EUROPEAN CENTRAL BANK

EUROSYSTEM

HOUSING FINANCE IN THE EURO AREA

MARCH 2009

Structural Issues Report

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STRUCTURAL ISSUES REPORT

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ABBREVIATIONS

COUNTRIES

BE	Belgium	LU	Luxembourg
DE	Germany	MT	Malta
IE	Ireland	NL	The Netherlands
GR	Greece	AT	Austria
ES	Spain	PT	Portugal
FR	France	SI	Slovenia
IT	Italy	FI	Finland
CY	Cyprus	UK	United Kingdom
		US	United States

OTHERS

ABS	asset-backed security
APRC	annual percentage rate of charge
BIS	Bank for International Settlements
CEE	Central and Eastern Europe
ECB	European Central Bank
ECBC	European Covered Bond Council
EMU	Economic and Monetary Union
ESA 95	European System of Accounts 1995
ESF	European Securitisation Forum
EU	European Union
EUR	euro
EURIBOR	euro interbank offered rate
GDP	gross domestic product
GSE	government-sponsored enterprises
IAS	International Accounting Standard
IMF	International Monetary Fund
Libor	London interbank offered rate
LTV	loan-to-value
MBS	mortgage-backed security
MFI	monetary financial institution
NCB	national central bank
OECD	Organisation for Economic Co-operation and Development
OFI	other financial intermediary
ONS	Office for National Statistics
OTB	originate to distribute
RMBS	residential mortgage-backed security
SCF	Survey of Consumer Finances
USD	US dollar

EXECUTIVE SUMMARY

Housing finance is of crucial importance to the Eurosystem as housing loans constitute the largest liability of households and account for a large proportion of bank lending. The financial crisis that emerged after the intensification and broadening of the financial turmoil that started in US housing finance in 2007, has strengthened interest in housing finance aspects. This report analyses the main developments in housing finance in the euro area in the decade, covering the period from 1999 to 2007. It looks at mortgage indebtedness, various characteristics of loans for house purchase, the funding of such loans and the spreads between the interest rates on loans granted by banks and the interest rates banks had to pay on their funding, or the return they made on alternative investments.[1] In addition, the report contains a comparison of key aspects of housing finance in the euro area with those in the United Kingdom and the United States. At the end, the report briefly discusses aspects of the transmission of monetary policy to the economy. Studies of housing finance in the euro area are to some extent hindered by the lack of detailed information on the characteristics of mortgage loans and on the funding of these loans. Long time series that allow an analysis of developments over time are often lacking or incomplete. The need for comprehensive datasets and for information from household surveys, harmonised and readily available, must be emphasised. This report is aimed at filling some of these gaps, although long time series, in particular, remain essential.

The financial market crisis following the disruptions in US housing finance in 2007 is not the object of the report, which covers mainly the situation prevailing in the euro area before the start of the turmoil in the summer of 2007. However, the crisis raises important questions on household indebtedness, on the use of innovative financing techniques and on the funding of mortgage providers; the evidence presented in this report may contribute to shedding light onto these issues. The report presents some tentative findings on the direction in which housing finance in the euro area might develop.

The main findings of the report are:

- Households' debt for house purchase, expressed as a percentage of GDP, has increased in most euro area countries over the past decade, and represents households' largest liability category. Various factors account for the strong growth in housing loans: lower interest rates, income and population growth, and the effects of past deregulation and liberalisation that broadened the scope of both suppliers of mortgage loans and loan products. Lower interest rates have kept the increase in households' debt service burden contained despite the rise in indebtedness.

- Some common trends in the characteristics of housing loans can be observed in the 15 countries of the euro area: the loan-to-value ratios increased, the maturities of loans for house purchase were lengthened and more flexibility in repayment schedules was introduced. However, there remain substantial differences across countries, for instance, as regards the share of variable rate contracts, which ranged from 10% to 99% in 2007. Differences can in part be attributed to cultural and historical factors (such as the inflation history), as well as to institutional features: the degree of consumer protection (reflected, for instance, in foreclosure and bankruptcy procedures), the degree of fiscal subsidisation of owner-occupied housing and mortgage loans, and supervisory rules for covered bonds and securitised loans, for instance.

- Housing loans in the euro area are offered mainly via banks, the market share of other suppliers such as insurance companies and pension funds being less than 10%, on average. The funding of housing loans has

1 The terms "Loans for house purchase", "housing loans", and "mortgages" are used interchangeably.

changed markedly in the euro area over the last decade, with a rapid increase in the issuance of mortgage covered bonds and the securitisation of loans for house purchase. Nevertheless, retail deposits remain the most important source of financing for loans. Considerable cross-country diversity in funding sources can still be observed, partly reflecting differences in legislation on the new funding sources (including supervisory rules), but also differences in consumers' preferences for safe deposit investment, differences in mortgage demand dynamics and, to some extent, differences in borrowers' preferences for fixed or variable interest rate loans.

- The mortgage spreads, i.e. the differences between the interest rates on loans for house purchase charged to households and various indexes of the financial institutions' cost of funding or their opportunity costs, have decreased over time. This may be related to increasing competition. In addition, the increasing role of securitisation in the funding of banks, more favourable financing conditions and a possible under-assessment of risks may have contributed to a loosening of credit standards between 2003 and 2007. Nevertheless, the role of securitisation in loosening credit standards in the euro area is far less significant than in the United States and the United Kingdom, and differs across euro area countries. Notwithstanding the common development of mortgage spreads over time, there remain large cross-country differences in mortgage spreads that could be related to differences in both interest rate characteristics (fixed versus variable interest rates) and legislation (for instance, the cost and length of foreclosure procedures).

- Housing finance in the euro area differs from the US model in several respects. In general, non-interest loan conditions in the euro area appear to be stricter (as indicated by e.g. lower loan-to-value ratios), which may reflect the much lesser degree of government guarantees and possibly also less fierce competition; this has in part resulted in there being no significant sub-prime market in the euro area, although it also reflects differences in supervisory and accounting practices. European foreclosure procedures create a less direct link between house prices and foreclosures than is the case in the United States because recourse to other income or other assets is usually possible in the case of default, although sometimes only after costly and/or lengthy procedures. Also, mortgage equity withdrawal appears to be less common in euro area housing markets. On the funding side, deposits continue to be the main source of funding for bank loans in the euro area, given that this is the least volatile funding source. The originate-to-distribute model is less well-developed in the euro area. These characteristics lend support to the argument that housing finance markets in the euro area are more resilient to shocks. The housing finance characteristics in the United Kingdom generally take an intermediate position between those in the United States and those in the euro area.

- The above-mentioned developments in housing finance affect monetary policy transmission. However, the analysis does not allow firm conclusions to be drawn, given some opposing effects. Higher household indebtedness, for instance, points to a stronger transmission, but the increasing reliance of banks on market funding points in the opposite direction. At the same time, the monetary transmission is likely to be more asymmetric. Effects of changes in the monetary policy stance, however, are not independent of the particular situation at each moment in time, for instance the vulnerability of financial positions of households and the situation on the international financial markets. The impact of house price changes on the economy is bound to have increased, creating the possibility of more pronounced boom-bust periods.

The aforementioned developments were deeply affected, and to some extent even reversed, by

the outbreak of the US mortgage market crisis, which has turned into a global financial crisis. It is still too early to fully assess its impact on housing finance, for instance the extent to which the crisis may contribute to reversing the changes in the funding structure of euro area banks witnessed over the past decade. The sudden reversal of the trend towards higher leverage and risk-taking has dramatically hampered the functioning of the markets responsible for the wholesale and capital market funding of financial institutions. The ongoing process of deleveraging in the banking industry, in an environment characterised by high credit spreads and very limited market liquidity, will probably shift the funding structure of banks towards more traditional and less volatile sources of funds, at least in the short to medium term.

All in all, loan-to-value ratios may not – in the near term – rise to levels seen before the start of the financial crisis. On the funding side, the growth rates of the markets for securitisation and mortgage-backed covered bonds are unlikely to mirror those recorded in the years before the crisis set in, although they are likely to recover from the complete drying-up observed at the end of 2008. Nonetheless, any identification of the medium-term trend in housing finance would be premature at the current juncture.

I INTRODUCTION

This report analyses the main developments in housing finance in the euro area over the last decade, looking both at mortgage indebtedness, at characteristics of housing loans given to households and at the way banks have financed these loans.[2] [3] Included is also an analysis of the spreads between the interest rates on loans granted by banks and the interest rates banks had to pay for their funding or for alternative investments. At the end, the report also reviews the consequences of these developments for the monetary policy transmission process, as well as some tentative implications of the recent financial crisis. This report on housing finance can be seen as an exercise on the financial side of the housing markets, analogous to what was done in the ECB's 2003 report (ECB (2003)) with respect to the real side of the housing markets.

Housing loans constitute by far the largest liability of households, and they make up a large part of bank lending; housing-related borrowing has implications for the transmission channels through which monetary policy affects financing conditions and, ultimately, real activity and price developments; the dynamics of mortgage debt is also an important counterpart to liquidity creation in the economy. These considerations are all the more relevant in the light not only of the rapid growth of household debt in most euro area countries over the last decade, but also of the increase in the variety of mortgage products offered to households and the sweeping changes in the ways mortgage providers finance themselves.

This report mostly refers to the situation prevailing before the start of the turmoil in the summer of 2007. The financial market crisis following the disruptions in US housing finance in 2007 intensified the interest in housing finance aspects in the euro area, raising important questions on household indebtedness, on the use of innovative financing techniques and on the funding of mortgage providers; the evidence presented in this report may contribute to shedding light on the issues brought to the fore by the financial crisis. The report presents some tentative conclusions on the direction in which housing finance in the euro area might develop, and compares the existing structures of housing finance in the euro area, the United Kingdom and the United States.

Monetary policy transmission, i.e. the effect of changes in the monetary policy stance on the real economy and prices, is affected by the level of mortgage indebtedness, by the contractual characteristics of credit contracts and by the way banks finance mortgage lending. The pass-through of ECB interest rate decisions to market rates is important since the cost of financing is one of the main determinants of borrowers' financing and investment decisions. In addition, there are other mechanisms through which monetary policy affects economic activity and inflation, such as balance sheets effects of households and house prices. In particular, the net wealth position of households and the availability and value of collateral can affect the impact of monetary policy changes on consumption and investment.

The lack of detailed, up-to-date and long time-series on housing finance aspects in the euro area is a well-known issue in household finance analysis. The close cooperation of the ECB and the national central banks (NCBs) of the Eurosystem in the preparation of this report resulted in the collection of information on housing finance aspects on which data had previously not been available or were outdated. Thus, the report presents updated and new housing finance statistics, providing a better picture of relevant developments in, and differences between, the countries of the euro area. Most of the information was collected by the NCBs, partly through a bank questionnaire with which information was obtained from banks

2 The terms "Loans for house purchase", "housing loans", and "mortgages" will be used interchangeably throughout this report. The same applies to the terms "banks" and "monetary financial institutions (MFIs)".

3 Throughout the report, "euro area" refers to the 15 participating countries in 2008, when the production of the report started.

on the characteristics of mortgage products and how these are funded (also see Annex 1).

The report is organised as follows: Chapter 2 presents information on the financial situation of households, such as their level of mortgage indebtedness and the assets they own. Mortgage debt growth over recent years will be linked to developments such as interest rates and population growth. For countries where such information is available, the distribution of mortgage debt across income and age classes is included. The chapter also puts forward some features of rental markets in a number of countries.

Chapter 3 focuses on characteristics of the loans for house purchase that households have been granted. Aspects included are fixed versus variable rate loans, loan-to-value ratios and rules for the early repayment of housing loans. A number of factors that help explain why certain characteristics of these loans differ widely in the countries of the euro area are analysed, notably the taxation of housing finance transactions, and bankruptcy and foreclosure rules.

Chapter 4 analyses the loans for house purchase from the perspective of the funding side. In addition to lenders' main traditional source of funding (customer deposits), the issuance of capital market instruments such as residential mortgage-backed securities and covered bonds are analysed in detail. A brief assessment of the impact of the financial crisis on the financing of housing loans is also included in this chapter.

Linking the analysis of both mortgage products and mortgage funding given in the two preceding chapters, Chapter 5 focuses on developments in various indicators of mortgage spreads, i.e. on the differences between the interest rates that banks charge for mortgage loans and the costs they pay for funding mortgage loans or banks' opportunity cost. In addition, it analyses factors that may help explain differences in spreads across euro area countries and over time.

Chapter 6 provides a comparison of some key aspects of the mortgage markets in the euro area, the United Kingdom and the United States, focussing on the differing financial structures, while also paying attention to the different accounting and statistical frameworks for household's financing within these three mortgage markets.

Chapter 7 then presents the monetary policy implications of various aspects of housing finance, describing how the observed changes in housing finance may have had an impact on the transmission of policy interest rate changes to the economy. As interest rate changes affect house prices, the report also briefly analyses the effects of house price changes on the economy, while also examining boom-bust cycles in the euro area housing markets.

2 HOUSING FINANCE AND HOUSEHOLDS' FINANCIAL SITUATION

2.1 INTRODUCTION

In euro area countries, dwellings represent the main asset of households, and loans for house purchase their main liability. This chapter puts housing finance developments in a broader perspective, providing information on the overall financial situation of households and on the distribution of mortgage debt across age and income groups through the use of micro-data where available. In addition, the overall rise in households' house purchase-related indebtedness will be linked to some explanatory factors.

2.2 HOUSEHOLDS' OVERALL FINANCIAL SITUATION

Housing wealth is an important part of the net wealth of the household sector, while loans for house purchase are the main liability category. As such, pronounced price fluctuations in house prices are transmitted directly to households' net wealth, with implications on households' expenditure and debt repayment capacity. The amount outstanding of housing loans in the euro area was 42% of GDP in 2007, up from 27% in 1999, with substantial variation across countries (see Chart 1).

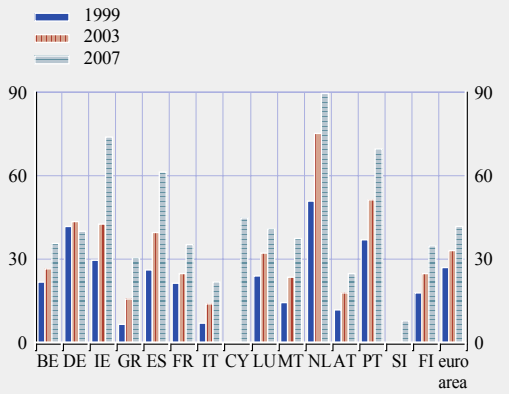
The increased indebtedness is due, inter alia, to the low level of interest rates and to increased competition in the mortgage market, as reflected in narrower loan margins.[4] Furthermore, average loan amounts have increased, facilitated by longer maturities of mortgage loans. In addition, intensified competition over the last few years has led to the introduction of new mortgage products that enabled borrowers to afford a house by taking highly geared positions in terms of the ratio of their debt to disposable income. Indebtedness per capita in the euro area as a whole was at a record level in 2007 and less dispersed among countries when compared with 1999, reflecting the catching-up of countries with less-indebted households and a different rise in housing prices.

To some extent, overall interest payments on households' debt, expressed as a percentage of disposable income, follow the debt pattern (see Chart 2). However, while the indebtedness

4 Section 2.3 discusses the factors driving mortgage debt growth in more detail.

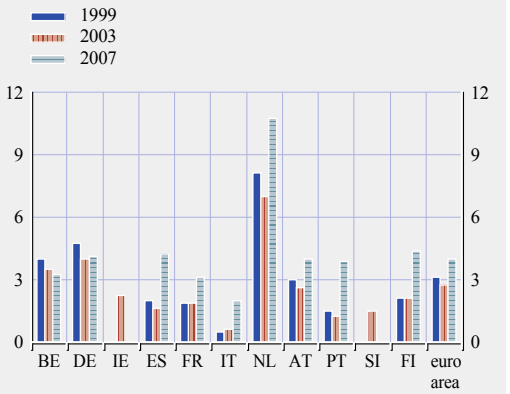
Chart 1 Households' housing-related debt in 1999, 2003 and 2007

(percentages of GDP)



Source: ECB.
Note: Data reflect outstanding MFI loans for house purchase, corrected for derecognised loans.

Chart 2 Households' interest payments as a percentage of gross disposable income in 1999, 2003 and 2007



Source: National accounts.
Note: No data are available for Greece, Cyprus, Luxembourg and Malta.

of households is now at record levels, households' interest expenditure, expressed as a share of disposable income, first declined from 1999 to 2003 before generally increasing from 2005 to 2007, although less significantly than household debt.

Between 1999 and 2007, gross overall interest payments of households decreased in Belgium and Germany, but increased in the other countries, especially in Spain, the Netherlands, Portugal and Finland. In Italy, they remained at comparatively low levels in 2007, and higher (around 4%) in Germany, Spain, Portugal and Finland. Interest payments (expressed as a percentage of the gross disposable income of all households) were very high in the Netherlands, but this also reflects the relatively high proportion of households with a mortgage in this country.

While these data on aggregate interest payments may be indicative of the vulnerability of households to developments in housing finance, they do not allow robust conclusions to be drawn. To that end, the positions of households broken down by income and age need to be taken into account, with regard to which micro-data from household surveys provide useful information (see Box 1). Furthermore, any assessment of vulnerability should take into consideration the (liquid) assets that households hold, which could be sold to pay off housing debt if necessary. Some households are also subject to exchange rate risks in the countries where part of the mortgage loans is provided in foreign currency, mainly Swiss francs (Greece, Cyprus, Austria and Slovenia), although this usually only affects a small proportion of households.

Whereas debt for house purchase is the main financial liability of households in the euro area, used mainly for housing investment, households also take on debt to buy consumer goods, or for other purposes. On average, housing debt accounted for 70% of the total household debt

Table 1 Household wealth, debt and determinant factors

(2007)

Country	Non-financial assets	Gross financial assets	Net financial wealth	Total debt from MFIs[1]	Housing debt from MFIs[1]	Growth rate of loans for house purchase, 1999-2007[1,3] (%)	Nominal house price growth rate, 1999-2007[4] (%)	Owner-occupancy rate[2]
	Percentages of GDP							
Belgium	n.a.	248.8	199.8	44.3	35.8	11.5	9.5	71.3
Germany	216.5[5]	188.4	124.5	58.7	40.0	3.0	-0.4	43.0
Ireland	n.a.	163.6	60.1	90.5	73.9	23.4	11.1	74.7
Greece	n.a.	139.4	85.8	43.6	30.3	30.3	9.1	79.6
Spain	580.3	182.1	93.2	82.7	61.5	19.8	11.9	86.3
France	350.1	188.8	126.3	47.4	35.0	10.1	10.3	57.2
Italy	362.9	240.9	192.8	34.7	21.8	20.3	6.3	69.1
Cyprus	n.a.	229.0	125.6	103.5	44.6	29.9	13.0	84.9
Luxembourg	n.a.	n.a.	n.a.	77.7	40.7	14.1	10.5	74.7
Malta	n.a.	n.a.	n.a.	53.3	37.1	18.0	8.2	75.2
Netherlands	252.8	265.6	145.6	97.7	89.4	13.4	8.1	56.6
Austria	n.a.	167.8	114.4	45.6	24.9	13.2	1.2	58.0
Portugal	215.2	220.6	120.5	85.9	69.4	14.9	3.3	74.5
Slovenia	n.a.	108.7	79.5	19.8	7.7	49.6	11.7	81.1
Finland	n.a.	119.9	65.9	48.2	34.6	14.0	5.7	65.1
Euro area	-	200.5	133.0	57.1	41.5	10.4	6.1	62.3

Sources: NCBs, ECB and Eurostat.
Notes:
1) Stock of total loans to households, respectively the stock of loans for house purchase, provided by MFIs, including loans that have been derecognised from the balance sheets. For Luxembourg, total debt from MFIs would be 45.3% of GDP if excluding loans to non-residents.
2) Percentage of total dwellings that is occupied by its owner. Data refer to 2007, except in the case of Belgium, Germany, Greece, Italy, Cyprus (2006), Spain, France, Malta, Slovenia (2005) and Portugal (2001).
3) 2006 to 2007 for Cyprus and 2004 to 2007 for Slovenia.
4) 2003 to 2007 for Cyprus, 1999 to 2006 for Luxembourg, 2005 to 2007 for Slovenia and 2001 to 2007 for Finland.
5) 2006 data.

outstanding in 2007 (see Table 1), but in a few countries consumer loans or other loans are large and, taken together, are approximately equivalent to (Austria) or outweigh housing debt (Cyprus and Slovenia). Such country-specific differences may in part be due to historical/cultural factors, and to the importance of self-employed who are included in the household sector and who take up loans for business reasons (see Annex 1 for information on the definition of the household sector).

Box 1

DISTRIBUTION OF MORTGAGE DEBT ACROSS THE POPULATION: INDICATIONS FROM NATIONAL HOUSEHOLD SURVEYS

Information on the distribution of loans to households for house purchase across age and income classes is very useful for determining vulnerabilities associated with the significant growth of these loans and, specifically, the sensitivity of households to changes in monetary policy interest rates and other macroeconomic shocks, such as changes in house prices. This box analyses the distribution of mortgage debt across income and age classes,[1] by focusing on four indicators: the share of households with mortgages and, for households with this kind of debt, the median values of the ratios of the mortgage to disposable income and total assets, and the debt service ratio.[2] Such information is available, partly or entirely, for Germany, Ireland, Greece, Spain, France, Italy, the Netherlands and Portugal.

The proportion of households with a mortgage

Household participation in the mortgage market is very heterogeneous across the euro area countries under analysis (see the table and chart below). Italy shows the lowest percentage of households with mortgages (12%), followed by Greece (17%). In Germany, Spain, France and Portugal, the share is between 25% and 30%, while that in Ireland and the Netherlands is between 35% and 40%. In those countries for which data from more than one round of the respective survey are available, this share has increased over the last decade.

The share of households with mortgages increases monotonically with the income. Specifically, households in the lowest income quartile have a lower participation rate than those in the top two income quartiles (see the chart below). Furthermore, in Spain and Italy, the increase in the participation rate since 2000 has mainly involved households with an income above that in the first quartile, while the increase in Ireland was accounted for mainly by households whose income was in excess of the median.

Where age classes are concerned, in Spain and Portugal, participation in the mortgage market essentially decreases the lower is the age of the household head. In the other countries, participation first increases up to the second or third age class, and then decreases with age. In the youngest age class (< 35 years), the dispersion of the participation rate is hence even higher than for the whole sample: the proportion of such households with mortgages is 12% and 53%

1 The European Commission (2008) has documented that young and low-income households are particularly exposed to the risk of financial difficulties.
2 The median is a better indicator of the typical indebted household than the mean as it is less dependent on extreme values of the distribution.

in Greece and Portugal respectively. Among the households with a head aged between 35 and 44 years, an age class of persons who are more likely to decide on renting or buying a house and who have a more stable income, the differences across countries are smaller: the share of households with a mortgage is low in Italy and Greece (roughly 20%), while it is double that, or even higher, in the other countries.

The ratio of the mortgage to disposable income

The strong expansion in mortgages entailed an increase in the median ratio of the mortgage to disposable income for households with this type of debt. On the basis of the most recent data, this ratio is well above 100% in Greece, Spain and Portugal, and is highest in the Netherlands (370%), which can be explained mainly by the fiscal deductibility of mortgage interest payments and the prevalence of interest-only and contractual savings mortgages which delay redemption of the principal (see the table below).

This ratio is usually highest for households in the lowest income quartile, and then decreases across income classes. The median ratio of the mortgage to disposable income is also very high in the youngest age class and then decreases in all countries: for the youngest households, the highest levels are those for the Netherlands (600%), Greece (284%) and Portugal (277%). The distribution across the age classes is quite similar across the different countries.

The ratio of the mortgage to total assets

The median value of the ratio of the mortgage to total assets is a useful indicator of households' ability to pay back their loans, assuming that houses and stocks can be sold at prevailing prices if a household faces serious difficulties in repaying its debt.[3] The highest values of this ratio are in the Netherlands and Portugal, around 30%, while it was around 13% in Italy, and around 18 and 20% in Greece and Spain.[4] In Spain and Italy, where dynamics are available, these ratios decreased or stabilised as a result of increasing house prices that raised the value of assets. This indicator, although generally declining with rising income, does not vary overly much across income classes. Thus, in the Netherlands[5] and Spain, where the ratio of the mortgage to disposable income was particularly high for low-income households, these households appear less vulnerable when considering the ratio of the mortgage to total assets.

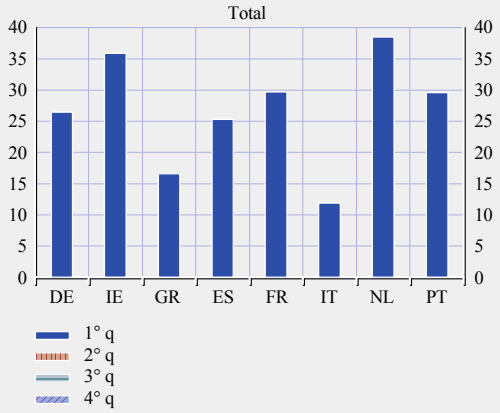
The median ratio of the mortgage to total assets shows a far higher dispersion across age classes. The highest level is again in the youngest age class. The high values for the age class below 35 years in the Netherlands, in combination with past high house prices increases, signal a potential vulnerability of these young households to changes in asset prices, probably reflecting very high loan-to-value ratios for mortgages granted to first-time buyers.

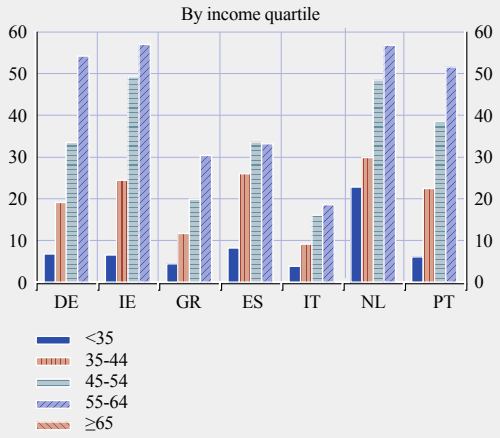
3 As documented in Section 2.3, house price dynamics are heterogeneous across euro area countries.
4 Dynan and Kohn (2007) also find that in a regression explaining the likelihood of being delinquent for US households, the debt-to-asset ratio has more explanatory power than the debt-to-income ratio.
5 Note that for the Netherlands, assets do not include pension savings.

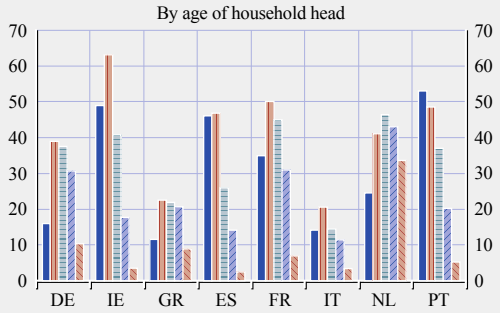
Comparison of some indicators across selected euro area countries

(latest data available for each country)

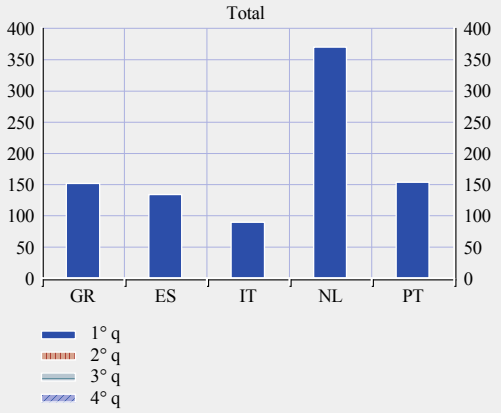
Share of households with mortgages (percentage)

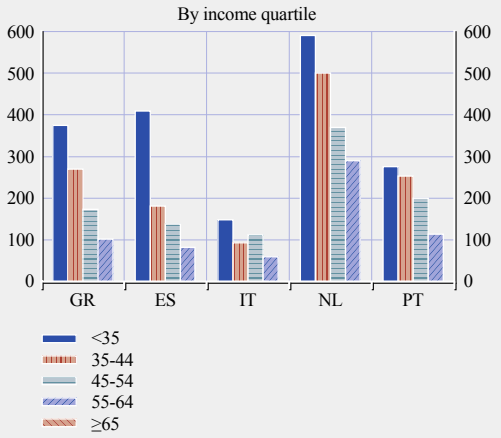


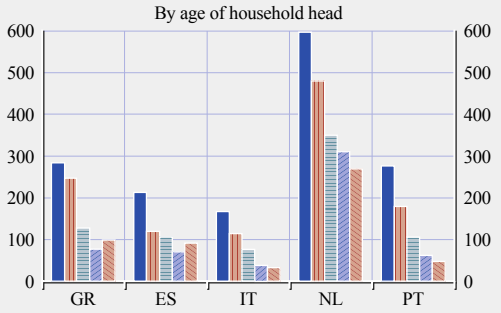




Mortgage to income – median values (percentage) [1]





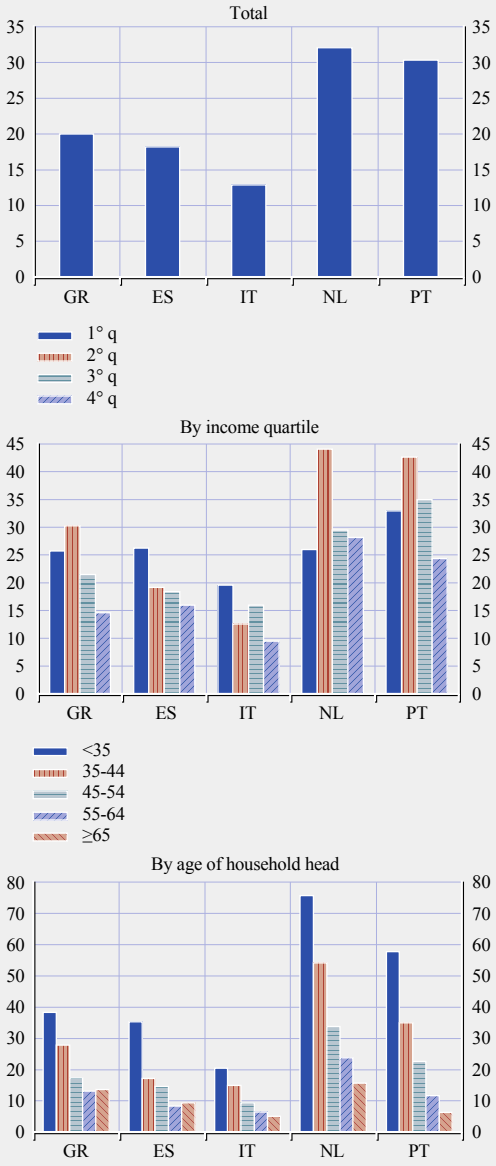


Source: National household surveys (see Annex 1).
1) Calculated only for households with mortgages.

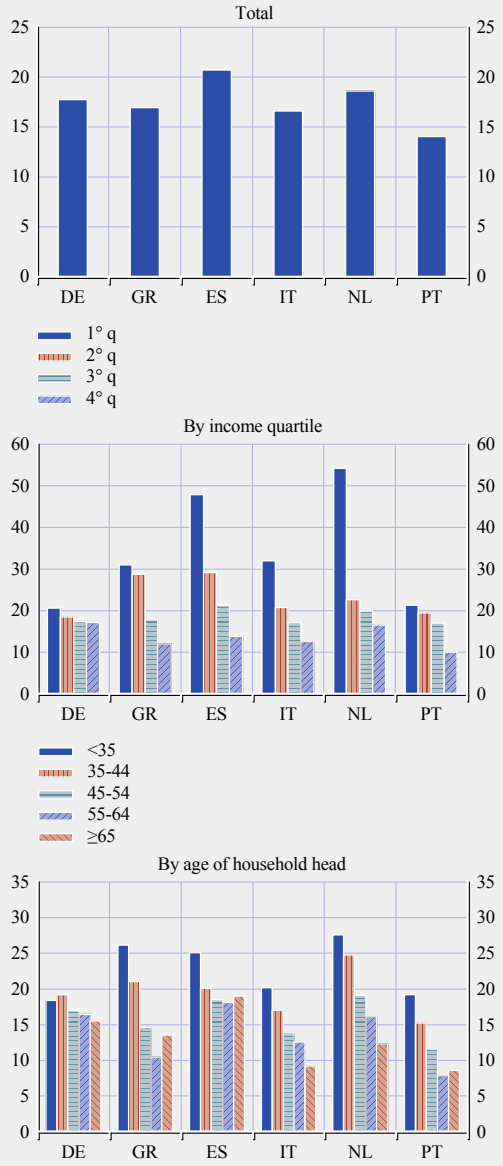
Comparison of some indicators across selected euro area countries (cnt'd)

(latest data available for each country)

Mortgage to total asset – median values (percentage) 1)



Debt service to income – median values (percentage) 1)



Source: National household surveys (see Annex 1).
1) Calculated only for households with mortgages.

