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# Distribution of household debt burden across age groups

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Over the past twenty years, the distribution of debt and wealth has changed across age groups. Older households have more debt than previously, while at the same time holding a greater share of total wealth. Even though the level of debt has not risen as much among younger households in relative terms, the risk associated with loans is higher, since debt has grown faster than the value of housing wealth.

The household debt level is important when assessing financial stability. However, the distribution of debt is also important. For example, the risk of a loan is closely related to the borrower's collateral and income. In this commentary we will examine in particular the distribution across age groups. This is interesting, because both debt and wealth are very unequally distributed across generations.<sup>1</sup>

## Household debt

Riiser (2009)<sup>2</sup> shows that households where the main income earner is over age 55 had the strongest debt growth over the past decade. Since 1987, the year our data series begins, we have seen a marked shift in the distribution of debt. Chart 1 shows the share of total debt held by households by age from age 25 to age 75<sup>3</sup>.

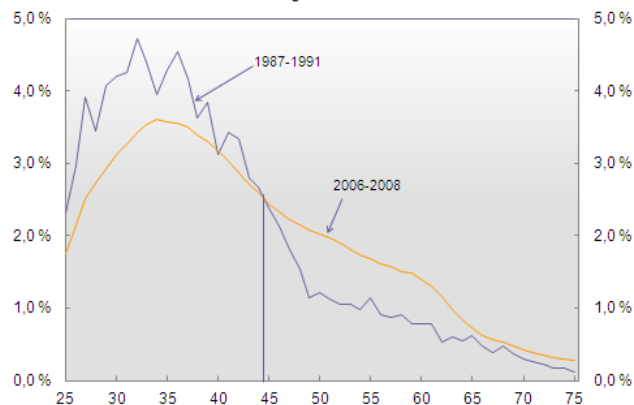
<sup>1</sup> In recent years Norges Bank has published a number of analyses that examined the distribution across categories of households. See for example Vatne (2009): "Housing and debt", *Economic commentaries* 9/2009, and Vatne (2008): "Who is borrowing - for what - and can they afford it?", *Economic Bulletin* 2/2008.

<sup>2</sup> "Household net lending – what the micro data indicate", *Economic Bulletin*, 2/2009.

<sup>3</sup> Age of household's main income earner.

Households under age 45 held a smaller share of total debt at the end of the 2000s than they did at the end of the 1980s. Growth in the share of debt has been particularly strong in households between 45 and 65.

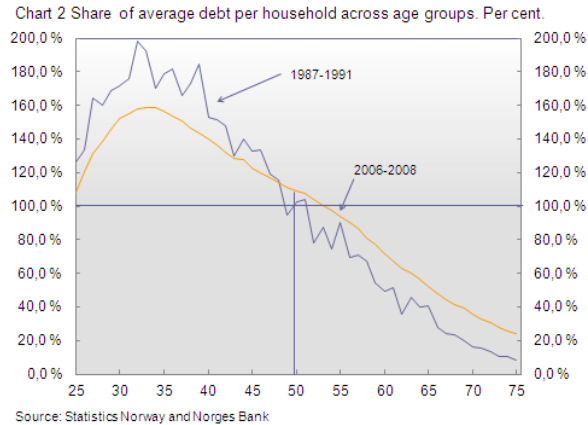
Chart 1 Share of total debt across age of household. Per cent.



Source: Statistics Norway and Norges Bank

One explanation for these developments is demographic changes. The share of the population over 45 has increased in this period, which is why it is not surprising that the share of debt held by this group has increased. However, the debt burden per household has also risen most for the older age groups. Chart 2 shows average debt for each age group as a share of average debt for the population as a whole. Debt held by households under age 50

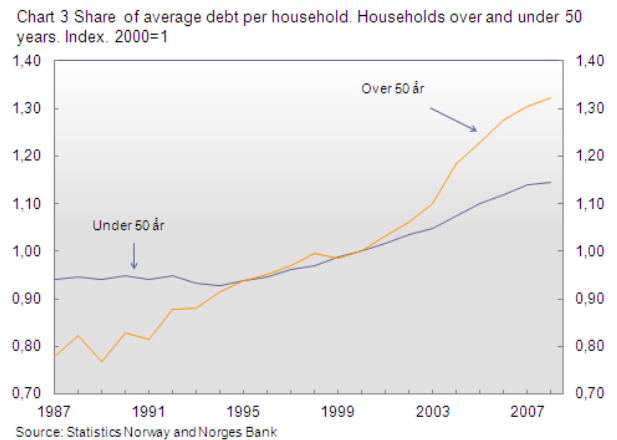
has grown more slowly than that held by the average household, whereas debt held by households over age 50 has grown more quickly.



