FÉDÉRATION HYPOTHÉCAIRE EUROPÉENNE   EUROPÄISCHER HYPOTHEKENVERBAND   EUROPEAN MORTGAGE FEDERATION

Ave. de la Joyeuse Entrée 14/2 - B-1040 Bruxelles - Tél. +322 285 40 42 - Fax. +322 285 40 31 - E-mail : emfinfo@hypo.org
www.hypo.org

Paper by

Judith Hardt, Secretary General and David Manning, Head of Economic Affairs

European Mortgage Federation

European mortgage markets : structure, funding and future development

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0. INTRODUCTION

European property and mortgage markets are structurally very different for many reasons. Powerful factors are at work bringing about significant changes. These factors include :

deregulation and consolidation ;
the internal market ;
the single currency ;
the e-economy and ;
revised bank capital requirements.

Deregulation of the financial services sector continues at an unequal pace across Europe. Consolidation or cross-border mergers and acquisitions are a more recent feature despite a reluctance on the part of certain governments to liberalise their markets and a desire to encourage national champions.

The achievement of an internal market in the provision of financial services, including mortgage credit, remains an ongoing process as does growth in cross-border business such as commercial property lending. The Commission's latest attempt to achieve an internal market, the 1999 Financial Services Action Plan, has, some would argue, an overly ambitious completion date of 2005.

The introduction of a single currency eighteen months ago has led to increasing integration of both the EURO-11 and the fifteen hitherto autonomous economies. The single currency has major implications for

European property markets and the financial systems which serve them. Property and mortgage markets remain intrinsically domestic, although as we move towards the creation of a deep and liquid single capital market this will change with property portfolios valued in euros across Europe and loan books bought and sold in euros.

Greece will join the third and final stage of EMU on 1st January 2001. And if the Danish electorate vote in favour of the Euro in the 28th September referendum, the most likely date for Denmark's EMU entry is estimated to be 1st January 2002. The accession countries will have to complete all three stages.

The impact of a combination of e-commerce and technology on mortgage lenders and mortgage borrowers looks likely to reconfigure the mortgage credit sector and the way lenders do business.

Since the vast majority of mortgage loans remain on the balance sheets of European lenders the current review of bank capital requirements is of fundamental importance for mortgage lenders.

This paper will therefore seek to:

- highlight the major differences between European mortgage markets ;
- explain the principle funding mechanisms which serve them ;
- examine the potential impact that the factors of change will have on future developments.

1. EUROPEAN MORTGAGE MARKETS

1.1. Mortgage lending has grown substantially over the past decade

Mortgage lending is a growth industry in Europe. The volume of mortgage loans outstanding in the EU and Norway has increased at a remarkable rate, more than doubling in nominal terms over the period 1988-1998, and amounting to around EUR 3 trillion at the end of 1998 which represents 33% of GDP. Mortgage markets however retain strong national characteristics and their economic importance varies from one country to another. The largest markets, in terms of volume outstanding, are Germany, the United Kingdom, France and the Netherlands. The markets that have grown most during the period 1988-1998 are Portugal, Spain, Ireland and the Netherlands. Table 1 illustrates the phenomenal growth of residential mortgage lending over the last decade.

The impressive expansion of European mortgage markets since the late 1980s is the result of a number of factors, of which deregulation in the financial sector and historically low interest rates (as a consequence of preparation for the introduction of the single currency) stand out in particular. This environment has led to intense competition on mortgage markets across Europe and greater affordability of housing, thereby creating favourable conditions for high demand for mortgage loans.

Increased competition, coupled with rapid technological advances, has pushed mortgage lenders to develop new financial products and new methods to market these products to the customer. Product innovation will have to continue to keep up with the needs of increasingly sophisticated and financially astute customers. As the completion of the single currency approaches, euro-denominated mortgage products that can be sold cross borders have emerged. The Internet in particular is seen as a very important distribution channel. As more and more customer gain access to the Internet and become comfortable using it, the growth in its use will be very rapid. Indeed, data from Find, the financial services directory, suggests that personal loans and mortgage loans are the most popular subjects on the Internet since they involve an important financial commitment.

Table 1 - Residential mortgage loans in the European Union and Norway (EUR million, end-of-year EUR exchange rates)

Country	Volume outstanding		% change
	1998	**1988**	**1998/1988**
BE	55 528	24 830	224%
DK (3)	104 823	69 406	151%
DE	1 012 998	451 244	224%
EL	7 037	2 673	263%
ES	122 637	35 951	341%
FR	262 121	184 765	142%
IE (3)	20 888	6 783	308%
IT	81 449	30 719	265%
L U(1)	3 615	3 154	115%
NL	220 537	77 721	284%
AT(2)	9 531	4 461	214%
PT	31 941	5 063	631%
FI	33 765	27 400	123%
SE (3)	98 998	85 507	116%
UK	647 284	345 284	187%
EU-15	**2 713 152**	**1 354 961**	**200%**
NO	54 332	39 082	139%

Notes :

(1) Figures refer to 1997 and 1994.

(2) Figures refer to residential and non-residential mortgage loans.

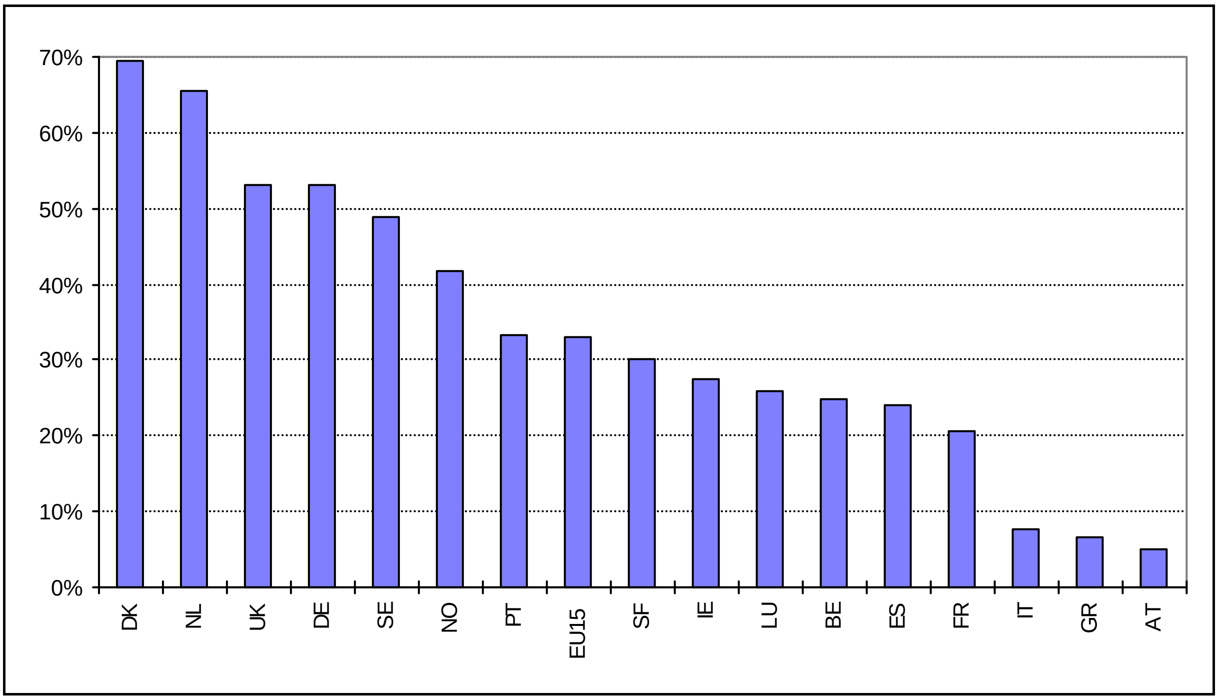
(3) Figures provided for 1988 refer to the closest available year : DK (1992), IRL (1990), S (1990).