Outcome of household surveys over time

(percentage)

	All households	Income quartile				Age of household head				
		1°	2°	3°	4°	<35	35-44	45-54	55-64	≥65
Share of households with mortgages										
Germany										
2003	26.5	6.7	19.1	33.5	54.2	16.0	38.9	37.5	30.7	10.4
Ireland										
1995	36.1	8.3	27.3	50.2	60.8	44.1	59.8	44.3	24.1	7.2
2000	35.0	9.3	28.3	48.4	54.7	46.4	62.1	41.8	19.5	5.5
2005	35.9	6.5	24.5	49.2	57.0	49.0	63.1	40.8	17.7	3.5
Greece										
2007	16.6	4.4	11.7	19.9	30.4	11.6	22.5	21.8	20.7	8.9
Spain										
2002	20.9	8.5	20.3	26.1	28.6	46.1	39.3	17.1	9.8	2.7
2005	25.3	8.2	26.0	33.7	33.2	46.1	46.8	26.0	14.1	2.5
France [1]										
2004	29.7	-	-	-	-	35.0	50.0	45.0	31.0	7.0
Italy										
1995	13.0	4.8	9.7	15.7	22.0	17.1	19.1	18.7	12.9	2.9
2000	9.0	2.2	6.5	9.9	17.4	9.3	15.8	12.6	9.3	1.8
2006	11.9	3.8	9.1	16.1	18.6	14.1	20.5	14.5	11.5	3.4
The Netherlands										
2007	38.5	22.8	29.9	48.5	56.8	24.6	41.1	46.4	43.0	33.7
Portugal										
2006	29.6	6.1	22.4	38.4	51.6	53.1	48.6	37.1	20.3	5.2
Mortgage to income – median values of the ratios [2]										
Greece										
2007	152.0	374.3	270.4	173.8	101.7	284.1	247.2	127.4	77.2	98.4
Spain										
2002	104.7	299.6	165.4	106.2	64.3	150.6	101.7	71.1	77.6	92.8
2005	134.2	409.1	181.1	138.8	82.8	212.5	119.7	106.2	70.9	91.4
Italy										
1995	49.9	110.9	91.5	53.8	33.5	81.3	62.9	37.8	37.1	31.1
2000	62.9	183.6	69.9	78.4	51.5	89.6	69.9	54.8	33.0	51.5
2006	89.4	148.1	93.4	112.2	59.9	167.1	114.4	76.7	36.0	32.8
The Netherlands										
2007	370.0	590.0	500.0	370.0	290.0	600.0	480.0	350.0	310.0	270.0
Portugal										
2006	153.9	275.9	253.1	199.5	114.1	276.5	179.2	105.2	61.7	47.4
Mortgage to total assets – median values of the ratios [2]										
Greece										
2007	20.0	25.8	30.3	21.5	14.6	38.4	27.9	17.4	13.1	13.7
Spain										
2002	24.1	35.1	28.5	24.5	19.6	33.2	22.1	12.9	18.6	13.3
2005	18.2	26.3	19.2	18.4	16.0	35.3	17.2	14.6	8.3	9.4
Italy										
1995	8.2	12.4	13.0	10.3	6.2	13.4	10.2	6.3	5.6	4.8
2000	11.4	19.4	12.3	16.0	8.8	17.8	14.0	9.5	6.5	7.4
2006	12.9	19.6	12.6	16.0	9.5	20.4	14.9	9.3	6.5	5.1
The Netherlands										
2007	32.1	26.0	44.1	29.5	28.2	75.8	54.2	33.8	23.8	15.6
Portugal										
2006	30.4	33.0	42.7	35.0	24.4	57.8	35.0	22.6	11.6	6.3
Debt service to income – median values of the ratios [2]										
Germany										
2003	17.7	20.6	18.5	17.4	17.1	18.4	19.2	17.0	16.5	15.5
Greece										
2007	16.9	31.0	28.7	17.8	12.0	26.2	21.1	14.6	10.5	13.5

1) For France, for the age class (55-64), the percentage reported (31) refers to the 55-59 class; for the 60-64 class the percentage is 21.
2) Calculated only for households with mortgages.

Outcome of household surveys over time (cont'd)

	All households	Income quartile				Age of household head				
		1°	2°	3°	4°	<35	35-44	45-54	55-64	≥65
Spain										
2002	17.6	37.2	24.6	17.9	11.4	18.8	17.6	16.4	15.8	18.4
2005	20.7	47.9	29.2	21.3	13.8	25.1	20.1	18.5	18.1	19.0
Italy										
1995	12.2	35.0	16.6	13.1	7.5	14.7	13.8	9.2	8.2	7.2
2000	12.0	31.8	19.8	15.7	9.3	11.9	13.3	11.1	12.0	10.0
2006	16.6	32.0	20.8	17.2	12.6	20.2	17.0	13.7	12.6	9.2
The Netherlands										
2007	18.6	54.2	22.6	19.9	16.6	27.6	24.8	19.1	16.1	12.3
Portugal										
2006	14.0	21.3	19.4	17.0	10.0	19.2	15.2	11.6	7.8	8.6

Debt service-to-income ratio

The debt service ratio measures the amount of their disposable income that households pay for interest and to repay the principal. It is useful for evaluating the vulnerability of households to changes in interest rates in countries with a high share of variable rate mortgages. This ratio has increased in Spain (in 2005) and Italy (in 2006), the two countries for which dynamics are available.[6] Overall, despite differences in mortgage market participation rates, and in ratios of the mortgage to both income and assets for households with mortgages, the debt service for these households is more similar across countries, ranging from 14% in Portugal to 21% in Spain. The similarity can possibly be explained by long repayment terms, keeping the ratio of debt service-to-income more affordable; Italy, which shows lower values for the other three indicators, had a shorter typical mortgage maturity than the other countries, and this is reflected in a higher value of this ratio.

The debt service ratio decreases with the household income; this trend is less clear in Germany and Portugal. Overall, Greece, Spain, Italy and the Netherlands are the countries where the households in the lowest income class already devoted more than one-third of their disposable income to service their mortgages in the period from 2005 to 2007; they therefore look particularly vulnerable to increases in interest rates, especially when mortgages are taken out at variable rates. As for the distribution across age classes, evidence is similar for the different countries; debt service decreases with age.

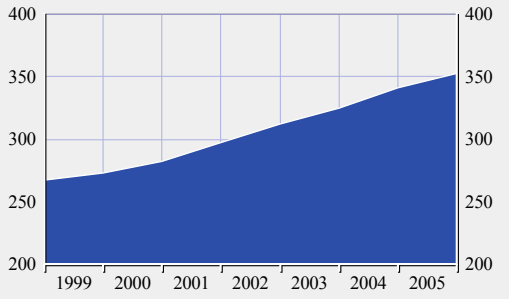
In summary, participation in the mortgage market is the highest for high-income households (Organisation for Economic Co-operation and Development (2006)) and the percentage of households with mortgage debt in the lowest income quartiles is generally limited. In some countries, participation is also particularly high for the households in the youngest age class, who are more likely, even if they have high incomes, to hold a lower amount of total assets. Overall, it emerges that there are some groups of households, belonging mainly to the lowest income quartiles and to the youngest age class, who have reached high levels of debt service or debt-to-asset ratios (see the table above). These households are therefore particularly vulnerable both to changes in interest rates and to house price shocks.[7] More harmonised indicators will be available in the household finance and consumption survey that will be introduced by the Eurosystem in 2009-2010. A comparison of some indicators for the euro area as a whole, the United States and the United Kingdom is contained in Chapter 6.

6 For Spain, debt service includes all types of household debt, for personal and business reasons; when considering only mortgages for primary residence, the debt service ratio is 15% in 2005, rather than 21%.

7 Personal guarantees – from parents, for instance, as are sometimes found in Portugal – can mitigate the impact of shocks.

Chart 3 Gross household housing wealth in the euro area

(percentages of GDP)



Source: ECB.
Note: The euro area figures used for this chart do not include Cyprus and Malta.

The counterpart to the indebtedness of households on their balance sheets are their financial and non-financial assets, the latter including the value of the house (see Table 1). The share of non-financial assets in GDP is far higher in Spain than in the other countries where these data is available.

For the euro area as a whole, ECB estimates indicate that the share of gross housing wealth in GDP grew from 272% in 2000 to 353% in 2006 (see Chart 3). The growth rate of net housing wealth (gross housing wealth minus mortgage loans) is estimated to have been between 5% and 5½% from 1999 to 2002, increasing to between 8% and 8½% from 2003 to 2006. Total net wealth per capita is highest in Spain, France and Italy (between EUR 130,000 and EUR 160,000 per capita), followed by Germany and Portugal. Housing wealth represents the main part of the total net wealth (financial and non-financial assets minus total indebtedness) of the household sector, according to data available for some euro area countries.

2.3 FACTORS UNDERLYING TRENDS IN MORTGAGE GROWTH

As mentioned earlier, most countries in the euro area have recorded significant increases in their mortgage debt-to-GDP ratios over the last decade and especially in more recent years. The average annual growth of housing loans in the euro area from 1999 to 2007 was just above 10%, but the country patterns differ (see Table 5 in Annex 2), with loan growth even decreasing slightly in Germany in 2007. The main underlying drivers of growth in housing debt were higher real disposable incomes, lower interest rates, more competitive and efficient mortgage markets following the liberalisation of financial systems, increasing house prices and demographic trends. The owner-occupancy rate is not included in this list as its link with housing finance is limited, possibly in connection with cultural forces to have debt-free housing, with dwellings often a parental gift (Greece and Cyprus), or with status considerations. House-ownership without debt could also reflect the desire to live without housing costs when old. Below, we consider factors that have contributed to the growth of household debt for housing over the past ten years. Information on loan developments in the nine non-euro area EU Member States in central and eastern Europe is given in Box 2.

Box 2

HOUSING LOAN DEVELOPMENTS IN THE NEW NON-EURO AREA MEMBER STATES

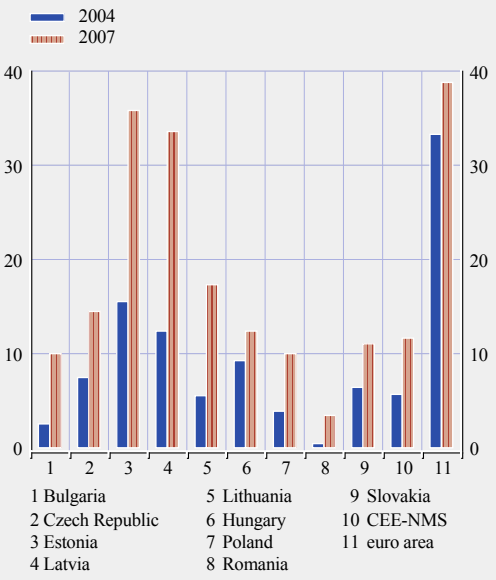
Strong expansion of housing loans ...

Over the past few years, lending by resident banks to households, including housing loans, has grown substantially in the nine non-euro area EU Members States in central and eastern Europe (CEE Member States), namely Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania and Slovakia. The outstanding stock of loans to households nearly

doubled from 12.2% of GDP at the end of 2004 to 22.6% of GDP by end-2007.[1] The pace of credit growth was not fully matched by the expansion of the domestic deposit base, and banks in most CEE Member States increasingly relied on financing from abroad (including that obtained from foreign parent banks), for which opportunities have increased. The issuance of debt securities also picked up in many of these countries, but continues to play a significantly smaller role in the CEE Member States than in the euro area in terms of both GDP and total liabilities.

Housing loans to households in the new non-euro area Member States

(year-end data; percentages of GDP)



Sources: Eurostat, NCBs and calculations by the Oesterreichische Nationalbank (OeNB).

... supported by both demand and supply-side factors

The robust development of housing loans was supported by various factors. On the demand side, income growth and improving expectations of future income have boosted credit demand in general, while rising income levels may have fuelled demand for better housing conditions further. Moreover, in several CEE Member States rising house prices went hand in hand with the expansion of housing loans, seemingly in a mutually reinforcing way. In some countries, housing subsidy systems and/or the favourable tax treatment of housing loans (as in e.g. the Czech Republic, Estonia, Lithuania, Hungary and Slovakia) probably contributed to demand for housing loans, while low interest rates also played a stimulating role in some countries.

On the supply side, the fierce competition of banks (especially foreign-owned banks) for market shares resulted in more diversified credit instruments becoming available at lower cost, with longer maturities and on more flexible terms (e.g. lower amortisation requirements and higher loan-to-value ratios) (Unicredit (2008) and International Monetary Fund (2006)). The dynamic expansion of housing loans can be explained, in part, by the relatively lower level of risk involved and by the higher margins they offer for banks (European Bank for Reconstruction and Development (2006)). Some improvements in the institutional framework (e.g. improved land registries, legal systems in general and property rights in particular) may also have created additional incentives for the supply of housing loans. At the same time, the European Bank for Reconstruction and Development still attributes the relatively low level of housing loans in central and eastern Europe to the continued need to clarify property rights and to establish clear systems of title deeds (European Bank for Reconstruction and Development (2006)).

Risks

From a macroeconomic point of view, strong growth in housing loans and rising house prices contributed to the output boom in the construction sector, probably fuelling import demand. In

1 Weighted average. The comparative analysis is complicated by the incompleteness of publicly accessible, harmonised and detailed data on housing loans in the countries covered in this box.

addition, insofar as housing loans have raised overall financial resources for households to finance consumption, they may also have contributed to rising inflationary pressures and/or burdened the current accounts. In fact, countries which saw the steepest rise in housing loans as a percentage of GDP belong to those with the largest imbalances in the region (Bulgaria and the Baltic countries).

With regard to financial stability risks, the role of foreign currencies is notable in several countries. In fact, loans extended in foreign currencies accounted for nearly 90% of the outstanding stock of housing loans in Romania at the end of 2007. The share was also elevated in Bulgaria, Hungary and Poland (ranging between 37% and 55%), while it was significant in the Baltic countries (particularly so in Estonia and Latvia). While borrowing in foreign currencies exposes (mostly unhedged) households to depreciation and (foreign) interest rate risks, these risks are increased further in Hungary and Poland by the high share of the Swiss franc in the total foreign currency housing loan stock (due to the higher exchange rate volatility than in the case of the euro).

The long-term nature of housing loans (usually above five years with variable interest rates), combined with the high pace of their growth, has increasingly required banks to find corresponding long-term refinancing facilities outside their customer base. This has led to a heavy reliance on financing from parent banks and, in some CEE Member States, to an increased issuance of mortgage bonds.

There are also concerns that the housing loan boom in the region has in part been supported by the lowering of origination standards and product innovations, which have eased access to finance for "marginal" customers (International Monetary Fund (2006)). While anecdotal evidence suggests that household borrowing in several of these Member States has been concentrated in higher income groups (see, for instance, International Monetary Fund (2007), Magyar Nemzeti Bank (2008), Česká národní banka (2008)), aggregate data on the continuously rising indebtedness of the household sector may conceal the increased tapping of low(er)-income borrower segments in the recent past.

Housing loans have also heightened the banking systems' overall exposure to the property market.[2] As such, banks increasingly face house price risks and the potential need to liquidate property collateral in the case of borrowers' default. Given the substantial market share of foreign-owned (often euro area) banks in these countries, the materialisation of credit risks is transmitted directly to the financial conditions of the banking systems of the euro area countries more exposed to these markets. At the same time, difficulties for euro area banks to obtain funding could be transmitted to their affiliated banks in CEE Member States.

Policy reactions

In response to the risks related to the rapid expansion of housing loans, economic policy-makers have taken action in several CEE Member States. The measures included, inter alia, tightening or eliminating housing subsidy or tax benefit systems (e.g. Estonia and Hungary), increasing the risk weights for mortgages loans (e.g. Estonia), requiring banks to strengthen their credit risk management – with a particular focus on mortgage and foreign currency lending – (e.g. Poland), tightening loan-to-value ratios (e.g. Latvia and Romania), or making loan classification/provisioning rules stricter (e.g. Bulgaria and Romania).

2 Available data suggest that housing loans, together with loans to the construction sector, real estate, renting and business activities, accounted for a considerable proportion of banks' total loan portfolio (up to between 40% and 70%) at the end of 2007, and the share has risen substantially over the past few years.

DISPOSABLE INCOME

A higher real disposable income of households increases their opportunities for taking on more debt. The real disposable income of households in euro area countries increased quickly in the period from 1999 to 2007 (see Chart 4, panel a). High growth rates were observed in Ireland and Finland, in particular.

INTEREST RATES

Generally, low interest rates prevailed in the euro area in the period under consideration. This is shown by the three-month EURIBOR, indicating short-term interest rates, and the interest rate on ten-year benchmark government bonds as the benchmark rate for longer-term maturities in Chart 4, panel b. In the case of loans with variable interest rates, changes in short-term interest rates work directly through to mortgage interest rates, but such changes take more time to materialise for loans with fixed rates.

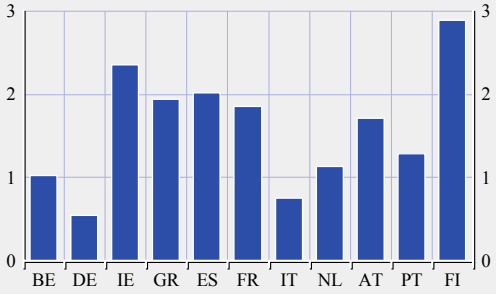
THE LIBERALISATION AND DEREGULATION OF FINANCIAL MARKETS

In some euro area countries, liberalisation was an important factor explaining mortgage growth. The process usually began with the lifting of interest rate ceilings and ended with the complete liberalisation of the market. While most measures were taken some time ago in the majority of countries, they may have taken some time to take full effect, so that their consideration is still important. Measures that contributed to competition included the opening of mortgage markets to foreign banks and the termination of the operational specialisation of banks, thus allowing commercial banks to fully enter the mortgage market. Furthermore, in some countries, the abolition of regulatory requirements for banks to hold government bonds enabled banks to free up resources that facilitated mortgage lending.

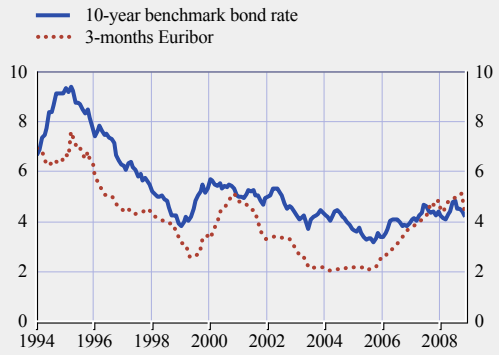
The entry of new players following liberalisation measures helped meet the pent-up housing demand and encouraged more competition. This, in turn, led to a decline in borrowing costs and the introduction of new mortgage products and practices that eased access to the mortgage market for a larger proportion of the population. Financial market liberalisation also paved the way for innovative ways of funding for credit institutions such as securitisation.

Chart 4 Disposable income growth and interest rates in the euro area

a) Average growth rate of real disposable income per capita, 1999 to 2007



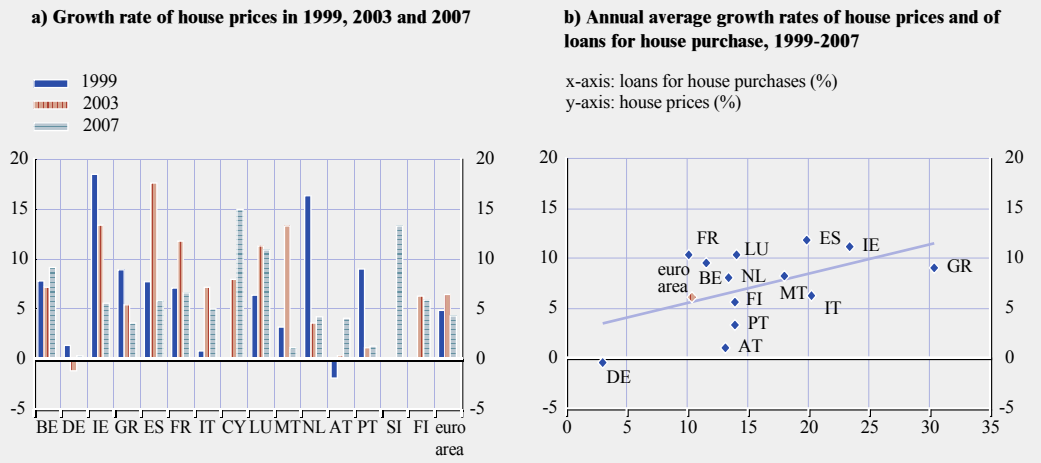
b) Short and long-term interest rate indicators, 1994 to 2008



Source: ECB.
Note: No data on disposable income are available for Cyprus, Luxembourg, Malta and Slovenia.

Chart 5 Growth in house prices and in loans for house purchase

(1999-2007)



Source: ECB.
Notes: Panel a – In the case of Luxembourg, the growth rate of house prices in the last bar refers to 2006.
Panel b – house price increases refer to the 1999-2007 average, except in the case of Luxembourg (1999-2006) and Finland (2001-2007). Loan growth data also refer to 1999-2007 averages.

HOUSE PRICE DYNAMICS [5]

In the euro area as a whole, residential property prices grew by, on average, an annual rate of 6.1% between 1999 and 2007. Double-digit growth rates in house prices prevailed in many countries until 2006, while slow growth and/or even declines were reported in Germany, Austria and Portugal (Chart 5, panel a).

House prices and mortgage lending generally develop in line (Chart 5, panel b). Over the last decade, increases in both were especially high in Ireland, Greece, Spain and Italy, although it is difficult to determine causality, i.e. whether credit growth fuelled house prices, or vice versa. It is more plausible to assume a mutually reinforcing relationship (See for instance Tsatsaronis and Zhu (2004), Fitzpatrick and McQuinn (2007), and Brissimis and Vlassopoulos (2009)). Certainly, house prices are driven by many factors, including household income and interest rates (Sutton (2002)).

ACTIVITY IN THE HOUSING SECTOR

Selected structural housing indicators give an indication of the level of activity in housing markets within euro area countries (see Table 8 in Annex 2). Some caution is necessary when comparing country data, because of differences in availability, timeliness and coverage. The table shows that the number of dwellings per private household remained relatively stable, while there was a general decline in the share of rented accommodation, with Cyprus being a notable exception. Generally, in countries where house prices were rising rapidly, this was also reflected in an increasing number of housing starts and completions, as in Ireland, Greece, Spain, and Cyprus. These developments also contributed to a rapid increase in mortgage loans in these countries.

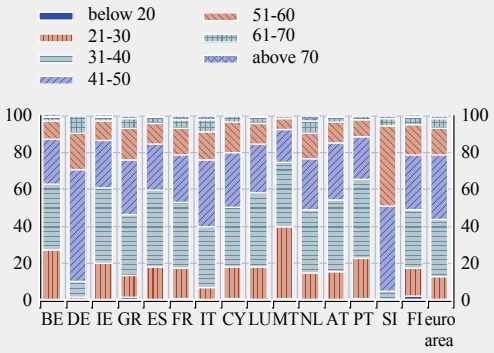
DEMOGRAPHIC TRENDS

Demographic factors can contribute to an increase in mortgage demand, both directly through an increase in the number of mortgages and indirectly by boosting the rental market and encouraging investors to enter the buy-to-let market. In the euro area, the population expanded annually by just below 0.5% between 1999 and 2007, but annual growth rates above

5 Measures of euro area house prices are based on non-harmonised national data, so that any inferences should be drawn with caution.

Chart 6 Distribution of housing loans granted in 2007, by age of the head of the household

(percentage)



Source: Bank questionnaire.
Note: Data for Italy refer to the stock of outstanding mortgage debt.

1% were recorded in Ireland, Spain, Cyprus and Luxembourg, in part reflecting strong net migratory flows (also see Table 7 in Annex 2). In Spain and Ireland, demographic factors seem to have contributed to the strong increase in loans for house purchase over the last decade.

The number of households per age class would provide a more meaningful indicator of demand for mortgages than the overall population growth, but such data are not always available. As shown in Chart 6, the results of the bank questionnaire show marked differences in the age structure of persons receiving new loans in 2007, with persons in Germany and Slovenia being older (above 40), while the average age is lower in other countries. Such differences in the age structure of borrowers may be caused by several factors, including a limited supply of houses, a restricted access to the mortgage market for young, low-income households, and a well-functioning rental market.

3 CHARACTERISTICS OF LOANS FOR HOUSE PURCHASE

3.1 INTRODUCTION

This chapter describes and analyses several features of housing loans, especially those that matter from a monetary policy point of view. It includes interest rate characteristics (fixed versus variable rates) and several non-interest rate characteristics of the loans, e.g. the loan-to-value ratio, the purpose of taking out a loan, loan maturities, the redemption schemes and the possibilities for early repayment. The chapter also deals with new mortgage products that have been introduced in markets. Other aspects deal with the impact of taxes and subsidies on the volume and characteristics of loans, the role of the rental market, and the impact of bankruptcy and foreclosure procedures. Table 2 presents the relevant quantitative information. The typical loan characteristics described usually refer to loans for the first purchase of a house by a household.

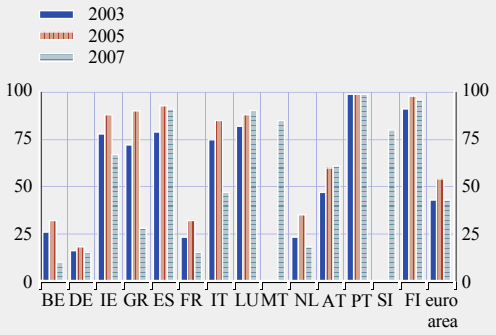
3.2 LOAN CHARACTERISTICS

3.2.1 INTEREST RATE

In most euro area countries, housing loans are granted at variable interest rates, as well as at fixed interest rates, but one of these two types dominates in each country.[6] In a minority of countries (Belgium, Germany, France and the Netherlands), representing about 65% of all euro area housing loans, a longer-term fixation of interest rates is the most usual procedure (see Table 2 and Chart 7). The fixation period was ten years (Germany) or longer (France) for most new loan contracts in 2007 (nearly 60 and 67% respectively). In Belgium, households predominantly choose a fixation of interest rates over the entire maturity period (82% of total mortgage borrowing in 2007), whereas the fixation period in the Netherlands is concentrated on the range of five to ten years. Usually, the loan category with the next-largest fixation period also has a relatively long-term interest rate fixation period, as shown in Chart 34 in Annex 3, based on the bank questionnaire.[7]

Chart 7 Share of variable-rate lending in new loans for house purchase

(2003, 2005 and 2007)



Source: ECB.
Notes: No data are available for Cyprus. Data for Malta refer to January 2008.

In the other eleven countries, variable interest rate loans dominate (a rate fixation period of one year or less). In these Member States, interest rates are adjusted on a monthly, quarterly, half-yearly or yearly basis, depending on the individual loan contract (see Table 2). Predominantly, the EURIBOR with the corresponding maturity is used for adjusting the interest rates, but in some countries, some of the loans with variable interest rates are linked to other reference rates, as is done in Belgium (Treasury bills), Finland (prime rates), Ireland, Greece, Luxembourg and Malta (minimum bid rate on main refinancing operations), and Austria (swap rate). In the countries where housing loans denominated in foreign currencies play an important role (Cyprus, Austria and Slovenia), the Libor is also relevant for such an adjustment.

The share of variable rate loans in new lending for house purchase varies over time, as Chart 7 shows, but does not vary by so much as to

6 In principle, the categorisation of euro area countries applied here (see also Chapter 5) follows the typical interest fixation pattern of the last years. In this report, the following definitions are applied: loans with variable interest rates have a fixation period of one year or less than one year. If the fixation period is longer than one year, the housing loan is considered a fixed rate loan.

7 The same conclusion holds for variable rate loans: the next-largest category usually has a relatively short interest rate fixation period.

Table 2 Characteristics of loans for house purchase

(2007)

	Prevailing type of interest rate [1]	Percentage share of variable rate loans in total new loans [2]	Index for adjusting variable interest rate	Percentage of outstanding variable rate loans with cap	Usury rate	Typical maturity (years)
Belgium	Fixed (over 10 years)	10	Treasury bills (12 months), bonds (1-10 years)	34	No specific rule, abuse punished by law	20
Germany	Fixed (over 5 and up to 10 years)	15	long-term market rates	0	Double as high as comparable market rate	25-30
Ireland	Variable	67	ECB main refinancing rate, 3-month EURIBOR	0	No specific rule	31-35
Greece	Variable [3]	28	ECB main refinancing rate, 3-month EURIBOR	4	No specific rule	15-20
Spain	Variable	91	12-month EURIBOR	0	More than 2.5 times the legal interest rate	30
France	Fixed (over 10 years)	15	12-month EURIBOR	50	More than 33% above the mean annual rate of last quarter	19
Italy	Variable	47	3-month EURIBOR	n.a.	Set quarterly. More than 50% above the average annual rate with two-quarter lag.	22
Cyprus	Variable	n.a.	3-month EURIBOR	0	No specific rule	20-25
Luxembourg	Variable	90	ECB main refinancing rate	0	No specific rule	20 and above
Malta	Variable	85 [5]	ECB main refinancing rate	0	Maximum 8% per year [4]	30-40
Netherlands	Fixed (over 5 and up to10 years)	18	long-term market rates	0	No specific rule	30
Austria	Variable	61	3-month EURIBOR	5	No specific rule	30
Portugal	Variable	99	6-month EURIBOR	0	No specific rule	30-40
Slovenia	Variable	80	6-month EURIBOR	0	Limitation of maximum	above 20
Finland	Variable	96	12-month EURIBOR, prime rate	11	Usury forbidden	20-25
Euro area [6]	-	43	-	19	-	-

Sources: NCBs, bank questionnaire and MFI interest rate statistics.
1) Loans with variable interest rates are loans extended at floating rates or with an initial period of rate fixation of up to one year. If the fixation period is longer than one year, the housing loan is considered a fixed rate loan. The selected typical interest rate is in line with an initial rate-fixation period according to the harmonised MFI interest rate statistics.
2) Share of loans with interest rate resetting period up to one year in total volume of new loans for house purchase in 2007.
3) Variable interest rates have prevailed in recent years up to 2006. In 2007, however, the interest rate fixation period of over one year and up to five years was dominant in the new business volumes (see also Chart 7).
4) However, Article 33 of the Central Bank of Malta Act overrides this provision in the case of lending by banks.
5) Refers to January 2008.
6) The euro area average is calculated on the basis of countries for which data are available, and may not always be fully representative.

