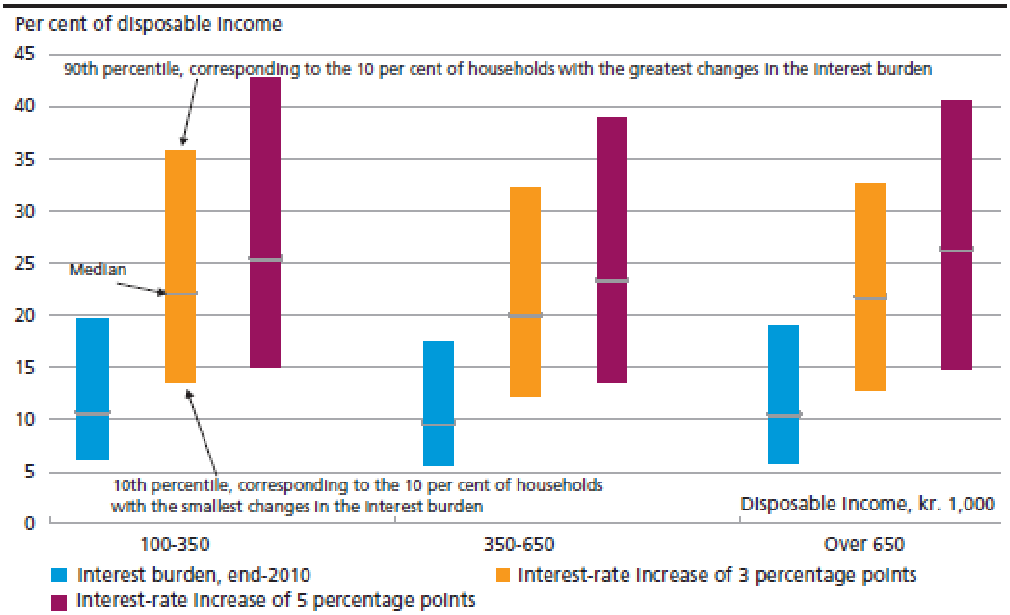
Note: The fine lines indicate the baseline scenario for the variables in the stress test, cf. Chapter 4.
Source: Danmarks Nationalbank and Statistics Denmark.

Household exposure to changes in interest rates

The proportion of mortgage-credit debt linked to short-term interest rates has increased to 66 per cent, cf. Chart 42. As a result, changes in short-term interest rates in recent years have had greater impact on household interest costs, cf. Chart 45. It also means that future interest-rate rises will have a stronger impact on household finances and affect their ability to service their debt – especially if interest-rate rises do not coincide with positive cyclical trends in Denmark. However, to the extent that the Danish economy is in phase with that of the euro area and Danish interest rates fluctuate with those of the euro area, interest-rate rises will coincide with a favourable development in unemployment, and lower unemployment makes households more resilient to a higher level of interest rates.

Household exposure to changes in interest rates may be illustrated by calculating the change in household interest burdens (interest costs as a share of disposable income) if short-term interest rates go up. A 3 percentage point increase in interest rates, equivalent to developments in short-term money-market rates from 2005 to 2008, causes the interest burden of all income brackets to virtually double. For the 10 per cent of households experiencing the steepest increase in the interest burden, interest costs will rise to 30 per cent of the disposable income or more, cf. Chart 46. Depending on the specific circumstances, this could represent quite a strain on household finances.

DEVELOPMENT IN INTEREST BURDEN IN CASE OF AN INCREASE IN SHORT-TERM INTEREST RATES OF 3 AND 5 PERCENTAGE POINTS, RESPECTIVELY, END-2010 Chart 46