Source : European Mortgage Federation and national sources

1.2. European mortgage markets retain strong national characteristics

The dynamic growth of mortgage markets has outpaced the growth of GDP over the same period, thereby increasing its weight in the national economies. However, as Figure 1 shows, the importance of mortgage markets differs widely across the different EU Member States. In Denmark, the Netherlands, the United Kingdom and Germany, the volume of residential mortgage loans outstanding is equivalent to 50% of GDP or more, in contrast to other countries such as Italy, Greece and Austria, where it is equivalent to less than 10%.

Figure 1 - Size of mortgage markets in the economy (loans outstanding as a % of GDP, end-1998)



Source : European Mortgage Federation and national sources, Eurostat (GDP figures)

The large differences in the size of the mortgage markets in the national economy reflect the fact that mortgage markets retain, by and large, strong national characteristics. There are considerable differences across countries due to differences in the types of lenders and consequently also differences in the types of products granted such as the duration of mortgage loans, the type of mortgage interest rate and loan-to-value (LTV) ratios. Some of these differences are illustrated in Table 2 below and are mostly the result of differences in the political and historical environments and in the legal and regulatory frameworks in which mortgage lenders operate.

The typical duration of a mortgage loan can vary between 10 years in some southern countries and as much as 30 years in Denmark or Germany. Different approaches to consumer regulation can result in only a handful of products offered in some countries, compared to over 4,000 products currently on offer in the UK. In certain countries, there is a predominance of fixed rate mortgage products, while in others, variable rates are more common. In certain countries, the introduction of tight consumer protection rules has resulted in mortgage credit becoming increasingly separated from its sources of funding.

For example, complex rules on the variation of mortgage interest in Belgium, which require the change in interest rate to be linked to government bond indices rather than to the true cost of funds for mortgage lending, introduce an interest rate risk. In these circumstances doing business becomes uneconomic and mortgage loans are sold at a loss with a view to recovering profitability on the future provision of other financial services. Rules which limit prepayment penalties charged to consumers by borrowers will also complicate the funding process, and may induce a dangerous situation of mismatching.

Table 2: Typical mortgage products

	UK	DE	ES	FR
Duration of a loan	25 years	25-30 years	10-15 years	15 years
Type of interest rate	reviewable	renegotiable reviewable	+ /- 90% reference	50% reference 50% fixed

The differences across mortgage markets are also the result of differences in the property market (stock of dwellings, housing tenure structure, owner-occupation, private and social rental, financial instruments used to finance the housing sector, etc.) and in the construction industry (number of building permits issued, housing completions, number of transactions, etc.). The general economic situation will also have a direct impact on the mortgage market. When the economy is growing and employment is rising, households increase their demand for housing and for housing finance. Despite economic convergence in Europe, there remain significant differences in the fundamental macroeconomic variables (GDP, unemployment, inflation, etc.) which shape the development of the mortgage markets.

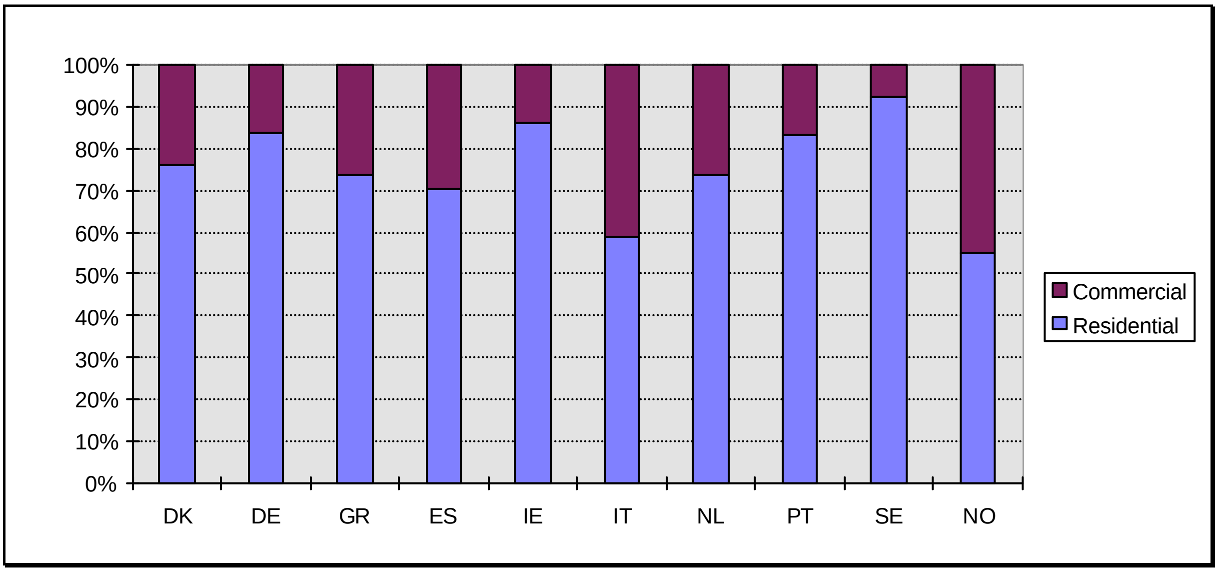
1.3. Mortgage lending for non-residential property

Mortgage lending also finances property investment other than residential. These include offices, retail outlets, industrial premises and, in certain countries, agricultural property. This type of activity represents a relatively important segment of the EU mortgage markets and its share is steadily increasing. The volume of non-residential mortgage loans outstanding amounted to more than EUR 430 billion at the end of 1998 which represents 15% of the total volume of mortgage loans outstanding (residential and non-residential).

Figure 2 below shows however that the significance of non-residential mortgage loans in comparison to their residential counterpart varies widely from one country to another. In Norway, Italy and Spain, non-residential mortgage lending represents 30% or more of total mortgage credit activity. The largest non-residential mortgage lending market is Germany (EUR 200 billion outstanding at the end of 1998), followed by the Netherlands, Italy and Spain.

Overall residential mortgage lending is significantly more important than non-residential mortgage lending. The main reasons are threefold. First, the stock of residential dwellings is higher than the stock of non-residential properties. Second, the recourse to alternative financial instruments is more common for non-residential properties. Third, property investment companies or other private corporations purchasing non-residential properties have liquidity to invest and do not have recourse to mortgage loans.