Table 2 Characteristics of loans for house purchase (cnt'd)

(2007)

	Typical loan-to-value (LTV) ratio for a first-time house buyer (%)	Government guarantee scheme [2] (%)	Private guarantee scheme [2] (%)	Early repayment: Law or Contract	% stock affected by early repayment in 2007	Mortgage for purposes other than financing a new home (percentage of new housing loans)	Personal bankruptcy law
Belgium	80	1	18	L/C [1]	5	1	Yes
Germany	70	0	0	L/C	n.a.	1-2	Yes
Ireland	83	0	2	C	9	13 [4]	Yes
Greece	73	4	19	C	5	30	No
Spain	72 ½	0	1	L/C [1]	8	5	No
France	91	14	44	L/C [1]	8	1	Yes
Italy	65	0	2	L	1 [3]	1	No
Cyprus	80	0	55	L/C	4	n.a.	Yes
Luxembourg	87	0	2	C	0	< 1	No
Malta	63	1	n.a.	C	n.a.	9	Yes
Netherlands	101	13	0	C	2	3	Yes
Austria	84	0	13	L	9	2	Yes
Portugal	71	0	0	L [1]	7	20	Yes
Slovenia	65	0	0	C	0	11	Yes
Finland	81	5	4	C	8	12	Yes
Euro area [5]	79	4	19	-	6	5	-

Sources: NCBs and bank questionnaire.
1) In Belgium, Spain, France and Portugal, the law establishes the maximum value, but the actual cost has to be fixed contractually in advance.
2) Percentage of the outstanding amount of loans for house purchase that is guaranteed by a government institution or by a private insurance contract.
3) The percentage refers to early repayments for mortgage replacements only.
4) Mainly reflects top-up mortgages.
5) The euro area average is calculated on the basis of countries for which data are available, and may not always be fully representative.

challenge the above categorisation, with the possible exception of Italy and especially Greece where the share of variable rate loans decreased sharply in 2007, as compared with 2005. Variability also differs across countries, with very little variation over time in Germany and Portugal, but far more in Belgium and Greece. Notable is the increased share of variable rate loans in all countries in 2005, which probably reflects the low levels of short-term interest rates at the time. After that, this trend reversed in some countries, reflecting expectations of rises in money market interest rates that mounted in the second half of 2005.

In the case of variable rates, the variation of interest rates is sometimes capped, either by law or by contract, to avoid excessively large swings in households' interest payments. In Belgium, the law states that rates may be reset at most once a year, and contracts need to include a floor and a ceiling rate, in practice often allowing a maximum deviation of 3 percentage points relative to the initial interest rate level. In France, caps are popular without legal requirements; 50% of the outstanding amount of housing loans has a cap on interest rate changes, and for loans granted by special financing institutions, this share is as high as 90%. In Austria, interest rates charged by building and loan associations need to be in a certain range, and deviations require the approval of the supervisory authority. In several countries, the law prescribes that interest rates must follow an "official" interest rate, but such mechanical link is absent in other countries and rates can be changed at the discretion of banks.

A special kind of legal cap concerns usury rates. In most euro area Member States, excessive rates are forbidden (see Table 2), but these caps have in the recent past not appeared to have been a binding constraint for housing loans.

FACTORS BEHIND FIXED AND VARIABLE RATE LOANS

The precise reasons why variable or fixed interest rates dominate in a country are difficult to identify. Demand, supply and institutional factors may all play a role. Among the factors on the demand side, aspects to take into account are culture, risk aversion and consumers' planning horizon. Thus, a history of macroeconomic stability, notably low inflation, may be conducive to longer-term planning, and helps to explain why fixed rates have been, and still are, dominant in countries such as Belgium, Germany and the Netherlands.

On the supply side, refinancing practices of banks can play a role, as seems to be the case for Luxembourg, Slovenia, and Finland, judging from the results of the bank questionnaire. In these countries, variable rate loans and funding by short-term instruments dominate. By contrast, German banks issue long-term covered bonds, in line with households' preferences for a longer interest rate fixation. However, the responses to the bank questionnaire indicate that in the majority of countries, access to longer-term market funding is no constraint for the characteristics of banks' mortgage portfolios. In many cases, the causal relationship appears to work in the opposite direction, since the majority of banks claim that the maturity of mortgages determines the maturity of the funding instruments. The degree of a financial market's development may also have played a role in the past, as lack of appropriate benchmark rates in longer-term bond segments may have hindered banks in some countries in offering loans for house purchase with a longer-term interest rate fixation. In the case of Italy, the preference for fixed or variable rate loans may have been affected by a relatively higher spread than in the euro area in the fixed rate market, hampering shifts from one segment of the market to the other.

As for institutional factors affecting the preferences for fixed or variable interest rate loans, in Spain, all loans with an interest rate that was not fixed for the entire maturity of the loan were subject, until a change in regulation in 2008, to a maximum fee for early repayment, which was 1% from 1994 to 2005 and has been 0.5% since 2005. This made loans with an initial interest rate fixation period of five or ten years, for instance, less attractive for lenders. For some other countries, the introduction of the Basle II capital requirement framework was a relevant factor, which may have increased banks' preference for variable rate loans as it enables the credit risk to be shifted to households, thereby lowering banks' capital requirements.

3.2.2 MATURITY OF THE LOAN

The typical maturity of housing-related loans granted in 2007 varied across the euro area, ranging from 20 to 30 years. The maximum maturity offered by banks usually varies from 30 to 40 years. Longer-maturity products appeared in several Member States (up to 40 years in Belgium, Ireland, Greece, Italy, Luxembourg and Malta; up to 50 years in Spain, France and Portugal; and up to 60 years in Finland), although they usually have only a (very) small market share. The maximum maturity granted is often linked to the retirement age, as in Malta where 40-year loans are possible on condition that the loan is repaid before the borrower reaches the age of 65.

Products with variable maturity have also been introduced, examples of which are accordion loans (Belgium, Greece and France), i.e. variable rate loans where an increase (decrease) in the interest rate entails a longer (shorter) repayment period instead of a higher (lower) monthly repayment (possibly capped, as in France). Some housing loans with higher loan-to-value (LTV) ratios (80% to 100%) have been granted in recent years (Ireland, Greece, Italy, Malta and Portugal), requiring a lengthening of the maturity of the loan to keep it affordable by households.

Over the period since the start of Economic and Monetary Union (EMU), the average loan maturity has increased in euro area countries, as has the maximum maturity proposed by banks. This partly reflects increases in house

prices, requiring households to take up larger loans when entering the housing market, which can only be afforded at longer maturities. Furthermore, rising life expectancy and the related increase in retirement ages may also have led to a lengthening of the loan maturity. On the funding side, the longer maturities offered may be related to increased competition, more favourable longer-term financing conditions of banks and the development of new funding instruments with longer maturities (covered bonds, securitisation), although the direction of causality is difficult to establish.

3.2.3 LOAN-TO-VALUE RATIO

In 2007, the typical LTV ratio for a new mortgage was around 80% in the majority of the Member States, ranging between 63% and 101%.[8] While generally no formal restrictions are in place for this ratio,[9] a threshold can be put in place for capital and provisioning requirements on housing-related loans. If LTV ratios remain below a certain limit (80% in Spain and Italy,[10] 75% in Greece, Ireland and Portugal, and 70% in Finland, for example), mortgages are treated in the standard way under Basle II, but receive a higher risk weight above that level, requiring banks to hold more (costly) capital against these loans. Likewise, a threshold applies for loans to be eligible as collateral for covered bonds or mortgage bonds (80% in Spain and Portugal, 75% in Ireland, and 60% in Germany, Slovenia and Finland) (see Section 4.4).

Private or public guarantee systems, and households taking out insurance against income losses, have a positive effect on LTV ratios since part of the banks' risk is transferred. As shown in Table 2, guarantees play a major role in Cyprus and France, countries that both have LTV ratios of 80% or higher.

In case a household asks for a loan with an LTV ratio of 75%, rather than one of 50% on a loan for house purchase, the interest rates to be paid can be unchanged or increased by up to 20 basis points, according to the responses to the bank questionnaire. The same question, but now for an increase from 75% to 95%, resulted in, on average, a higher interest rate increase of 20 to 40 basis points, but also in far greater variation across countries that ranged, broadly, from no change to more than 60 basis points.

LTV ratios seem to have risen in the majority of countries over the period covered by the analysis, accompanied by a rise in the maturity of loans and the development of new types of loans that allow a postponement of repayments. In 2007, the LTV ratio decreased in some countries such as Belgium, Ireland, Spain, Malta and Portugal, possibly as a result of the financial turmoil.

3.2.4 REDEMPTION SCHEME

A scheme of amortisation that provides for the payment of constant monthly instalments comprising interest payments and capital redemptions, where the initial higher proportion of interest payments is gradually replaced by a higher amount of capital repayment, is the most usual scheme in the vast majority of the euro area countries. In Greece, Spain, Malta and Finland, it represents close to, or above, 90% of the loans for house purchase granted in 2007.

The interest-only system, defined as a monthly payment of interest with full capital reimbursement at the end of the contract, represents a small part of the aggregate market share (on average, 7.5% in the euro area in 2007),[11] but covered more than 15% of loans granted in Ireland, Cyprus and the Netherlands in 2007. In the latter country, such mortgages accounted for at least one-third of the market in 2007, and were often combined with amortisation mortgages or contractual savings for complete

8 In the Netherlands, registered LTVs in 2007 were around 110%, while the actual initial LTV was around 100%. The difference reflects the additional debt a household may take on without having to draw up a new contract and pay the related costs.

9 Except in Cyprus, where the maximum LTV was fixed by the central bank in 2006. For mortgage loans relating to the purchase of the first primary residence of the borrower, the limit was set at 80%.

10 In Italy, the LTV may increase to up to 100% if suitable additional guarantees are provided.

11 Data are taken from the answers to the bank questionnaire, where banks were asked to indicate the share of new loans in 2007 for which only interest had to be paid during, at least, the initial three years of the contract.

redemption at the end of the maturity. In France, interest-only loans are typically used for investments in rental dwellings.

In several countries, credit institutions have widened the types of redemption schemes, and new products have been introduced that provide for lower payments at the beginning of the mortgage contract ("teaser" loans). A lower initial burden on households can, for instance, be achieved via an interest-only scheme that is used only for an initial period as defined at the beginning of the contract (Ireland, Greece and Cyprus): during that period, monthly payments consist only of interest payments, without any repayment of capital. In Spain, Portugal and Slovenia, a short initial period of non-payment, or reduced payment, is possible, combined with an amortisation scheme for the rest of the period. In Italy, loans with increasing instalments and free instalments have been introduced, where the interest payment part is fixed for every instalment, while the capital reimbursement contribution can vary over time. In a few countries, balloon loans (loans including a final payment that is considerably higher than prior payments) exist, but account for an only very small share of the market.

Some loans for house purchase explicitly provide for payment flexibility during the contract period, especially in the case of an income shortfall. This allows a borrower to postpone payments until times are better and – from a macroeconomic perspective – reduces any pro-cyclical effect on household balances. Various combinations of loans with deferred interest payments and/or capital redemptions, with and without a lengthening of the maturity of the loan, are also to be found. More specifically, some housing loans, for instance, have a variable maturity, where instalments are constant, but the maturity of the loan increases or decreases, depending on the dynamic of the variable interest rates ("accordion loans" in Belgium, France, Italy and, to a limited extent, Portugal). Another type of variable rate loan consists of variable monthly payments linked to an index, with an interest rate that is capped in most cases (France). Chart 35 in Annex 3 gives some information on flexibility in the housing loans outstanding in 2007, based on the bank questionnaire, indicating possibilities to temporarily suspend repayments or interest payments, and possibilities to extend the maturity of the loan without additional costs. In quite a few countries, such options appear to be available, although precise conditions might be restrictive.

3.2.5 FLEXIBILITY IN MORTGAGE CONDITIONS

The flexibility of a housing finance market indicates the ease with which households can change certain terms and conditions of their mortgage contracts, or to shift to other loans for house purchase, either with the same bank or with another bank. Early repayment opportunities are an important element in that, but the cost of taking out a new mortgage also plays a role.

Partial and total early repayments are allowed in all euro area Member States. Early repayment fees are usually a percentage of the amount repaid, the size of which depends on the amount or the loan product, on whether it is a variable rate loan or a fixed rate loan, and/or on the time that has past since the beginning of the loan repayment. In several countries, early repayment is free of charge in the case of variable rate loans, whereas there are penalties for the early repayment of fixed rate loans (Finland, Greece, Luxembourg and the Netherlands). For some specific cases in which early repayment is possible in Germany, the interest rate may increase by about 50 basis points. In Belgium, fees are subject to an upper limit that is equivalent to a maximum of three-months interest on the amount of capital borrowed but not yet redeemed (in the case of partial early repayment, fees are due in proportion to this limit). In the Netherlands, that part of a fixed rate mortgage that is redeemed early (if it amounts to more than 10% to 20% of the loan) is subject to payment of a fee equal to the present value of the interest that would have had to be paid during

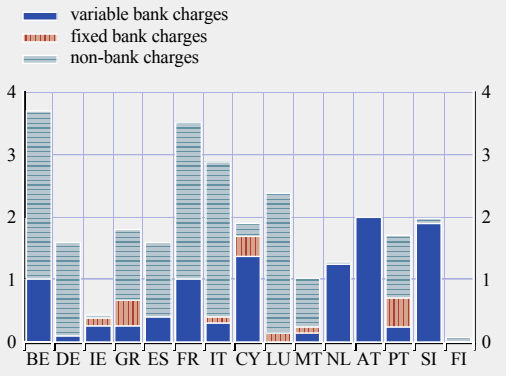
the remaining fixed rate period. Moreover, fees related to early repayment are limited by law in Portugal.

In principle, the fees described above are also due if early repayment implies switching within the same credit institution, although a renegotiation of loan conditions is sometimes possible. Where this switching possibility is available, it can be free of charge (Italy), but it can also be subject to a penalty payment (France, where fees are a maximum of 3% of the remaining debt). In some cases, early repayment is used to switch from one bank to another bank that offers lower interest rates or other types of loan. In addition to the aforementioned fees, such switching usually implies some other fees that are linked to the conclusion of a new loan contract (notary fees, registration fees, research and administrative fees, etc.), except in Italy where the portability of housing-related loans was introduced: the change of lender is free of charge, provided that the amount of the new loan is equal to the remaining original loan. Fees are reduced considerably in such cases in Spain. In Ireland and Portugal, switching costs are sometimes paid by the new lender. Apart from direct costs, indirect costs may arise when switching to another bank because products obtained via cross-selling are no longer available.[12]

Turning to the cost aspect of taking out a loan, which could apply to switching or to a first loan taken out, Chart 8 indicates the costs of taking up a loan for house purchase as a percentage of the typical loan amount taken out in 2007, given the situation of a "typical" mortgage taken out in 2007 for owner-occupancy purposes. Costs included are those that are directly related to taking out a mortgage (and not to buying the house itself), either required by law or by the institution providing the loan, or as are common practice. While some costs vary with the loan amount, others are fixed, the precise structure being country-specific. Non-bank charges, for instance, may include notary fees, legal fees and mortgage registration costs. Chart 8 shows marked differences between individual euro area countries, with the costs for taking out a loan varying from 3.5% of the loan amount in Belgium to close to zero in Finland. However, the chart is only indicative as simplifying assumptions had to be made in view of the sometimes complex fee structure, substantial differences in the fee structures of individual banks in the same country and fee sizes that depend on circumstances which were not taken into account.

Chart 8 Charges when taking out a loan for house purchase

(percentages of typical mortgage amounts)



Sources: NCBs and bank questionnaire.

3.2.6 PURPOSE OF TAKING OUT A HOUSING LOAN

In the vast majority of the countries in the euro area, mortgages are used to buy the primary house, for occupation by the owner. Loans granted for this purpose accounted for 70% to 90% of all the housing loans granted in the euro area countries in 2007, according to the responses to the bank questionnaire. Some loans for house purchase are granted for buy-for-rent purposes, i.e. to generate rental income (on average, 8% in 2007). Fiscal advantages as in Austria may spur this type of lending (for more details, see Box 3). The buy-for-resale option is popular in France, accounting for 14% of new loans for house purchase in 2007. Finally, interest in acquiring a second home (including holiday homes) is generally not a very

12 See Organisation for Economic Co-operation and Development (2007) for an overview of mortgage cross-selling practices in Europe.

significant reason for granting housing loans (on average, 5% in the euro area), except in the case of Cyprus where it accounts for a share of more than 30%. Housing loans for other, unspecified purposes accounted for 8% of all housing loans granted in the euro area in 2007.

Households may also take up debt secured on the housing stock, but not invest in it and, instead, use it for consumption spending (including home improvements), the acquisition of other assets or the repayment of unsecured debt (which may include interim financing for a down payment on a new house). Such a withdrawal of mortgage equity is possible when the value of the property sufficiently exceeds the outstanding amount of loans taken out against it, allowing borrowing secured by the house value. The existence of collateral (the house) normally leads to terms that are more favourable than those for unsecured debt. In a few countries, specific loan products have been introduced that allow consumers to withdraw equity from their homes through home equity loans or lines of credit and "cash-out" refinancing (France and Malta). Mortgage equity withdrawal can also take place indirectly, for instance, when selling a house and using part of the capital gains for a purpose other than investment in a new house, but no data are available on this type of withdrawal.[13] A very specific form of spending housing wealth can take place via a reverse mortgage, which allows homeowners to borrow money by transferring ownership of the house to the bank (used on a very limited scale in Germany, Ireland, France, the Netherlands and Finland).

Available information indicates that taking out a mortgage for purposes other than buying a house is not a very widespread phenomenon at the euro area level, although it is growing in importance. Based on the responses to the bank questionnaire, there are a few countries with a notable share of loans for house purchase that are used for purposes other than investment in the primary dwelling (see Table 2). The significant cross-country differences may reflect local regulations, cost considerations or supply conditions. In Portugal, for instance, the relatively high number (20% of new loans in 2007) may reflect the financing of down payments or of transaction costs. In France, by contrast, regulatory limitations are strong, with withdrawals restricted to the difference between the size of the loan and the original price of the house. In other countries such as Belgium, this type of loan is relatively costly. However, the data need to be interpreted with care as there is no detailed information available on the taking out of housing loans for purposes other than for buying a house, i.e. on whether it is used for consumption, home improvements, financial investment or the repayment of other debt. Moreover, it cannot be said whether the data collected through the bank questionnaire reflect secured debt for consumption purposes where the collateral has not been used exhaustively, or an expenditure-boosting process based on house price increases.

13 For quantitative estimates of mortgage equity withdrawal, see ECB (2008b), in which a macroeconomic approach is used (the difference between the growth of housing-related loans and residential investment), and the ECB bank lending survey of July 2006.

Box 3

RELEVANCE OF THE RENTED HOUSING MARKET IN SELECTED COUNTRIES

Who is active in the rental market?

Owner-occupancy rates in euro area countries vary significantly (see Table 1). Germany is an outlier with a rate of 43% in 2007. In France, the Netherlands, Austria and Finland, the rates are also relatively low (around 55% to 60%), lower than the euro area average. Macroeconomic

data (on e.g. residential loans and housing investment broken down by sector) indicate that households in these countries are not only house owners, but also active as landlords in the rental market. German households' investment in housing for renting explains the apparent contradiction between the high level of loans for house purchase and the low owner-occupancy rate. This box describes developments in the private rental markets, with a focus on Germany.

To a certain extent, more specific data on the number and the ownership of housing units can clarify these relatively low owner-occupancy rates. According to a survey, German households own about 75% of all residential property, but only 43% live in their own home. Therefore, more than 30% of all housing is rented out by private individuals to other households. This compares with a share of 18% that is rented out by private enterprises, including cooperatives. In France and Finland, households and private enterprises are responsible for renting out about 20% of all residential property, and nearly the same figure holds for social renting by the government or public enterprises. In the Netherlands, the share of social housing is very high (over 30%), while private rental housing (which can include housing rented out by enterprises) only accounts for about 10%. In Austria, social housing is also more important than private rented housing, but the difference is less significant. In Italy, about 25% of the total rental housing stock is publicly-owned. Thus, in particular in those Member States in which owner-occupancy rates are below the euro area average, households are highly active in renting out housing.

Reasons for the different structure of the German rented housing market

After World War II, given the magnitude of the destruction involved, activity in the German housing market was dominated to a far greater extent by the construction of social housing than in most other euro area countries. Until the mid-1970s, investment in multi-family housing, in particular, was very high. Therefore, German households in cities were used to living in rented property. As these accommodations were usually of a good quality, households were little inclined to buy a home of their own.

Another reason for the attractiveness of the German rented housing market for private investors was that regulations on rent increases and eviction rules were not very strict. Finland provides an excellent example of the consequences of a deregulation of the rental market, as happened there in the mid-1990s: the share of rented housing increased and, consequently, the owner-occupancy rate decreased from 65% in 1993 to 58% in 2005. In some other euro area countries, strict regulations hindered households and other investors in purchasing and renting out residential property.

Taxation also plays an important role in explaining the current situation of the housing market. In Germany, the tax treatment of owner-occupied housing differs from that of dwellings rented out to other households. Since 1987, the financing costs and depreciation of owner-occupied housing can no longer be deducted from income tax, but a deduction of financing costs is still possible in the case of rented housing. Another factor is that taxes and other charges on house purchases in Germany seem high in comparison with other countries. Therefore, households may prefer to live in rented accommodations for reasons of greater mobility. This aspect seems to be more relevant for explaining the low owner-occupancy rate in Germany than other institutional factors such as the LTV ratio, for instance. In many other countries, lower transactions costs and significant subsidies work in favour of house ownership (see Section 3.3).

Rented accommodation can be considered an asset for retirement. In the past, self-employed persons in Germany were often not covered by public or private retirement schemes. They were thus used to renting out housing so as to have an income from rents upon retirement, supported by tax legislation. In addition, rental income is to some degree protected against inflation, given indexation on the basis of a consumer price index (CPI).

New developments in rented housing markets

Privatisation: Until the end of the 1990s, German housing enterprises owned by the government (mainly local authorities) held about four million dwellings. Since that time, private (and often foreign) investors have purchased significant numbers of public dwellings in larger cities. As a result, the stock of social housing is currently of minor importance. Similar attempts at privatisation also took place in other euro area countries, e.g. in Austria (where social housing is still important) and Italy. Since the mid-1980s, the Italian public sector has dealt less with social housing; new housing policies are expected to come into play in the next few years. In contrast to other countries, France started a large-scale social housing project in 2004 in order to reduce social problems in the suburbs of cities.

Changes in regulations: In Austria, the sharp increases in housing rents led to a change in the basis of rent indexation, namely the replacement in 2008 of the CPI figure of December with the annual CPI average. In Italy a progressive deregulation of the rented housing market started in 1992, with only modest results as regards the supply of rented dwellings, which may reflect high taxation and strong rights for tenants. In recent years, Spain and Luxembourg have likewise tried to promote investment in the rented housing market through regulatory adjustments (e.g. by improving possibilities for the adjustment of rents), while proposals to revive the rental market were tabled in the Maltese Parliament in 2008. In Portugal, measures to increase the supply of, and demand for, rented accommodations were introduced over the last few years, albeit with limited results thus far.

Finally, according to information collected by NCBs on some specific types of loans for house purchase, bridge loans backed by real estate are present in France and Malta, where they amounted to about 10% and 5% respectively of the flow of housing loans in 2007. Second mortgages on the same property represent about 12% of new housing loans in the euro area in 2007, but account for 20% or more in Belgium, Germany and France according to national data collected via the bank questionnaire.

3.3 TAXATION IN HOUSING MARKETS

Many governments in the euro area encourage housing investment and support the affordability of households' housing demand, for instance, by way of subsidised mortgage loans, through income tax-deductible interest payments, by means of capital grants and by constructing or supporting the construction of subsidised housing. There are sometimes major differences in the taxation of housing-related activities across the euro area. Table 3 summarises the tax treatment in euro area countries, describing the "typical" situation for the principal residence of the owner, dispensing with many details and exceptions.

- Only a few euro area countries have a tax on imputed rent for owner-occupied housing (Belgium, Luxembourg and the Netherlands). The valuation base is usually lower than the market value. However, as shown in the table, most countries impose a property tax that has a similar effect.

- Table 3 also shows that, in the majority of countries, mortgage interest payments are tax-deductible, although this is usually restricted to primary residences. This subsidisation increases the affordability of principal dwellings, and has implications for the amount of mortgage debt households take up, the number of households with mortgage debt and the types of loans involved (e.g. interest-only loans). The importance of the tax deductibility of interest rates has decreased over time as the marginal tax rate at which tax relief for interest payments on mortgages could be claimed has been reduced. Annex 4 provides some details on the tax deductibility of mortgage interest payments in the euro area countries.

- In general, capital gains on the principal owner-occupied home are exempted from capital gains tax, especially if the owner has lived there for several years before selling it. In only few countries are capital gains on housing treated more or less the same as other capital gains.

- Inheritance/gift tax, as well as wealth tax, may have an impact on the level of mortgage loans households take out. Most countries have abandoned inheritance tax and wealth tax over the past decade, although inheritance tax has recently been reintroduced in Italy.

- Taxes on property transactions are levied in the majority of euro area countries. Most often, these are one-off fees, such as stamp duties on the home purchase contract or transfer taxes on real estate transactions. In some cases, as in Ireland, rates of stamp duty are used as a policy instrument to curb housing demand.[14]

14 In 2000, investors began to be charged a different and higher rate of stamp duty than first-time buyers and owner-occupiers.

Table 3 Housing market-related taxation

(2008)

	Tax on imputed rent [1]	Tax deductibility of interest payments	Capital gains tax			Inheritance tax		Wealth tax	Real estate/ property tax	Transaction tax/fees/ stamp duties
			On selling own home after 10 years	Different treatment financial – housing assets?	Maximum tax rate applicable	On own (principal) home [3]	Different treatment financial – housing assets?			
Belgium	yes [4]	yes	no	no	16.5%	yes	no	no	no	yes
Germany	no	no	no	yes	45%	yes	yes	no	yes	yes
Ireland	no	yes	no	yes	20%	yes	no	no	no	yes
Greece	no	yes	yes [2]	no	n.a.	no	no	no	yes	yes
Spain	no	yes	yes [2]	yes	18%	yes	yes	yes	yes	yes
France	no	yes	no	yes	16%	yes	no	yes	yes	yes
Italy	no	yes	no	yes	20%	yes	yes	no	yes	yes
Cyprus	no	no	yes	yes	20%	no	no	no	yes	yes
Luxemburg	yes (4%) [5]	yes	no	yes	38.95%	yes	no	no	yes	yes
Malta	no	no	yes	yes	12%	no	no	no	no	yes
Netherlands	yes (0.6%)	yes	no	no	n.a.	yes	yes	no	yes	yes
Austria	no	yes	no	no	50%	yes	yes	no	yes	yes
Portugal	no	yes	yes [2]	yes	42%	no	no	no	yes	yes
Slovenia	no	no	no	yes	20%	yes	yes	no	no	yes
Finland	no	yes	no	no	28%	yes	no	no	yes	yes

Sources: NCBs and International Bureau of Fiscal Documentation (2007).
1) Tax rate on imputed rent is given in brackets.
2) No taxation if capital gains has been or will be reinvested in another permanent residence, within certain time limits.
3) Depending on the degree of kinship.
4) 30% to 50% of the rateable index-linked value.
5) 6% of the unit value exceeding EUR 3,800.

- Transaction costs, i.e. property purchase costs and mortgage loan costs, may have an effect on housing market activity. The former are usually largest in size, and comprise mainly taxes (see above). On average, taxes account for up to two-thirds of the transaction costs. The tax part of the purchase costs is particularly high in Belgium, Greece, Spain and France. Mortgage loan costs have been touched upon in Section 3.3.5. Apart from affecting housing market activity, high transaction costs may also have negative effects on labour mobility.

All in all, it seems that tax policies often promote home ownership through fiscal instruments that favour investment in immovable property over investment in financial assets, usually motivated by positive external effects.[15] Furthermore, it is evident that fiscal aspects of mortgage financing are predominantly country-specific and play an important role in housing market developments.

3.4 BANKRUPTCY AND FORECLOSURE PROCEDURES

Procedures for resolving bad debt situations, such as the design and enforcement of rules on bankruptcy and/or the repossession of property, are of great importance for mortgage markets. While personal bankruptcy laws have a long history in United Kingdom and the United States, specific regulations in continental Europe did not appear before the 1990s, although now only a handful of euro area countries (Greece, Spain, Italy, and Luxembourg) have not yet adopted a relevant law (see Table 2).[16]

The personal insolvency rules adopted by euro area countries, although differing in some respects such as their requirements for the seizure of assets or the garnishment of future income, have many elements in common, the most typical being the requirement that debtors make at least some payments to their creditors in order to be eligible for discharging personal bankruptcy. Moreover, the procedures for debtors to obtain debt release without their creditors' agreement are protracted, and future income may be garnished for a number of years. Generally, the discharge of personal bankruptcy in Europe requires the fulfilment of more conditions, and is more costly, than in the United States, although banks in Europe can at the same time also lay claim to other assets and/or income flows, which is usually not the case in the United States (also see Chapter 6).

Even in case where an individual does not declare bankruptcy formally, the inability to meet one's financial obligations may lead to a mortgage foreclosure. Indicative data received from some euro area countries reporting an upward trend in the number of personal bankruptcies in the past few years, albeit – in contrast to what is being observed in the United Kingdom and the United States – at a declining rate of growth. Repossession of property through foreclosure is generally the ultimate solution, pursued after the failure of attempts to resolve the difficulties through debt counselling or negotiations that form part of, or are even a precondition for, the judicial procedure. If an out-of-court solution is not reached, the debtor usually arranges for the case to be heard in court so as to allow the latter to decide on the foreclosure details.[17] A forced sale may result, usually executed via a public auction.[18] To decrease the possibility of this stage being reached, most countries maintain registers of negative and positive credit histories and, although the consultation of such registers is mandatory in only a few countries (e.g. Belgium and the Netherlands), it is a common practice for lenders in all countries to consult them before the terms and conditions of a mortgage contract are defined.

15 This conclusion is confirmed in Van den Noord (2003) and Neuteboom (2004).

16 There are, however, countries without any personal bankruptcy legislation (e.g. Spain) or countries that have passed such legislation only very recently (e.g. Slovenia) where personal bankruptcies or foreclosures may be permissible on the basis of general bankruptcy legislation or insolvency acts.

17 In the majority of countries, a debtor may miss several instalments, or fail to service his/her debt for a number of months, before any legal petition goes forward, a development that increases the cost for the creditor.

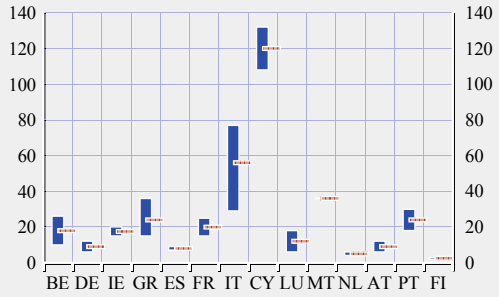
18 In the Netherlands, a private sale is also possible, while the lender usually manages the sale in Ireland.

Chart 9 Typical duration of a foreclosure procedure (in months) and the cost of its completion (as a percentage of the loan value)

(minimum/maximum range and usual values involved)

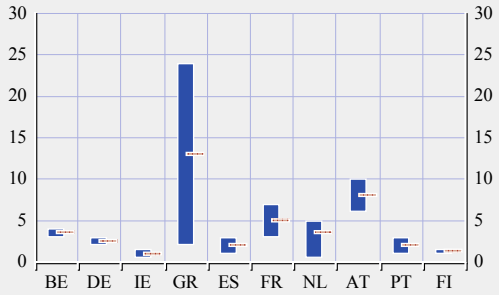
a) Typical duration of a foreclosure procedure

y-axis: months



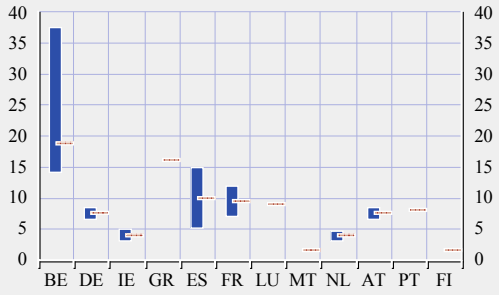
b) Typical period necessary for the payment of creditors

y-axis: months



c) Typical cost of a foreclosure procedure

y-axis: percentages



Sources: NCBs, European Mortgage Federation and European Commission.

The duration and the cost of foreclosure procedures vary significantly across the countries for which data are available. Taking into account the time needed for the completion of court proceedings, the sale of the asset and the distribution of the proceeds to the creditors, the period typically required for the completion of foreclosure proceeding (see Chart 9, panel a) ranges from a minimum of two months (Finland) to a maximum of between 56 and 132 months (Italy and Cyprus respectively). On average for the euro area, the usual time needed for the entire procedure is close to two years. More than half this period is accounted for by the time needed for court hearings,[19] while the time typically necessary for the payment of creditors (see Chart 9, panel b) is about four months. Even in this case, significant variations across countries were reported, ranging from a minimum of approximately one month (Ireland, Spain, Portugal and Finland) to a maximum of 24 months (Greece). Foreclosure procedures in the United States take far less time to be completed (see Chapter 6).