This is also shown in Chart 3, which illustrates developments over time in the level of debt for households over and under age 50. Growth in the level of debt has been considerably stronger for households over age 50, and the difference is particularly pronounced since 2003. Two factors can be highlighted:

- Interest rates were low, especially in the period 2003-2005. There is reason to believe that older borrowers are somewhat more interest-rate sensitive than younger borrowers. One explanation may be that younger borrowers borrow in order to enter the housing market, whereas older borrowers largely borrow to refurbishing or upgrading.
- Banks began to offer home equity lines of credit around 2005. With their dwelling as collateral, homeowner households can obtain a line of credit, which they can then draw on. Repayment plans for home equity lines of credit have been flexible. Home equity lines of credit are used by

persons of all ages. For younger households this was probably primarily a new designation for a loan that they would have applied for irrespectively. For older households it became an opportunity to assume more debt than before.<sup>4</sup>



## Household wealth

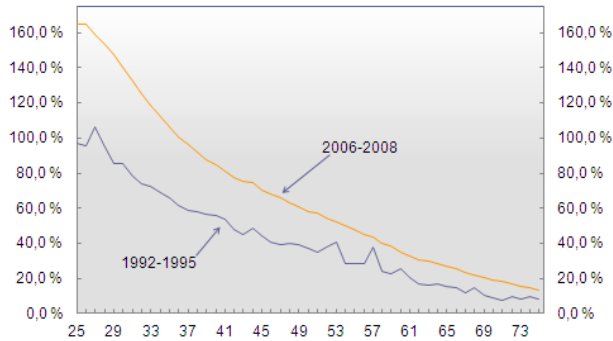
Despite the fact that debt has risen most for households over age 50, the level of debt is still low compared with the value of the housing stock in the same age group. Chart 4 shows developments in overall debt relative to housing value from the early 1990s to the late 2000s.<sup>5</sup> As shown in the chart, debt has grown more than collateral value for all groups, with

<sup>4</sup> An unanswered question is the extent to which older age groups borrow to advance inheritance to children. If this is the case, it may explain some of the shift. However, as of this writing we do not have data that provide an indication of the magnitude of such intergenerational transfers.

<sup>5</sup> Data for household housing value begin in 1992. From tax assessment data we have only the assessed value of dwellings, but this has been converted to a measure of market value. The reason for levels above 100 per cent for younger households is that we include all debt, not only debt secured on dwellings.

the level clearly highest for younger households.

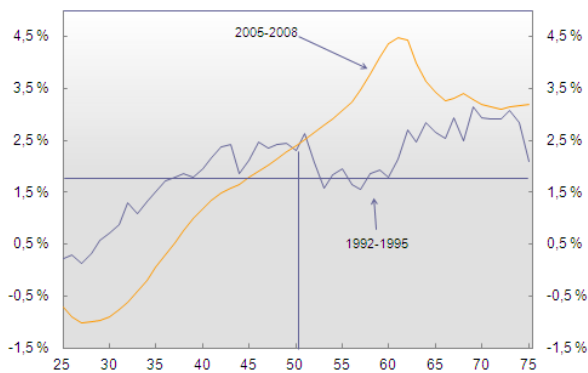
Chart 4 Household debt as share of housing value across age groups. Per cent.



Source: Statistics Norway and Norges Bank

This is evident when we look at the distribution of wealth across generations. Here we define wealth as the total of bank deposits and housing wealth, less debt. We thus disregard shares and other financial investments.<sup>6</sup> Chart 5 shows the share of total wealth held by various age groups. The hump shape is primarily driven by demographic factors. But the chart indicates that population groups over age 50 hold a larger share of total wealth than less than twenty years ago.

Chart 5 Share of total wealth across age groups. Per cent.

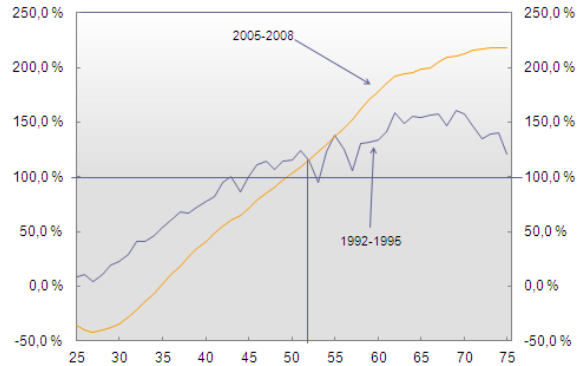


Source: Statistics Norway and Norges Bank

<sup>6</sup> The share of such assets has risen during the past 20 years. Nevertheless, when we exclude the wealthiest in the population, holdings of such securities are relatively limited.

