

## AN OVERVIEW OF DEVELOPMENTS IN EURO AREA HOUSING AND MORTGAGE MARKETS

In spite of increasing economic integration within the EU, the performances of national housing markets and the characteristics of mortgage markets have remained rather heterogeneous.<sup>1</sup> This has meant that the balance sheet conditions of households and the nature and extent of exposures of banks to household sectors differ significantly across countries within the euro area. Therefore, in order to identify financial stability risks and vulnerabilities, it is important to look behind euro area average or aggregate figures and examine developments at the national level as well. With this in mind, this box draws upon indicators that are available at the national level to analyse country-specific housing market developments that are relevant from a financial stability perspective.

One illustration of the degree of heterogeneity of potential housing market-related vulnerabilities across euro area countries is that, compared with a euro area average of just over 60% at the end of 2006, the stock of housing loans as a percentage of disposable income ranged from 21.3% in Italy (14.2% in Slovenia) to nearly 160% in the Netherlands. Similarly, while average household indebtedness as a percentage of GDP was 60% in the euro area at the end of 2006 (on a non-weighted basis), for some countries the same ratio was significantly in excess of this: in the Netherlands it was more than 120% of GDP while Ireland (the latest data available are for 2005), Portugal, Spain and Luxembourg had ratios of between 80 and 90% of GDP. At the same time, there are wide differences in the degree of exposure of national banking systems to mortgage market-related risks. For instance, compared with an average (non-weighted) share of housing loans in the non-MFI loan portfolios of banks of around one third in the euro area at the end of the second quarter of 2007, this share varied from around 10 to 12% in countries such as Slovenia and Luxembourg to around 40 to 43% in the Netherlands, Portugal and Finland.<sup>2</sup> In short, the distribution of mortgage credit risks across euro area countries is likely to be biased towards those countries with the most stretched household balance sheets.<sup>3</sup>

The relentless rise in household indebtedness witnessed over recent years, facilitated by the low interest rate environment, has left the households concerned more vulnerable to income and interest rate shocks, while the concomitant shift in the composition of household wealth towards illiquid housing wealth has left them more vulnerable to house price shocks.<sup>4</sup> That being said, the strengthening of the net wealth positions of households provides a buffer against such shocks. Within the euro area, for those countries where data are available, household net total

1 Some convergence is evidenced by the decline in the dispersion of interest rates charged on MFI housing loans in the euro area (see ECB (2007), "Financial integration in Europe", March). While foreign bank penetration has been rising rapidly, the bulk of housing loans continue to be granted by domestic financial institutions.

2 For further discussion, see ECB (2007), "EU Banking Sector Stability", November.

3 Note, however, that the degree of financial and mortgage market sophistication or completeness and housing market policies (e.g. tax treatment) vary within the euro area (see e.g. P. Catte, N. Girouard, R. Price and C. André (2004), "Housing markets, wealth and the business cycle", *OECD Working Paper*, No. 394). Therefore, plain household debt and bank lending ratios measured at the national level that do not correct for the proportion of households that are indebted or for credit risk mitigating factors do not accurately capture credit risk exposures.

4 The body of literature on the issue of rising household indebtedness and its consequences for debt sustainability has been expanding in recent years. See, for example, G. Debelle (2004), "Macroeconomic implications of rising household debt", *BIS Working Paper*, No. 153; BIS (2006), "Housing Finance in the Global Financial Market", CGFS Paper, No. 26; L. Rinaldi and A. Sanchis-Arellano (2006), "Household debt sustainability: What explains household non-performing loans?", *ECB Working Paper*, No. 570; N. Girouard, M. Kennedy and C. André (2006), "Has the rise in debt made households more vulnerable?", *OECD Working Paper*, No. 535; Fitch Ratings (2007), "House Prices and Household Debt – Where are the Risks?", Fitch Special Report, July.

wealth (of which net housing wealth accounted for between 25% and 75%) was between four and nine times household disposable income at the end of 2006 (see Chart A). However, in those countries where net housing wealth accounts for the bulk of household net wealth and where net non-housing wealth is small relative to the size of outstanding housing loans, this buffer seems largely dependent on house price developments and on the ease with which housing wealth can be realised through mortgage equity withdrawal. Where the latter is less prevalent, households are more likely to be unable to service their debts in the face of income and/or interest rate shocks. This means that, should incomes fall (unemployment being an extreme example of income risk), or interest rates rise, households in these countries, especially those on lower incomes, would face more difficulty in servicing mortgage debt out of assets.