There are also significant differences regarding the cost of the enforcement procedure.[20] In most countries, the cost is approximated as a percentage of either the loan balance or the proceeds of the sale. In some countries, it is estimated either as a function of the market value of the property and the maximum bid (e.g. Germany), or is inversely related to the sales price (e.g. Spain). Taking the above into account in interpreting the cost figures reported in Chart 9, panel c, and assuming a standardised loan balance or property sale value of €100,000, the lowest cost figures are observed in Malta and Finland, while the highest are found in Belgium, with the latter country also reporting the highest figure if the usual cost figures and not the maximum amounts are considered. All in all, the average cost is close to 9% of the loan value.

Limited information is available regarding the recovery ratio of a completed foreclosure procedure. Provisional estimates by some

19 It should be noted, however, that in some countries (e.g. Germany and Cyprus), a foreclosure procedure does not require a court order. Nevertheless, there may be other technical or legal obstacles (e.g. land registry in Cyprus) that delay the process.

20 The available data on the total cost of the enforcement procedure refer to the cost borne by the buyers (e.g. legal, registration, administration or auctioneers' fees).

countries (e.g. Germany and Greece) put it at between about 50% to 70% of the market value of the property at the time of the sale. Assuming an average down payment ratio of about 30%, the downside risk for the lender appears limited if house prices remained stable.

The diversity in the duration and the cost of a forced sale procedure creates uncertainty for the lenders with respect to the recovery of the loans from defaulting borrowers. This may translate into higher interest rates charged to consumers and/or lower LTV ratios. Lenders' scope to diversify their pools across countries is also reduced as the risk factors that may be applied in evaluating the overall risk exposure of the lenders and the respective loss-given-default values will be different in a cross-border mortgage asset pool.

4 FUNDING OF LOANS FOR HOUSE PURCHASE

4.1 INTRODUCTION

This chapter focuses on the mortgage funding of MFIs and aims to provide an overview of the funding strategies of banks, with special reference to both cross-country differences and developments since the end of the 1990's. To start with, market structures are described across countries, with due consideration of the type of MFI offering the loan, and to whether it is a domestic or a foreign MFI. In addition, the role of non-MFIs as mortgage lenders is discussed. Next, details are provided about the changing funding mix of banks in the period from 1999 to 2007, when there was a marked shift away from the traditional deposit basis towards more market-oriented sources of funds. The chapter includes a focus on the growth of the collateralised bond market, distinguished by type of instrument (covered bonds and residential mortgage-backed securities (RMBSs)).

4.2 MARKET STRUCTURE ACROSS COUNTRIES

In all euro area countries, MFIs are by far the most important providers of mortgage loans (see also Chart 29a in Chapter 6). More than 90% of the stock of mortgages to households is originated by MFIs in the euro area, and this share has been increasing over time. However, in nearly all euro area countries, non-MFIs such as insurance companies and/or pension funds (ICPFs) are also involved in financing house purchases of the household sector. This holds true, above all, of Belgium, Germany and the Netherlands where the related market shares ranged between 3% and 8% at the end of 2007. For all three countries, these ratios have decreased significantly in the recent past. In Belgium, the corresponding figure for loans from ICPFs was about 15% at the beginning of 1990, compared with 12% in Germany and 10% in the Netherlands.

The decline in Germany has partly been due to tax treatment. Housing loans extended by ICPFs are usually linked to a life insurance contract that is used for full redemption at the end of the contract period. The final pay-out value of a life insurance policy was tax-free before 2005 if the contract was held longer than 12 years, but this tax benefit was abolished in 2005. In Belgium, the decreasing share of mortgage loans granted by ICPFs reflects the integration of insurance companies in banking groups via mergers and acquisitions. Mortgages offered by these groups are now included in MFIs' loans.

In addition to ICPFs, other sectors such as other financial intermediaries (OFIs) and public entities also extend housing loans, notably in Belgium where the market share of these non-MFIs was about 10% in the last few years.

Looking more closely at the composition of the banking sectors of the euro area, it can be noted that the role played by cooperatives and savings institutions with respect to loans for house purchase is also relatively important in some countries. More specifically, in Germany and Austria, savings banks have a special status and accounted for 30% and 31% respectively of housing loans at the end of 2007.[21] In addition, the cooperative sector is also of particular importance in some countries. More specifically, the corresponding shares of this particular banking category are substantial in Germany, Austria, Cyprus and Finland, holding around 19%, 21%, 34% and 31% of housing loans respectively at the end of 2007.

Although institutions that have traditionally specialised in mortgage finance still play a role in some countries,[22] the general trend was a move both towards the universal banking model that allows all depository institutions to enter the mortgage markets and towards permitting some of these dedicated institutions to operate in different markets. An example of the former is the change of 2005 in German regulations to

21 The shares refer to loans for house purchase extended to domestic households in Germany and loans for house purchase granted to non-banks in Austria, viewed in relation to total lending to the respective category by all MFIs.

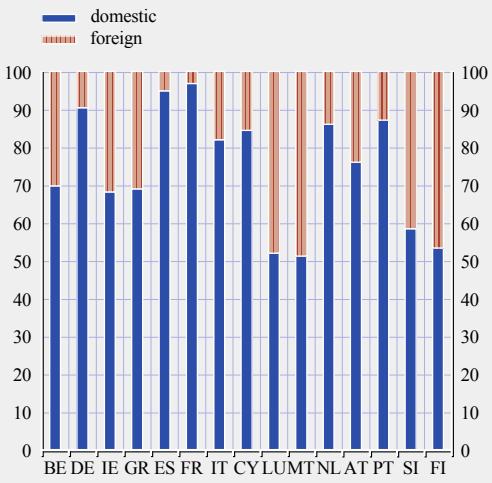
22 Examples are German and Austrian mortgage banks, the French *Sociétés de Crédit Foncier* (SCF) and Spanish savings banks.

allow all credit institutions to potentially issue *Pfandbriefe* (a special form of covered bonds), and an example of the latter is the conversion of Spanish, Belgian or Italian savings banks to fit the universal banking model, with very few differences remaining between these institutions and commercial banks in those countries.

Loans extended by banks or non-MFIs on a cross-border basis do not play a significant role in the euro area, although cross-border loans from neighbouring Belgium, France and Germany are estimated to total about 3% to 5% of all loans outstanding in Luxembourg. Specific rules and practices appear to discriminate directly or indirectly against loans from abroad (e.g. rules on foreclosures and insolvency laws (see Section 3.4)). In order partly to avoid these obstacles, banks have established subsidiaries or branches in other countries to grant housing loans to domestic households in line with the respective national rules (see below).

Chart 10 Housing loans to households: domestic banks versus foreign branches and subsidiaries in 2007

(percentages)



Source: NCBs.
Notes: The definition of a subsidiary varies slightly across countries. The standard criterion coincides with foreign ownership of the majority of voting equity.

Focussing on the MFI sector in the remainder of this chapter, it is interesting to note the tendency towards a concentration of MFIs across the euro area. In particular, while the total number of MFIs in the euro area decreased in the period from 1998 to 2007, the share of foreign branches and subsidiaries (from both euro area and non-euro area countries) in the total number of MFIs located in the various countries has risen. Most notably, the share of such branches and subsidiaries in the total number of MFIs in Belgium, Ireland, Greece and Spain reached around 53%, 40%, 43% and 22% respectively at the end of 2007. Interestingly, the actual share of loans for house purchase extended by foreign branches and subsidiaries did not follow the same pattern (see Chart 10).

As expected, smaller countries are more prone to have foreign entrants: this holds true of Luxembourg and Malta where approximately half of total lending is accounted for by foreign branches or subsidiaries of foreign banks. In Cyprus, the share of loans granted by foreign branches or subsidiaries has risen from 9% at the end of 2005 to 16% at the end of 2007. Competition is often the reason cited most for the increase in the shares of international banks. Foreign branches and subsidiaries located in a given country are familiar with the country-specific rules and their lending can be regarded as a substitute for cross-border loans.

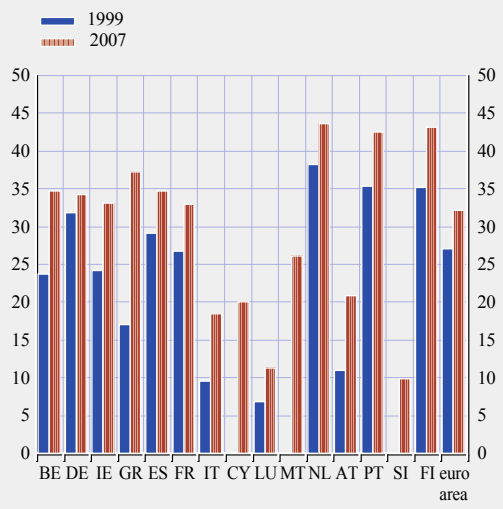
4.3 FUNDING OF MFIS

Housing finance is a growing area of business for euro area banks. At the end of 2007, loans to households for house purchase in the euro area accounted for about 32% of total loans to euro area non-MFIs, a figure that is 5 percentage points higher than at the end of 1999 (see Chart 11). The trend towards an increase is a feature common to all euro area countries.

Although important, housing finance is just one of various business lines. Apart from a few special instruments designed specifically to fund mortgage loans, banks rely on their general sources of funds to finance housing loans. In this respect, deposit funding still remains the most significant source. Over the last decade, however, a number of events, including the

Chart 11 Share of loans to households for house purchase in total MFI loans to euro area non-MFIs

(percentages; Q4 1999 and Q4 2007)



Source: ECB.
Note: Data include estimates of derecognised loans.

development of a deeper and more integrated euro area bond market after the introduction of the euro, financial and technological innovation as well as extremely favourable global financing conditions have broadened the funding choices available to credit institutions, allowing a shift towards more market-based capital structures.

In addition, there is considerable heterogeneity in funding structures within the euro area, both across countries and between different institutions in an individual country. History still has a certain impact on the funding structures of specialised institutions, although their role and weight in the mortgage market has declined considerably and although the availability of mortgage finance no longer depends on them. Consequently, the bulk of the analysis in this section is done at the level of total MFI sector in each country. Estimates of both derecognised and non-derecognised loans in the context of true-sale securitisation are included.

A critical development with respect to explaining funding changes in the euro area banking systems up to the start of the financial turmoil in 2007 is the strong growth of total lending in general, and of housing loans in particular. As can be seen in Chart 12, panel a, over the past ten years, total lending to non-MFIs (which includes loans derecognised from the balance sheet of originators after their securitisation) has increased by 40 percentage points when expressed as a proportion of euro area GDP. At the same time, housing loans to households increased by around 15 percentage points, to 38% of GDP. In absolute terms, the amount outstanding of loans to households for house purchase increased 2.5-fold over this period. This elevated growth was not matched by the rise in traditional deposits – considered here as the deposits made by euro area non-financial sectors – which remained relatively stable in terms of GDP. The growing gap between loans and deposits was financed by increasing recourse to market-based funding in the form of debt securities [23] and borrowing on the money market. However, it would be misleading to try to establish unidirectional causality here, running from an increased funding gap to a diversification of funding sources. Indeed, part of the growing funding gap is actually explained by the existence of those alternative sources of finance, which allowed banks to expand their loan markets against a backdrop of increasing demand and higher competition.

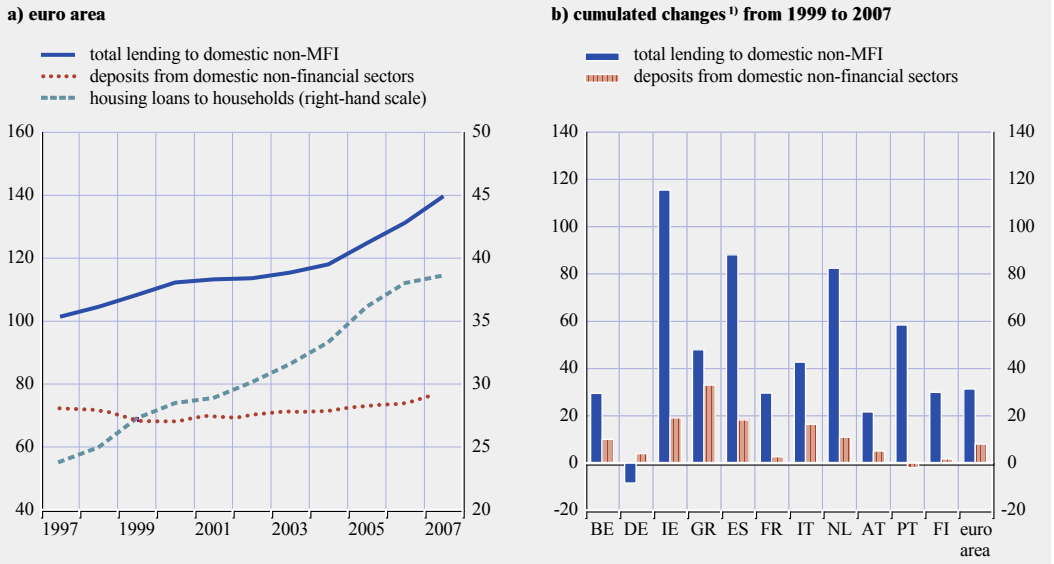
As can be seen in panel b of Chart 12, member countries with the highest cumulative increase in total lending to non-MFIs over the period (Spain, Ireland, the Netherlands and Portugal) were those that experienced more marked increases in the financing gap. However, this phenomenon was not exclusive for this group of countries, since it was only in Germany that the growth of traditional deposits slightly exceeded that of total lending (which was actually negative in that period).

To analyse how banks in the euro area have funded their growing needs, banks' liabilities

23 However, part of the debt securities issued by MFIs is not wholesale funding, although there is some heterogeneity across euro area countries. Rather, they are placed with the customer base.

Chart 12 Loan-to-deposit gap

(percentages of GDP)



Source: ECB.
Note: Data include estimates of derecognised loans.
1) Luxembourg is omitted from the chart because, over the period under review, GDP rose more strongly than both loans to non-MFIs and retail deposits, so that the two ratios dropped sharply.

can be classified in different categories according to their characteristics, moving on a scale from stable to more volatile sources. First, deposits from euro area non-MFIs, including households and non-financial corporations and excluding OFIs and insurance institutions, are the closest proxy for retail deposits.[24] This has traditionally been the most stable source of funding, since deposits are generally covered – up to a certain limit – by deposit guarantee schemes and are less sensitive to moderate changes in the risk perceptions of those who place them when compared to wholesale deposits and debt securities. Their remuneration is less responsive to movements in market interest rates and less costly than wholesale deposits. To some extent, however, this has changed in recent years, against a backdrop of historically low interest rates as a result of upward pressure on deposit rates that stemmed from heightened competition from internet banks and from mutual funds, which became viable alternative investments for households and firms.

Second, non-MFI deposits from countries outside the euro area are wholesale. Due to foreign exchange risks and the national segmentation of retail markets, these deposits tend to be more volatile and prone to crises in confidence. With few exceptions, they are placed by large firms or financial companies. It should be noted that, in principle, non-MFI deposits from other euro area countries could also be included in this group, instead of in the first group mentioned above. In this case, however, the distinction is less clear, because there will generally not be any exchange rate risk and because it is not uncommon for banks in some small countries to have retail deposits from neighbouring countries.

Third, interbank financing, both within the euro area and with the rest of the world, is another source of funding that is characterised by its

24 This item also includes deposits from large firms that are more likely to be wholesale rather than retail deposits, but the available information does not allow deposits to be broken down by the size of firms.

potential volatility and very short-term nature.[25] From the point of view of the banking system in each country, net interbank financing takes into account that a bank's liability with another domestic bank is offset by the corresponding asset in the latter bank. In principle, if the borrower bank loses the funds (e.g. if they are not rolled over at redemption), the lender bank would have additional money to lend to customers. Under normal market conditions, the net position seems more relevant from a system-wide liquidity point of view. However, it is not possible on the basis of the data available to break net interbank lending down further into secured and unsecured funding. The distinction is important because it is possible in the former case to obtain funds from the central bank if the counterparty refuses to roll over the loan (more stable funding). On the other hand, secured funding "consumes" assets (normally securities), since it is tied to the assets presented as collateral. Therefore, it can finance new lending only to the extent that there are free securities on the asset side of the balance sheet. As has been shown by the financial crisis, in times of severe distress in wholesale debt markets, the smooth functioning of the unsecured interbank market is an indispensable prerequisite to ensure the liquidity and solvency of financial institutions.

Fourth, true-sale securitisation is a source of funding via collateralised debt securities that relies heavily on the orderly functioning of financial markets. Contrary to common practice in the United States, true-sale securitisation in the euro area is not automatically conducive to the removal of the relevant risks from the originator's balance sheet, although practices vary across countries. The non-derecognition from the balance sheet of true-sale securitised loans results from regulatory requirements in place and/or the application of International Accounting Standard No 39 (IAS 39), which requires either a substantial transfer of all risks and rewards or the absence of retention of control rights for the derecognition of an asset. Differences in the way remaining risks are treated from a regulatory point of view lead to heterogeneity in the effective interpretation of IAS 39 across euro area countries. This raises difficulties in obtaining precise and fully comparable figures across these countries. In countries where loans involved in securitisation are generally not derecognised (Spain and Portugal),[26] the proceeds raised are booked in a liability account, which, by convention, is treated alongside deposits from OFIs in MFI statistics. For the sake of providing a measure of the total funds raised via this channel, irrespective of the ability to shift the risks off the balance sheet, deposits from OFIs and ICPFs are then added to the estimate of derecognised securitisation.

Finally, debt securities other than securitisations allow banks to tap capital markets with liabilities of different maturities and risk characteristics, ranging from secured bonds, in the form of covered bonds, to unsecured debt, senior or subordinated. The longer maturity allowed by these wholesale debt securities is instrumental in reducing the maturity mismatch between assets and liabilities.

Chart 13 shows the relative importance of the funding sources[27] at two points in time (the fourth quarter of 1999 and the fourth quarter of 2007) in terms of total financing provided

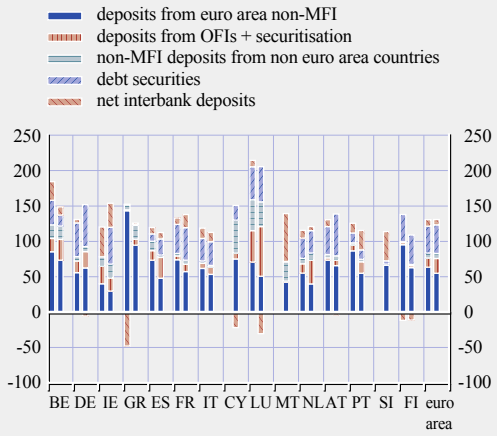
25 In Spain and Portugal, until very recently, major banks used to tap international financial markets through specialised foreign subsidiaries which issued medium and long-term debt securities and redirected the funds obtained to the parent company via interbank deposits. Therefore, this funding appears under medium and long-term debt in the consolidated accounts at the banking group level, but shows up as interbank liabilities in the monetary statistics that are based on the residency criterion, concealing the true nature of the funding. The entry into force of the EU Capital Requirement Directive (CRD) in 2006, in conjunction with changes to legislation on covered bonds in these two countries, facilitated the issuance of these bonds and their placement with international investors. Consequently, most of the issuance activity through foreign subsidiaries faded away, giving rise to direct issuance by the banking groups' head offices.

26 Non-derecognition is usually associated with a situation where the originator bank continues to provide credit support and/or retains the first loss (equity tranche) of the issuer SPV. As a result, it does not lead to regulatory capital relief (see also Section 4.4).

27 The subsequent analysis is based on non-consolidated statistics. Therefore, it does not consider the possibility that part of the funding (flows from and to banks' subsidiaries) may net out at the group level, which would conceal the true nature of the funding.

Chart 13 Alternative sources of funding

(Q4 1999 and Q4 2007; percentages of total financing to non-MFIs)



Source: ECB.
Note: Data include estimates of derecognised loans.

to non-MFIs.[28] For the euro area, the narrow definition of retail deposits (i.e. those received from non-financial sectors in the euro area) declined by 8 percentage points over the period (to 55% of the total financing granted), but retail deposits remain the most important source of funding, followed by debt securities, the share of which increased from 38% to 41%, and deposits from non-MFI financial institutions, including securitisation, that increased by 7 percentage points to 21%. In 2007, non-interbank deposits from the rest of the world accounted for 7.2%, about the same level as in 1999, while net interbank deposits had a share of 7.5%, 2 percentage points lower than the level in 1999.[29]

This overall behaviour conceals a considerable degree of cross-country heterogeneity. As mentioned earlier, retail deposits have lost ground in all countries but Germany. Their weight in relation to total financing ranges from 30% in Ireland to 95% in Greece. Debt securities' share ranges from 1% in Greece to 60% in Germany. Securitisation measured in the manner described above was more significant in Spain (19%), the Netherlands (17%) and Portugal (9%), while net interbank deposits plus other deposits (from the rest of the world or other financial institutions) were particularly high in Belgium, Ireland and Luxembourg.

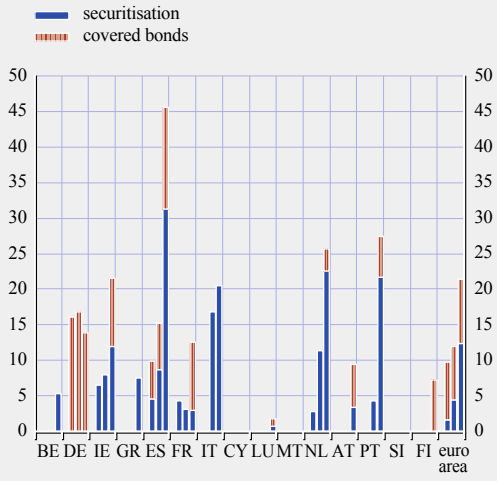
Some countries such as Belgium, Finland, Greece and Luxembourg started the period with elevated customer deposit-to-loan ratios, allowing them to avoid having to resort extensively to market-based funding sources. In the case of Greece, additional funds were obtained by reducing net interbank lending. In Portugal, the initial deposit-to-loan ratio was also high, but the sharp decline in deposits relative to total lending was counterbalanced by an increase in securitisation activity and, when evaluated by residency-based statistics, net interbank financing.[30]

In recent years, up to the start of the financial turmoil, in the context of a generally higher reliance on debt securities, there has also been a considerable increase in the issuance of debt securities collateralised by mortgage loans. Chart 14 shows the evolution over time of secured funding, broken down into residential mortgage-backed securitisation and mortgage covered bonds, as a share of total housing loans to households. Together, they represented about 21% of the total stock of housing loans at the end of 2007. Mortgage covered bonds are part of the debt securities considered earlier, with the characteristic of being tied directly to the financing of housing loans. While covered bonds have long been a well-established funding instrument for MFIs in Germany, their use has spread to other countries in recent years. True-sale securitisation, by contrast, is a recent phenomenon in the euro area. As discussed in more detail in Section 4.4, there is significant

28 Since total lending to non-MFI does not exhaust all banks' assets, total funding may exceed total lending, the difference being other assets held by banks, which are mainly debt securities.
29 Chart 36 in Annex 3 describes how loan providers responding to the bank questionnaire have funded loans for house purchase in 2007.
30 In Portugal, net medium-term interbank financing partly reflects funds obtained by the parent company via intra-group deposits as a result of foreign subsidiaries' issuance of debt securities. As such, a significant part of the gross interbank liabilities shown in residency-based statistics appears as debt securities in the consolidated accounts. As already mentioned, in some cases residency-based statistics conceal the true situation of banks' wholesale funding, which, in the case of Portugal was mostly medium and long-term, in particular for domestic institutions.

Chart 14 Secured funding

(Q4 1999, Q4 2002 and Q4 2007; percentages of total loans to households for house purchase)



Sources: ECB, NCBs, European Securitisation Forum (ESF), European Covered Bond Council (ECBC) and Moody's.
Notes: Data include estimates of derecognised loans. In the case of Spain and Portugal, the overwhelming majority of securitisation does not entail derecognition.

cross-country heterogeneity as regards recourse to secured funding: true-sale securitisation of housing loans, for instance, accounts for about 31% of the stock of housing loans to households in Spain, 25% in Netherlands, around 20% in Portugal and Italy, and about 10% in Ireland, while its share is minimal in Germany.

Overall, these figures buttress a general shift towards more market-related funding sources, with a varying combination of interbank funding and different types of securities. The introduction of new legislation or the amendment of older regulations (see Section 4.4) has allowed banks to tap different sources of funds, favouring diversification and access to financial markets.

One implication of this is that a larger share of the funding of MFIs now relies on investors or savers that are not covered by the deposit insurance systems. The greater recourse to financial market funding has also entailed an extension of the average contractual maturity of liabilities[31] and easier access to foreign investors. This holds true, in particular, of those countries in which housing loans have increased the most in recent years (namely Spain, the Netherlands and Portugal). In addition, the shift from retail to wholesale funding reflected the increased access of foreign savers to domestic markets and the capacity of the banking system to finance the domestic sector's borrowing requirements through recourse to funds from abroad. This phenomenon was highly evident in some countries with a larger increase in the current account. For example, Banco de España estimates that, at end-2007, 66% of all securitisation bonds issued by Spanish institutions were held by foreign investors.

4.4 INSTITUTIONAL CHARACTERISTICS OF COVERED BONDS AND SECURITISATION

This section provides a special focus on the developments of the euro area collateralised bond market. Housing loans can be financed directly via specific instruments such as mortgage covered bonds and residential mortgage-backed securities (RMBSs). In recent years, there has been a trend towards accommodating these specific funding sources in a legislative framework; this may in itself have encouraged issuance.

From an issuer's perspective, covered bonds and RMBSs have many advantages. Collateralised securities typically carry higher credit ratings, thereby providing long-term funding at relatively low cost and helping issuers to bridge their funding gaps. Moreover, collateralised securities enable the issuer to diversify and broaden funding sources. At the same time, there are important differences between mortgage covered bonds and RMBSs:

(a) When covered bonds are issued, the cover assets remain on the originator's balance sheet, while RMBS issuance – as a matter of principle – involves transferring the pooled collateral to a special-purpose vehicle (SPV), which then issues the securities; in the latter case, the originator and the issuer are thus not the same entity.

31 Even though it remains uncertain to what extent this process represents a change towards higher effective maturity of liabilities, as retail deposits tend to be much more persistent than their contractual maturity would suggest.

(b) A critical feature of some forms of true-sale securitisation is that it allows the originator to remove risks off the balance sheet and thus to obtain capital relief. By contrast, covered bonds are used first and foremost to raise funding in a cost-efficient manner. In the event of banks retaining the loss-absorbing tranche (often labelled the equity tranche) of the securities resulting from the securitisation, there cannot be any regulatory capital relief, at least not in some jurisdictions. In these cases, the distinction between the two classes of instruments is less clear.

(c) Unlike RMBSs, covered bonds are "dual-recourse" securities. In other words, covered bond investors have a claim, in the first instance, against the issuer, as well as a preferential claim on the cover pool, if the issuer/originator defaults; RMBS investors, by contrast, have no claim vis-à-vis the originator.

(d) The collateral pool backing covered bonds is usually dynamic, implying that underlying assets can be replaced if they mature or no longer meet eligibility criteria. The cover pool for RMBSs, by contrast, is generally static. While covered bonds predominantly have a fixed rate bullet structure, RMBSs generally have floating rates.

(e) Finally, tranching of the collateral pool is a common feature of RMBSs, but not of covered bonds. This enables issuers to tailor individual tranches to specific investor needs and to lower the cost of capital through higher-rated securities.

4.4.1 MORTGAGE COVERED BONDS

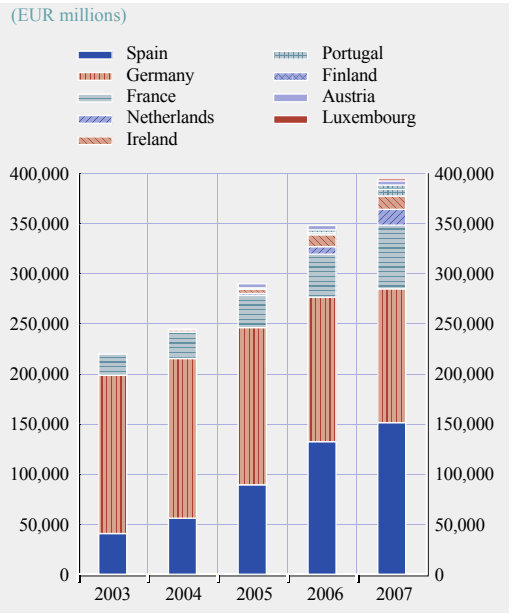
Between 2003 and 2007, the value of mortgage covered bonds outstanding in the euro area rose by almost 80%. The development of this market segment was supported by the fact that investors benefit from relatively high returns at comparatively low risk. While mortgage covered bonds have long been a well-established funding instrument for MFIs in Germany in particular, mortgage lenders in other euro area countries have only recently adopted this source of funding more extensively. In the absence of an integrated and homogeneous market, there are substantial cross-country heterogeneities which call for a look into the key explanatory elements that underpin these differences.

In essence, developments were largely driven by changes in the legal and regulatory landscape, as well as by housing market dynamics. As shown in Chart 15, issuance of mortgage covered bond was heavily concentrated on Germany and Spain, while France also accounted for a substantial share of the euro area market.[32] The Spanish share in the euro area total more than doubled between 2003 and 2007, from 18% to 39%. The flip side of this was a sharp decline in the German share, from 72% to 34%. However, this decline should by no means be interpreted as a sharp deterioration of the German market. Rather, it was due largely to a surge in Spanish issues. Indeed, since 2003, the value of mortgage covered bonds outstanding has fallen by 16% in Germany, while it has almost quadrupled in Spain. Spanish credit institutions were able to draw on the significant increase in their asset pool to meet the rising mortgage loan demand, which was attributable, in turn, to strong housing market dynamics. By way of comparison, average mortgage loan growth in Spain was close to 20% between 2003 and 2007, while it averaged merely 1.6% in Germany. Moreover, another factor behind the weak developments in Germany was the strong growth of domestic investor deposits. Although the Pfandbrief Act of 2005 has effectively eliminated the principle of specialist banks by enabling issuers thereof to engage in other activities,[33] this has failed to stimulate the market in light of lacklustre mortgage developments.

32 Several caveats should be borne in mind. On the basis of available data, it is not possible to distinguish between residential and commercial mortgage covered bonds. Country shares and amounts outstanding could be biased by the fact that international entities may issue covered bonds through subsidiaries in foreign countries, in order to take advantage of cross-border intra-group funding opportunities. Indeed, data are available by country of issuance, not by nationality of the issuer.

33 A special license is nevertheless still required.

Chart 15 Mortgage covered bonds outstanding, broken down by country of issuance



Sources: NCBs and ECBC.

The surge in Spanish issues also dwarfed substantial bond issuance in other euro area countries. This held particularly true of France, where housing market dynamics had been strong and mortgage covered bonds outstanding roughly tripled, although the country's share in the euro area total only increased by 6 percentage points to 16%.

Regarding the importance of legal and regulatory frameworks, it is necessary to distinguish between international and country-specific developments. At the international level, Article 22(4) of the Council Directive 85/611/EEC of 20 December 1985 on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS) spells out that such entities can invest up to 25% (rather than the usual 5%) of their assets in covered bonds of a single issuer, if the latter meets the criteria set out in Article 22(4). Moreover, if certain requirements are fulfilled, covered bonds benefit from lower credit risk weightings under the EU Capital Requirements Directive (CRD)[34] that was adopted in 2006.

As for the country-specific frameworks, they can be based either on special laws or on general legislation. Following the trend towards frameworks based on special laws, covered bond issuance has gained impetus. However, special legislative frameworks are still fairly recent in many countries, while only two countries (Belgium and Cyprus) have not yet adopted any special covered bond legislation (see Table 4). The Dutch case is of special interest; before adoption, in 2008, of the framework based on special laws, issuance was based on contractual arrangements under civil law.

However, legislation alone is not enough to promote covered bond issuance. Austria, for instance, has a long-established legal framework that goes back as far as 1899, but issuance remains subdued. In Luxembourg and Malta, the presence of a strong deposit base has held back the development of the mortgage covered bond market; moreover, the limitations of the Maltese capital market further discourage bond issuance. In Slovenia, issuance has been obstructed by the small size of the portfolio of eligible cover assets, as well as by other impediments of a more structural nature.

