FINANCIAL FRAGILITY OF EURO AREA HOUSEHOLDS

The severity of the global financial crisis has entailed significant consequences for the real economy. Households, which account for the largest component of economic activity, have experienced the effects of this crisis in different ways, also translating into growing financial strains. Monitoring households' debt servicing capability is therefore vital from a financial stability perspective, not least given the associated impact on the profitability and solvency of banks.

One rich source of information on euro area households' balance sheets is the recently published Eurosystem Household Finance and Consumption Survey (HFCS), a novel dataset which collects information on the wealth, income and consumption patterns of more than 62,000 euro area households.[1] This box makes use of micro data from the survey to provide a simple gauge of households' potential sensitivity to changes in interest rates and house prices.

The first sensitivity analysis captures an interest rate shock to households' debt service-to-net income ratio, as a means to assess the capacity of households to repay debt without recourse

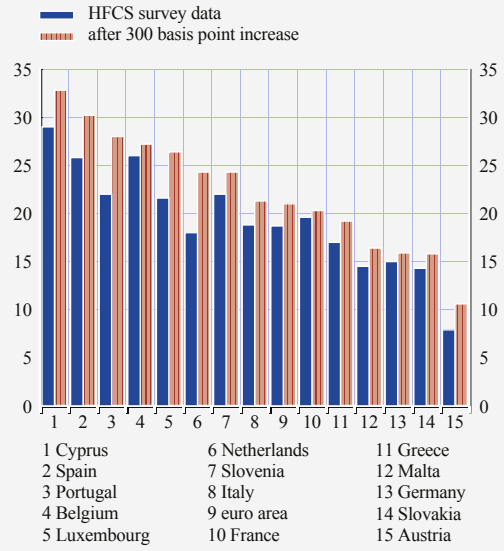
1 All euro area countries are included in the survey except for Estonia and Ireland. For a complete picture of euro area households' balance sheet composition, see "The Eurosystem household finance and consumption survey – results from the first wave", *Statistics Paper Series*, No 2, ECB, April 2013.

to their assets.[2] The effect of a 300 basis point interest rate increase on the debt service-to-net income ratio is assessed,[3] which is equivalent to the total interest rate cuts carried out by the ECB between October 2008 and mid-2010. The rise in interest rates affects the ratio via the increase of debt payments and the increase of financial income received from interest-paying accounts.[4] In both cases, a 100% pass-through of the official interest rate is assumed. It is also assumed that loans with a fixed interest rate are not affected by the shock. The ratios are updated mechanically with the new debt payment and income stream after the shock, so any behavioural reactions by households are ignored.

The results show that the impact of the interest rate shock on the median debt service-to-net income ratio for the euro area is rather small, increasing from 18.7% to 21.0%. However, there is substantial variability in the impact across countries. The median ratio increases the most in the Netherlands and Portugal, while in other countries like France and Germany the impact is minimal (see Chart A). Looking at the proportion of households which have a debt service-to-net income ratio greater than 0.4 – a threshold that is used in the literature as an indication of household distress – the increase in interest rates would have a substantial impact on the number of households in this situation. For the whole euro area, 16.0% of households find themselves

Chart A Impact of an interest rate shock on the median household debt service-to-net income ratio

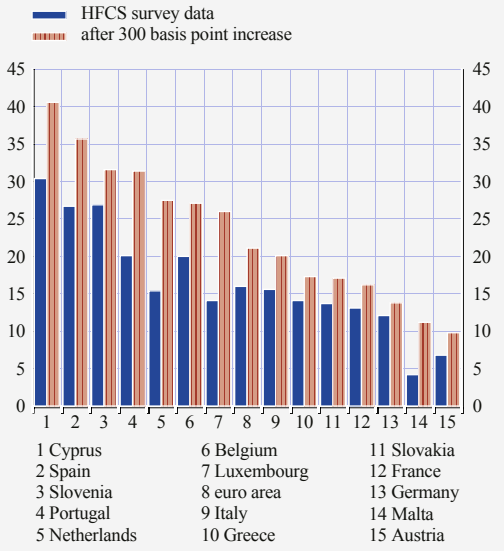
(2010; percentages; median of indebted households)



Sources: HFCS, OECD and ECB calculations.
Notes: Income is the income after tax, based on own calculations using tax brackets reported by the OECD. Finland is excluded because no data are collected on debt service. HFCS survey data refer to 2010 in all countries, except for Finland, Greece and the Netherlands (all 2009) and Spain (2008).