Figure 2 - Residential and non-residential mortgage lending (% based on volume outstanding, end-1998)



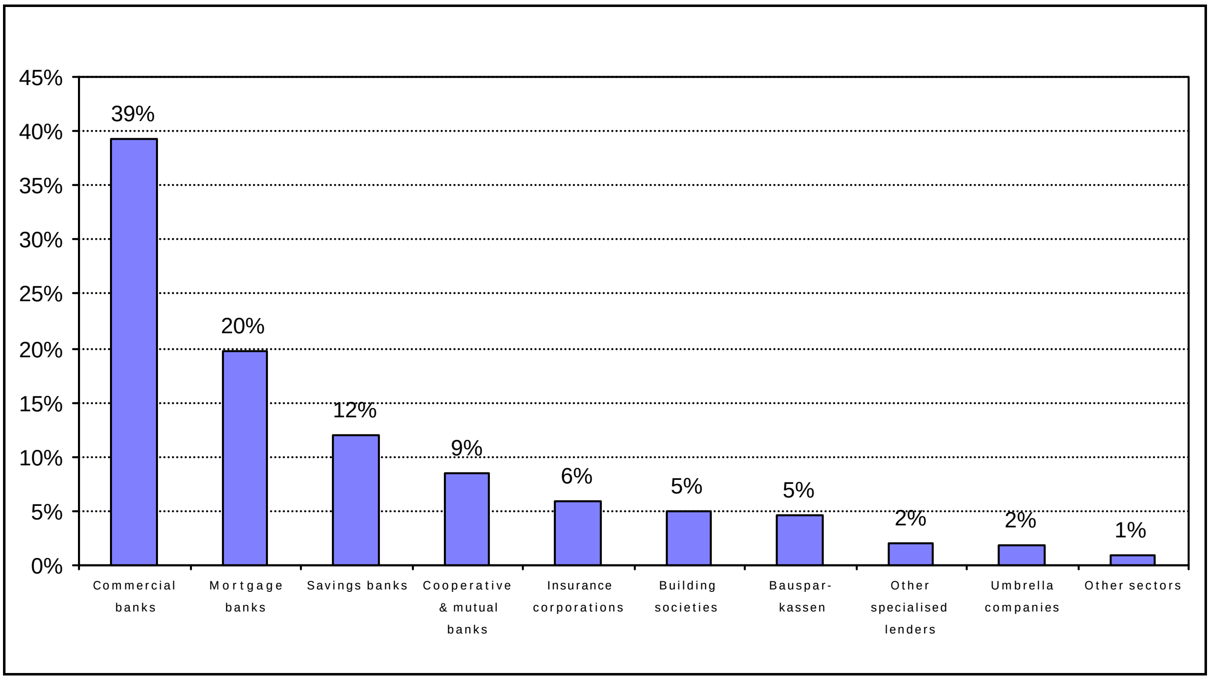
Source : European Mortgage Federation and national sources

1.4. European mortgage lenders

Figure 3 shows that mortgage loans are granted by a large variety of different types of mortgage lenders. They range from specialised credit institutions (mortgage banks, building societies, Bausparkassen and other specialist mortgage lenders) to savings banks, mutual and co-operative banks, and universally-active commercial banks. These types of lenders are Monetary Financial Institutions (MFIs) and together they grant more than 90% of the mortgage loans in the EU.[1] The remaining mortgage loans are granted by non-MFIs which include other financial intermediaries (e.g. umbrella companies established to hold securitised mortgage assets through mortgage-backed securities, generally known as special purpose vehicles), insurance corporations and other sectors.

[1] In 1997, the European Mortgage Federation classified the different types of mortgage lenders according to the ESA95 framework. ESA95 is the European System of national and regional Accounts 1995 which was introduced by a Council Regulation of 25 June 1996. It provides a methodology for common standards, definitions, nomenclatures and accounting rules, intended to be used for compiling accounts and tables to be drawn up on comparable bases for the purposes of the Community. The Regulation is binding in its entirety and directly applicable in all Member States. Mortgage lenders are classified as follows: (i) **Monetary Financial Institutions (MFI)** includes universal/commercial banks (« commercial banks »), mortgage banks/mortgage credit institutions (« mortgage banks »), savings banks, mutual and co-operative banks, building societies, Bausparkassen, other specialised mortgage lenders ; (ii) **other financial intermediaries** (with the exclusion of insurance companies and pension funds) refers to umbrella companies established to hold securitised mortgage assets through mortgage-backed securities, generally known as special purpose vehicle ; (iii) **insurance companies and pension funds** refers to insurance companies; and (iv) **Other sectors.**

Figure 3 - Residential mortgage loans by type of lender (% based on volume outstanding, end-1998)



Note : The category « commercial banks » includes mortgage loans funded by the issuance of mortgage bonds that are granted by the largest "mixed" mortgage bank in Germany.

Source : European Mortgage Federation and national sources

The current composition of the mortgage market share by type of lender has been shaped by the progressive deregulation of financial industries in Europe. Until the 1980s, mortgage activity was dominated by specialist lenders such as mortgage banks and building societies. Each mortgage market tended to be tightly regulated by national authorities because of the danger of mismatching long-term finance with short-term funding. Deregulation has enabled non-specialised lenders to enter the mortgage market and also encouraged specialised lenders to change their legal statute.[2]

As a results of these changes, the category « commercial banks » has been able to increase its share of European mortgage markets. Nevertheless, 60% of mortgage credit is granted by financial institutions whose main activity is the granting of such loans. The largest group within the specialised category are mortgage banks, meaning here specialised credit institutions which fund their mortgage loan portfolio mainly through the issuance of mortgage bonds. Mortgage banks dominate in Denmark and Sweden (90% and 80% market share respectively), and are active in Germany, France, Austria, Finland and the Netherlands.

Building societies operate in the United Kingdom and Ireland. A significant volume of mortgage loans is further granted by credit institutions that, although not required to restrict their activities (and therefore shown under « commercial banks » in figure 3 above), have retained their core business in housing finance. This is

[2] In the UK, for instance, balance sheet restrictions made mortgage lending unattractive to commercial banks until the 1980s. This is not the case anymore and commercial banks have now entered the mortgage market. Furthermore, regulatory changes have encouraged several building societies to convert into commercial banks while maintaining their core business in mortgage lending.

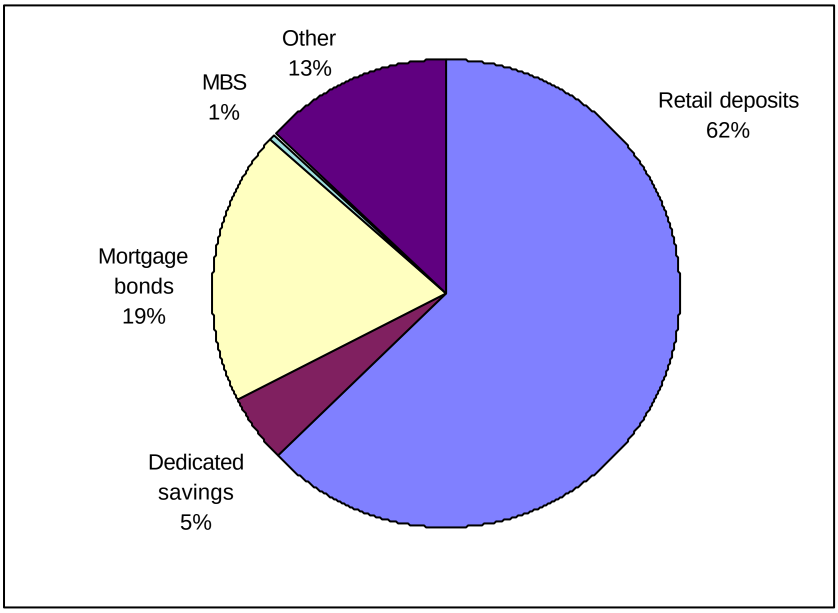
for instance the case of the « mixed » mortgage banks in Germany. *Bausparkassen* are present in Germany (10% of the national market) and Austria (5% of the national market).