Each national legal and regulatory framework, in particular as regards the level of investor protection, has a major impact on the credit ratings of the bonds issued under that jurisdiction. The relative attractiveness of the national legislation therefore also has a strong bearing on investor demand. Moreover, as more and more countries enter the market by adopting a legislative framework, the potential investor base is broadened and thereby provides further impetus to the development of the market.

34 Directive 2006/49/EC of the European Parliament and of the Council of 14 June 2006 on the capital adequacy of investment firms and credit institutions (recast).

Table 4 Summary of the legislative frameworks for mortgage covered bonds in the euro area

	Is issuance at all possible?	Have any bonds been issued yet?	Is there a special law at the national level?	What is the pertinent legal basis for issuing mortgage covered bonds?
Belgium	no	no	no	none, but there is an ongoing process for development of the legal framework
Germany	yes	yes	yes, since 1927	Pfandbrief Act (2005), superseding general law of 1899 and special law of 1927
Ireland	yes	yes	yes, since 2001	Asset Covered Securities Act (2001, last amended 2007)
Greece	yes	no	yes, since 2007	Law 3601/2007 superseding general provisions of law; Act nr. 2598/2.11.2007 (secondary legislation); Law 3156/2003 (supplementary)
Spain	yes	yes	yes, since 1981	Law 2/1981 (last amended 2007 by Law 41/2007), superseding the Mortgage Market Law [*Ley del Mercado Hipotecario*] (1869); Royal Decree 685/1982 (new amendment pending)
France	yes	yes	yes, since 1999	Law no. 99-532 (1999, last amended in 2007) superseding the Decree of 1852; Decree no. 99-710 (1999); Decree no. 99-655 (1999), Regulation no. 99-10 (1999); Article 16 of Act no. 69-1263 (1969); Monetary and Financial Code
Italy	yes	no	yes, since 2007	Law no.80/2005, supplementing the securitisation law (Law no, 130/1999), and secondary legislation issued in December 2006 and May 2007
Cyprus	no	no	no	none, but there is an ongoing process for development of the legal framework
Luxembourg	yes	yes	yes, since 1997	Articles 12-1 to 12-9 of the Law on the Financial Sector (1993) introduced by the Mortgage Bond Act (1997), last pertinent amendment 2000 and new amendment pending; CSSF circulars 01/42 (2001) and 03/95 (2003)
Malta	yes	no	yes, since 2006	Companies Act 1995 (Chapter 386 of the Laws of Malta) and Securitisation Act, 2006 (Chapter 404 of the Laws of Malta). Should such bonds be listed on the Malta Stock Exchange, the Financial Markets Act 1990 (Chapter 345 of the Laws of Malta) and the Listing Rules issued thereunder would also apply.
Netherlands	yes	yes	yes, since 2008	The Dutch special national legislation related to covered bonds was implemented on 1 July 2008 via a so-called Decree (Decree of 3 June 2008, amending the Decree on Prudential Rules for Financial Undertakings and the Decree on Conduct of Business Supervision of Financial Undertakings regarding covered bonds) and the Ministerial Regulation on Amending the Regulation Implementing the Financial Supervision Act. Structured covered bonds in the Netherlands are issued based on contractual arrangements under civil law.

Table 4 Summary of the legislative frameworks for mortgage covered bonds in the euro area (continued)

	Is issuance at all possible?	Have any bonds been issued yet?	Is there a special law at the national level?	What is the pertinent legal basis for issuing mortgage covered bonds?
Austria	yes	yes	yes, since 1905	Mortgage Bank Act (1899); Law on Secured Bank Bonds (1905); Mortgage Bond Act (1927, last amended 2005)
Portugal	yes	yes	yes, since 1990	Decree-law no.59/2006 (2006), superseding Decree-law no. 125/90 as amended by Decree-law no. 17/95; complemented by secondary legislation (Notices and Regulatory Instruments of the Central Bank)
Slovenia	yes	no	yes, since 2006	Mortgage Bond and Municipal Bond Act (ZHKO) (2006)
Finland	yes	yes	yes, since 2000	Mortgage Bank Act (2000, last amended 2007), superseding general law of 1933

Sources: NCBs and ECBC.

4.4.2 SECURITISATION

There are two identifiable forms of securitisation in the euro area:

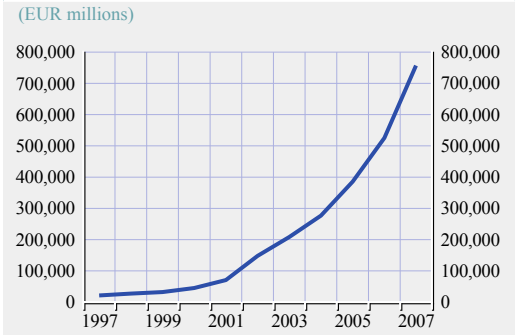
A. True-sale securitisation is characterised by the sale of a pool of claims by the originator to the SPV, which then issues asset-backed securities whose principal and interest repayments are linked to the cash flows of the underlying assets. When all risks and rights related to the pool of assets are transferred to the SPV, the originator derecognises the relevant claims and risk from its balance sheet. In countries where the IASs have been adopted, or where supervisory authorities' requirements have an equivalent impact (in the euro area, typically Spain and Portugal), the originator cannot easily derecognise the assets from its balance sheet as the conditions for a substantial transfer of all risks and rights associated with those assets are stricter. Non-derecognised securitisation therefore has a pure funding purpose without effects on capital relief.

B. Synthetic securitisation, whereby the originator uses credit derivatives such as credit default swaps (CDSs) to transfer the credit risk on the underlying pool of assets. Using synthetic securitisation, the transactions are highly flexible in terms of the asset mix and risk-return characteristics, enabling investors to choose "tailor-made" products to suit their needs. In the case of synthetic securitisation, the underlying assets remain on the balance sheet of the originator or arranger, while the SPV holds a pool of CDSs that are referenced to the assets.

The information in this report reflects securitisation which entails funding activities, as in type A, but not type B.[35] Although synthetic securitisation does not involve funding, it is a crucial instrument for MFIs to manage and transfer risks. Unfortunately, it is difficult to estimate the size of the synthetic securitisation market, as most transactions are private placements and as no comprehensive data are publicly available. True-sale securitisations account for the vast majority of securitisation activity by MFIs in most countries, except for Germany where synthetic securitisation has historically been more commonly used for legal and tax-related reasons. It is important to bear in mind that the ability to derecognise securitised loans from the balance sheet in the context of true-sale securitisations varies considerably across euro area countries, depending on the regulatory requirements in place and the effective interpretation of IAS 39. Clearly, the incentive problems inherent in the originate-to-

35 The data only reflect securitisation through resident SPVs and, as a result, securitisation activity by MFIs is underestimated.

Chart 16 True-sale securitisation outstanding in the euro area from 1997 to 2007



Sources: ECB, NCBs, ESF and Moody's.
Note: Data include estimates of securitised claims that remain on the balance sheet following the application of IAS 39.

distribute (OTD) model become less acute when the conditions for a derecognition of risk exposures from a capital requirements perspective are tighter. For instance, in the case of retention of the equity tranche following securitisation, the originator continues to have both ex ante incentives for screening at origination and ex post incentives for continuing to monitor debtors after the deal.

Securitisation is a relatively new phenomenon in the euro area (see Chart 16), only emerging as a significant source of funding for euro area MFIs in the last five years up to 2007.

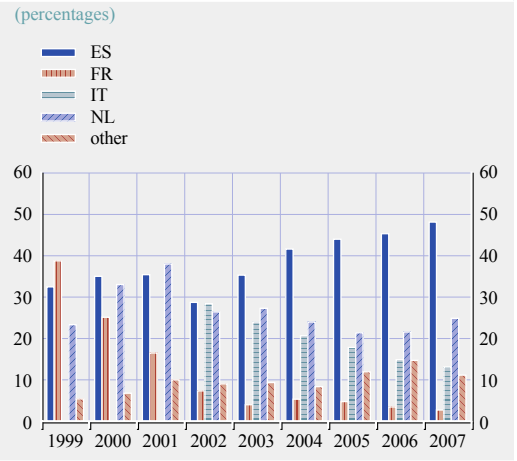
The development of the market for asset-backed securities (ABSs) in the euro area lags that of the United States, where it grew rapidly in the late 1980s and early 1990s. The share of securitised mortgage loans in the United States is approximately 50% of the total amount of mortgages outstanding, while a corresponding figure in the euro area can be estimated at about 7%.[36] Expressed as a share of GDP, the outstanding amount of mortgage-backed securities (MBSs), including both agency and non-agency MBSs, stands at about 52% in the United States, while the ratio increases up to 70% when other ABSs are taken into account. Comparable figures for the euro area are of a far smaller order of magnitude: they can be estimated at about 3% and 5% of GDP respectively, excluding non-derecognised loans.[37]

The slow development of the euro area market reflected a number of factors.[38] First, the main banks in the euro area were well funded at the time ABSs and other sources of funds became available. Second, countries under civil law jurisdictions needed to implement legislation for securitisation to occur. In addition, the euro area banking system is relationship-based, and selling loans is occasionally considered a breach of the banking relationship and, therefore, lenders must notify borrowers of the sale in some countries. Over the past ten years, a number of important legislative and regulatory developments have occurred at both the national[39] and the European[40] level, which have facilitated the development of securitisation markets.

Nonetheless, several euro area countries have experienced little or no securitisation activity by MFIs. The use of securitisation by an MFI depends not only on firm-specific factors,[41] but also on the legal framework and the mortgage market structure of the country in which the MFI operates. For instance, legal,[42] administrative, taxation and regulatory factors contributed to the low levels of securitisation in Belgium, Malta and Slovenia. The lack of specific rules in some countries with civil law traditions has either prevented MFIs from securitising their assets, or greatly increased the economic and administrative costs of securitisation. An additional factor influencing RMBS issuance is the legal framework for the early repayment of house purchase loans. Furthermore, the divergent levels of

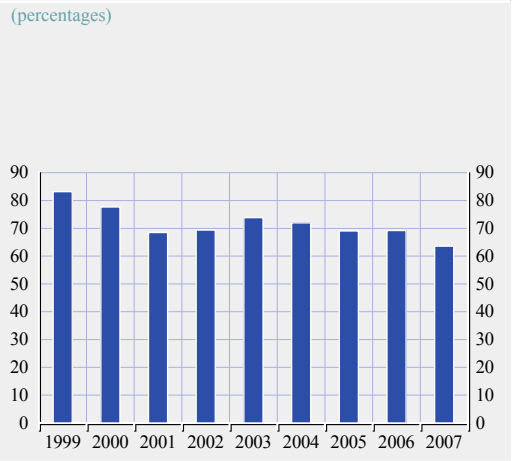
36 Estimates for the euro area refer to off-balance-sheet true-sale securitisation, so that they do not include the pools underlying non-derecognised securitisation and covered bonds.
37 When non-derecognised loans are included, the figures increase to 5% and 8% respectively.
38 In Germany, for instance, legislation and the tax code inhibited the development of "true-sale" securitisation, although many of these obstacles have been overcome in recent years.
39 The adoption of specific legal frameworks in most euro area countries, the reform of the French legal framework in 2003 and the German law on the creation of refinancing registers in 2005.
40 For more information, see European Financial Market Lawyers Group Working Group on Securitisation (2007).
41 For example, solvency ratio requirements, the balance sheet structure and return on equity.
42 Civil law requires specific legislation to permit securitisation.

Chart 17 Country shares in total securitisation outstanding



Sources: ECB, NCBs, ESF and Moody's.
Note: Data include estimates of securitised claims that remain on the balance sheets following the application of IAS 39.

Chart 18 RMBSs as a share of total euro area securitisation



Sources: ECB, NCBs, ESF and Moody's.
Note: Data include estimates of securitised claims that remain on the balance sheet following the application of IAS 39.

securitisation partly reflect cross-country differences in the development of RMBSs. The issuance of RMBSs by MFIs has been largest in countries that experienced a heightened demand for mortgages, namely Ireland, Spain and the Netherlands.

While legal advancements enabled securitisation activity to occur, other factors have fostered its growth in recent years, most notably, the introduction of the euro, which led to increased financial integration, and a more market-based financial system, which enhanced the liquidity and size of MFI securitisations. In addition, investor demand for ABSs increased as investors became more willing in their search for yield to invest in ABSs that provided a greater return than traditional bonds.[43] Technological advancement improved the storage, processing and pricing of financial data, thereby reducing the cost associated with issuing ABSs.

The development of securitisation by MFIs in the euro area has been varied across countries there (see Chart 17). MFIs in Spain, the Netherlands, France and Italy have dominated activity in this sector. In 2007, securitisations by Spanish MFIs alone accounted for almost half of total securitisations by euro area MFIs. In addition, Spain experienced the most significant growth in securitisation with an average annual rate of increase of 65% over the past decade. This surge was predominantly driven by fast growth in the mortgage market. Spain also created multi-seller securitisation vehicles to make access to the ABS market affordable for smaller banks, an innovation that other countries have implemented in the meantime, or are currently attempting to implement.

In the late 1990s, RMBSs represented over 80% of all securitisation at the euro area level. Over time, as euro area MFIs have increasingly securitised new type of claims, notably corporate loans and bonds, but also receivables, the share of RMBSs in total ABS issuance has declined (see Chart 18), but it still remained above 60% at the end of 2007.

4.5 IMPACT OF THE FINANCIAL CRISIS

The picture presented above would be incomplete without a mention of most recent developments, triggered by the outbreak of the US mortgage market crisis. Since the summer

43 The most active purchasers of ABSs are banks, asset managers, insurance companies and hedge funds.

of 2007, it has become increasingly difficult to raise new funds in financial markets, because of investors' increased risk aversion and uncertainty about banks' exposure to distressed assets. With market liquidity severely hampered, the volume of market transactions has declined dramatically and securitisation has continued mainly in the form of private placements. As regards debt securities, in the 12-month period up to June 2008, total net issuance of medium to long-term securities by euro area MFIs declined by 64% in comparison with the corresponding period a year earlier. Short-term debt securities partly offset that, but total issuance of securities was still 30% below the level observed before the start of the turmoil. Wholesale non-MFI deposits contracted more modestly.

Banks responded to this situation, first, by increasing their reliance on the relatively cheaper short-term sources of funds (repos from the central bank, unsecured money market financing and commercial paper) and, second, by competing more aggressively for retail deposits. In parallel, investors' higher risk aversion was supportive of demand for bank deposits. The deepening of the crisis has made evident the potentially highly unstable nature of market-related sources of finance, in particular highlighting the vulnerability of interbank lending to confidence crises in periods of high financial distress.

As regards securitisation, market liquidity has progressively dried up, with some segments experiencing a virtual standstill in publicly placed transactions. The first and most adversely hit segments were those characterised by a higher degree of opacity and complexity, amid a generalised retrenchment from risk-taking and a renewed search for simplicity. Later, with the deepening of the turmoil, also more traditional market segments, including that for RMBSs, were affected. As a result of the vicious circle of the retrenchment of liquidity leading to marked-to-market losses and then a further withdrawal of liquidity, the market issuance of traditional ABSs in the euro area declined substantially as from the third quarter of 2007, in parallel to a significant increase in the yields on RMBSs and covered bonds in most countries. The most significant development in 2008 relates to the massive surge in retained transactions. According to estimates received from industry sources, the overwhelming majority of ABSs backed by euro area collateral, namely up to 90%, was retained in the first half of 2008, for use within the collateral framework of the Eurosystem.

A PRELIMINARY ASSESSMENT

It is still too early to assess the extent to which the current situation may contribute to reversing the changes witnessed in the funding structure of euro area MFIs over the past decade. The exceptional nature of the recent financial crisis has its roots in a number of intertwined factors that operated at the global level: a diffuse overleveraging of bank's balance sheets, massive recourse to complex and opaque structured products in some euro area countries and, more generally, a broad-based underestimation of risk, reflected in the historically low credit spreads up to mid-2007. The sudden reversal of the trend towards higher leverage and risk-taking has dramatically hampered the functioning of the markets responsible for the wholesale and capital market funding of financial institutions. The ongoing process of deleveraging in the banking industry, in an environment characterised by high credit spreads and very limited market liquidity, will probably shift the funding of banks towards more traditional and less volatile sources of funds, at least in the short to medium term.

In this context, the ongoing financial turmoil has exposed some of the hidden flaws of some OTD business models, which had gained popularity in some euro area countries over the last few years. Banks have increasingly shifted away from their traditional business of granting loans and holding them until maturity, and have instead engaged in the activity of repackaging and selling the credit they originate to a host of financial market participants. In principle, this model has several beneficial effects, including improvements in the efficient allocation of risk, an increased ability to free capital and

enhancements to market completeness. However, as has become evident from the unfolding of events during the recent financial turmoil, this process also has substantive drawbacks. It gives rise to misalignments of incentives, which in turn lead to several layers of agency problems between the parties involved, for instance between the originator of the loans and the final recipients of the associated streams of revenues. From this perspective, the lack of relevant retained exposures reduces the incentives of the originator to screen the borrowers' creditworthiness and to monitor its evolution over time. An erosion of lending standards at origination may lead to sub-optimal lending, with a higher-than-expected average ex post risk. This effect is further compounded by the fact that originating banks, acting as originators, underwriters or servicers at various times, earn fees from securitisation activity, and thus have an incentive to maximise the volume of origination. Adding to this fundamental incentive problem, the poor ex post performance of the ratings on structured securities formulated by credit rating agencies, together with the demise of off-balance-sheet vehicles[44] that proved to be inherently fragile on account of the exacerbated maturity and liquidity mismatch between assets and liabilities, have added further pressure to revise the regulatory and supervisory framework for the OTD model.

The distortions stemming from this model are very heterogeneous across euro area countries, as a result of the different incentives provided by the regulatory framework and established market practices in each jurisdiction. It is important to stress that the direct adoption of the OTD model in the euro area remains limited from an international perspective (see Section 4.4 and Chapter 6). Furthermore, as already mentioned, the recourse to true-sale securitisation as a source of funding is not in itself conducive to a removal of the relevant loans from the balance sheet, unless risks and rewards have been transferred in substance. Therefore, a closer alignment of incentives in the securitisation chain is preserved by the stricter conditions for a derecognition of claims enforced by some national authorities in the euro area, which is related in turn, to the treatment of securitisation for the purpose of computing the capital requirements of the originating bank, in particular when no capital relief is achieved via this channel.

A further tightening and homogenisation of the rules underlying derecognition, with the added benefit of improving the transparency of MFIs' balance sheets, will possibly be instrumental for the normalisation of securitisation markets in the near future. In a healthy reaction to the excesses of the recent past, a shift towards simpler and more transparent deals can also be envisaged, probably in the context of a wider adoption of safer on-balance-sheet collateralisation in the form of covered bonds.

44 However, such off-balance-sheet structures, known as conduits or special investment vehicles (SIVs), were far less common in the euro area.

5 MORTGAGE SPREADS ACROSS COUNTRIES AND OVER TIME

5.1 INTRODUCTION

This chapter focuses on the difference between rates on housing loans and the cost paid by banks for their funding or banks' opportunity cost. It thus starts with a short presentation of some measures of the cost of euro area banks' funding and of the cost of housing loans.[45] Thereafter, the chapter focuses on the presentation of various kinds of spreads of housing loans and on possible explanations for spread developments over time. Attention is also paid to spread differences across euro area countries, but differences in housing product characteristics and a lack of data do not allow for strong conclusions to be drawn in this respect.

5.2 COST OF FUNDING OF BANKS

According to information from euro area banks, the pricing of a typical first housing loan for a first-time house buyer is based on a variety of considerations relating to banks' funding cost. Among other factors, banks' average and marginal funding cost play an important role in pricing a housing loan. Ideally, a measure of banks' funding cost should be a weighted measure of the cost of deposits and the cost of market-based funding, including the imputed cost of common equity per unit of funds lent.[46] In this respect, the extent to which originating banks are able to free up capital in securitisation is liable to imply correspondingly lower spreads when granting loans. As shown in Chapter 4 of this report, although deposits of euro area non-financial sectors with euro area MFIs have lost importance in the total funding of banks in most euro area countries in recent years up to

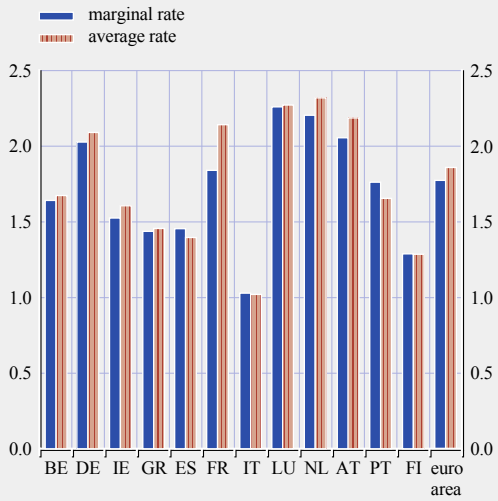
45 To a large extent, this chapter relies on data from the harmonised MFI interest rate statistics, which have been available on a monthly basis since 2003.

46 The lack of data, or of comparable data for funding sources other than deposits, did not allow all-encompassing cost-of-funding indicators to be constructed for all euro area countries.

Chart 19 Cost of funding of euro area banks

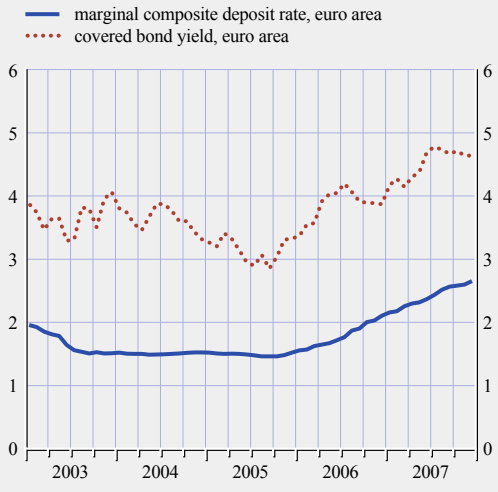
(percentages; average 2003-2007)

a) Marginal and average composite deposit rates across euro area countries



(percentages; 2003-2007)

b) Marginal composite deposit rates and covered bond yield for the euro area



Sources: ECB and Deutsche Börse (IBOXX).
Notes: The marginal composite deposit rate weights the interest rates on new business in deposits of households and non-financial corporations across maturities with the corresponding new deposit business volumes where available. The average composite deposit rate weights the interest rates on the amounts outstanding of deposits of households and non-financial corporations across categories and maturities with the amounts outstanding of the corresponding deposits. Cyprus, Malta and Slovenia have been excluded on account of lacking data for the period shown in this chart.

the end of 2007, they still account for the largest part of banks' total funding (see Chart 13). Against this background, banks' cost of deposit funding is a central element in their total financing cost. Marginal composite deposit rates based on the rates for new business and average composite deposit rates based on the interest rates on the amounts outstanding can be calculated for deposits of households and non-financial corporations on the basis of data from the harmonised MFI interest rate statistics for the euro area countries.[47] Such composite deposit rates are then compared with the cost of funding via covered bonds, as one example for market-based funding of banks that is directly connected with housing finance.

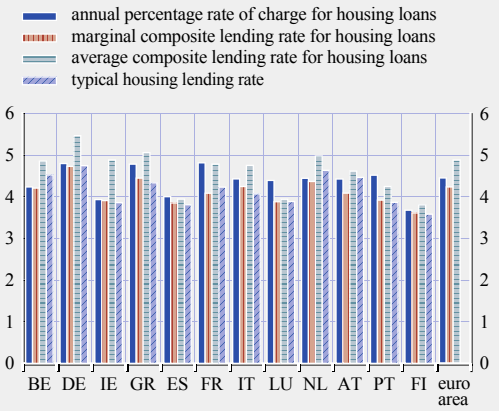
As can be seen from Chart 19, panel a, the cost of deposits differs considerably across euro area countries. On average in the period from 2003 to 2007, it was particularly low in Italy and, to a certain degree, also in Finland and Spain, mainly as a result of a high share of low-interest overnight deposits. In Austria, Germany, the Netherlands and Luxembourg,[48] by contrast, the cost of deposits was relatively high, on average over this period, on account of a relatively large share of savings and time deposits that have a higher remuneration. Compared with the other euro area countries, the difference between the average and the marginal composite deposit rates was relatively large in France, owing to a higher remuneration of deposits in the past. In addition, as can be seen from panel b of Chart 19, on average from 2003-2007, the marginal composite deposit rate for the euro area stood, 2 percentage points below the covered bond yield for the euro area, partly on account of the lower maturity of deposits.

5.3 COST OF HOUSING LOANS

The cost for households taking up a housing loan consists of the interest rate on the housing loan, and of non-interest charges (see Section 3.2.5 for information on bank and non-bank charges on housing loans). With respect to interest rates, this chapter focuses mainly on one typical housing lending rate for each euro area country. In addition, marginal composite housing lending rates based on new business rates can be calculated. As can be seen from Chart 20, the marginal composite lending rates in Germany, Greece and the Netherlands were the highest ones, on average in the period from 2003 to 2007; in the case of Germany and the Netherlands, this was due mainly to relatively long interest-rate fixation periods. The marginal composite lending rates have been lowest in Spain, Finland, Ireland, Luxembourg

Chart 20 Cost of housing loans

(level in percentages; average from 2003 to 2007)



Source: ECB.
Notes: The annual percentage rate of charge (APRC) includes interest and non-interest charges and is based on new business volumes. The marginal composite lending rate weights the interest rates on new business in loans to households for house purchase across maturities with the corresponding new lending business volumes. The average composite lending rate weights the interest rates on amounts outstanding of loans to households for house purchase across maturities with the corresponding amounts outstanding of housing loans. For the typical housing lending rates, see Table 2 in Chapter 3. No single typical rate has been chosen for the euro area as both variable rate and fixed rate loans are important. Cyprus, Malta and Slovenia have been excluded on account of a lack of data for the period shown in this chart.

47 The marginal composite deposit rate weights the interest rates on new business in deposits of households and non-financial corporations across maturities with the new business volumes for time deposits, and for overnight deposits and savings deposits with the total deposit amounts outstanding (which are close to new business volumes owing to their predominantly short maturity). The average composite deposit rate weights the interest rates on the amounts outstanding of deposits for households and non-financial corporations across categories and maturities with the amounts outstanding of the corresponding deposits.

48 The high interest rate on deposits in Luxembourg is largely attributable to private banking activities.

and Portugal, all countries that typically have variable rate housing loans.

Quantitative information on the total cost of housing loans is available from the harmonised MFI interest rate statistics, the so-called annual percentage rate of charge (APRC). That cost refers to the present value of interest and non-interest charges by banks, excluding, for instance, charges payable by the borrower for non-compliance with the commitments laid down in his/her credit agreement.[49] Costs that are thus not included in the APRC are non-bank charges and, for instance, early repayment fees as they are not a regular cost of the housing loan contract. As can be seen from Chart 20, the APRC has been highest, on average from 2003 to 2007, in Germany, France and Greece, mainly driven by interest costs, which is reflected in the composite lending rate for housing loans.[50] The APRC has been lowest in Spain, Finland and Ireland, also mainly driven by the interest costs. Non-interest charges, by contrast, have generally been rather limited.[51]

Besides the marginal housing lending rate, based on new business, an average housing lending rate based on the amounts outstanding of housing loans can be calculated. In all euro area countries shown in Chart 19, the average housing lending rate was higher, on average from 2003 to 2007, than the marginal rate, probably driven by both higher market interest rates and higher spreads over funding or opportunity costs in the past (see below for the evidence on spreads).

5.4 HOUSING LENDING RATES IN RELATION TO BANKS' FUNDING COST OR OPPORTUNITY COST

Banks' interest and non-interest revenues from housing loans can be linked to banks' funding cost or to opportunity cost. The resulting spreads provide a picture of the revenues or opportunity cost that banks gain from housing loans. Such spreads can differ in line with, in particular, differences in product characteristics (for instance, variable rate loans versus fixed rate loans),[52] the default risk of the borrower and competition, or on account of institutional factors, such as the legal system. Against this background, partly based on evidence provided in Chapters 2 and 3, various spreads have been calculated and have been linked to possibly correlating factors. Generally, it needs to be acknowledged that the period for which spreads on housing loans could be calculated on a harmonised statistical basis (which is the period since 2003) is limited and does not cover a complete interest rate cycle. At the same time, the period from 2003 to 2007 was a rather special period in which credit standards were loosened considerably. It remains to be seen whether risks have been appropriately reflected in spreads. In any event, the available information does not allow firm conclusions to be drawn on how the credit risk of the borrowers at the time the loan is granted is reflected in loan approval decisions and in the spreads applied.

5.4.1 SPREAD OF HOUSING LENDING RATES OVER INDEXATION RATES OR THE OPPORTUNITY COST

As a starting point, lending rates for a typical housing loan have been selected for all euro area countries, based on the typical initial period of interest rate fixation (see Table 2 in Chapter 3). As explained in Chapter 3 of the report, for the majority of euro area countries, the typical housing loan is a variable rate loan (defined here as a housing loan at floating rates or with an initial interest rate-fixation period of up to one year),[53] whereas a longer-term interest rate fixation period for housing loans is typical

49 See "Manual of MFI interest rate statistics", Regulation ECB/2001/18, October 2003.

50 The marginal composite lending rate weights the interest rates on new business involving loans to households for house purchase across maturities with total new lending business volumes.

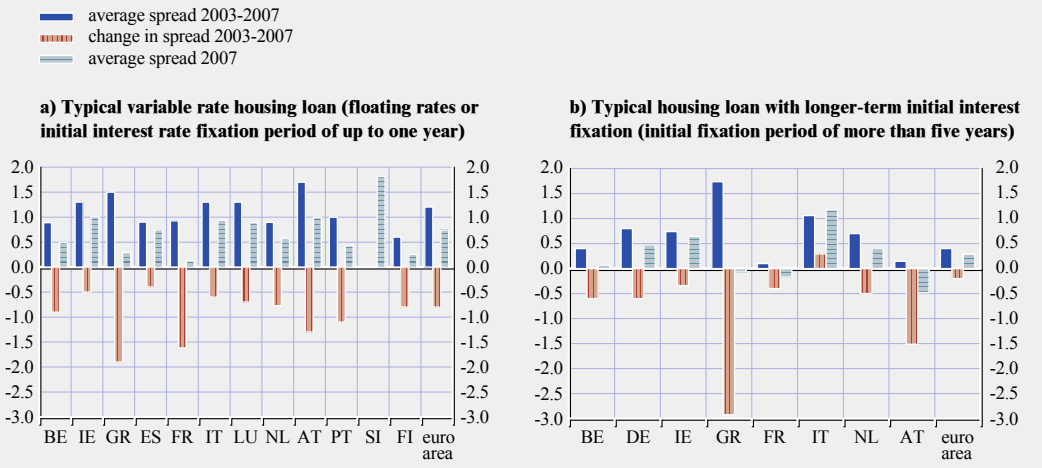
51 The component of non-interest charges in the APRC may vary across euro area countries because harmonisation with respect to this component is limited.

52 Fixed rate loans are defined here as loans with an initial interest rate fixation period of more than one year. The maturity of the loan is generally much longer than the interest fixation period.

53 In Greece, the prevailing type of housing loan in the years up to 2006 was a loan was at floating rates or with an initial interest rate fixation period of up to one year. In 2007, however, an interest rate fixation period of over one and up to five years was dominant in new business volumes (see Table 2 and Chart 6 in Chapter 3).

Chart 21 Spread of the lending rate for a typical housing loan over the opportunity cost or interest indexation rate

(rates for new business; in percentage points for the relevant euro area countries; average 2003 to average 2007)



Sources: ECB and NCBs.
Notes: Chart a); See Table 2 for the selection of indexation rates: the three-month EURIBOR is used for the euro area. No data are available for CY and MT, and for SI prior to 2007. No figures are shown for DE due to the lacking relevance of variable rate housing loans.
Chart b); See Table 2 for the selection of the most typical rates. In addition, rates with initial fixation period of over one and up to five years are shown for AT, GR and IE; rates with initial rate fixation of over ten years are used for IT where variable rates are most typical. Rates with an initial rate fixation period of over ten years are used for the euro area. For the opportunity cost rates, swap rates corresponding to the interest rate fixation period were selected. There are no figures shown for CY and MT due to lacking data. No figures are shown for ES, FI, LU, PT and SI due to the lacking relevance of longer-term fixation housing loans.

in the minority of euro area countries (Belgium, Germany, France and the Netherlands).

