

Box 4

THE DEBT SERVICING BURDEN OF EURO AREA HOUSEHOLDS – SOME MACROECONOMIC AND MICROECONOMIC EVIDENCE

Euro area households' mortgage debt has increased rapidly as a percentage of their income over the past few years, raising concerns about the sustainability of debt positions. For a central bank this issue is of relevance with regard to any detailed investigation of the transmission mechanism and from the point of view of financial stability. For example, the sensitivity of consumption to interest rate changes is likely to depend crucially on the magnitude and structure of households' outstanding debt, of which mortgage debt is the largest share.

The "debt service ratio" – calculated as the amount of debt service payments relative to disposable income – is a measure that is frequently used to assess the financial obligations of mortgage-indebted households and their ability to repay debt. For the purposes of this box, debt service payments are defined as including both interest payments and principal repayments.

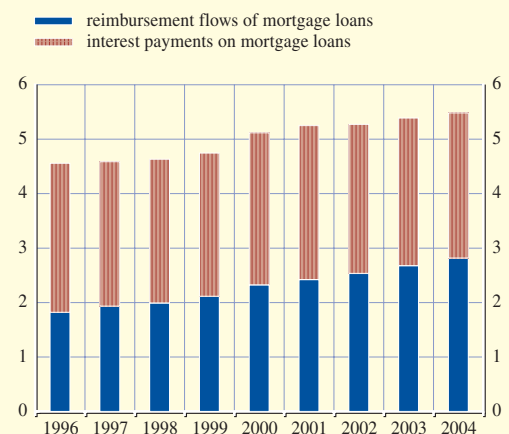
All other things being equal, a higher debt ratio implies a higher debt servicing burden and increased risks for debt sustainability in the case of adverse shocks to income and interest rates. This box reviews the main macroeconomic and microeconomic evidence available on the euro area debt servicing burden associated with mortgage debt.

Macroeconomic evidence based on national accounts and interest rate statistics

Data on the debt servicing burden of the euro area household sector are not directly available in the official statistics. The ECB's estimates for this burden are based on specific assumptions relating to the average maturity of households' loans, the structure of debt in terms of mortgage loans and other loans, and the interest paid on different kinds of household loans. These assumptions are based on information available from national accounts, banking and interest rate statistics. The data suggest that the aggregate mortgage debt service ratio of euro area households has remained broadly unchanged in recent years at somewhat more than 5% of disposable income (see Chart A). Among other factors, this might primarily reflect the decline in interest rates in the euro area to historically low levels. Indeed, the higher debt repayment burden associated with the strong loan growth observed in past years has been more or less offset by the lower share of income devoted to interest payments.

Chart A Mortgage debt service-to-income ratio

(as a percentage of disposable income)



Sources: ECB and ECB estimates.

When assessing these aggregate figures it needs to be borne in mind that they are calculated as a ratio of the disposable income of the household sector as a whole, i.e. also including households that do not have mortgage debt. According to the survey data presented below, just over 20% of households had outstanding mortgage debt in 2001. This implies that the debt service ratio for the households that do have an outstanding mortgage must be higher.

In practice, however, there are a number of factors – such as longer loan maturities, “payment holidays” or amortisation-free loans – which can lead to a decoupling of rising mortgage debt ratios from the associated debt servicing burdens and default risks. To assess the risks and vulnerabilities implied by the household sector's debt position, it is therefore useful to complement the analysis of macroeconomic data with that of microeconomic data.

Microeconomic evidence based on the European Community Household Panel

The European Community Household Panel (ECHP) provides information that allows an assessment of developments in the debt servicing burden across households. The ECHP is a survey based on a standardised questionnaire that involves the annual interviewing of a

representative panel of households and individuals in a number of European countries, covering a wide range of topics including income and housing characteristics. The broad range of topics, the standardised methodology and the longitudinal panel design – in which information on the same set of households is gathered over time – make the ECHP an important and unique source of information at the microeconomic level. The total duration of the ECHP was eight years, running from 1994 to 2001. Data are available for all euro area countries, although in the case of Austria and Finland the survey only started in 1995 and 1996 respectively. To ensure the comparability of the analysis for the euro area over time, the analysis presented in this box is restricted to a sample ranging from 1996 to 2001, when all countries participated in the survey.¹