2. FUNDING OF MORTGAGE LOANS

2.1. Retail deposits

Mortgage lenders in Europe use a large variety of methods to fund the mortgage loans they grant. The method used depends by and large on the type of mortgage lender and varies considerably from one country to another. The most common source for mortgage loans in the EU are funds obtained via retail deposits in one form or another (deposits with agreed maturity, deposits redeemable at notice or overnight deposits). The EMF estimates that retail deposits fund 62% of the volume of residential mortgage loans outstanding. Other « general » funding instruments will include loans from other MFIs (for instance, a parent company) and bank bonds. Mortgage loans will also rely on the own resources (equity capital) of the lending credit institution and insurance premiums (in the case of insurance corporations). Dedicated savings refers to deposits collected through the Bausparkassen system in Germany and Austria. The various funding methods are illustrated in figure 4. Retail deposits are covered in more detail in Annex I - The Funding of Mortgage Credit.

Figure 4 - Funding methods used in the EU (% based on volumes outstanding, end-1998)

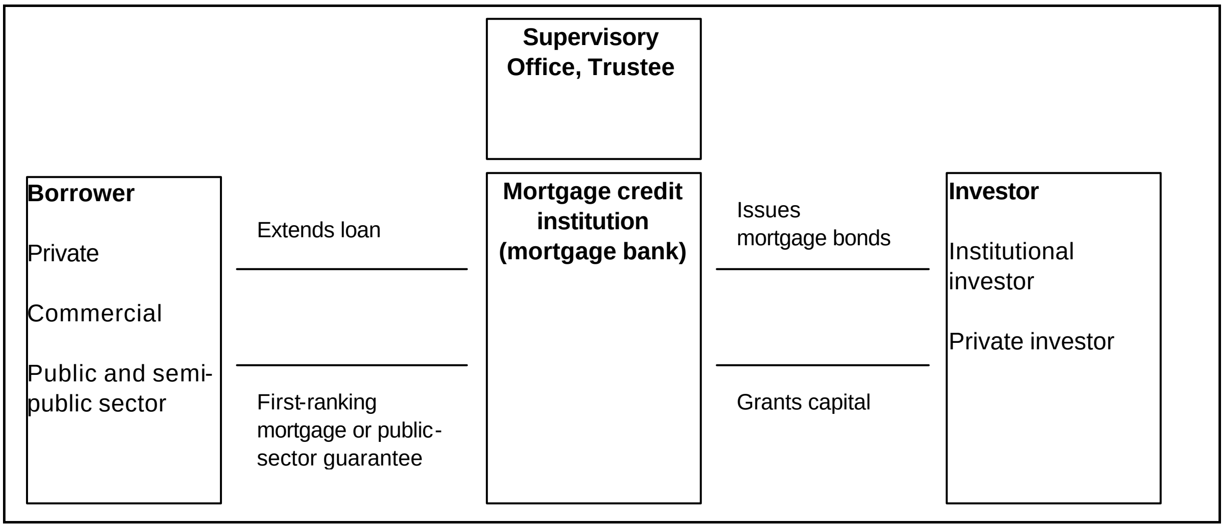


Source : Estimations based on contribution from EMF national members and own calculations

2.2. Mortgage bonds

A mortgage bond is a security giving the holder of the bond a claim against the issuer and enjoying a degree of special security because it is backed by mortgage loans. This additional security significantly reduces the risk to the bondholder and therefore he or she will not require as high a return compared to a similar bond that is not backed by mortgage loans. The issuance of mortgage bonds allows lenders to obtain funding at a reduced borrowing cost in the capital market and it is therefore a cost-efficient method of funding a mortgage loan. Figure 5 illustrates how mortgage bonds function to finance housing.

Figure 5 - Mortgage Bonds



Source : Based on Prof. Dr. Klaus Spremann & Dipl.math.oec. Klaus Kränzlein (1996)

The issuance of mortgage bonds is the second most important type of funding method after retail deposits. The volume of mortgage bonds outstanding in the EU is estimated at EUR 530 billion (end 1999). The volume of mortgage bonds represented around 19% of the volume of residential mortgage loans outstanding (end 1998). At present, three countries share 88% of the overall mortgage bond market. Germany's *« Hypotheken Pfandbriefe »* lead with 44%, followed by Denmark (29%) and Sweden (15%). The German *« Hypotheken Pfandbrief »* market amounting to EUR 236 billion (volume outstanding end 1999) has developed into one of the dominant components of the European fixed-income capital market. In Denmark, mortgage lending by mortgage banks is nearly fully funded through the issue of mortgage bonds. For Sweden, mortgage bonds, representing 70% of total funding, constitute the leading source of financing. Table 3 gives an indication of the importance of mortgage bonds as a funding mechanism for European lenders and capital markets.

Table 3 - European mortgage bond markets (EUR million, outstanding end-1999, end-of-year EUR exchange rate)

Country	Volume outstanding end-1999	% of total
DK	153 118	28,8%
DE (4)	235 797	44,4%
ES(3)	7 771	1,5%
FR	35 216	6,6%
LU(3)	37	0,0%
NL	1 171	0,2%
AT (4)	4 959	0,9%
PT (3)	100	0,0%
FI (3)	1 163	0,2%
SE (2)	80 694	15,2%
NO	10 894	2,1%
Total	**530 883**	

1) The term « mortgage bond » is used here to refer to «*Pfandbriefe* » in Germany and Pfandbrief-style paper issued in EU Member States like, for instance, « obligations foncières » in France, « cédulas hipotecarias » in Spain and others.
2) Refers to mortgage bonds issued on domestic and foreign markets.
3) Figure for end-1998
4) Excludes öffentliche Pfandbriefe

Source : European Mortgage Federation and national sources

Box - What is a mortgage bond ?

Mortgage bonds are essentially secured debt securities issued by mortgage credit institutions and other credit institutions and backed by certain types of assets, usually residential or non-residential mortgage loans, that remain on the balance sheet of the issuer. In a number of EU member states, most notably in Germany and Austria, mortgage bonds are also secured against loans to the public-sector (« öffentlicher Pfandbrief »).

Mortgage bonds were first issued during the 18th century. Despite their long European tradition there is today no common definition. Plans for a draft Directive governing the issuance of securities guaranteed by mortgage at a EU level were abandoned by the European Commission in 1985, following the publication of the White Paper on the Internal Market which put forward the principle of mutual recognition as an alternative to harmonisation. Nevertheless the special character of mortgage bonds has since been enshrined in the 1988 Directive on Undertakings for Collective Investments in Transferable Securities (UCITS). Article 22, paragraph 4 of this directive recognises that the different types of mortgage bond share certain common characteristics. They must : (1) be issued by credit institutions ; (2) be subject to special supervision by public authorities ; (3) have sufficient cover for the liabilities deriving from the bonds ; (4) have a privilege for bond holders in the event of the bankruptcy of the issue.