A first kind of spread was calculated by relating such typical housing lending rates to the respective indexation rate (e.g. the EURIBOR) used for resetting the interest rate on the housing loan (in the case of variable rate housing loans), or to the corresponding opportunity cost of the banks, assuming an alternative investment at the corresponding maturity (for housing loans with a longer-term interest fixation period) (see Chart 21 and Table 2). The indexation rate can also be interpreted as a measure of the opportunity cost, as the bank could invest in a corresponding money market instrument. In the case of the longer-term interest fixation period, the spread over the corresponding market rates measures the interest advantage of the banks when granting a housing loan in comparison with the corresponding swap rates.

In addition, for countries in which variable rate loans are typical, a rate with a longer-term fixation period is shown in Chart 21, if the average new business volume of that loan category was above 20% of all new housing loan business volumes in the period from 2003 to 2007. For most countries in which variable rate loans are typical, the most common longer-term interest fixation period was over one and up to five years (Austria, Greece and Ireland), while it was over ten years for Italy. Similarly, the spread for the variable rate housing loans in the case countries with typically longer-term interest fixation periods for housing loans is shown in Chart 21 if the average new business volume involving housing loans at floating rates or with an initial rate fixation period of up to one year was above 20% of all new housing loan business volumes in the period from 2003 to 2007. This was the case in Belgium, France and the Netherlands, but not in Germany.

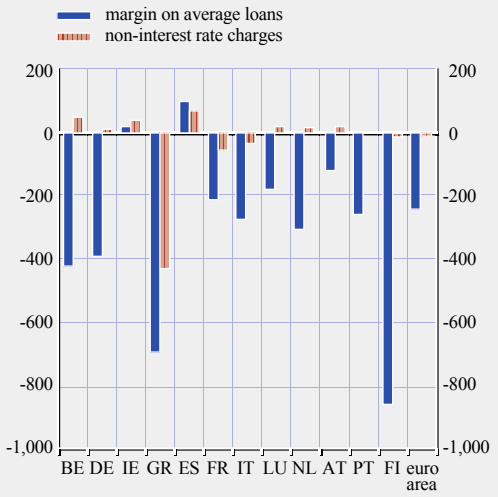
With respect to cross-country differences, on average in the period from 2003 to 2007, the spread of the typical variable rate housing loan over indexation rates was particularly high in Austria and Greece, and relatively low in Spain, Finland and Portugal. In addition, the

spread was relatively low in Belgium, France and the Netherlands, where the variable rate housing loan is less typical. At the same time, after a considerable decline over this period, spreads in Greece, both for variable rate loans (which were dominant in the years up to 2006) and for loans with an interest fixation period of over one and up to five years (which was dominant in 2007), belonged to the lowest spreads over indexation rates in 2007. Such low spreads may have been partly due to booming housing markets with a strong growth in housing loans in the years up to 2007, and to related intense competition (see below for evidence on possible explanatory factors). In 2007, the spread of the typical variable rate housing loan over indexation rates was the highest in Slovenia, which joined the euro area in that year. With respect to countries where the most typical housing loan is one with longer-term initial interest fixation, the spread over the respective opportunity cost was the highest in Germany and the Netherlands. This is probably related to a composition effect as the typical interest rate fixation period falls into the category "from more than five and up to ten years" in the harmonised MFI interest rate statistics, but the interest rate fixation period for the majority of the loans is close to ten years. At the same time, the spread was similar or higher for most euro area countries where longer-term interest fixation is less typical (Greece, Ireland and Italy), which may in turn explain why households preferred variable rate housing loans. In the case of Greece, however, the spread declined significantly and was close to zero in 2007, the year in which many Greek households switched from variable rate to fixed rate housing loans. In 2007, the spread over the opportunity cost was negative in France, which may be related to cross-selling effects, i.e. the fact that mortgages may be cross-subsidised by other bank products as they allow a long-term customer relationship to be built up.

With respect to developments over time, the spreads between the rates on typical variable rate or fixed rate housing loans and the respective indexation rates or opportunity costs

Chart 22 Changes in terms and conditions, and factors behind changes in credit standards on housing loans

(cumulated net percentages; 2003 to 2007; changes in margins on average loans and non-interest rate charges applied to loans to households for house purchase)



Sources: ECB and NCBs (bank lending survey).
Notes: The net percentage is defined as the difference between the sum of the percentages for "tightened considerably" and "tightened somewhat" and the sum of the percentages for "eased somewhat" and "eased considerably". Cyprus, Malta and Slovenia have been excluded because of a lack of data for the period shown in this chart.

declined in nearly all euro area countries between 2003 and 2007 (see below for possible explanatory factors). This is in line with evidence in the euro area bank lending survey on the development of margins on average loans to households for house purchase. When cumulating the net percentages for the period from 2003 to 2007,[54] there was a considerable decline in the margins on average loans in most euro area countries (see Chart 22). At the same time, evidence on the development of non-interest charges is mixed across countries. Hence, while a decline in margins was accompanied by decreases in non-interest charges in some countries, banks in other euro area countries may have increased non-interest charges to compensate somewhat for the decline in margins.

54 The net percentage is defined as the difference between the sum of the percentages for "tightened considerably" and "tightened somewhat" and the sum of the percentages for "eased somewhat" and "eased considerably".

5.4.2 SPREAD OF HOUSING LENDING RATES OVER THE MARGINAL COST OF DEPOSIT FUNDING

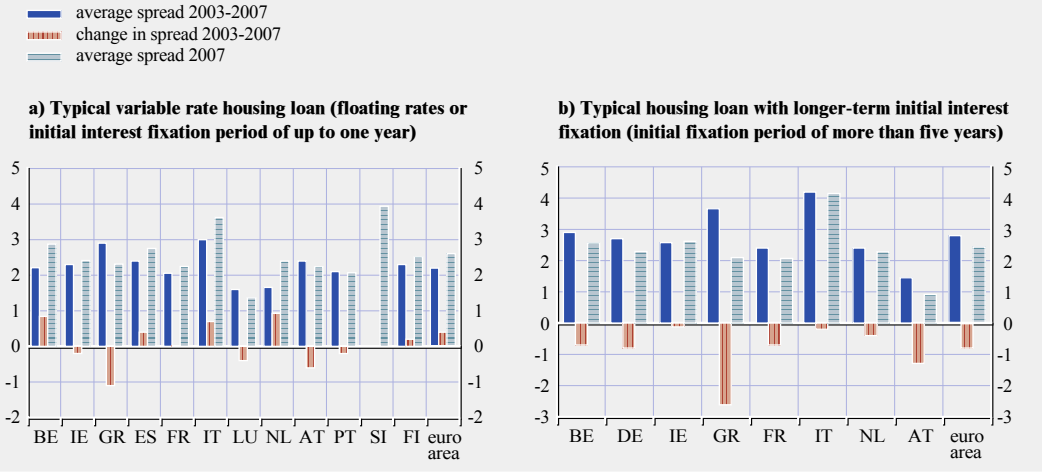
Although the aforementioned spread indicator has many good properties, a second kind of spread was also calculated by relating typical housing lending rates to a measure of the cost of deposit funding, since – as mentioned earlier – an important part of banks' funding consists of deposits. As most deposits have a short-term nature, but are, at the same time, a stable source of funding for banks, no maturity distinction has been made for the cost of deposits. The focus here is on the marginal cost of deposits, so that both the interest rates on the typical housing loan and the cost of deposit funding are rates on new business (see Chart 23). At the same time, as banks also used market-based funding to an increasing extent, such spreads only present a partial picture (see Section 5.4.4 for spreads over covered bond yields).

As can be seen from Charts 21 and 23, the spread over a composite deposit rate is higher than over a market measure of opportunity cost for all euro area countries, and for both variable rate and fixed rate housing loans. For housing loans with a longer-term interest fixation period, the main reason for the higher spread is likely to be related to the fact that the maturity of deposits is shorter than the longer-term maturity of the opportunity cost measure. For variable rate housing loans, the higher spread over deposit rates than over money market rates indicates the relative attractiveness of deposit funding, without adjustment for other factors such as the lower liquidity of deposits, in comparison with money market funding. At the same time, as the annual growth of non-MFI deposits in recent years was lower than non-MFI loan growth, in particular housing loan growth, in most euro area countries, banks to an increasing extent relied on market-based funding.

When comparing the size of the spreads on typical variable rate housing loans and on typical housing loans with a longer-term initial interest fixation, the evidence is ambiguous. While the spread on variable rate loans over indexation rates or over opportunity cost in general is higher, the spread on fixed rate housing loans is higher when

Chart 23 Spread of the interest rate for a typical housing loan over the marginal cost of deposits

(rates for new business; in percentage points for the relevant euro area countries; 2003 to 2007)



Sources: ECB and NCBs.
Notes: Chart a); See Table 2 for the selection of the most typical rates. In addition, spreads are shown for BE, FR and NL, where variable rate housing loans are less typical. There are no figures shown for CY and MT, and for SI prior to 2007, due to a lack of data for the period shown in this chart. No figures are shown for DE, due to the lacking relevance of variable rate housing loans.
Chart b); See Table 2 for the selection of the most typical rates. In addition, rates with initial fixation period of over one and up to five years are shown for AT, GR and IE; rates with initial rate fixation of over ten years for IT, where variable rates are most typical. Rates with an initial rate fixation period of over ten years are used for the euro area. There are no figures shown for CY and MT due to a lack of data. No figures are shown for ES, FI, LU, PT and SI, due to the lacking relevance of longer-term fixation housing loans.

calculated over the marginal cost of deposits, also reflecting a normal term structure for interest rates.

With respect to the comparison across euro area countries, for countries with typically variable-rate housing loans, the spread over the marginal cost of deposits over the period from 2003 to 2007 was highest in Greece and Italy (in the case of Italy, on account of the higher share of low-interest overnight deposits) and lowest in Luxembourg.[55] After a considerable fall, however, the spread in the case of both variable rate loans and loans with an initial interest fixation period of over one and up to five years in Greece declined to average levels in 2007. With respect to longer interest fixation periods, differences between housing loan spreads over banks' cost of deposit funding across those countries where this loan category is that most typical (Belgium, Germany, France and the Netherlands) have been limited.

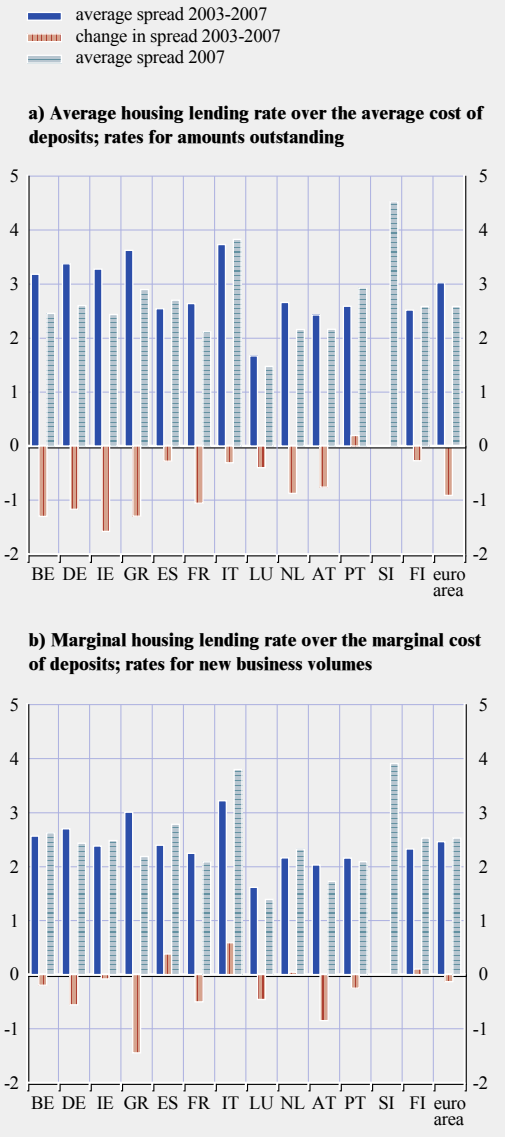
As regards developments over time, the spread for housing loans with longer-term interest fixation declined in the period from 2003 to 2007, broadly in line with the evidence from the spreads over the opportunity cost. By contrast, the picture is more mixed across countries for the developments in spreads of variable rate housing loans. This may be related to the fact that the period under review does not cover a complete interest rate cycle, so that differences in the pass-through of lending and deposits rates in periods of declining and rising interest rates may have an impact on the results.

5.4.3 SPREAD OF AVERAGE HOUSING LENDING RATES OVER AVERAGE COST OF DEPOSITS

By way of an alternative to the spread over the marginal cost of deposits, the difference between the average rate on the amounts outstanding of housing loans and the average rate on the amounts outstanding of deposits can be calculated. While the marginal rate spread should be closer to the banks' decisions with respect to new business, the average rate spread relates more closely to the profit and loss statement and indicates the interest received by banks from all the housing loans granted, after subtracting the interest paid, assuming that banks' funding consists entirely of deposits. This view thus disregards market-based funding.

Chart 24 Spread of composite housing lending rates over the composite cost of deposits

(in percentage points; average 2003 to average 2007)



Source: ECB.
Note: See the notes to Charts 19 and 20.

55 Given the large share of MFIs in Luxembourg that do not engage in mortgage lending, the low spread of lending rates over composite deposit rates there should be interpreted with caution.

When comparing panels a and b of Chart 24, it can be seen that the spread of the average housing lending rate over the average cost of deposits was higher, on average in the period from 2003 to 2007, than the corresponding spread based on marginal composite lending and deposit rates. This is in line with the evidence of a decline in margins over recent years.

5.4.4 SPREAD OF HOUSING LENDING RATES OVER COVERED BOND YIELDS

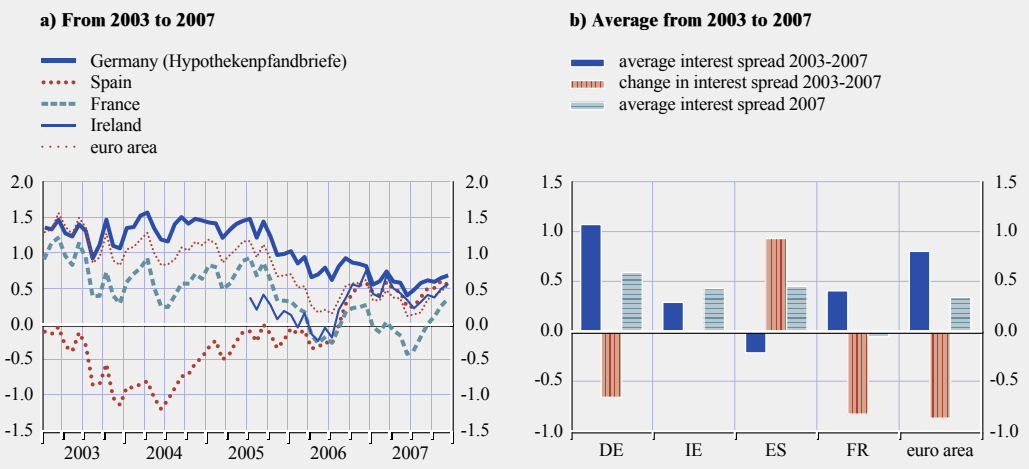
In some euro area countries, in particular in Germany and Spain, covered bonds also form a relevant part of banks' refinancing (see Chapter 4). As they are backed by the value of the underlying mortgage, covered bond yields are generally lower and, hence, the spread of housing loans over such bonds is generally higher than that over unsecured bank bonds. As can be seen from Chart 25, the spread of the typical housing loan rate over the yield on covered bonds (*Hypothekenpfandbriefe*) in Germany is the highest recorded for the limited set of euro area countries in which data on covered bond yields are available. The fact that the yield on covered bonds in Germany was somewhat lower, on average between 2003 and 2007, than the covered bond yields in other euro area countries is related to the comparably strict legal requirements for issuing German *Hypothekenpfandbriefe* (for instance, a maximum LTV ratio of 60%). On average over the period from 2003 to 2007, the spread over covered bond yields in Spain has been negative, but it turned positive, on average, in 2007. In the case of France, the spread of the typical housing loan (with an interest fixation period of over ten years) over covered bond yields was close to zero, on average, in 2007. The partly negative spreads in both countries indicate that mortgages may be cross-subsidised by other bank products. In addition, with respect to 2007, the negative spread in France may also have been related to the rise in banks' funding cost in connection with the financial turmoil.

5.4.5 RELATIONSHIP BETWEEN SPREADS AND POSSIBLE EXPLANATORY FACTORS

As mentioned above, the size of the spreads on housing loans may be related to the product characteristics (for instance, variable rate loans versus fixed rate loans), to the default risk of the borrower, to competition or to institutional

Chart 25 Spread of the lending rate for a typical housing loan over the yield on covered bonds

(rates for new business; housing loans with longer-term interest fixation where relevant; in percentage points)



Sources: ECB and NCBs.
Notes: See Table 2 for the selection of the typical rates. Data for Ireland only start in July 2005. Therefore, no change in the spread is indicated.

factors, such as the legal system.[56] On the basis of, partly, the evidence provided in Chapters 2 and 3 on the financial situation of households, product characteristics and institutional factors, the relationship between the development of spreads over time and such factors has been investigated. In addition, possible explanations for cross-country differences in spreads are presented. The evidence presented below needs to be seen against the background of data restrictions, so that strong conclusions cannot be drawn.

With respect to product characteristics, as has been shown in Charts 21 and 24 above, the evidence on the size of spreads on housing loans over different interest fixation periods is ambiguous. A higher spread for variable rate housing loans may be related to the higher credit risk that banks faced in the case of such housing loans. At the same time, a higher spread on fixed rate housing loans may reflect the higher interest risk of the bank in comparison with that for variable rate loans. Differences in the size of the spreads over different interest fixation periods may also reflect bank lending policies, leading in turn to households' preferences for variable or fixed-rate housing loans. With respect to further product characteristics, according to information from banks, an increase in LTV ratios also has a certain positive impact on the interest rates charged by banks. Overall, while differences in product characteristics may be important in explaining spread differences across countries, the lack of detailed data over time and countries does not allow a more detailed assessment.

While the default risk of borrowers should play a role in the size of the spread, there is limited evidence, all in all, on the impact of the financial situation of households on the variation of spreads demanded by banks for taking up housing loans across euro area countries. Microeconomic factors, such as the ratios of mortgage debt to disposable income, mortgage debt to total assets and debt service to income, may have an impact on spreads (see Box 1 in Chapter 2), but it is difficult to link the microeconomic evidence across countries to the spread differences across countries. As regards the development of macroeconomic indicators over time, the overall increase in euro area household indebtedness and the rise in the interest payment burden of households since 2006 have occurred in parallel with the decline in the spreads of housing loans.[57] This may be indicative for a loosening of credit standards over the period under review. However, the lack of sufficiently detailed information to study the issue raises uncertainty about the relationship between the credit risk of the borrower and the conditions for an approval of the mortgage and its pricing. With respect to institutional factors, the length of the foreclosure procedure may be positively related to the spread of housing loans over banks' cost of deposit funding and/or their opportunity cost. Overall, however, evidence is weak.

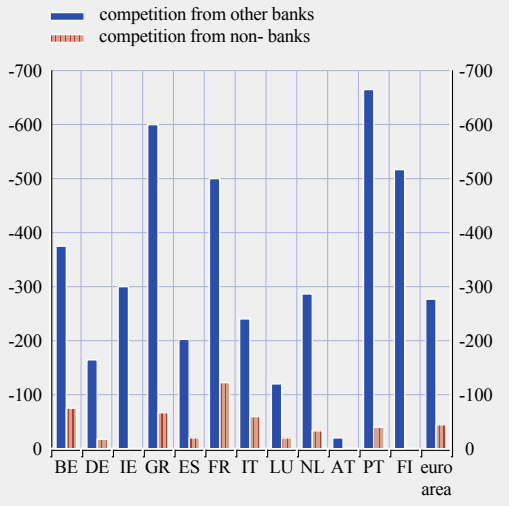
Some qualitative evidence as regards the main explanations for the development of interest and non-interest charges over recent years can be obtained from the euro area bank lending survey. According to the results of this survey, competition could partly explain the decline in interest spreads over recent years (see Chart 26). According to reporting banks, competition from other banks, in particular, contributed to a loosening, in net terms, of credit standards on loans to households for house purchase in the period from 2003 to 2007. Competition from non-banks also contributed to a net loosening of credit standards on housing loans, but owing to their limited importance in granting housing loans, this only played a minor role. Some evidence on an increase in banking competition in recent years is also provided by the empirical investigations presented in Box 4. In addition, efficiency gains may have contributed to declining spreads. Moreover, the increasing role of securitisation in the funding of banks, as explained in Chapter 4, and an under-assessment of risks may have contributed to a loosening of credit standards in some countries between 2003

56 See also ECB (2006).

57 A more detailed analysis would require microeconomic data on individual housing loan characteristics and on the financial situation of the respective borrowers.

Chart 26 Possible impact of competition on changes of banks' credit standards on housing loans

(cumulated net percentages; 2003 to 2007)



Sources: ECB and NCBs (bank lending survey).
Note: See notes to Chart 22.

and 2007. At the same time, as explained in Sections 4.3 and 4.4.2, the role of securitisation in loosening credit standards in the euro area is less important than that in the United States and the United Kingdom (see Chapter 6), and differs across euro area countries.[58]

58 While Portugal and Spain, for instance, are among the euro area countries in which securitisation weighs more in terms of total loans originated by MFIs, a significant part of those operations is designed in a way that the originating banks end up holding the equity tranche and are thus not allowed to free up regulatory capital.

Box 4

BANKING COMPETITION AND THE PRICING OF MORTGAGE LOANS

It is generally acknowledged that competition in the euro area banking sector has intensified substantially over the past decades, given that the process of deregulation and financial integration has progressed to some extent. Nevertheless, since the euro area mortgage market still remains segmented along national lines, the degree of competition may differ across euro area countries, which might in turn contribute to upholding the observed differences in the pricing of mortgage loans. Against this background, this box analyses competitive conditions in the euro area banking sector on the basis of a suite of standard measures.

Banking competition in the euro area

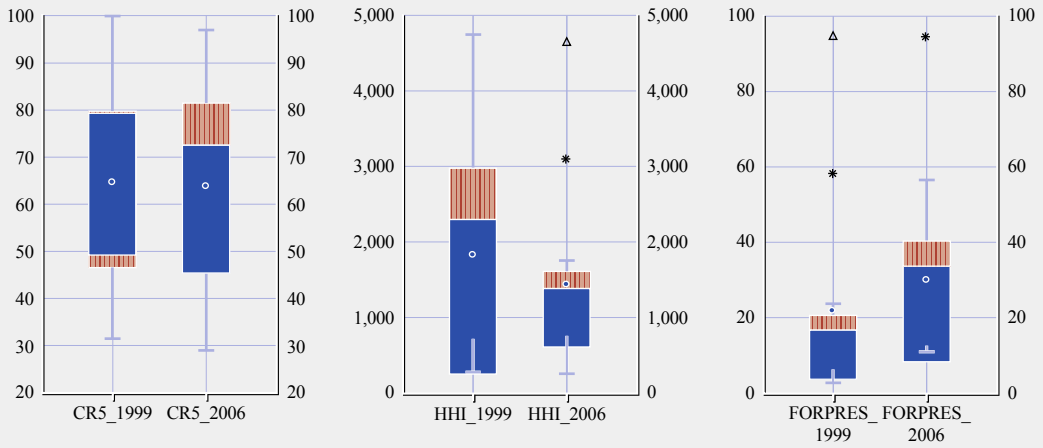
There is little consensus in the academic literature about how best to measure banking competition.[1] For purposes of measuring banking competition, this box thus applies a number of competition measures that are defined in terms of three broad categories of indicators commonly used in the literature.

Turning first to *market structure-related measures*, such as market share, the number of banks and concentration indices,[2] Chart A shows a number of concentration indicators that are commonly

1 See Northcott (2004) for a survey of the literature.
2 The general notion is that the situation where few banks hold large market shares indicates less competition. However, it has been argued that market structure may not matter for performance once efficiency is taken into account in the sense that higher concentration could simply reflect that efficient banks take over less efficient ones, which in turn could lead to stronger competition (see e.g. Bikker and Bos (2005)).

Chart A Dispersion of market structure indicators for euro area (12) banking sectors

(1999 and 2006)



Sources: BvD Bankscope, ECB reports on EU banking structures and ECB computations.
Notes: The chart shows a box-plot with minimum and maximum (lower and upper bars), median (with a 95% confidence band) and an inter-quartile range. Near and far outliers are diamonds and triangles respectively. Dots represent the unweighted average. Measures are based on total assets. CR5 measures the market share of the five largest players in the national banking market. The Herfindahl-Hirschmann index (HHI) measures the sum of the squared market shares of all banks in a market (as percentages), and is thus constrained between 0 and 10,000. A smaller value indicates a more "atomic" or dispersed market, whereas a perfect monopoly would score the highest value. Foreign presence ("forpres") is measured as the assets of foreign branches and subsidiaries as a percentage of total domestic banking assets.

used as measures of competition. It can be seen that the market share of the five largest players in the national banking markets of most euro area countries changed only modestly between 1999 and 2006, despite buoyant merger and acquisition activity and the trend towards consolidation. Chart A also shows that there remains a high degree of dispersion across countries. At the same time, the Herfindahl-Hirschmann index indicates that competition has increased somewhat in recent years. In general, concentration seems to be higher in smaller euro area countries, and rankings do not seem to be very sensitive to the specific measure of concentration used.[3] The presence of foreign banks has increased somewhat in most countries, which may have led to an increase in competition.

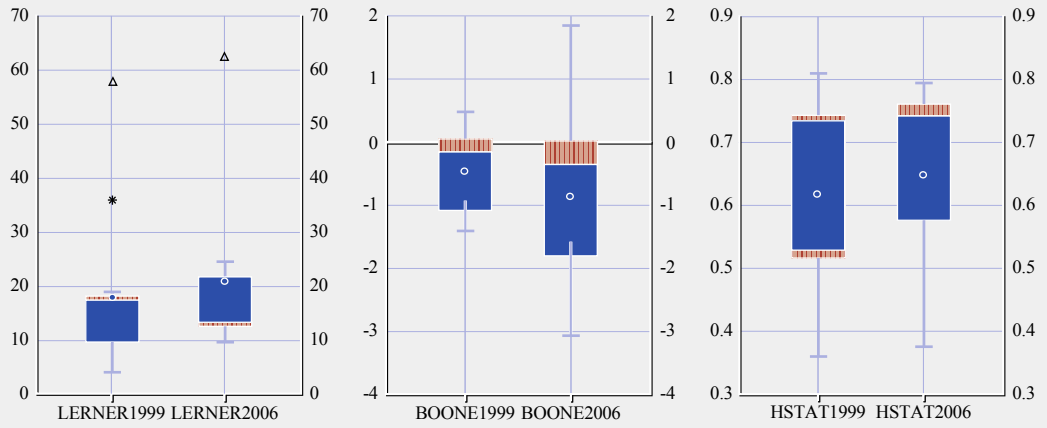
The results obtained from *model-based competition measures* are shown in Chart B. In general, banking sectors exhibiting greater market power (i.e. with a higher Lerner index) have generally lower H-statistic values and less negative Boone indicator levels, and vice versa.[4]

More specifically, the mark-up for euro area countries was generally insignificant; suggesting that, according to this indicator, the use of market power is negligible. Lerner indices display substantial variation across the banking sectors of euro area countries and indicate that market power has increased slightly over time. By contrast, a majority of euro area countries registered a more negative value for the Boone indicator over time, suggesting an increase in the average degree of competition. The Boone indicator also displays substantial variation both across national banking sectors and over time. According to the H-statistic, most euro area banking markets appear to operate under monopolistic competition, although there is substantial variation across countries.[5]

3 Market structure indicators based on total loans, deposits or revenues display broadly similar patterns.
4 Bilateral correlation coefficients range from 0.4-0.7.
5 To derive the H-Statistic, the model of Bikker et al. (2007) was used.

Chart B Dispersion of Lerner, Boone and H statistics for euro area (12) banking sectors

(1999 and 2006)



Source: ECB computations based on BvD Bankscope data.
Note: The chart shows a box-plot with minimum and maximum (lower and upper bars), median (with a 95% confidence band) and an inter-quartile range. Near and far outliers are diamonds and triangles respectively. Dots represent the unweighted average. For the Lerner index, the methodology follows Fernández de Guevara et al. (2005). It measures the extent to which a bank's market power allows fixing prices above marginal costs. A larger index value indicates greater market power; see Van Leuvensteijn et al. (2007) for the Boone indicator, which is an extension of the Lerner index. It estimates how closely banks' marginal costs are associated with their market share or profits. The weaker this relationship (between market shares and marginal costs), the less competition can be inferred; see Bikker et al. (2007) for the Panzar-Rosse H-statistic, which is derived as the sum of the elasticities of total bank revenue with respect to the bank's input prices (funds, labour and capital), after controlling for a number of bank-specific factors. H below or equal to zero indicates monopoly, whereas H=1 indicates perfect competition. 0<H<1 reflects monopolistic competition.

In terms of *price-based measures*, a direct comparison of the pricing policies in terms of the pass-through of changes in market rates to mortgage lending rates is carried out, thereby allowing the degree of (price) competitiveness to be assessed.[6] Available evidence for the period from 1999 to 2008 suggests that the pass-through is heterogeneous across euro area countries; both as regards the long-term multipliers and the speed of adjustment to long-term equilibrium.[7] Moreover, there is also some empirical evidence that euro area banks tend to adjust loan rates to changes in policy rates more quickly when rates are increasing than when they are falling (and vice versa in the case of deposit rates), which suggests that euro area banks have some pricing power when setting their lending rates.[8] Importantly, the pass-through has also been found to be faster in more competitive banking systems.[9]

6 The results of this indicator should be interpreted with caution as they rely on non-harmonised MFI interest rate statistics for the period before 2003.
7 See also Kok Sørensen and Werner (2006).
8 Kleimeier and Sander (2006) and Gropp et al. (2007).
9 Van Leuvensteijn et al. (2008) find that competition, as measured by the Boone indicator, tends to strengthen the pass-through of changes in market rates to bank interest rates.

6 COMPARISON OF INTERNATIONAL MORTGAGE MARKETS

6.1 INTRODUCTION

Mortgage markets in the euro area, the United Kingdom and the United States exhibit differing financial structures, mortgage practices and regulatory frameworks. This chapter provides a comparison of the mortgage markets in the three regions. The different accounting and statistical frameworks for household's financing within the three mortgage markets are also discussed briefly.

6.2 FINANCIAL SITUATION OF HOUSEHOLDS

HOUSING DEBT AND WEALTH

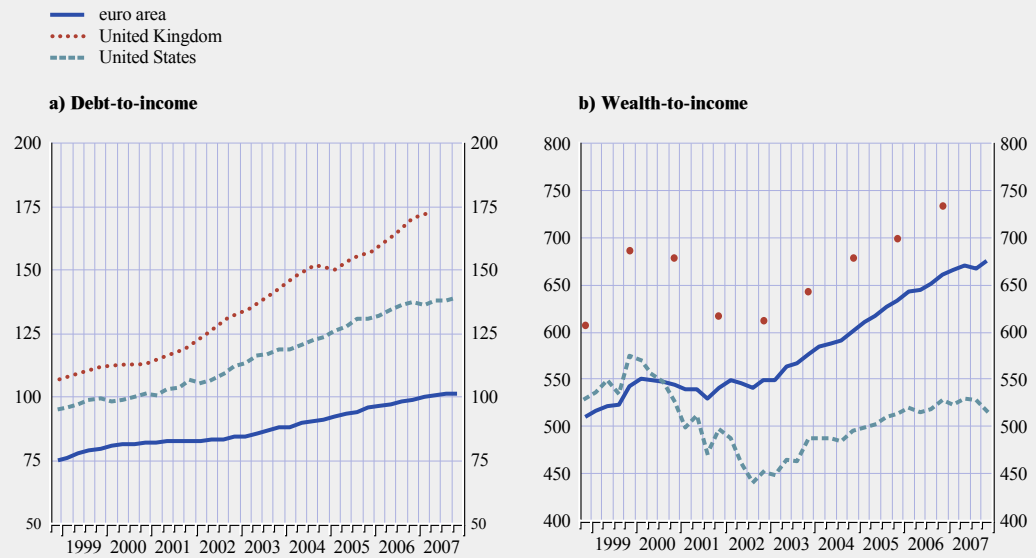
In the euro area, the United Kingdom and the United States, mortgage debt constitutes the largest component of household indebtedness. Household sector debt has been quite high in these three areas over the last few of years, owing to favourable financing conditions, strong housing market dynamics and robust economic conditions. Household sector debt in the euro area averaged almost 97% of disposable income from the beginning of 2003 to the end of 2007 (see Chart 27, panel a). During the same period, the ratio of household debt to disposable income averaged 154% in the United Kingdom and almost 128% in the United States. In the last quarter of 2007, household debt represented over 100% of disposable income in the euro area, while the corresponding figures in the United Kingdom and the United States were 177% and 139% respectively.