Chart B Impact of an interest rate shock on the proportion of households with a debt service-to-net income ratio above 0.4

(2010; percentage of indebted households)

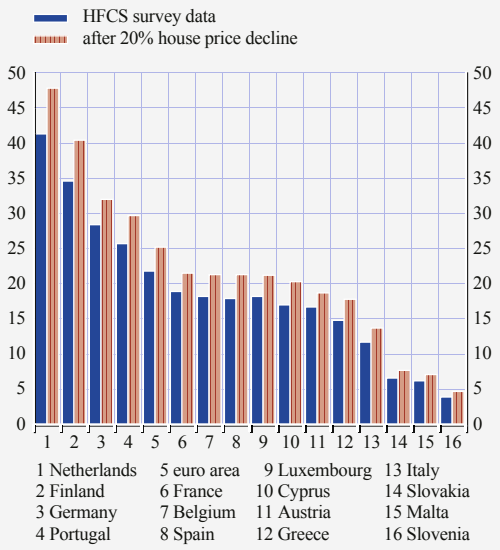


Sources: HFCS, OECD and ECB calculations.
Notes: Income is the income after tax, based on own calculations using tax brackets reported by the OECD. Finland is excluded because no data are collected on debt service. HFCS survey data refer to 2010 in all countries, except for Finland, Greece and the Netherlands (all 2009) and Spain (2008).

2 The numbers presented in this box for the debt service-to-net income ratio differ from those published in the HFCS. As it is a more relevant measure for assessing households' debt servicing capability, net (instead of gross) income is used.
3 A similar simulation has been conducted by Ehrmann, M. and Ziegelmayer, M., "Household risk management and actual mortgage choice in the euro area", January 2013 (paper presented at the EEA Annual Congress in August 2013). However, they do not take into account the effect of the interest rate change on the income derived from deposits and they consider gross instead of net income.
4 We ignore the fact that in some countries deposits might be non-interest-bearing or subject to fixed rates.

Chart C Impact of a house price shock on the median debt-to-assets ratio

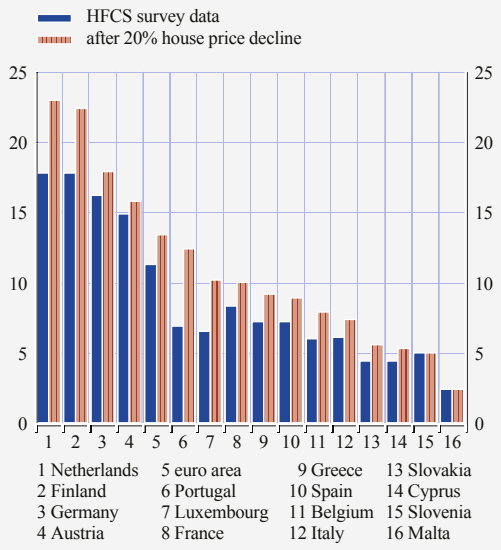
(2010; percentages; median of indebted households)



Sources: HFCS and ECB calculations.
Note: HFCS survey data refer to 2010 for all countries, except for Finland, Greece and the Netherlands (all 2009) and Spain (2008).

Chart D Impact of a house price shock on the proportion of households with a debt-to-assets ratio above 1

(2010; percentage of indebted households)



Sources: HFCS and ECB calculations.
Note: HFCS survey data refer to 2010 for all countries, except for Finland, Greece and the Netherlands (all 2009) and Spain (2008).

in this situation, a number that increases to 21.1% after the interest rate shock. Again, there is considerable variability in the impact across individual countries. In some countries, such as Cyprus and Spain, more than one-third of the indebted households have debt service-to-net income ratios greater than 0.4 after the interest rate shock. In others like France or Germany the numbers are still contained (see Chart B).

The second sensitivity analysis applied is a shock to house prices, with net worth impacts captured through the debt-to-assets ratio and associated information about the solvency of households.[5] The impact of a 20% decline in house prices on this ratio is analysed, in line with average shocks used in other studies.[6] The impact of the shock is relatively small, despite some variability across individual countries in the sample. The drop in house prices increases the debt-to-assets ratio by somewhere between 0.8 and 6.5 percentage points (see Chart C).

Households with a debt-to-assets ratio greater than 1 are said to have negative equity and pose a specific threat to financial stability. According to the HFCS data, 11.3% of indebted households in the euro area have negative equity. Again, there is a large degree of cross-country heterogeneity, ranging from 2.4% in Malta to almost 18% in Finland and the Netherlands (see Chart D). Households' sensitivity to changes in house prices is also uneven across the countries in the sample. For example, in the case of Malta or Slovenia the house price shock would have no effect on households' debt-to-assets ratios at all, while in both Finland and the Netherlands the number of households in negative equity would increase to some 23.0%.

5 Assets include both real and financial assets. Public and occupational pension plans are excluded due to the lack of coverage of these assets by the HFCS.
6 See IMF, *Financial Sector Assessment Program Update: Spain*, June 2012, and Albacete, N. and Fessler, P., "Stress Testing Austrian Households", *Financial Stability Report*, Oesterreichische Nationalbank, June 2010.

All in all, the findings presented in this box suggest that at the euro area level the impact of these shocks tends to be relatively small, although this aggregate masks substantial cross-country heterogeneity. The effect of an interest rate shock on the debt service-to-net income ratio tends to be greater for countries with a high proportion of adjustable interest rate mortgages, such as Cyprus, the Netherlands, Portugal and Spain, and rather small for euro area countries like France or Germany, in which fixed interest rate mortgages prevail. In the case of a house price shock, the debt-to-assets ratio of Dutch and Finnish households seems to be affected the most.