Mortgage bonds that fulfil these common characteristics must be notified by EU Member States to the European Commission (Article 20). This has been done by Germany, Denmark, Austria, France, Spain and Luxembourg. The same applies to Italian mortgage bonds outstanding. (The Italian mortgage bond, « obbligazione fondiaria », was eliminated in September 1993, without having been replaced by any other specific funding instrument for mortgages.) Mortgage bonds issued in Portugal, the Netherlands, Sweden and Norway do not follow these common characteristics. A mortgage bond law exists in Germany, Denmark, Austria, France, Spain, Luxembourg and Finland and is currently under discussion in Ireland and Belgium. In Greece, mortgage bonds were issued only once in 1989 by the National Bank of Greece that matured in February 1997. Mortgage bonds do not exist in the United Kingdom.

The remaining 12% of the mortgage bond markets in Europe is shared between eight countries. Mortgage bonds are actively used in Austria and constitute the second source of financing in France and Spain (although they represent only 21% and 6% respectively of total mortgage funding well behind deposits). In the Netherlands and Norway mortgage bonds are issued but fund a relatively small part of lending (7% and 1% respectively).

The relative sizes of the mortgage bond markets in Europe are however likely to change in the near future as several countries have taken measures to promote this funding instrument, largely inspired by the success of the *Pfandbrief* in Germany. This has been the case most notably for France, Luxembourg and Finland. The Spanish «*cédula hipotecaria* » was introduced in 1981 by the mortgage market law but its use started to grow only recently. Similar developments are under discussion in Belgium and Ireland. Annex 2 - Mortgage Bonds contains more information on this method of funding.

Table 4 compares the characteristics of mortgage bonds in a number of EU Member States.

Table 4: Comparison between secured mortgage bonds in Europe

	Germany	France	Spain	Luxembourg	Denmark
Name of debt instruments	*Öffentliche Pfandbriefe Hypothekenpfandbriefe*	*Obligations Foncières*	*Cédulas Hipotecarias*	*Lettres de Gage*	*New Realkreditobligationer (i.e. without capital centres)*
Debt instruments issued by	Private mortgage banks and Landesbanken	New mortgage credit institutions "Sociétés de Crédit Foncier" (SCF)	Specialised mortgage lenders, banks, savings banks and credit co-operatives.	Mortgage banks (Banques d'émission de Lettres de gage)	New mortgage credit institutions.
Asset allocation	Cover assets remain on to the SCF but remain maintained in distinct asset pools.	Eligible assets are transferred balance sheet. Consolidated by parent(s).	Cover assets remain on balance sheet but are	Cover assets remain on balance sheet but are maintained in distinct asset pools.	Cover assets remain on balance sheet.
Permitted business activities/eligible assets	Mainly public sector, and residential and commercial mortgage lending mainly in Germany; some "ancillary" activities	Only public sector, residential and commercial mortgage, and guaranteed loans originated within the EEA as well as units of French debt mutual funds.	No restrictions.	Mainly public sector, and residential and commercial mortgage lending within the OECD; some "secondary" activities.	All types of mortgage lending; some "ancillary" activities.
Replacement assets • as a percentage of eligible assets	Up to 10%	Up to 20% (up to 30% with special approval from the regulator).	Not applicable, since there are no asset restrictions;	Up to 20%.	Replacement assets are not allowed.
Foreign assets	Up to 10% of the mortgage another country of the EU or a contracting state to the Agreement on the European Economic Area or in Switzerland. Real estate loans in other OECD countries in Europe must not exceed the bank's capital.	From every EEA country. In contrast to the German law, lending to Central and Eastern Europe is prohibited.	Presently not contemplated.	From every OECD country.	No limitations.
Maximum loan-to-value thresholds	60% but can go up to 80%. 93% for social housing loans.	• 60% LTV for commercial real estate, • 60%-80% LTV for residential housing (up to 80% provided that the portion of the loan >60% is financed by non-privileged debt).	• 70% LTV for mortgage loans: • 80% LTV for housing mortgage loans.	60% of the "estimated realisable value" of the property acting as collateral.	• 80% LTV for residential real estate mortgage loans. • 60% LTV for industrial and commercial real estate. • 70% LTV for agricultural mortgage loans.
Special supervision	The regulator, the and an independent trustee.	The regulator, the Commission Bancaire, and a special supervisor.	The regulator, the Bank of Spain.	The regulator, the Central Bank of Luxembourg, and a special supervisor.	The regulator, The Finansalsynet

Source : Moody's Investors Service - European Secured Mortgage Bonds : Moody's Rating and Analytical Approach

Note : Moody's define a secured mortgage bond to be a full recourse debt instrument secured by a pool of specifically-identified, eligible mortgage assets or claims against public sector entities.

Table 4: Comparison between secured mortgage bonds in Europe (continued)

	Germany	France	Spain	Luxembourg	Denmark
Protection against mismatching	Some interest and maturity matching required under the mortgage Banking Act. As this applies to the Pfandbriefe and their respective asset pools, the mortgage banks themselves are not restricted in terms of overall mismatching.	Not compulsory though the law requires the special supervisor to inform both the SCF's management and the Commission Bancaire if a SCF's mismatching risk appear too high.	Nov very expensive.	Interest and maturity matching required by law.	Very strict. The so-called "balance principle" restricts interest rate mismatching to no more than 1%%. Maturity matching is required. Borrowers must compensate bondholders for early asset repayment.
Risk stemming from earl repayment of underlying loans	No.	Yes.	Yes	Yes.	No.
Is there issuer bankruptcy remoteness?	No.	No.	No.	No.	No.
Is there bankruptcy remoteness from the parent?	Yes.	Yes.	No.	No.	Yes.
• Mandatory (minimum) over-collateralization	The law requires the amount of assets to be at all times higher than the nominal value of total liabilities.	The law requires the amount of assets to be at all times higher than the nominal value of total liabilities.	10%	The law requires the amount of assets to be at all times higher than the nominal value of total liabilities.	8% of risk-weighted assets.
Is over-collateralization lost in bankruptcy?	Yes, because only coincidental.	Yes, because only coincidental.	No.	Yes, because only coincidental.	No.
In the event of insolvency, first claim is on	All mortgages earmarked for the asset pool.	All the assets of the SCF.	All mortgages in favour of the issuer.	All mortgages earmarked for the asset pool.	All mortgages plus the 8% over-collateralization against non-eligible assets.
External support mechanisms (if any)	In the event of insufficient proceeds from the pool assets to cover their claim, Pfandbriefe investors rank pari passu with senior debt holders. In addition, the parent bank may extend some other form of support.	No Formal recourse to assets outside the SCF but we expect that the Commission Bancaire would exert some pressure over the shareholder(s) to support the SCF.	In the event of insufficient proceeds from the pool assets to cover their claim, céduleas investors rank paripassu with senior debt holders.	In the event of insufficient proceeds from the pool assets to cover their claim, lettres de gage holders risk pari passu with senior debt holders. In addition, the parent bank may extend some other form of support.	In the event of insufficient proceeds from the pool assets to cover their claim, mortgage bondholders rank ahead of senior debt holders. In addition, the parent bank may extend some other form of support (e.g. guaranteeing the "top slice" of the mortgage loans - according to the type of borrowers).

