Box 2
Financial vulnerability of euro area households

Monitoring households' debt servicing capability is vital from a financial stability perspective, not least given the relative importance of household lending in banks' loan portfolios and the potential associated impact on the profitability and solvency of banks. However, assessing the financial vulnerability of households is challenging, owing to the need for granular data on household assets, income and liabilities. A key source of consistent information based on households' self-reported assessments is the Household Finance and Consumption Survey (HFCS).[17] The rich data on the liabilities side of the household balance sheet available in the HFCS makes it a valuable resource for monitoring household financial fragility.

The second wave of the HFCS published in December 2016 revealed increased debt exposure per indebted household. The share of indebted households in the euro area stood at 42.4% in 2014 – a small decline relative to the 44% reported in the first wave. At the same time, the median outstanding amount of debt (for indebted households) increased from €24,000 to €28,200, driven mainly by households in the upper tail of the net wealth distribution. Mortgage debt accounted for 85.8% of total household debt, up from 82.8% in the first wave, and has thus remained by far the most important component of household liabilities.[18]

About one-third of low-income households reported incomes lower than expenses. To assess the degree of household vulnerability, it is useful to look into households' ability to save and the mechanisms used to finance spending above current income. Only 24.4% of low income households were able to save, while 34.9% had expenses that were higher than their income (see Chart A). This is different from the pattern observed in the highest income quintile, where 51.6% were able to save and only 10.8% spent more than their income. Recourse to savings and sales of assets are the most common methods households use to cover their overspending. Around 80% of high-income households can exercise this option, while only 50% of those in the first income quintile are able to do so (see **Chart B**). Recourse to help from relatives or friends is a minority option for rich households (20.8%), while it is almost as important as the use of savings for low-income households (48.1%). Around 15% of households in the first income quintile report that they rely on credit to meet their obligations; for households in the third income quintile and above the

[17] The second wave of the HFCS was released in December 2016. The HFCS collects household-level data on assets, liabilities, income, consumption and socio-demographic characteristics of more than 80,000 households in 18 euro area countries, as well as Hungary and Poland. Although there is some variability in the timing of the fieldwork across countries, the most common reference period is 2014.

[18] For a detailed comparison between the evolution of debt holdings between the two waves, as well as detailed descriptive statistics for different subpopulation groups, see "The Eurosystem Household Finance and Consumption Survey – results from the second wave", *Statistics Paper Series*, No 18, ECB, December 2016.

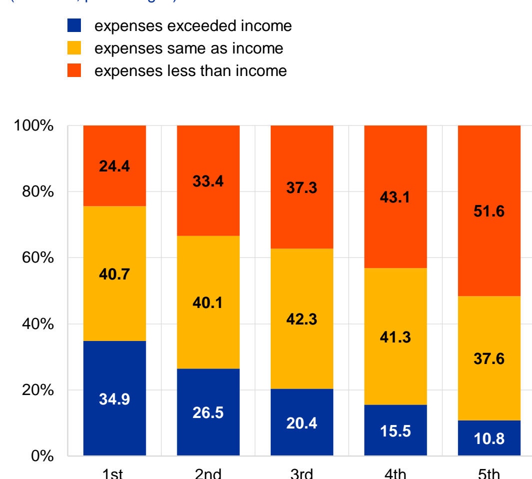
proportion is around 34%. This suggests that households which may be in an already fragile financial position still take on additional debt which they may eventually not be able to service. This, in turn, may increase the likelihood of loan losses for banks. Lastly, a non-negligible 20% of low-income households report that they leave some bills unpaid, leading to a loss of revenue and potentially impaired debt servicing capacities for the affected counterparties.

Chart A

For around one-third of households in the lowest income bracket expenses exceed income

Ability to save during last year by income quintile

(Q4 2016; percentages)



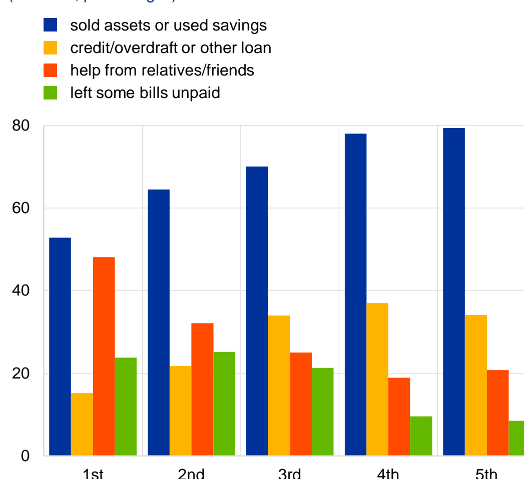
Sources: HFCS and ECB calculations.
Note: The exact question answered by the household is whether expenses exceeded income, was the same as income or was lower than income during the last 12 months.

Chart B

Rich households are better placed to meet expenses via recourse to savings or bank credit

Sources of extra income to meet expenses by income quintile

(Q4 2016; percentages)



Sources: HFCS and ECB calculations.
Note: Sample restricted to households whose expenses exceeded their income over the last 12 months.