Chart 6 shows the average wealth of each age group as a share of average wealth of the population as a whole. Households over age 50 have increased their wealth relative to the average, primarily reflecting strong growth in housing wealth for these age groups. We can also see that households under age 35 are in a negative net wealth position, even if we include the value of their own dwellings. They were not in this position at the beginning of the 1990s.

Chart 6 Share of average household wealth across age groups. Per cent



Source: Statistics Norway and Norges Bank

## Changes in the interest burden

The risk associated with a loan is not only a function of the value of the collateral, but also of the borrower's debt-servicing capacity. Chart 7 shows the share of income needed to service debt at the end of the 1980s and the end of the 2000s. We assume that households are able to repay debt (less bank deposits) as a self-amortising loan over a period of 30 years, and compare this with expected income over the same period. Two effects pull in different directions:

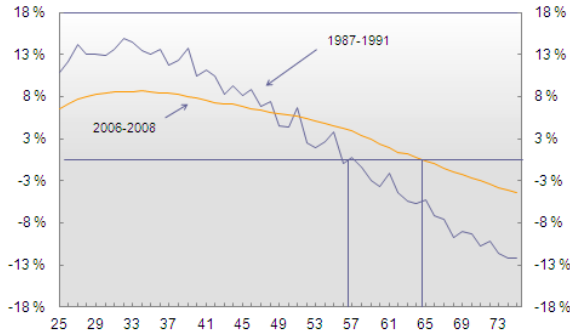
- Higher debt means that households spend more of their income on servicing debt. The debt burden increased for all groups between the two periods. Seen in isolation, this means that a larger

share of income is needed to service debt.

- Lower interest rates in the most recent period mean that the interest burden for a given level of debt is reduced. This has the greatest significance for households with the highest debt.

In the comparison we apply the actual real interest rate in the two periods. In the period 1988-1991 the real interest rate averaged 7.7 per cent, compared with 2.3 per cent in the period 2006-2008.

Chart 7 Share of income needed to service interest and instalments across age groups. Actual interest rate and wage growth. Per cent.



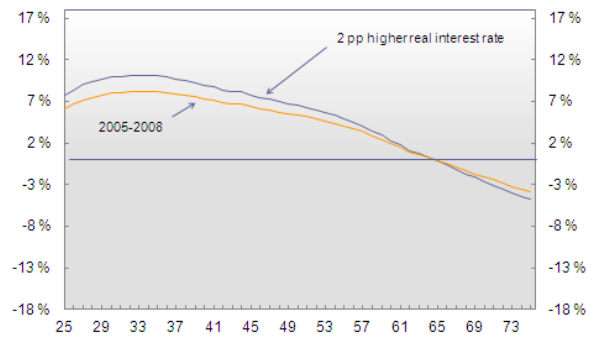
Source: Statistics Norway and Norges Bank

The effect of the fall in real interest rates was largest for the youngest households, since they had the highest debt (see Chart 7). Despite the higher level of debt, the interest burden has fallen for households under age 50. For older households, however, the effect of higher debt predominates, increasing the share of income needed to pay interest and principal. Between the two periods, the age at which households go from having net debt to net bank deposits has increased by ten years, from 55 to 65.

It may be argued that the real interest rate in the period 2005-2008 was lower than what households should expect to pay in the long term. Chart 8 shows the effect of a 2 percentage point shift in the real interest rate.

Households in a net wealth position benefit, whereas households in a net debt position will spend a larger share of income on servicing debt. As expected, the effect is greatest for households with the highest debt.

Chart 8 Share of income need to service interest and instalments across age groups. Effect of 2 percentage points increase in interest rate. Per cent.



Source: Statistics Norway and Norges Bank

## Conclusion

What is the significance of the shift towards higher debt among older households for our assessment of financial stability? Along a number of dimensions, older households are less risky borrowers than younger households. Even though the level of debt for the older groups has risen, it remains low, relative to both income and to the value of the dwellings these households own.

It is difficult to argue that the risk associated with total loans has declined. Even though a relatively higher share of debt is held by groups with higher collateral, more debt than ever is held by groups with less collateral. The relationship between the size of loans and the value of collateral has weakened, especially for households under age 40. So far these households have benefited from low interest rates and high wage growth. As interest rates normalise, the high level of debt may be a burden for many groups