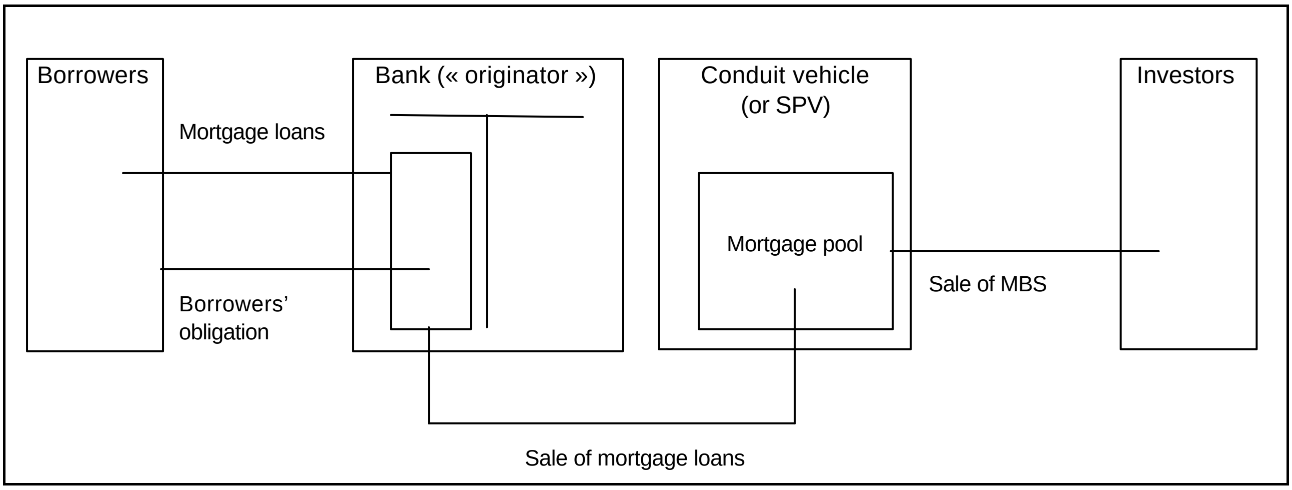
Source : Moody's Investors Service - European Secured Mortgage Bonds : Moody's Rating and Analytical Approach

Note : Moody’s define a secured mortgage bond to be a full recourse debt instrument secured by a pool of specifically-identified, eligible mortgage assets or claims against public sector entities.

2.3. Mortgage backed securities

Typically, the process of production of a new mortgage loan follows three phases : originating of loan, grouping or bundling of loans and funding of loans. Securitisation, however, ‘unbundles’ this process. The credit institution creates a legal entity known as a Special Purpose Vehicle (SPV) and sells mortgage loans that it has originated (« receivables ») to this SPV. The purpose of the SPV is to isolate the receivables and the associated cash flows from the originator and to perform certain other closely related operations (such as restructuring of cash flows and credit enhancement). The SPV issues the securities which are sold to investors. (If the originating institution continues to participate, it is usually as « service », i.e. collector of principal and interest payments and processor of other related back-office functions.) This process is illustrated in Figure 6.

Figure 6 - Mortgage Backed Securities



Source : Based on Prof. Dr. Klaus Spremann & Dipl.math.oec. Klaus Kränzlein (1996)

In the case of mortgage bonds, the originating institution keeps the assets on its balance sheet and maintains ultimate responsibility for the credit risk of the bond. The mortgage loans and the bonds remain on the balance sheet of the originating mortgage credit institution. The use of MBS, by contrast, involves the sale of mortgage loans and their complete removal from the balance sheet. (In some cases, the assets supporting the securities never appear on the balance sheet of the originator.) The institution retains any excess interest from the loans over the all-in cost of the securitisation in the form of servicing commissions or other types of income, but removes the loans and any associated capital requirement or risk provision from the balance sheet.

Thus, the issuance of mortgage-backed securities (MBS) is one of two methods to fund mortgage loans through the capital market. MBS has however developed to a far lesser extent in Europe than in the United States. The value of MBS outstanding in the EU and Norway is estimated at EUR 16 billion which represents less than 1% of total residential mortgage loans outstanding (end 1998). In a number of European countries, however, most notably in the UK (second largest residential mortgage market after Germany) and Ireland and to some extent in Spain and France, there are strong indications that the use of off-balance balance sheet securitisation to fund a mortgage loan portfolio is becoming more popular. Annex 3 - Mortgage Backed Securities contains more information on this method of funding.

Mortgage bonds and MBS are instruments that meet the funding requirements of mortgage lenders in different ways. The choice will depend on the needs of the lender and will be strongly influenced by the history, legal and regulatory framework and mortgage market structure of the country in which the lender operates. In a number of countries mortgage bonds and MBS are considered to be alternative and complementary funding instruments, which has lead to the co-existence of these two different approaches to tapping capital markets. This is the case, for instance, in Spain, Germany and France. A similar situation could develop in Ireland and Belgium if the planned legislation on mortgage bonds is introduced. Table 5 compares the characteristics of mortgage bonds and mortgage backed securities

Table 5 - Comparison of Mortgage Bonds and Mortgage-Backed Securities

	Mortgage bonds	**MBS**
Mortgage loan production	Bundled process	Unbundled process
Type of securitisation (balance sheet treatment)	Assets remain on the balance sheet of the originating institution (« On-balance sheet securitisation »)	Generally, assets are removed from the balance sheet of the originating institution (« Off-balance sheet securitisation »)
Source of principal and interest payments	Issuer cashflow	Collateral cashflow
Risk exposure		
- credit risk	Issuer	Investor
- prepayment risk	Issuer	Investor
- market risk	Investor	Investor
Investor protection in the event of issuer bankruptcy.	Bankruptcy privilege : The bond holder has a priority claim on assets in case the issuer goes bankrupt (quasi-bankruptcy remoteness).	Bankruptcy remoteness is built into the structure of the MBS. (The bankruptcy of the originating institution does not affect the servicing of the MBS.)
Credit quality	In addition to the asset quality, depends mainly on the strength of the originating institution and the legal framework.	In addition to the asset quality, depends mainly on the strength of the structure created.
Over-collaterisation	Defined by law.	Usually required for a high credit rating.
Tiered capital structure	Subordination is inherent in the system (e.g. requirement to respect certain LTV ratios).	A structure distinguishing between senior and subordinated securities needs to be created.
Guaranty	A guarantee (if given) will be provided by the originating mortgage credit institution.	Guaranty provided by a third party such as insurance company or a bank (« credit enhancement »).
Collateral pool structure	1. Individual components of the asset pool are substitutable. 2. Mainly heterogeneous assets 3. Eligible assets defined by law (e.g. requirement to respect certain loan-to-value ratios and sound property valuation methods)	1. Individual components of the asset pool are (in general) not substitutable. 2. Mainly homogeneous assets. 3. Eligible assets are not necessarily defined by law.
Interest payment	Typically yearly	Typically monthly

Principal redemption	Bullet form	Amortisation and prepayment

Sources: European Mortgage Federation, OECD

2.4 The Bausparkassen system

Michael Lea[3] has written extensively on global models for funding housing including contract savings for housing (CSH) systems. These involve highly specialised institutions that provide only housing finance with funding obtained from loan-linked savings deposits. In the CSH system or savings and loans system, known as *bausparkassen*, participants are eligible for subsidies and/or tax relief from the State subject to signing a savings contract. The participant agrees to save an agreed amount over a prescribed period in return for a commitment on the part of the *bausparkassen* to provide a loan, at pre-specified terms, for the purchase or renovation of owner-occupied housing. Thus, the contract entitles the saver to a mortgage loan in the future at below market rates. There are four components in the *bausparkassen* system : the savings contract, the loan, the subsidy and the delivery mechanism.