Debt servicing uses up one-fifth of indebted low-income households' gross earnings. The debt service-to-income ratio indicates the pressures households are facing in the short term stemming from the obligations associated with the debt they have contracted. To obtain a more accurate picture of the current situation faced by euro area households, the HFCS data are "updated" using price series from national accounts up until the final quarter of 2016.[19] Based on these updated figures, the median indebted euro area household uses 13.5% of its gross income to cover debt payments. Indebted low-income households are in a more vulnerable position. A median debt service-to-income ratio of 20% for indebted households in the first income quintile contrasts with only 10% for the highest income quintile (see **Chart C**). Focusing on the age distribution, indebted households where the reference person is aged between 31 and 40 years exhibit the highest debt service-to-income ratio, which then decreases with age. Generally, it is households in this age bracket that have more recently taken out mortgages. In spite of low mortgage interest rates, these households are likely to have maximised the amount borrowed, and consequently face a higher debt servicing burden.

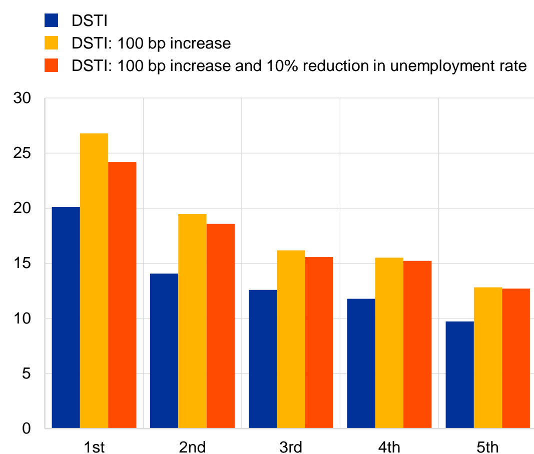
[19] For a detailed description of the simulation method used to update the HFCS data, see Ampudia, M., Pavlickova, A., Slacalek, J. and Vogel, E., "Household Heterogeneity since the Onset of the Great Recession", *Journal of Policy Modeling*, Vol. 38, Issue 1, 2016, pp. 181-197.

Chart C

An interest rate shock would affect low-income households the most

Actual and simulated median debt service-to-income ratios by income quintile

(Q4 2016; percentages)



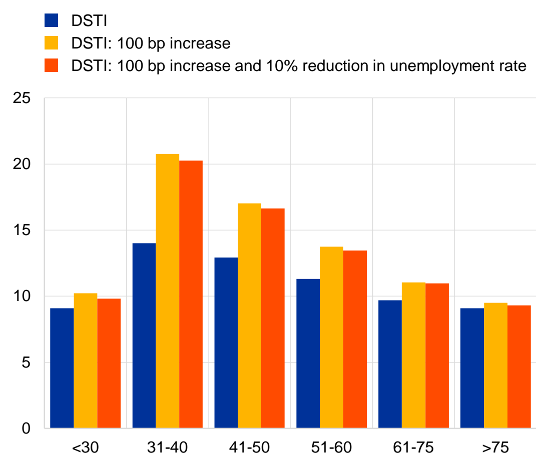
Sources: HFCS and ECB calculations.
Notes: The simulated debt service-to-income ratio assumes a 100% pass through of a 100 basis point interest rate increase to variable rate mortgage payments. Finland is excluded, owing to the lack of data on variable rate mortgages.

Chart D

Indebted households in the 31 to 40 age bracket have the highest debt servicing burden

Actual and simulated median debt service-to-income ratios by age bracket

(Q4 2016; percentages)



Sources: HFCS and ECB calculations.
Notes: The simulated debt service-to-income ratio assumes a 100% pass through of a 100 basis point interest rate increase to variable rate mortgage payments. Finland is excluded, owing to the lack of data on variable rate mortgages.

An interest rate shock could have a strong impact on households' debt servicing obligations and their capacity to meet them. A sensitivity analysis was undertaken to shed light on how the debt service-to-income ratios across the income and age distributions would change if interest rates were to increase by 100 basis points. Under the first pure "risk premium" shock scenario, it is assumed that other conditions, notably household incomes, remain unchanged, while in the second scenario the interest rate shock is coupled with a 10% decrease in unemployment rates in all countries. The second scenario represents a more positive situation in which interest rates have risen as a result of improved macroeconomic conditions.[20] Indebted low-income households would experience the largest impact on their debt servicing ratios. For them, the median debt service-to-income ratio would increase from 20% to 27% under the first scenario, thereby approaching the 30% mark, which is frequently used in the literature as a threshold for financial vulnerability concerns. Looking at the age distribution, households in the age brackets with the highest ratios would also experience the largest increases, while households at either end of the age distribution would see their median ratios broadly unchanged (see **Chart D**). Under the second scenario, the reduction in unemployment rates would mitigate these results, owing to its positive effect on household incomes, especially for those at the bottom of the income distribution, for whom the debt service-to-income ratio would rise to only 24%, compared with 27% under the first scenario. For high-income households, there is practically no difference between the two scenarios.

All in all, it seems that the financial vulnerability of indebted low-income households would be considerably exacerbated by an increase in interest rates, if it were not accompanied by an overall macroeconomic improvement reflected in higher incomes. Households which are

[20] The simulation assumes a 100% pass-through to variable rate mortgages. Payments on fixed rate mortgages are not affected by the interest rate change.

unable to resort to savings and are already relying on help from relatives and friends may find themselves in a particularly vulnerable position.