Debt service ratios are constructed for those households in the sample that do actually have outstanding mortgage debt and debt servicing obligations.² These ratios can then be condensed along several lines. First, the mean of the debt service ratios fluctuated around the level of 23% in the period 1996-2001 and thus implies a considerably higher debt servicing burden for households with mortgage debt payment obligations than is suggested by macroeconomic data. Given the fact, however, that the distribution of the individual debt service ratios can be skewed, the median may provide a more appropriate picture of the “typical” debt servicing burden of the households in the sample. The median was generally lower than the mean in the period under review, at levels of slightly above 20%, implying some skewness in the distribution towards higher debt service ratios (see Chart B).

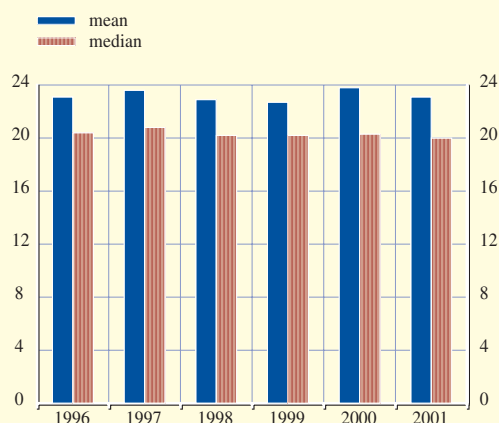
The use of microeconomic data allows for the quantification of other interesting aspects. For instance, it is possible to investigate more closely the distribution of debt service ratios across

1 Luxembourg is excluded for the purposes of the analysis in this box owing to missing data.

2 The mortgage debt service ratio is calculated from the responses to questions on the monthly amount paid for outstanding loans or mortgages for accommodation and the total amount of net household income. The sample includes only households that actually provided a figure in response to the question on their payments (i.e. excluding those households that answered “do not know” or “no debt”).

Chart B Debt service-to-income ratio

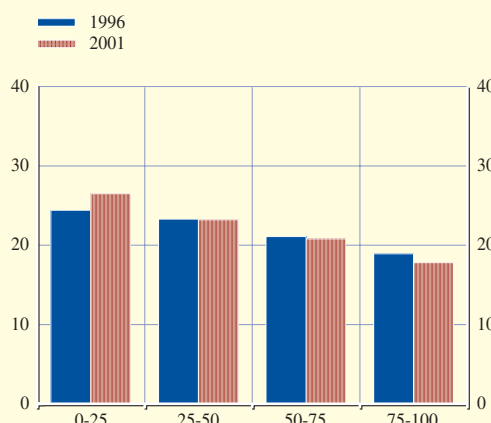
(as a percentage of disposable income)



Source: ECB calculations based on the ECHP.

Chart C Distribution of mortgage debt service-to-income ratio

(as a percentage of disposable income; median values; percentiles of income distribution)



Source: ECB calculations based on the ECHP.

the income spectrum. More precisely, in order to further assess the macroeconomic and financial risks implied by the mortgage debt servicing burden, it is instructive to consider different income categories. For example, for households in lower income categories, income and interest rate shocks may imply stronger financial risks as these households tend to have lower saving ratios and will probably also have less collateral or financial reserves. Chart C shows the median debt service ratio for the years 1996 and 2001 for various percentiles of income. The burden is highest for households in the lowest income quartile and tends to decline for households in the higher income quartiles. This general pattern seems to have remained broadly unchanged over the sample period. If anything, a slight increase in the difference between the debt service ratio in the lower quartile and that in the higher quartile can be detected.

To summarise, microeconomic data suggest that for those households that do have a mortgage, the debt servicing burden is considerably higher than is implied by macroeconomic data. Moreover, the burden is higher for households in lower income categories. These differences between macroeconomic and microeconomic data need to be taken into account when assessing the financial risks associated with possible income and interest rate shocks. However, the figures presented in this box should be viewed with the necessary caution: in the case of the macroeconomic data, they are based on a number of assumptions; and in the case of the microeconomic data, they are not corrected for outliers. Against this background, further analysis is needed, which is currently being carried out within the ECB.