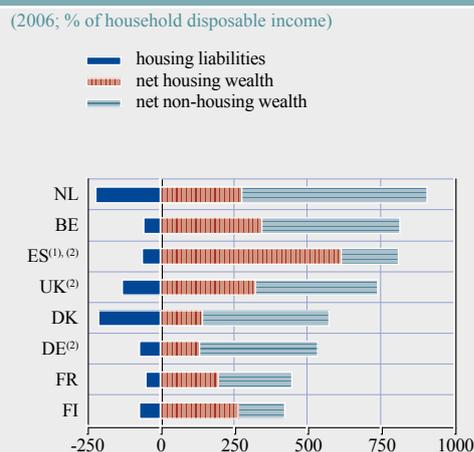
Clearly, the extent to which an interest rate shock would affect household debt servicing capacity depends on the degree of interest rate variability in the mortgage contract. At the end of 2006, on average about two-thirds of outstanding housing loans in the euro area countries on a non-weighted basis (and about one-third if weighted) were contracted with an initial fixed-interest period of up to one year. This average, however, hides large cross-country variations. At the extremes, the share of such “variable” rate housing loans stood at less than 1% in the Netherlands and reached as high as 95% in Finland and close to 100% in Portugal. While this suggests that households in the latter countries are more vulnerable to interest rate shocks, this supposition only holds to the extent that potential interest rate increases are uncapped. Similarly, the extent to which an income shock would affect household debt servicing capacity depends not only on the debt service ratio but also on the liquid (financial) assets of households. This determines the degree to which households can absorb the income shock by scaling down other expenditures or by liquidating assets to service mortgage debt. The room for such manoeuvre differs significantly among euro area countries.

Whether a rising share of non-performing housing loans would result in actual mortgage credit losses for mortgage creditors in the euro area depends on the degree to which the loans concerned are covered by collateral net of any costs that would be associated with liquidating this collateral. If households that fail to service their mortgage debt (and hence default on this debt) hold little, no, or even negative housing equity, the likelihood of mortgage lenders incurring credit losses increases. A key indicator used by banks and analysts to judge the potential losses in the event of a default is the loan-to-value (LTV) ratio. This ratio depends on both the size of the initial downpayment and subsequent loan amortisations (numerator) as well as on the market value of the collateral (house prices, denominator).

At least two approaches can be taken to gauging LTV ratios using publicly available data. First, for the entire stock of mortgage debt, the ratio can be derived from national accounts data for households by dividing housing liabilities by housing wealth. In 2006, for the limited number of euro area countries for which such data are available (the six euro area countries included in Chart A), this rather conservative measure of the LTV ratio ranged from 14% for Belgium to 44% for the Netherlands, with the non-weighted average for the euro area (based on five countries) being 27%. While obviously underestimating actual LTV ratios,<sup>5</sup> these figures suggest that it would take a sizeable house price decline in addition to any adverse disturbance to the debt servicing capacity of mortgage borrowers before banks would incur large credit

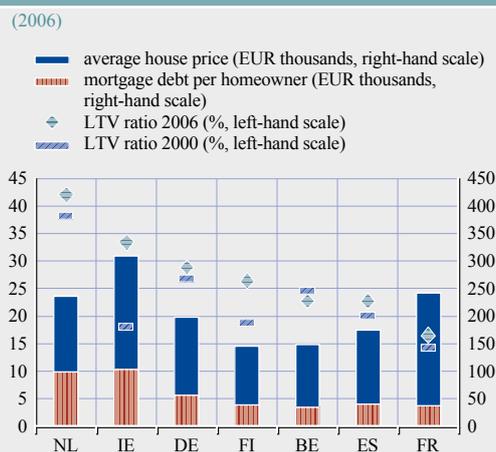
<sup>5</sup> For instance, the housing wealth of households that do not hold a mortgage loan is not excluded here, nor is that of households that have benefited from large housing valuation gains and have nearly paid off their mortgage loans. The latter pull down the average LTV ratio, but are less relevant from a financial stability perspective.