After the Second World War in Austria and Germany, the impetus for the growth of *bausparkassen* was that there was no formal financial sector housing lenders or long term savings available for housing. Circumstances, one could argue, may have been somewhat similar in certain transition economies after the fall of communism in the late eighties and early nineties.

Strengths of the CSH systems are their ability to create a pool of long term funds dedicated to housing. In the transition economies there can be a lack of such funds. The regular payments made by the participants over a period of time can be said to signal the creditworthiness of the future borrower and thereby reducing the credit risk to the lender and the banking system.

Weaknesses of CSH systems are that they require the creation of new types of financial structures with accompanying legislation. More importantly they are dependent on a government subsidy.

These subsidies act as a deterrent to entry into the national market as newcomers have to compete against subsidised rates. These subsidies are very expensive and have reached between 1 and 1.5 percent of the State budgets in the Czech Republic and Slovakia. To date they have provided little in the way of new housing loans, in part because of the savings and waiting periods inherent in the system. There appears to be little evidence that they will do so in the future.

In Poland, for instance, controversy has arisen over the *bausparkassen* system because it is based on subsidies. According to figures published by USAID, estimated costs in Poland for such a system could be around PLZ 2.5 billion (c. EUR 0.6 billion) - a substantial drain on state finances.

The debate is still open in Poland and a Government bill on abstaining from implementing the *bausparkassen* system is currently pending before the Polish Parliament.

[3] Michael Lea, Cardiff Consulting Services

3. LIKELY FUTURE DEVELOPMENTS

The current situation of fragmented mortgage and property markets is increasingly subject to external factors of change which should, in the long run, lead to a greater degree of integration.

3.1. Deregulation and consolidation

Until the 1980's, housing finance systems tended to be tightly regulated by national authorities, in particular because of the danger of mismatching in long-term finance but also because many governments wanted to favour access to home-ownership at the lowest possible cost.

There were restrictions on the activities of institutions (I), balance sheet restrictions (UK), restrictions of specific mortgage instruments to specific institutions (F, D) or regulations of the terms of mortgage contracts (B).

Increasingly, deregulation has removed such restrictions and in the process changed the nature of financial institutions offering mortgage credit. In the United Kingdom, many building institutions have converted into banks, while in Italy, a new law abolished the principle of specialisation and transformed all mortgage lenders into universal banks allowed to engage in all types of banking activity. As a consequence, the type of institution offering mortgage credit is no longer as important as the types of mortgage product which are offered.

As a counterbalance to increased deregulation and liberalisation, regulators and super regulators such as the UK's Financial Services Authority are increasingly aware of the need for improved supervisory co-ordination and review in the light of the growth of cross-border financial services conglomerates and the operation of e-banks outside the market for which they have been licensed.

As a measure of consolidation in the EU banking market, the European Central Bank estimated that, in April 2000, the share of bank assets accounted for by the top 20 European banks had risen from 35% in 1997 to 41% in early 1999.

3.2. The internal market

The internal market programme which was completed in 1992 had a significant impact on mortgage markets across the EU. Markets which had previously been regulated on a national level were suddenly subject to EU directives. In particular, the solvency ratio and own funds directives had a significant impact on mortgage credit institutions in Europe.

In principle, the single market programme should have led to the opening up of national mortgage markets to Europe-wide competition. The principle of home country control should have meant that mortgage lenders would be free to provide services across EU borders, but be regulated by their own national supervisory authorities. In practice, the single market for mortgage credit has not really developed, since governments have not been keen to allow lenders from Member States where consumer protection legislation is less strict to compete on an unequal basis with domestic lenders. Furthermore, the absence of tax harmonisation has resulted in a number of fiscal obstacles to cross-border mortgage credit.

Indeed, in its latest progress report on its 1999 Financial Services Action Plan, the focus of the European Commission seems to have shifted from retail to wholesale aspects of financial services. This may be recognition by the Commission of the difficulties inherent in trying to complete an internal market for mortgage credit and that such an objective remains very much an ongoing process - a process which may be assisted by other factors of change such as e-commerce and the introduction of the single currency on 1st January 2002.

3.3. The single currency

The introduction of a single currency, more than any other event, is changing the face of mortgage lending in the European Union. The euro operates to :

- eliminate exchange rate risks ;
- reduce trannsaction costs ;
- improve price transparency ;
- reduce interest rate risk through economic policy coordination.

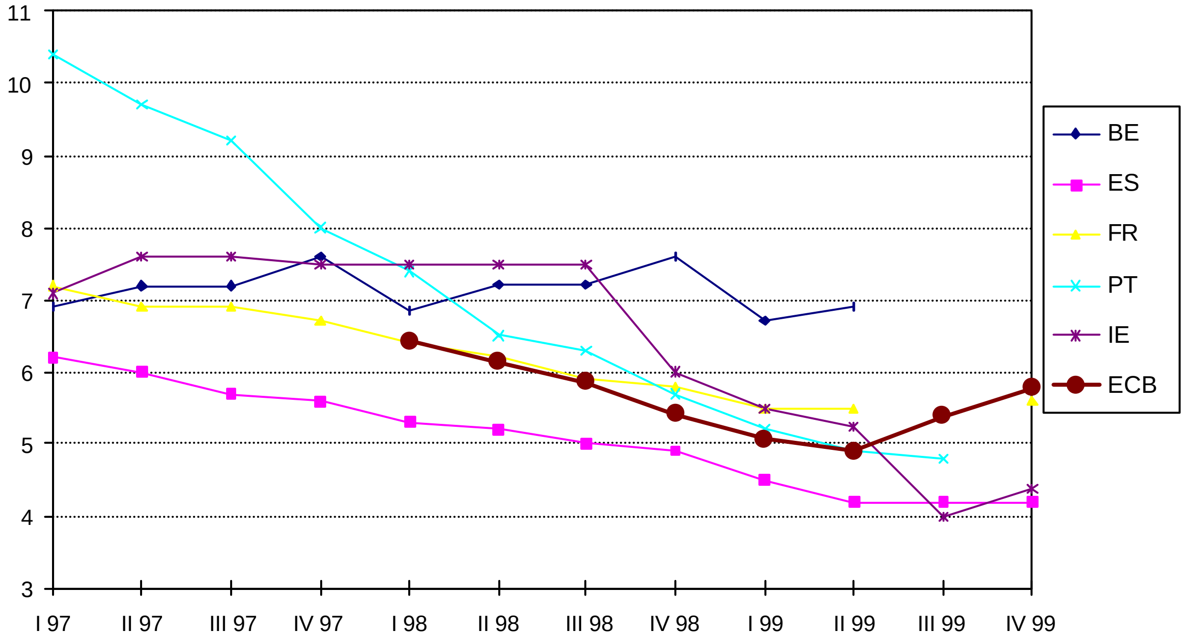
In the 'core' countries the single currency has seen a maintenance of the culture of low inflation, low interest, long termism and stability. In the 'peripheral' countries such as Ireland inflation has re-emerged and there are concerns in several countries with respect to asset price inflation including increasing house prices. In the run-up to the launch of the single currency the loss by governments of control over interest rates as a tool of economic policy was a concern - the view being that one size does not fit all

The introduction of the single currency has impacted the capital markets and there is now an established euro-denominated bond market which is less volatile than the earlier national markets. This should favour more long term instruments such as mortgage bonds and MBS. The policy of governments as well as the approach of private issuers is geared towards the creation of as deep, liquid and transparent a capital market as possible. The current nationally based securities markets are being transformed into a single market with common conventions as stock exchanges merge.. The reduction of government debt has also left more room for private debt instruments which had hitherto been crowded out of the market. Finally, the progressive integration of national capital markets into a single supra-national marketplace offers the potential for economies of scale which had hitherto not been possible in the smaller economies. In particular this should favour the development of techniques such as securitisation.