Household's net wealth (total assets including housing assets minus total liabilities) relative to disposable income in the euro area is lower than in the United Kingdom, but higher than in the United States (see Chart 27, panel b).[59] In all three economic areas, the household sector's net wealth increased over the last five years up to 2007. The rise can be attributed to positive valuation effects emanating from house and stock price increases. The net wealth of households in the euro area has

59 Approximately 60% of household's total gross wealth (sum total of financial and housing wealth) consists of housing wealth.

Chart 27 Household sector debt- and net wealth-to-income ratios in the euro area, the United Kingdom and the United States

(Q4 1998 - Q4 2007)



Sources: ECB, Eurostat, ONS and Federal Reserve System.
Note: Households' debt ratios may not be fully comparable on account of differences in the coverage.
Households' net wealth data may not be fully comparable on account of differences in the coverage and the methodologies used.

grown more strongly than in the United States, partly as a result of faster increases in nominal disposable income in the United States. Since mid-2007, however, equity prices have declined sharply across the globe, while residential property prices have been increasing at a slower pace and, in some cases, even declined, especially in the United States, the United Kingdom and some euro area countries that were most affected by the housing boom. These developments have a clear negative impact on households' net wealth.

As regards fixed versus variable rate mortgages, the share of variable rate debt is around 40% of total household debt in the euro area, thus somewhat limiting the impact of the interest rate rises recorded from end-2005 to end-2007. In the United Kingdom, about half the stock of households' mortgage debt is based on variable rates and about ⅔ of fixed rate debt has a relatively short rate fixation period of up to two years, exposing the bulk of debt to interest rate risk. In the United States, most household debt has traditionally been based on fixed rates, at least until recently. In the last few years, a host of new mortgage contracts gained popularity in the context of the growth of the sub-prime market in the United States. These contracts, including adjustable rate mortgages (ARM), teasers, interest-only and negative-amortisation mortgages, not only entailed a significant shift towards variable rates, but also increased the sensitivity of mortgage repayments to the ability to obtain short-term refinancing. As these contracts mainly targeted lower-income borrowers, they heightened the vulnerability of this riskier household category to interest rates increases and declines in house prices. Increased reliance on home equity loans, including mortgage equity withdrawals, also contributed to a higher vulnerability of households. By contrast, the diffusion of these contracts in the euro area remains limited.

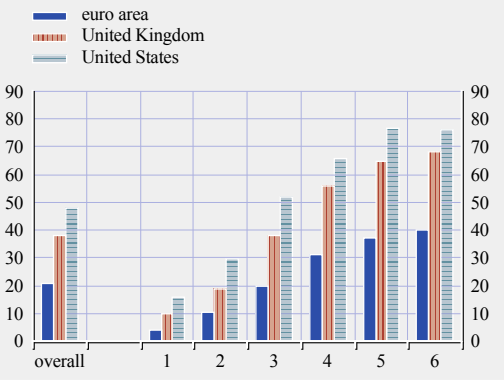
VULNERABILITY OF HOUSEHOLDS

Share of households with a mortgage

The share of households with a mortgage in the United States is approximately 45%, significantly higher than in the euro area (around 20%), while the share in the United Kingdom was closer to that of the United States, at 40% of households (see Chart 28).

Chart 28 Share of households with a mortgage

(percentages)



Sources: SCF for the United States (2004) and ECB calculations for the United Kingdom and the euro area, using the EU-Statistics on Income And Living Conditions (2005).
Note: Income levels refer to percentiles of the population (1: 0-20; 2: 20-40; 3: 40-60; 4: 60-80; 5: 80-90; 6: 90-100).

The ratio of households with mortgage loans increases with income levels across all economic areas. However, the share of households with mortgages in the United States is much higher relative to the euro area for all income levels. In the United States the share ranges from 16% for the lowest income level to 76% for the highest income level. In the euro area, the corresponding share ranges from 4% to around 40%, while the share in the United Kingdom is again closer to that of the United States, ranging from 10% to 68%. A high degree of heterogeneity is observed for euro area countries, with the highest share in the Netherlands and the lowest in Italy (see the table in Box 1). In all cases, there is a direct link in the relationship to income levels.

Debt servicing ratios

The overall level of debt servicing ratios is higher in the United States than in the euro area, hovering around 15% and 10% of disposable income respectively, but they are more comparable when focusing on the ratio of debt servicing to mortgage debt of households holding a mortgage, which is

around 20%. Regarding the income distribution, the debt servicing-to-mortgage debt ratio is broadly stable at around 20% in the United States, with the exception of the highest income level where it is below 15%. By contrast, the ratio varies substantially more in the euro area and the United Kingdom, where the low income levels show a ratio of approximately 40%, while that of the highest income level is below 15% in both regions.[60]

However, these figures fail to capture developments in the most recent years. The surge in delinquencies and foreclosures involving sub-prime borrowers in 2006 provides evidence that market participation, indebtedness and debt servicing costs for lower-income households increased sharply in the United States after 2004 (the last period for which survey data are available), in association with the growth of the sub-prime market.

6.3 HOUSING FINANCING

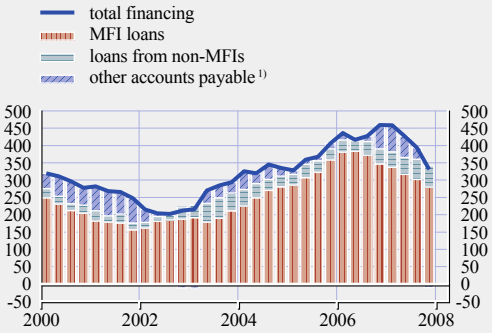
An examination of the importance of MFI loans as part of total household financing shows the differences in the role of bank loans in total household financing across the three economic areas. In the euro area, the MFI sector accounted for approximately 85% of total household financing in 2007 (see Chart 29a). The corresponding contribution of the MFI sector to total household financing in the United Kingdom and the United States was 26% and 31% respectively (see Charts 29b and 29c). However, this assessment is based on the final retention of credit on the balance sheets, which is in turn affected by, inter alia, the degree to which the OTD model was adopted and the accounting practices in place for derecognition.

Differing financial structures help explain the smaller role of MFI lending in the United Kingdom and the United States relative to the euro area. In addition, any meaningful comparison of the mortgage markets must take into account the differences in the accounting and statistical frameworks across the three regions.

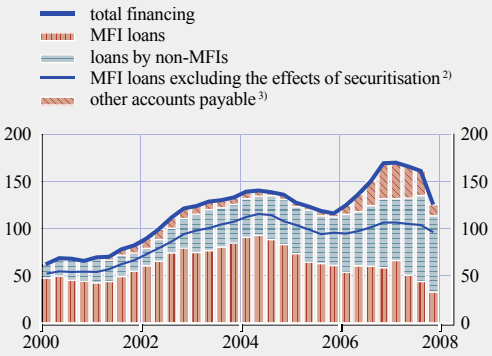
Chart 29 Total household financing

(four-quarter cumulated transactions in billions of local currency units)

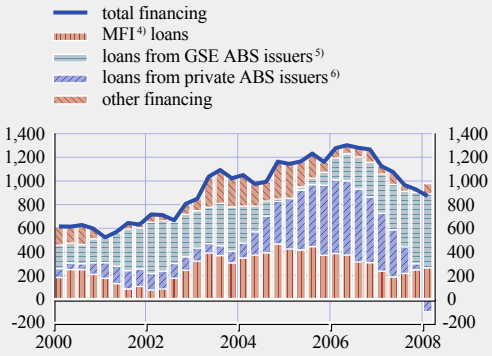
a) Euro area



b) United Kingdom



c) United States



Sources: ECB and Euro Area Accounts (EAA), ONS and Bank of England, US flow of funds accounts and ECB calculations.
1) Also includes net liabilities of financial derivatives, as well as life insurance and pension fund reserves.
2) Seasonally adjusted.
3) Also includes debt securities issued by non-profit institutions serving households.
4) Commercial banks, savings institutions and credit unions.
5) Loans from government-sponsored enterprises (GSEs) and from agency and GSE-backed mortgage pools.
6) Loans from private issuers of asset-backed securities.

60 See Box 1 for a more in-depth analysis of data for euro area countries.

A key issue is the treatment of securitised loans and the prevalence of the OTD banking model. In the United States, loans originated by banks and subsequently securitised are categorised as loans from government sponsored enterprises (GSEs, see below) and private issuers of asset backed securities. In the United Kingdom and the euro area, securitised loans, if they are derecognised from banks' balance sheets, are categorised as "loans from non-MFIs". Securitised loans which have been removed from banks' balance sheets account for a significantly larger proportion of household financing in the United States and the United Kingdom. In this context, differing accounting frameworks for the treatment of securitised loans on MFI balance sheets must be taken into account. While there are considerable differences as regards the use of true-sale or synthetic securitisation and the ability to derecognise loans from the balance sheet in the euro area, accounting rules in the United Kingdom and the United States make it easier, on average, to remove securitised loans from the balance sheets of banks.

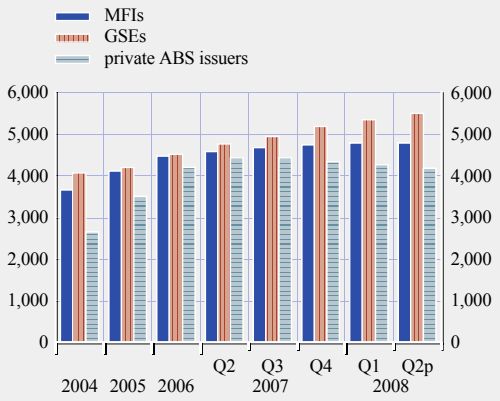
Taking into account the various structural and accounting differences across the three regions, the role of bank loans in total household financing is far larger when one focuses upon loan origination statistics, rather than on balance sheet statistics. Within this context, the role of bank loans is broadly similar in the euro area and the United Kingdom, and somewhat less so in the United States. In the euro area, loans originated by MFIs accounted for about 90% of total household financing. In the United Kingdom, the series on "MFI loans excluding the effects of securitisation" in Chart 29b represents both loans retained and securitised by MFIs and accounted for 75% of total UK household financing. In a similar fashion, the bank loans category is understated in the United States. However, no meaningful loan origination figure can be estimated because part of the loans issued by ABS issuers was originated by entities considered part of the non-MFI sector.

The key role of GSEs in the mortgage financing system is a feature specific to the United States. These institutions were created for the purpose of enhancing the availability of and reducing the cost of credit to target sectors of the economy, with Fannie Mae and Freddie Mac responsible for home finance. The enhancement of the credit supply stems from an implicit government guarantee[61] that allows the agencies to enjoy a lower cost of capital in order to fund their activities, which involve purchasing, guaranteeing and securitising mortgages. In terms of amounts outstanding, GSEs represent the main holders of mortgage debt, followed by banks. However, private mortgage providers have considerably increased their market share since 2004 (see Chart 30a). Indeed, between 2004 and the onset of the financial turmoil in the summer of 2007, mortgage holdings by private label providers recorded an impressive growth, amid the surge in sub-prime lending. In parallel, mortgage securitisation proceeded at a rapid pace (see Chart 30b): in 2003, for instance, when origination peaked at about USD 4 trillion, the issuance of mortgage-backed securities (MBSs) by both agencies and non agencies stood at a record level of USD 3 trillion, or a share of 75%. A noteworthy fact is that the growth in private labels' market share roughly coincided with the imposition of regulatory limits on the activity of the GSEs, which started in early 2004. Against the backdrop of protracted housing price appreciation and increasing loan demand, this development opened up new revenue-generating opportunities for competitors. The result was a massive entrance of new players into the market, typically unregulated non-depository institutions, in several cases acting as subsidiaries of investment banks, which ultimately fuelled the growth of the non-conforming segment.

61 Now explicit, given that Fannie Mae and Freddie Mac have been placed under conservatorship.

Chart 30 US mortgage debt outstanding

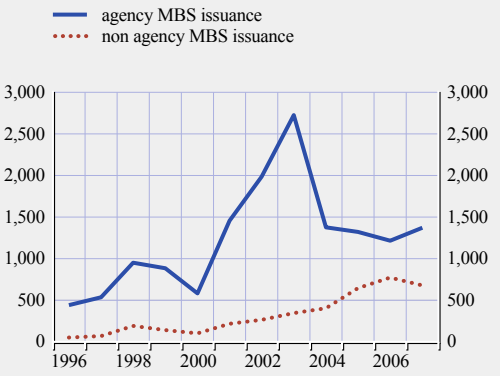
(USD trillions; end of period)



Source: Federal Reserve System.
Notes: MFIs include commercial banks, savings institutions and credit unions. GSEs include mortgages issued by federal agencies and GSE-backed mortgage pools. Private ABS issuers include private mortgage companies, real estate investment trusts, finance companies and individuals.

Chart 31 MBS issuance

(USD trillions; end of period)



Source: Federal Reserve System.

6.4 LENDING RATES ON HOUSING LOANS

Any comparison of mortgage interest rates across the three individual regions is difficult, due to differing financial structures, mortgage practices and regulatory frameworks. Different interest rate levels may also stem from other factors such as the respective monetary policy stance and the business cycle.

Interest rates on variable rate loans for house purchase in the euro area were generally lower than corresponding interest rates in the United Kingdom and the United States. From the beginning of 2003 to the end of 2007, euro area variable rate mortgage interest rates averaged 4%, compared with 4.6% and 5.4% in the United States and the United Kingdom respectively. In terms of longer-term fixed rate mortgages, a similar pattern emerges; interest rates were lower in the euro area than in the United Kingdom and the United States. In addition, the volatility of fixed mortgage interest rates appears to be less pronounced in the euro area than in the United Kingdom and the United States. The average fixed rate from the first quarter of 2003 to the end of 2007 was 5.6% in both the United Kingdom and the United States, while the corresponding rate in the euro area was 4.6%. These figures reflect the different levels of government bond yields over the period. Furthermore, the higher level of interest rates in the United States probably reflects the embedded prepayment option and the widespread recourse to refinancing, which makes mortgage performance more volatile on account of the higher sensitivity to interest rate risk (negative convexity).

The spread between interest rates on loans for house purchase and the relevant benchmark market rates with comparable maturities provides a better measure for the comparison of mortgage interest rate developments, as it eliminates the effects of both the monetary policy stance and business cycle developments. Variable interest rate spreads appear to be generally higher in the euro area than in the United Kingdom. In the United States, the volatility of the spread is considerably higher than in the two other economic areas: for instance, spreads remained extremely subdued between 2005 and the onset of the financial dislocation in 2007, when they started to rapidly drift upwards (see Chart 31a). In relation to longer-term fixed mortgage interest rates, the spread across all three regions

appears to be more volatile (see Chart 31b). Since 2005, the spread in the United Kingdom and the United States has been somewhat higher than in the euro area.

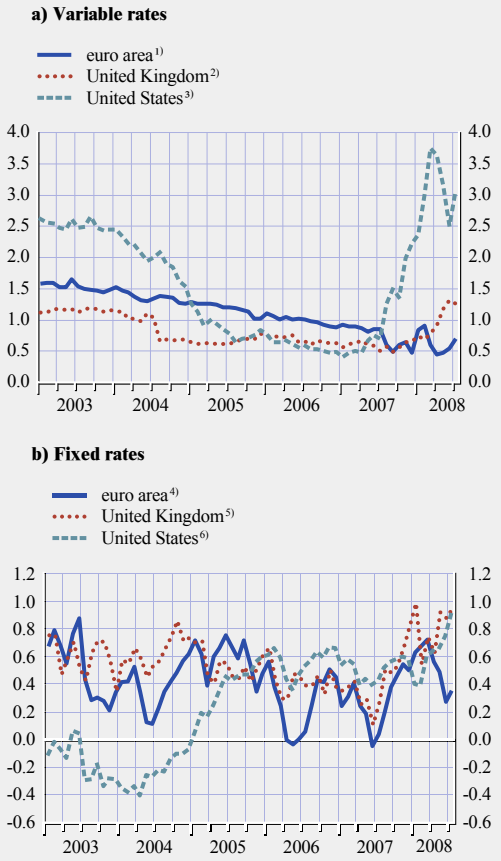
6.5 INSOLVENCY AND FORECLOSURE PROCEDURES

With respect to insolvency and foreclosure procedures, the limited availability of data for several euro area countries and the wide-ranging differences between the legal systems across regions severely hinder an international comparison. Nonetheless, a broad assessment based on predominantly qualitative information can be drawn.

First, the number of personal bankruptcies has generally increased across all three economic areas in recent years. Aside from the effect of opportunistic behaviour of individuals taking advantage of debtor-friendly legislation by filing for bankruptcy in response to financial distress, this trend is mainly due to excessive indebtedness and adverse income shocks.

Second, personal insolvencies remain a less common phenomenon in the euro area than in the United States and, albeit to a lesser extent, the United Kingdom. The ratio of private insolvencies per 100,000 individuals is of a smaller order of magnitude than that estimated for the United States and the United Kingdom. In contrast to what is observed in the latter two countries, a decline in both the growth rate of personal insolvencies and the ratio of mortgage defaults to total mortgages has been observed in the euro area. Information from a sample of countries provides some evidence that this ratio increased marginally in 2007. Although relevant figures are not available for the euro area, general expectations regarding house foreclosures put them at significantly lower levels than in the United States and the United Kingdom. In the United States, approximately 1.3 million houses became subject to foreclosure notices in 2007, representing about 1% of total households, with the ratio jumping to above 4% in some states.

Chart 32 Interest rate spreads on loans for house purchase



Sources: ECB, Federal Reserve System and Bank of England.
1) Spread refers to mortgage interest rates on loans for house purchase with a floating rate of up to one year and an initial fixation period of up to 1 year over the three-month EURIBOR.
2) Spread refers to monthly interest rate of UK resident banks (excluding central bank) and building societies' sterling base rate tracker mortgage to households (not seasonally adjusted) over Bank of England rate.
3) Spread refers to Freddie Mac, Primary Mortgage Market Survey, Treasury-indexed one-year adjustable rate mortgage series over comparable one-year Treasury securities.
4) Spread refers to mortgage interest rates on loans for house purchase with an initial rate fixation of over ten years over the ten-year euro area swap rate.
5) Spread refers to monthly interest rate of UK resident banks (excluding central bank) and building societies' sterling ten-year (LTV ratio of 75%) fixed rate mortgage to households (not seasonally adjusted) over ten-year UK swap rate.
6) Spread refers to Freddie Mac, Primary Mortgage Market Survey, conventional conforming 15-year fixed-rate mortgage series over 15-year US swap rate.

Third, despite ongoing attempts to attain global convergence in the design of consumer bankruptcy regulations, significant variations still exists.[62] In

62 For a comprehensive review of bankruptcy regulation across the globe, see Tabb (2005), Niemi-Kiesiläinen et al. (2003) and Ziegel (1999).

particular, some Anglo-Saxon legal systems contain bankruptcy and insolvency procedures that are relatively lax and friendly for lenders. While legislation in most euro area countries is based on civil law, with a general reliance on (lengthy) judiciary procedures, the orientation in countries governed by common law is more towards non-judiciary settlements. The involvement of courts in civil law jurisdictions considerably increases the duration of the whole procedure. For instance, the average duration required for the completion of a foreclosure procedure in the euro area is close to two years, while it lasts only a few months in the United States and the United Kingdom, and a year in only exceptional cases. Other differences between civil law and common law systems are related to the fact that in the former system, a debtor must first attempt to negotiate with creditors before further action is taken. In the latter system, such actions are usually an exception; only recently has the Bankruptcy Abuse Prevention & Consumer Protection Act (BAPCPA)[63] in the United States made debtor counselling a prerequisite for relief and debt discharge.

As discussed in Chapter 3, borrowers in euro area countries do not generally have major incentives to default on a mortgage, since they remain personally liable for any difference between the value of the property and the amount of the loan. While deficiency judgements are available in principle, the system in the majority of US states tends, in practice, to work as if loans are non-recourse debt. Indeed, as judicial[64] foreclosures tend to be costly in comparison with the recoupable value, lenders obtain repossession via a non-judicial foreclosure process in the majority of cases. Due to this widespread practice, distressed borrowers find it convenient to simply walk away from the mortgage, thus magnifying the effect of negative equity following house price depreciation. Overall, the relative ease of personal bankruptcy, together with the shorter duration of repossession procedures, in the United States is probably contributing to the current sharp increase in mortgage foreclosures and defaults.

6.6 SUMMARY CONSIDERATIONS

While a thorough analysis of the differences between the three economic areas is beyond the scope of this report, this chapter has highlighted differences along several important dimensions.[65] The differences between housing finance in the euro area and that in the United States remain considerable, in spite of the common boom recorded in lending activity over the last few years and despite the diffusion of the OTD model across the Atlantic. The UK system remains in a somewhat intermediate position, sharing features of both systems.

First, households in the euro area display a lower average level of indebtedness. Crucially, the percentage of households with mortgage debt in the lowest quantiles of the income distribution is relatively small, a fact that clearly has favourable consequences from the perspective of resilience to negative shocks.

Second, depository institutions in the euro area continue to play a dominant role in the provision and retention of mortgages. This sharply contrasts with developments in the United States and, albeit to a lesser extent, in the United Kingdom. In particular, the lending boom in the United States was fuelled by the expansion of specialised non-depository lending institutions, primarily responsible for the diffusion of riskier contracts among lower-income borrowers. The penetration of the OTD model in the United States also remains unrivalled. Despite considerable heterogeneity across euro area countries, the share of securitised mortgages is far smaller, even

63 This act was introduced, after a record number of personal insolvencies in previous years, on 17 October 2005, with the aim of limiting opportunistic behaviour. Under BAPCPA, private individuals have to subject their financial situation to closer scrutiny, making it more difficult for financially distressed borrowers to qualify for relief.

64 A judicial foreclosure is processed by a court action. By contrast, the non-judicial process of foreclosure is used when a power-of-sale clause exists in a mortgage or deed of trust. A "power-of-sale" clause is a clause in a deed of trust or mortgage, with which the borrower pre-authorises the sale of the property to pay off the balance on a loan in the event of his/her default.

65 Ellis (2008) provides a detailed analysis of the peculiarities of the US system in a cross-country comparison.

in the countries where the OTD model has spread most. Furthermore, tighter requirements for the derecognition of risks from the balance sheet in the euro area contribute to limiting the perverse effects on risk-taking and lending standards [66] that have been associated with the unregulated diffusion of the model. Interestingly, the lending boom in the United States has coincided with the imposition of limits on the activity of GSEs, which triggered increased competition from new entrants. For instance, investment banks entered the market via the acquisition of lending subsidiaries, thus probably contributing to the observed major easing in lending standards, the degree of which does not seem to have an analogous counterpart in the euro area and has one only to a limited extent in the United Kingdom. While new atypical contracts have been introduced and LTV ratios have increased elsewhere, there is no evidence outside the United States of a clearly identifiable and large sub-prime segment, characterised by LTV ratios of close to or above 100%, no-documentation/self-certified income loans and negative amortisation contracts. The prevalence of second-lien contracts, either at inception or at later stages as home equity loans,[67] is limited to the United States, together with the practice of silent second liens, namely second mortgages whose existence is ignored by the originator of the first lien. Furthermore, as shown by Gorton (2007), the economic rationale behind typical non-conforming adjustable rate mortgages hinged on the possibility of frequent refinancing, an event in turn intimately connected to the continuation of house price appreciation. Ultimately, the combination of all these features maximised the probability that a significant number of households would end up with negative equity, thereby contributing to rendering the US system extremely vulnerable to both interest rate hikes and declines in house prices.

Third, the personal bankruptcy framework and the efficiency of the non-judiciary foreclosure process in the United States played an auxiliary role in precipitating the correction triggered by the end of the housing price boom. Available evidence suggests that this mechanism is not at play in the euro area and only to a very limited extent in the United Kingdom, reflecting the personal liability for the loans and the longer period of time required for judiciary foreclosure.

66 See Keys at al. (2008) for some early evidence of the perverse interplay between securitisation and lending standards.

67 Home equity loans, which include mortgage equity withdrawal (MEW) loans, had increased sharply in the United States in recent years. They accounted for about 15% of total mortgage origination in 2007, up from less than 6% in 2003. By contrast, home equity loans have very limited diffusion in the euro area, as discussed in Section 3.2.6.

7 HOUSING FINANCE AND MONETARY POLICY

The institutions, mechanisms and instruments with which housing finance is provided affect the reaction of the economy to shocks, including interest rate changes. Many studies (e.g. CGFS (2006), ECB (2008b), IMF (2008a) and Mishkin (2008)) have investigated the consequences of recent changes in housing finance for monetary policy. This chapter presents the main findings of the literature, building on the analysis in the previous chapters, in relation to the particular context of countries belonging to the euro area. It also takes a look at the impact of house price movements, given their increased role in the transmission of monetary policy and their relation to mortgage finance.

As mortgage debt accounts for around 70% of euro area households' total liabilities, conditions in mortgage markets are an essential component of the transmission of monetary policy shocks. An increase in official interest rates is typically transmitted to interest rates applied on new mortgages (*interest rate channel*). For existing mortgage borrowers, the increased interest rates may curb possibilities for refinancing and, to the extent that rates on existing contracts are variable, boost their debt burden.

A tightening of monetary policy also reduces the supply of loans (*credit channel*) by worsening the financial position of borrowers, by reducing collateral value and by weakening the willingness and, ultimately, the ability of lenders to extend credit. This can imply the inclusion of a higher risk premium in mortgage interest rates and/or quantitative constraints. In any event, an additional impact on the spending decisions of credit-constrained households is likely.

The evolution of housing finance markets in the euro area, documented in previous chapters, has affected the operation of the monetary transmission channels. The last decade has seen a trend towards more market-based systems of housing finance, while mortgage financing has also become more international, especially as regards its funding. In principle, some developments (greater competition, improvements in risk management tools and financial innovations on the asset and liability sides) may have led to a more efficient financial intermediation, a reduction of the gap between the cost for borrowers and the return for savers, and a wider availability of mortgage finance for different purposes. These developments would imply fewer liquidity-constrained agents and a higher sustainable equilibrium level of debt-to-income for the whole economy. To the extent that this rests on the collateral value of assets, it also implies a greater role for asset prices in the transmission process.

The effects on the efficacy of monetary policy transmission are theoretically ambiguous, and are likely to be asymmetric. In the case of an interest rate increase, the greater efficiency and diversity of loan supply may help households absorb the impact of the interest rate changes on their disposable income (e.g. through grace periods in mortgage repayments and through maturity extensions). In addition, banks may be in a better position to isolate their loan supply from movements in their deposit base (Bernanke (2007)). At the same time, however, more debt means that households are more vulnerable to potential credit supply constraints, pointing to a stronger role of the monetary transmission channel. However, the exact response greatly depends on how creditors assess the financial vulnerability of borrowers, and on the financial position of banks themselves. Therefore, monetary policy effects are not independent of the particular situation, such as the conditions on the international financial markets, at each moment in time.

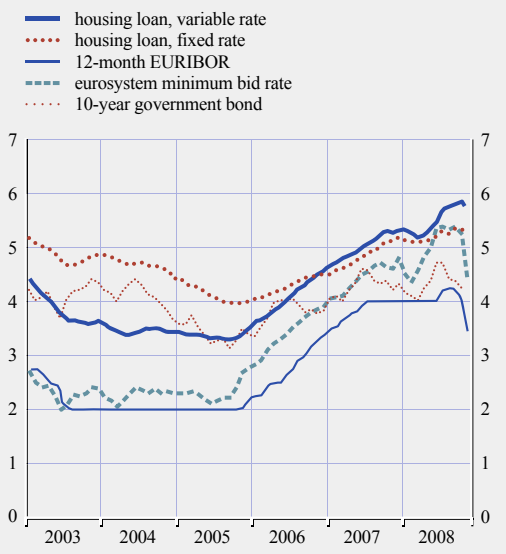
As documented in Section 2.2, the level of households' indebtedness in the euro area has increased over the past decade. This has made households more vulnerable and may result in monetary policy shocks having more marked effects through their impact on disposable income and, hence, consumption. On the other hand, longer debt maturities (in comparison with the 1980s) and a lower debt-servicing burden may have the opposite effect. The distribution

of debt may also be important as the propensity to spend current disposable income is highest for households with lower incomes and as financing has only recently been extended to these households – albeit to a limited extent – in the wake of greater efficiency and competition in financial intermediation.[68] On this measure, cross-country differences within the euro area remain large, and both permanent and transitory changes need to be distinguished as well.

The mortgage loan characteristics surveyed in Chapter 3 can also have important effects on monetary policy transmission, and cross-country differences in these characteristics translate into heterogeneity in transmission. In particular, a higher share of variable rate loans means a faster transmission of monetary policy shocks to households' disposable income. The liberalisation of credit markets raised consumption-to-income ratios by increasing the collateral value of housing wealth, which increases the size of housing wealth effects.[69] This could increase that part of the impact of interest rate changes on aggregate demand that is brought about by changes in house prices and consumption, rather than by investment. Also, as households are generally considered to be more prone to being surprised by interest rate movements than banks, monetary policy could have a greater impact – both in stimulating and in restricting domestic spending – in countries with a higher proportion of variable rate loans.

On the other hand, banks in these countries often adapt loan characteristics to the evolution of interest rates and to the solvency conditions of the borrower, which reduces the extent to which intervention rates are transmitted to the real economy. Moreover, some loans contain options for the borrower to increase the maturity and/or the amount borrowed in the event of financial problems, while caps are placed on variations in interest rates in a few euro area countries, which can also limit or delay the impact of monetary policy changes (see Section 3.2.1). The extension of mortgage loan products with greater embedded flexibility implies that more borrowers can cushion their disposable income from monetary policy shocks. Renegotiating the conditions of the loan – or repaying it early and replacing it with a new one – can have the same results, although possibly at a higher cost (see Section 3.2.5).

Chart 33 Development of interest rates from 2003 to 2008



Source: ECB.
Note: Housing loan, variable-rate gives the average interest rate on loans for house purchase with maturity of up to one year, while housing loan, fixed rate gives that on loans for house purchase with a maturity of over ten years.

By way of illustration, Chart 33 shows that higher official interest rates – together with the virtual standstill of the interbank market after the summer of 2008 – have driven variable rate loan interest rates to levels above those of fixed rates since the end of 2006. Between end-2005 and July 2008, average mortgage costs increased by more than 200 basis points in Spain, Finland, Italy and Portugal, where variable rates are prevalent, while the rise was less than 150 basis points in Belgium, Germany, and France. After July 2008, monetary policy interest rates started to decrease.

68 However, the scant evidence available on this latter aspect does not point to this having occurred in the euro area (see Box 1).
69 According to Muellbauer (2008), house price changes now have greater effects on household consumption than changes in stock prices.

Most mortgage loans (70-80%) are granted for the acquisition of the main home for owner occupation (Section 3.2.6), but new products (mortgage equity withdrawals, reverse mortgages, etc.) have developed, making housing wealth more liquid and potentially resulting in generally higher wealth effects of interest rate movements. Again, differences across countries are important as the wealth effects of interest rate movements are generally higher in countries with a greater availability of these alternative instruments. However, the recourse to mortgage equity withdrawal in euro area countries is still limited in comparison with the United States.