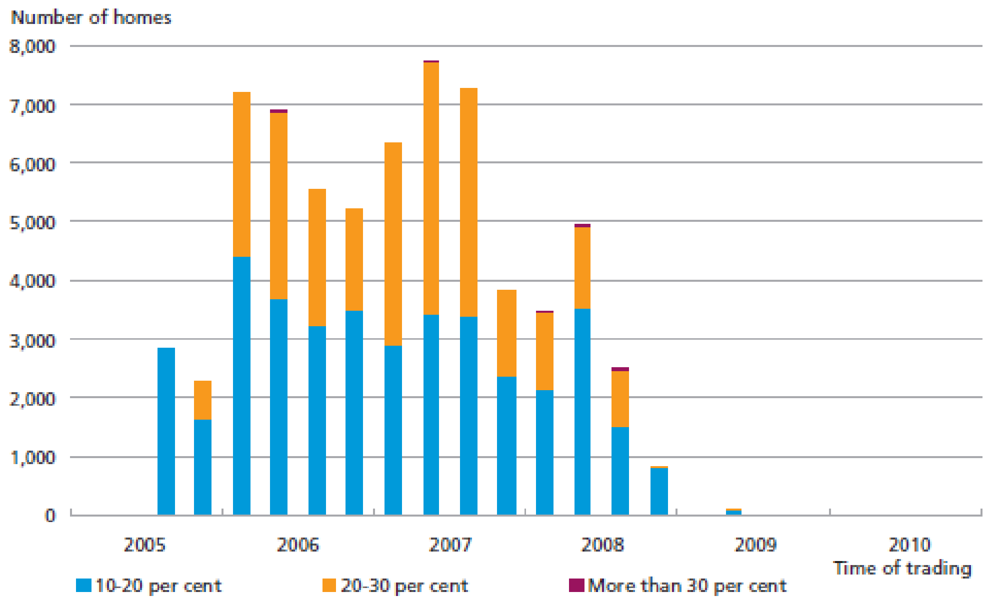
Note: The data set is comprised exclusively of households having obtained at least one mortgage-credit loan since 2006. For a more detailed description of the data set, see Box 8. Short-term interest rates are defined as the rate of a variable-rate loan irrespective of the fixed-interest period. Interest costs are interest payments on mortgage-credit debt only. The interest burden has been calculated as interest costs as a ratio of disposable income.
Source: Own calculations.

House-price developments and deferred-amortisation loans

Since the 2nd quarter of 2007, the prices of single-family houses (including terraced houses) and owner-occupied flats have fallen by 13 and 17 per cent, respectively, for Denmark overall, but there are large regional differences. The vast majority of homeowners still have positive home equity, but for some households who have bought their home within the last few years prices may have fallen so much that the home equity is now negative. Since 2004, there have been approximately 67,000 transactions where the value of the house has fallen by more than 10 per cent since the time of trading, and approximately 27,000 transactions where it has fallen by more than 20 per cent, cf. Chart 47. Whether this results in negative home equity for the individual household obviously depends on the initial mortgaging ratio.

As long as the home is not sold and loans can be serviced, negative home equity has limited significance. However, unemployment, divorce or other social events could compel households to sell or reduce their ability to service the debt, and in that case negative home equity will place them in a difficult financial situation. Moreover, negative home equity could reduce the labour-market mobility of homeowners. At the same time, decreasing house prices mean that the collateral pledged to banking institutions and mortgage-credit institutes is eroded. These factors emphasise the importance of creating a financial buffer through mortgage-credit repayments and by factoring in the possibility of higher interest rates.

NUMBER OF HOUSING TRANSACTIONS FOR WHICH THE PRICE FELL BY MORE THAN 10 PER CENT UNTIL Q4 2010 — Chart 47



Note: Calculation based on house price developments and the number of transactions in owner-occupied flats, single-family houses and terraced houses for Denmark overall.
Source: Danish Mortgage Banks' Federation.

October 2003 saw the introduction of deferred-amortisation loans and it became possible for homeowners to raise 30-year mortgage-credit loans with a deferred-amortisation period of up to 10 years. The deferred-amortisation period of the first loans expires in 2013 and in general this will result in a substantial increase in instalments. This underlines that homeowners who opt for deferred-amortisation loans should be forward-looking and structure their finances for the expiry of the deferred-amortisation period well in advance. If homeowners wish to continue the period of deferred amortisation, they need to redeem the existing loan and raise a new deferred-amortisation loan. If the price of the house has dropped during the deferred-amortisation period, so that the mortgaging ratio exceeds 80 per cent of the value of the house, it will not be possible to raise a loan of the same size.