**Chart A Decomposition of household net wealth in the euro area and peers**



Sources: National central banks, national statistical offices and ECB calculations.  
 Note: (1) Data refer to 2004.  
 (2) Housing wealth is an estimate by national authorities.

**Chart B LTV ratios, average housing loans, and average house prices in the euro area**



Sources: National central banks, national statistical offices and ECB calculations.  
 Note: Average house price definitions differ. For DE it measures the average price of terraced houses (about 100 m<sup>2</sup>; from Deutsche Bundesbank, based on data from BulwienGesa AG); for ES and FI the average price per square metre has been adjusted for average dwelling sizes; for FR the average price is based on new houses only.

losses. Evidently, an accurate estimate of potential credit losses if an adverse disturbance occurs would involve assessing the distribution of the ability of households to service and repay mortgage debt, which requires disaggregate rather than aggregate data. Second, LTV ratios can be estimated by calculating the average size of outstanding housing loans and dividing that by the average house price. This approach is relatively demanding in terms of data availability, as it requires data on the proportion of households with mortgage debt and on the average dwelling size (as average house prices are often denominated in EUR per square metre), both of which are not readily available. Nonetheless, using data on the population size, the number of households, owner occupancy rates, and estimates of average dwelling sizes, LTV ratios can be calculated for seven out of the 13 euro area countries (see Chart B).<sup>6</sup> Again, with a ratio of 42%, Dutch mortgage borrowers display the highest LTV ratios, while French mortgage loans equal less than 16% of the collateral on average. These estimates also support the view that only a large house price shock would lead to significant losses for mortgage creditors.

Notwithstanding the benign assessment based on average LTV ratios for the entire stock of mortgage loans, it is important to qualify this. Average LTV ratios have increased in most countries since 2000 (see Chart B), which implies that new mortgage loans carry significantly higher LTV ratios than the average. In addition to the simple explanation that initial amortisation on new loans is zero, it also reflects the fact that loan maturities have generally lengthened in recent years, that mortgage interest rates have broadly declined compared with the early 1990s, and that downpayment requirements have generally eased. Moreover, house price inflation has induced higher-leverage mortgage lending and borrowing both to capitalise on valuation gains through mortgage equity withdrawal and to enhance housing affordability for new entrants to national housing markets. Some evidence for the latter is provided by a breakdown of LTV

<sup>6</sup> These estimates are based on the assumption that all homeowners hold a mortgage loan. This will produce an underestimate of actual LTV ratios, particularly in countries where a relatively large share of households own their home outright.

ratios using disaggregated household level data at the individual EU country level, which shows that younger households (e.g. starters) tend to hold mortgage loans with higher than average LTV ratios.<sup>7</sup>

All in all, two key points can be made. First, in order to obtain a detailed mapping of the risks to euro area financial stability posed by the interaction between the financial system and housing markets, it is necessary both to analyse euro area aggregate data and to complement this by occasional monitoring of country level data in order to build up a more accurate picture of where the financial stability risks and vulnerabilities lie. Second, better and more comparable micro-level or survey-based data for the euro area is needed for a comprehensive and meaningful financial stability analysis of household mortgage developments. To this end efforts are currently being made to assess the feasibility of conducting a euro area household survey to obtain such comparable data.

<sup>7</sup> See ECB (2007), “EU Banking Sector Stability”, November. The analysis in that report only includes two euro area countries – the Netherlands and Italy.