Finally, new funding sources for banks, higher liquidity in the markets and lower regulation have contributed to lower financing costs and greater diversification, helping to increase the loan supply. Part of this development can be explained by investors' search for yield in the context of low interest rates and excessively optimistic expectations. As mentioned in Section 4.5, it is still too early to see what the future of some alternative sources of funding (e.g., securitisation) will look like. Less reliance on local deposit bases would increase banks' flexibility to respond to different shocks, but in the absence of an equivalent to the regulation/safety net existing for depositors, it would make their supply more dependent on risk perceptions by investors. At least in the short to medium term, there is likely to be shift in the funding structure of banks towards more traditional and less volatile sources of funds.

It is difficult to completely assess the empirical relevance of all changes in housing finance in the euro area. As already mentioned, some factors point towards an increasing effect of monetary policy impulses (for instance, the higher levels of debt, the importance of variable rate loans and greater competition), while others suggest the opposite (such as lower liquidity constraints). In line with this, empirical papers often come to conflicting results. Some papers appear to confirm a reduced monetary policy effect in the United States due to financial innovations (Dynan et al. (2006), Peek and Wilcox (2006) and Kuttner and Mosser (2002)). In the euro area, Altunbas et al. (2007) find that, prior to the recent crisis, the response of banks' loan growth to interest rate movements tended to be the lesser the higher their use of securitisation funding. However, other papers point in the opposite direction (Muellbauer (2007), Iacoviello and Minetti (2003), Goodhart and Hofmann (2008) and IMF (2008a)). Several studies point towards a stronger pass-through of monetary policy rates to market interest rates because of increased competition (de Bondt (2005), Gropp et al. (2007) and Van Leuvensteijn et al. (2008)). Weber et al. (2008) argue that it is very difficult to assess the specific impact of each of the different changes that have taken place simultaneously, and that it is thus better to focus on the overall picture. Proceeding accordingly, they find that, apart from what occurred in a transitional period from around 1996 to 1999, the monetary policy transmission mechanism in the euro area has not changed significantly over the past decades. Calza et al. (2007) and IMF (2008a) find that monetary policy effects tend to be higher in countries with more developed mortgage markets, although the evidence is not always statistically significant.

Overall, therefore, given some opposing effects, the analysis does not allow firm conclusions to be drawn on the effects on monetary policy transmission. As explained above, however, a greater asymmetry in monetary policy effects is not unlikely. During periods of economic growth and positive expectations, the ability of monetary policy to moderate the expansion would have become reduced as a result of the greater flexibility of mortgage funding. The opposite would occur if interest rates increase once agents in the economy start thinking that the observed leverage could be excessive.

Developments in the system of housing finance may also have an impact on the transmission of exogenous house price shocks. House prices affect economic activity, in particular consumption expenditure and residential investment, through several channels. First,

house prices are a key driver of housing wealth, which makes up the bulk of total assets for most households and which affects spending. Second, housing wealth has an important indirect effect on consumption since, through collateral constraints, an increase in house prices provides access to additional credit and makes it possible to spend more. Low transaction costs, which determine how easily housing wealth can be transformed into spendable resources, increase the real effects of house price movements. Economies with a more extensive provision of loans to less creditworthy households can also be more responsive and vulnerable to house price shocks. The wider availability of mortgage equity withdrawal in countries such as the United Kingdom and the United States contributes to stronger housing wealth effects on consumption than in the euro area (see, for instance, Slacalek (2006) and IMF (2008a)).

The reaction of economic activity can be disproportionate in times of turmoil when large negative shocks to house prices and income may accumulate. Particularly pessimistic expectations about house price developments may arise in such periods, coupled with uncertainty about the length and severity of the crisis. Furthermore, house price falls often coincide with weak income developments, making adverse shocks particularly painful. The combination of adverse house price and income shocks may increase the number of households with mortgage payment problems. As a result, banks may themselves encounter financial difficulties and decide to restrict the credit supply, aggravating the economic downturn further. Finally, house price booms often, though not always, end in a bust (see Box 5). It is likely that such vigorous house price dynamics are an important cause of higher household indebtedness.[70] House price busts can be especially painful for these households as they have less funds available to buffer the shocks.[71] While cross-country evidence on the economic effects of large house price shocks is limited, these considerations suggest that housing and macroeconomic developments will be more closely linked in those euro area countries that have a higher level of household indebtedness and that are experiencing house price booms.

By amplifying the pro-cyclicality of credit conditions, the above-mentioned developments in housing finance may increase the possibility of longer and more pronounced boom-bust periods, driven by the effect self-fulfilling expectations have on house prices and on a pro-cyclical behaviour of risk perceptions, leverage and LTV ratios. According to IMF (2008b) and Gai et al. (2008), higher levels of financial development may make financial crises less likely, but potentially more severe, than in the past.

Against this background, several important challenges arise with respect to the design of monetary policy, as has also been highlighted by the recent financial crisis, namely how monetary policy can best be conducted to minimise the risks of a pro-cyclical credit behaviour; is "leaning against the wind" desirable in the event of growing financial imbalances; what is the optimal monetary policy reaction in the case of financial distress and house price busts; and, more generally, how can a symmetric monetary policy reaction to booms and busts be ensured. While the large and growing body of literature on these issues has generally not yet reached a consensus, there is increasing evidence in support of a close link between monetary and credit aggregates, on the one hand, and house prices, on the other (see, for instance, Detken and Smets (2004)). In line with the ECB's monetary policy strategy, a continuous monitoring of all relevant information, including that gained from monetary and credit analysis, is essential.

70 Consumers may borrow more because they need more resources to pay for mortgages and because they often expect house prices to continue to increase in future.

71 See, for instance, Carroll and Dunn (1997) and Dynan and Kohn (2007).

Box 5

EXPERIENCES OF BOOMS AND BUSTS

Following a period of continuous and significant growth since the mid-1990s, house prices in a number of euro area countries have begun to level off or even decline. A natural question is what insight can be gained from past experience of house price booms and busts in different countries. According to various cross-country studies (IMF (2003), OECD (2006) and ECB (2003)) large real house price increases that are sustained over a number of years tend to be followed by fairly steep declines that reverse a significant proportion of the preceding appreciation. Given the importance of house price fluctuations for housing finance conditions, this box reviews the results of these studies and applies their methods to euro area nominal house price data.

Review of cross-country studies on real house prices

Using a variant of the Bry-Boschan methodology, OECD (2006) examines real house price cycles in 17 OECD countries in the period from 1970 to 2004 and finds that two-thirds of the real house price booms ended in busts through which 33% to 100% of the increase enjoyed during the boom was lost. Using a similar approach, IMF (2003) investigates 14 OECD countries over the period from 1970 to 2002 and concludes that 40% of all housing booms were followed by busts that lasted, on average, four years, with house prices decreasing by, on average, 30%. ECB (2003) defines booms (busts) as continuous periods of growth (decline) in the order of at least 10% per annum. The study analyses developments in real house prices in EU countries in the period from 1980 to 2001 and reports that busts followed 55% of the booms, and that all booms were followed by low economic growth and negative real house price growth of, on average, 3% per annum.

Analysis of euro area nominal house prices

While these studies examine real house prices, based on the notion that real returns matter for investment decisions, it could be argued that nominal prices are more relevant for households

Average annual real and nominal growth rates of house prices for euro area sample [1)]

Source: BIS.
Notes:
1) Sample includes Germany, Ireland, Spain, France, Italy, Netherlands, Austria and Finland. Sample is weighted according to GDP (weights are constant prior to 1990) .

Growth rates of real and nominal house prices

(Q1 1970 to Q2 2008)

	Real	Nominal
Number of Booms*)	22	13
Length of Booms*)	4 years	12 years
Price increase over the boom	35%	267%
Share of booms ending in busts	50%	18%
Length of Bust	5 years	4 years
Price decline during bust	18%	37%
Share of appreciation lost in bust	100%	45%

Sources: Based on median estimates. OECD methodology applied to real and nominal BIS house price data for eight euro area countries (Germany, Ireland, Spain, France, Italy, the Netherlands, Austria and Finland).
*) Booms that had not yet peaked were not included.

and banks in assessing, for instance, whether there is negative equity (i.e. the value of the loan exceeds that of the house) in the event of a borrower default. The table assesses booms and busts in terms of both real and nominal house prices for eight euro area countries (Germany, Ireland, Spain, France, Italy, the Netherlands, Austria and Finland), using BIS quarterly house price data for the period from the first quarter of 1970 to the second quarter of 2008. To replicate the OECD's and IMF's analyses, a variant of the Bry-Boschan cycle-dating methodology was applied to the data. In contrast to real house prices, the majority of the nominal house price booms were not followed by a collapse of house prices (see the chart): the analysis identifies 11 nominal booms, of which only two were followed by busts. The median nominal bust lasted, on average, four years and the median decline of 35% was relatively small in comparison with the median appreciation of 267%.

Implications for households and banks

The analysis suggests that, while most booms are not followed by busts, all nominal house price busts follow substantial house price appreciation. Therefore, one might expect that the majority of borrowers would have sufficient equity cushions to protect them from a sharp decline. The borrowers most at risk of negative equity are those who purchase close to the peak and those who have high loan-to-value (LTV) ratios. Banks experience difficulties if there is a combination of negative equity and borrower default. Chapter 2 indicates that, despite significant increases in house prices and LTV ratios, the average debt servicing burden decreased up to 2004. Box 1 analyses household survey data and finds that debt-to-service ratios vary between 14% and 21%. The most vulnerable groups are those in the lowest income quartile, where interest and principal repayments account for a third of income in some countries. However, participation in the mortgage market is quite low for this income group.

A key feature of the boom-bust analysis is that they are normally a national phenomenon. Therefore, national regulatory and fiscal institutions have an important role to play in limiting house price volatility. A report by the G10 Contact Group on Asset Prices (2002) finds that fiscal and regulatory polices exerted a significant influence on house price booms and busts. The report suggests that inadequate regulation and abrupt fiscal policy changes exacerbated and in some cases initiated excessive house price movements. The evidence indicates that high marginal taxes, interest deductibility and lax supervision of financial institutions, often combined with strong economic growth and high inflation, produced surges in credit and asset price growth. When some or a combination of these conditions were changed abruptly, often due to policy intervention, the result was a bust in house prices.

ANNEXES

I DATA, SOURCES AND DEFINITIONS

Loans for house purchase and interest rates: Data collected within the framework of MFI balance sheet statistics include outstanding amounts of loans to households for house purchase. The MFI balance sheet statistics are compiled on the basis of Regulation ECB/2001/13[72] (BSI Regulation), which defines loans to households for house purchase as "credit extended for the purpose of investing in housing, including building and home improvements […] Lending for house purchases comprises loans secured on residential property that are used for the purpose of house purchase and, where identifiable, other loans for house purchases made on a personal basis or secured against other forms of assets."

The MFI interest rate statistics (which are compiled on the basis of Regulation ECB/2001/18[73] – MIR Regulation) on loans to households for house purchase refer to the same definition, as laid down for the MFI balance sheet statistics. Accordingly, the MFI interest rates on loans to households for house purchase cover secured and unsecured loans to households for house purchases, without any distinction between them.

MFI interest rates are collected for new business and for outstanding amounts. The latter are broken down by original maturity in accordance with the MFI balance sheet statistics and include bank overdrafts, where applicable. In the case of MFI interest rates on new lending business to households for house purchase, bank overdrafts are excluded. Furthermore, rates on new lending business are broken down by initial period of interest rate fixation.[74]

Households: The household sector in MFI balance sheet and MFI interest rate statistics is defined in accordance with the European System of Accounts 1995 (ESA 95). The household sector comprises individuals or groups of individuals acting as (i) consumers, (ii) producers of goods and non-financial services exclusively for their own final consumption and (iii) small-scale market producers (such as sole proprietorships and partnerships without independent legal status, usually drawing on own labour and financial resources). For the purposes of MFI balance sheet and MFI interest rate statistics, non-profit institutions serving households are included in the household sector.[75] These comprise institutions principally engaged in the production of non-market goods and services intended for particular groups of households.

Household survey: The household surveys used for Box 1 ("Distribution of mortgage debt across the population: indications from national household surveys") are the Income and Expenditure Survey of the Federal Statistical Office (2003) for Germany; the Household Budget Survey (1995, 2000 and 2005) of the Central Statistics Office for Ireland; the Bank of Greece Survey on Greek Households (2007) for Greece; the Bank of Spain Survey of Household Finances (2002 and 2005) for Spain; *l'Enquete sur le patrimonies de l'Insee* (2003-2004) for France; the Bank of Italy Survey of Household Income and Wealth (1995, 2000 and 2006) for Italy; the Dutch Central Bank Household Survey (2007) for the Netherlands; and the National Statistical Office and Central Bank Household Wealth Survey

72 Regulation ECB/2001/13 of 22 November 2001 concerning the consolidated balance sheet of the monetary financial institutions sector (OJ L 333, 17.12.2001, p. 1, as amended).

73 Regulation ECB/2001/18 of 20 December 2001 concerning statistics on interest rates applied by monetary financial institutions to deposits and loans vis-à-vis households and non-financial corporations (OJ L 10, 12.1.2002, p. 24, as amended).

74 The ECB is preparing an update of Regulations ECB/2001/13 and ECB/2001/18. The intention is to collect additional monthly information on the outstanding amounts of loans for house purchase that involve real estate collateral, while – as regards securitisation – quarterly information on the loans for house purchase transferred to a SPV and the amounts of these loans previously securitised and currently serviced by the reporting MFI will be included. As to interest rates, information would be collected on the rates and volumes of new loans for house purchase that are collateralised and/or guaranteed.

75 The planned update of the BSI and MIR Regulations provides for the separate reporting of sole proprietors/unincorporated partnerships that are included in the household sector (such as self-employed lawyers, doctors, architects, small-scale businesses, etc.).

(2006) for Portugal. Mortgages are loans for purchasing and renovating houses; mortgages related to business activity are excluded; for Italy, debt service can be calculated only for mortgages connected to the primary residence; for Spain, only mortgages on the main residence are considered, although the debt service is calculated for all types of debt taken up for personal and business reasons. The definition of household income is not completely homogeneous across countries, due to data constraints. For Greece and Italy, income is net of taxes and financial costs, and includes imputed rents for homeowners; as the denominator of the debt service, income is gross of financial costs; much the same applies to Germany and Portugal, although income is always gross of financial costs; for the Netherlands, income is net of taxes and financial costs, and does not include imputed rents; for Spain, income is gross of taxes and financial costs, and does not include imputed rents. Data are generally cleaned for outliers.

Bank questionnaire: In view of the lack of recent data on some aspects of housing finance, and given the desire to gain some insight into behavioural aspects of providers of loans for house purchase, a questionnaire was sent to a representative panel of banks in the very large majority of euro area Member States. In some cases, the national central banks that set out the questionnaire and selected the banks to reply first adjusted the questionnaire to their specific needs and circumstances. Thus, in cases where information on a certain aspects was already available, for instance because banks had recently already been surveyed on that issue, the relevant question was taken out of the questionnaire for that country. Also, questions in specific countries were taken out if legislation or known information ruled out particular answers. In this way, illogical responses could be avoided and the burden of answering the questionnaire was eased slightly for participating banks. In total, 84 MFIs answered part of, or the entire questionnaire. In sending out the questionnaire to MFIs, it was emphasised that answers should refer to the year 2007, and – if relevant – to the "normal" part of that year before the turmoil set in.

While the number of MFIs selected and the specifically addressed institutions should lead to a representative picture for each country, the results of the questionnaire need to be taken with some caution, especially as one or more MFIs did not answer specific questions in some cases. To arrive at euro area averages, national results were weighted by the respective country's share in the net flow of loans for house purchase in 2007 in cases where the question was related to developments in 2007, and by the respective country's share in the outstanding

Sources of data for securitisation, derecognised/non derecognised loans and covered bonds

	Source of data for securitisation and (non-) derecognised loans	Source of data for covered bonds
Belgium	NCB	n.a.
Germany	Moody's	NCB
Ireland	NCB	European Covered Bond Council
Greece	NCB	n.a.
Spain	NCB	NCB
France	ECB BSI data	European Covered Bond Council
Italy	NCB	n.a.
Cyprus	n.a.	n.a.
Luxembourg	European Securitisation Forum	European Covered Bond Council
Malta	n.a.	n.a.
Netherlands	NCB	NCB
Austria	European Securitisation Forum	NCB
Portugal	NCB	NCB
Slovenia	n.a.	n.a.
Finland	n.a.	European Covered Bond Council

amount of loans for house purchase in 2007 in all other cases.

Sources for characteristics of loans for house purchase and funding: To the extent that data on various characteristics of loans for house purchase and of funding were not taken from the bank questionnaire, they were taken predominantly from the ECB's statistical database (Statistical Data Warehouse), or were collected by NCBs using national sources. Data on securitisations and covered bonds were collected from a variety of sources (see the table).

2 DATA ON DEBT/LOAN DETERMINANTS

Table 5 Growth rate of loans for house purchase

	1999	2000	2001	2002	2003	2004	2005	2006	2007	Average 1999-2007
Belgium	15.1	10.6	1.6	9.6	14.5	11.5	17.0	14.2	10.5	11.5
Germany	13.1	4.0	3.3	2.2	1.7	1.3	1.3	1.7	-0.9	3.0
Ireland	25.9	24.1	17.8	22.8	24.5	30.2	28.1	24.8	13.5	23.4
Greece	25.4	27.1	39.0	35.8	26.3	27.3	36.4	31.6	25.2	30.3
Spain	20.3	21.5	17.2	16.9	21.6	23.7	24.3	20.7	13.1	19.8
France	5.2	6.6	6.3	7.9	9.6	13.7	14.8	14.6	12.7	10.1
Italy	26.6	20.7	11.1	46.8 1)	18.2	19.0	17.7	13.8	12.2	20.3
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	31.6	28.2	29.9
Luxembourg	4.1	22.7	12.2	7.9	17.6	12.6	13.4	13.5	22.9 2)	14.1
Malta	14.9	13.3	20.8	19.7	20.5	21.9	20.8	16.7	13.9	18.0
Netherlands	20.1	24.6	14.7	13.9	12.3	10.7	13.5	9.8	2.5	13.4
Austria	6.7	11.1	12.9	21.5	10.4	20.9	12.0	17.1	6.9	13.2
Portugal	30.1	20.4	13.1	14.7	8.1	13.1	15.8	11.1	9.2	14.9
Slovenia	n.a.	n.a.	n.a.	n.a.	n.a.	43.7	53.8	42.9	36.5	49.6
Finland	15.3	10.6	12.3	13.3	16.4	15.2	16.7	14.1	12.4	14.0
Euro area	**12.2**	**10.4**	**8.2**	**9.9**	**9.4**	**11.0**	**13.4**	**10.0**	**6.8**	**10.4**

Source: ECB.
Notes: Growth rates refer to MFI housing loans corrected for the effect of derecognised loans.
1) In the case of Italy, the 2002 growth rate and the average for the period from 1999 to 2007 are affected by start of the series of derecognised loans in that year.
2) The 2007 loan growth figure for Luxembourg and thus the average for the period from 1999 to 2007 are distorted upwards due to the inclusion of rural banks in the statistics.

Table 6 Growth rate of nominal residential property prices

	1999	2000	2001	2002	2003	2004	2005	2006	2007	Average 1999-2007
Belgium	7.8	7.1	6.2	7.8	7.2	12.0	16.7	11.1	9.2	9.5
Germany	1.4	0.2	0.2	-1.9	-1.2	-1.4	-1.5	0.3	0.3	-0.4
Ireland	18.5	13.9	8.1	8.3	13.4	11.0	10.8	10.6	5.6	11.1
Greece	8.9	10.6	14.4	13.9	5.4	2.3	10.9	12.2	3.6	9.1
Spain	7.7	8.6	9.9	15.7	17.6	17.5	13.9	10.4	5.8	11.9
France	7.1	8.8	7.9	8.3	11.8	15.2	15.2	12.1	6.6	10.3
Italy	0.8	3.9	6.0	12.6	7.2	7.0	8.6	5.8	5.0	6.3
Cyprus	n.a.	n.a.	n.a.	n.a.	8.0	20.0	12.0	10.0	15.0	13.0 1)
Luxembourg	6.4	7.3	11.4	10.9	11.3	14.2	11.5	10.9	n.a.	10.5 2)
Malta	3.2	8.4	5.1	8.7	13.3	20.3	9.8	3.5	1.1	8.2
Netherlands	16.3	18.2	11.1	6.4	3.6	4.3	3.9	4.6	4.2	8.1
Austria	-1.9	-1.2	2.2	0.2	0.3	-2.2	5.1	4.0	4.1	1.2
Portugal	9.0	7.7	5.4	0.6	1.1	0.6	2.3	2.1	1.3	3.3
Slovenia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	8.0	13.9	13.3	11.7 3)
Finland	n.a.	n.a.	-0.5	7.4	6.3	7.3	6.1	7.4	5.9	5.7 4)
Euro area	**4.9**	**6.0**	**5.5**	**6.8**	**6.4**	**7.2**	**7.6**	**6.4**	**4.3**	**6.1**

Sources: ECB and NCBs.
1) Growth rate refers to period from 2003 to 2007.
2) Growth rate refers to period from 1999 to 2006.
3) Growth rate refers to period from 2005 to 2007.
4) Growth rate refers to period from 2001 to 2007.

Table 7 Growth rate of the population

	1999	2000	2001	2002	2003	2004	2005	2006	2007	Average 1999-2007
Belgium	0.19	0.23	0.34	0.48	0.42	0.42	0.55	0.66	0.75	0.48
Germany	0.07	0.12	0.18	0.17	0.05	-0.02	-0.04	-0.12	-0.13	0.03
Ireland	1.09	1.29	1.55	1.75	1.65	1.71	2.20	2.52	2.10	1.85
Greece	n.a.	n.a.	0.30	0.34	0.33	0.35	0.38	0.40	0.21	0.33 [1]
Spain	0.52	0.84	1.14	1.46	1.67	1.64	1.65	1.54	1.83	1.47
France	0.50	0.67	0.71	0.71	0.69	0.65	0.60	0.60	0.60	0.65
Italy	0.02	0.05	0.06	0.31	0.78	0.99	0.74	0.57	0.64	0.52
Cyprus	1.12	1.06	1.08	1.25	1.76	2.35	2.43	1.95	1.94	1.73
Luxembourg	1.41	1.41	0.68	1.06	1.21	1.44	1.55	1.59	1.63	1.32
Malta	0.57	0.64	0.81	0.72	0.64	0.68	0.56	0.81	0.64	0.69
Netherlands	0.67	0.72	0.76	0.65	0.47	0.33	0.25	0.15	0.22	0.44
Austria	0.19	0.24	0.39	0.51	0.42	0.70	0.72	0.59	0.41	0.50
Portugal	0.42	0.53	0.66	0.73	0.70	0.58	0.45	0.33	0.23	0.53
Slovenia	0.07	0.29	0.13	0.15	0.06	0.05	0.18	0.35	0.54	0.22
Finland	0.23	0.21	0.23	0.25	0.23	0.27	0.34	0.40	0.42	0.29
Euro area	**0.29**	**0.39**	**0.47**	**0.57**	**0.63**	**0.64**	**0.59**	**0.52**	**0.56**	**0.55**

Source: ECB.
1) Growth rate refers to period from 2001 to 2007.

Table 8 Selected structural housing indicators

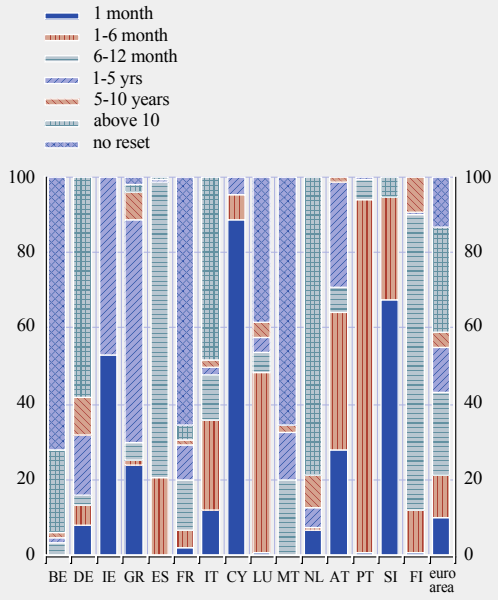
	Number of dwellings per private household		Housing starts per 100 dwellings		Housing completions per 100 dwellings		Rented accommodation (%)	
	1999	Latest	1999	Latest	1999	Latest	1999	Latest
Belgium	1.0	1.0	1.0	1.2	1.0	1.2	31.4	28.7
Germany	1.0	1.0	n.a.	n.a.	1.2	0.6	59.1	58.4
Ireland	1.0	1.0 [2]	n.a.	n.a.	3.9	5.5	17.7	18.0
Greece	n.a.	1.5 [1]	1.6	2.1	n.a.	n.a.	20.4	20.0
Spain	1.5	1.6	2.6	2.4	1.8	2.5	10.6	9.3
France	1.2	1.2	1.1	1.3	n.a.	n.a.	44.5	42.8
Italy	n.a.	1.2	n.a.	1.1	n.a.	1.0	19.8	18.8
Cyprus	1.3	1.3	1.9	4.7	2.2	5.1	10.6	15.1
Luxembourg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	27.7	25.3
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	15.0
Netherlands	1.0	1.0	n.a.	n.a.	1.2	1.1	48.1	43.0
Austria	1.2	1.2	1.2	1.1	1.6	1.1	43.6	39.6
Portugal	1.4	1.4	2.4	1.4	2.2	1.2	22.0	20.8
Slovenia	1.2	1.1	1.0	1.3	0.7	1.0	7.0	6.8
Finland	1.1	1.1	1.4	1.1	1.2	1.3	30.8	31.1
Euro area	**1.1**	**1.1**	**1.2**	**1.3**	**1.1**	**1.0**	**34.9**	**34.1**

Source: ECB.
Notes: Unless specified otherwise, latest country data available: 2002 for AT; 2004 for GR, CY, IT, IE, MT and PT; 2006 for DE, BE and FR; and 2007 for ES, FI, LU, NL and SI.
1) As at 2001.
2) As at 2002.

3 SELECTED BANK QUESTIONNAIRE RESULTS

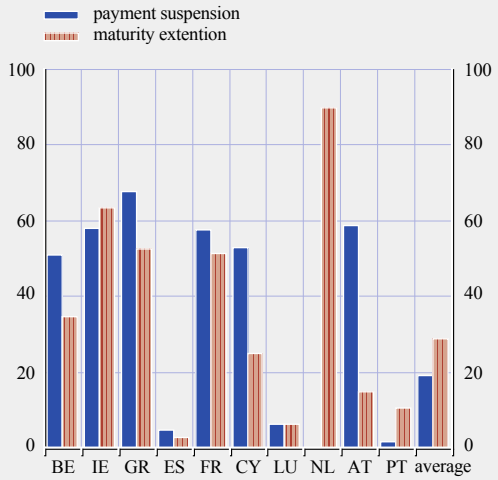
Chart 34 Distribution of housing loans granted in 2007 by interest-rate resetting period

(percentages)



Source: Bank questionnaire.

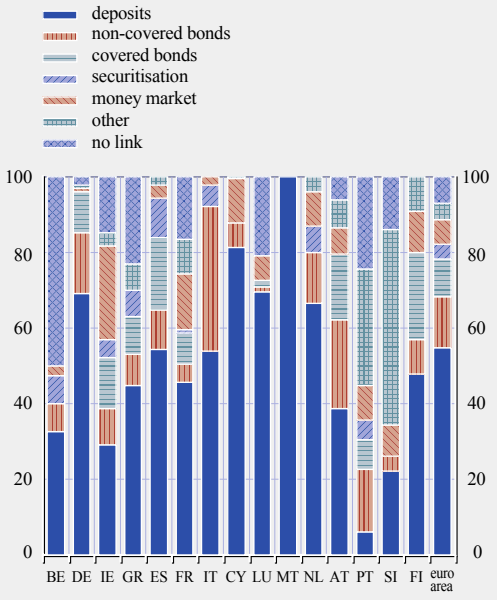
Chart 35 Possibilities for payment relief in the stock of housing loans in 2007



Source: Bank questionnaire.
Note: In the countries not included in the chart, such possibilities are either negligible or the response from the banks was not satisfactory.

Chart 36 Funding sources of banks in 2007

(percentages)



Source: Bank questionnaire.

4 INCOME TAX DEDUCTIBILITY OF MORTGAGE INTEREST PAYMENTS

This annex describes the main features of the deductibility of mortgage interest payments from personal income tax in euro area countries, as prevailing in 2008. It should be noted that interest payments are usually not tax-deductible in Cyprus,[76] Malta and Slovenia.[77]

Belgium: The deduction is equal to €1,990 per taxpayer, with an extra deduction of €660 in the first ten taxable periods. The extra deduction stops when the taxpayer starts owning a second dwelling.

Germany: Mortgage interest is not deductible in the case of owner-occupied housing. Where the property is let, mortgage interest is deductible in the calculation of the rental income received by the taxpayer.

Ireland: Mortgage relief applies to interest paid on a loan used for the purchase, repair, development or improvement of the only, or main, residence of the taxpayer. The maximum qualifying interest in respect of all eligible loans is subject to ceilings, namely in the case of first-time buyers, €16,000 for a jointly assessed couple and in all other cases, €6,000 for a jointly assessed couple. A first-time buyer is entitled to the enhanced ceilings for the first seven tax years. The allowance for all mortgage holders is a tax credit of 20% of the total amount incurred up to the amount of the relevant ceiling.

Greece: A tax credit equal to 20% of the annual mortgage interest on a taxpayer's principal home for housing loans taken out after 1 January 2003 is granted, limited to one principal home of the taxpayer in his/her lifetime. The credit cannot be claimed if the taxpayer or his dependants already own a dwelling of 70 m^2 or more in size, increased by the number of children. If the total area exceeds 120 m^2, the credit is reduced proportionally. The credit can only be claimed for part of loan up to €200,000.

Spain: Owners of a main residence can deduct, from their net tax payable, 15% of the first €9,015 spent, every year, on interest and principal repayments of loans used to finance the acquisition. Before 2007 and if the loan(s) financed more than 50% of the total purchase value, the deduction for the first €4,508 was 25% for the first two years after the acquisition, and 20% for the rest of the life of the loan(s). The 15% rate was applied to the remaining €4,508 in all cases. There is no deduction for secondary residences.

France: For loans extended as of 22 August 2007 for the purchase or construction of the taxpayer's main residence, interest incurred gives rise to a tax credit for the initial five-year period. The tax credit is calculated as 20% (40% for the first year) of the qualifying loan interest. The qualifying interest is limited to €7,500 per couple, increased by €500 p.a. per dependant, so that the maximum annual tax credit per couple is €750 (20% x €7,500), increased by €100 per dependant.

Italy: A tax credit equal to a maximum of 19% of €4,000, i.e. €760 can be deducted for interest expenses related to the main residence.

Luxembourg: Mortgage interest paid by owner-occupiers is tax-deductible up to a ceiling. The yearly ceiling for the tax deduction amounts to €1,500 per person living in the household for the first six years. The deduction is €1,125 for the subsequent five years and €750 for the last year in the case of dwellings occupied 12 years or longer. Mortgage interest is tax-deductible without any ceilings between the time of purchase and the time the owner moves in. Mortgage interest on secondary homes cannot be deducted from tax.

Netherlands: For mortgages on prime residences, the interest is income-deductible for a maximum period of 30 years. A mortgage can

76 However, there is full interest relief in Cyprus for the amount of rent received if the property is rented out.

77 Sources: NCB contributions and International Bureau of Fiscal Documentation (European Tax Handbook 2007).

be increased for maintenance and improvement of an owner-occupied dwelling. The interest on this increase is fully deductible.

Austria: No special rules are in place for mortgage interest, but annuities for repayment and for interest on loans for the construction or renovation of residential buildings are deductible as special expenses.

Portugal: Interest payments on loans for the purchase, construction or refurbishment of the taxpayer's own house in Portugal: credit of 30% limited to €574.

Finland (2006): The creditable amount is increased by 2 percentage points (i.e. to 30%) for that part of losses that relates to the interest paid by the taxpayer for his/her first dwelling. The maximum loss deductible in this manner for a married couple with two children is €3,600.

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