It is also likely that access to cheap, low interest long term funding on the capital markets will favour recourse to fixed rate funding instruments such as mortgage bonds, to the detriment of variable rate instruments in the form of savings deposits. Savers are increasingly attracted by higher yield instruments and this has led to the drying up of the traditional funding instruments of savings and co-operative banks. In addition, mortgage bonds have been included by the European Central Bank in its Tier one list of eligible assets for use in open market policy and as outlined elsewhere in this paper a number of Member States are working to adapt their mortgage bond legislation in order to ensure that it conforms to the Tier 1 criteria.

Changes on the capital markets are feeding through to the mortgage markets. Indeed, mortgage markets underwent a fundamental change resulting from the convergence of economies in advance of the locking together of the currencies. Interest rates on mortgage loans in the 11 participating countries have converged considerably as the chart below shows, and up until recently had fallen to record low levels.

Indicative mortgage interest rates in selected euro-zone EU member states



Source: European Mortgage Federation.

The single currency should lead to greater cross-border opportunities for mortgage lenders, and more competition will benefit consumers. The lack of exchange rate and greater price transparency opens up opportunities for borrowers to take out loans in other Member States, and the remaining obstacles to cross-border mortgage lending are becoming more apparent. Considerable efforts are being made by the European Commission to both liberalise and harmonise financial services, which could lead to greater integration of markets.

Finally, such developments may result in change on the property markets. Stable economic conditions should result in greater price stability of housing, while lower interest rates should improve access to owner occupied housing. The loss of national government control over monetary policy may however lead to governments making greater use of fiscal instruments to control the economy, and the property sector risks being particularly affected.

3.4. The e-economy

The Internet is playing a decisive role in opening up European mortgage markets as it allows EU-wide market penetration at relatively little cost i.e. no expensive branch network needs to be established. On-line mortgage lending is currently a growth area with both existing and new players looking to build their share of on-line originations from the initial borrower enquiry through to the granting of a mortgage loan.

In the US, more than 15% of new mortgage loans are generated solely through the Internet. According to a study by Forrester Research, the American Internet consultants, the US online mortgage market is expected to grow from 18.7 billion US dollars to more than 91 billion dollars in 2003. It further predicts that mortgages will account for more than 10% of the whole online market. Almost two-thirds of American lenders expect to be able to process credit applications online by the end of this year. In more general terms, in April 2000, Datamonitor predicted that the number of Europeans using internet banking would grow by 30% to more than 20 million users by 2004.

The Internet is of course, a vehicle for price transparency and more informed consumer choice. Typically, it is at present a source of information for comparison shopping rather than a means to take out a mortgage loan.

Although e-commerce and the Internet are primarily a distribution means to target borrowers and sell mortgages they also allows lenders to raise funds from depositors - the jury, however, is still out on the success or suitability of using an Internet bank for the latter purpose. Internet can be said to have been instrumental in the globalisation of the capital markets. Already there is some evidence that housing markets are becoming global and that the single currency is accelerating the integration of property markets in Europe.

Increasingly, EU countries are adopting US mortgage securitisation models. This encourages standardisation and may create opportunities for American lenders and mortgage technology vendors to expand into these markets. Likewise it could impact the funding side positively by accelerating the standardisation and marketing of the various funding instruments to investors.

The European Commission's directive on certain legal aspects of electronic commerce which was adopted in May is the first attempt to regulate, at European level, one of the fastest developing fields of the economy. Member States have 18 months to modify their national legislation accordingly.

Indications are that the mortgage industry will initially take advantage of the new information and communications technologies to speed up home buying, accelerate the mortgage process and improve transparency but it will take some time before cross-border mortgage lending develops fully and benefits from an appropriate legal framework.

3.5. Revision of bank capital requirements

The Basel Committee on Banking Supervision and the European Commission are currently reviewing bank capital requirements. The current discussions in Basle and Brussels will lead to a new set of prudential rules that will apply to all credit and financial institutions. The new regulatory own funds requirements are likely to revise the current risk weighting scheme by taking into consideration a broader range of risks (credit and market risks but also operational, legal and reputation risks). Internal rating, market discipline and supervisory related issues are also a focus of both regulators.

The review of regulatory capital requirements is of fundamental importance for mortgage lenders in Europe since the vast majority of their mortgage loans remain on-balance sheet and are capital intensive (i.e. 50% or 100% weightings).

This contrasts with the US system where more than 50% of mortgage loans are removed from the balance sheet through securitisation - thus freeing up the lender's own funds. Indeed, US government sponsored enterprises (Ginnie Mae, Fannie Mae and Freddie Mac) buy these mortgage loans from mortgage banks and sell them into the secondary mortgage market. These powerful agencies benefit from government guarantees which reduces funding costs by about 50 Bp. As a result, US mortgage banks enjoy cheaper funding conditions and US issuing institutions have substantial funding advantages in the capital markets over their European counterparts. They are also <u>not</u> subject to the same own fund requirements as mortgage lenders. Therefore, large proportions of the US secondary mortgage market operate in *a* non competitive manner. <u>Annex 4 outlines how Europe's capital markets differ from the US market.</u>

Europe's secondary mortgage markets mirror the diversity and the history of European mortgage markets. They are structured differently and function differently to the US market: there is competition between on-balance and off-balance sheet instruments on the basis of the intrinsic quality of the issuing institution and the securities issued. The emergence and standardisation of mortgage financing instruments should be encouraged as European lenders use a wide variety of methods from mortgage bonds through to securitisation to fund their mortgage loans. For instance, mortgage banks, as portfolio lenders fund their mortgage assets through the issue of mortgage bonds and have to rely solely on their financial strength and strict regulations to ensure the soundness of their mortgage bonds.

The current proposals, influenced by the American off-balance sheet approach, could therefore put European mortgage lenders at a substantial disadvantage. In particular, the current proposals could create opportunities for capital arbitrage and could put most European mortgage lenders at a competitive disadvantage as it would be less capital intensive to buy asset-backed securities than to have a mortgage book. The vast majority of mortgage loans in Europe (over 98%) remain on the banks' balance sheets and are capital intensive (i.e. 50% or 100% weighting).

Apparently there is agreement on the part of the regulators to maintain the current regulatory treatment (i.e. 10% weighting) of mortgage bonds according to Article 11 (2) of Directive 89/647/EEC on the Solvency Ratio. The European Mortgage Federation believes that the weighting of mortgage-backed securities should relate to the credit risk and there should be no supervisory discrimination between instruments other than on the basis of a comparison of credit quality.

4. CONCLUSION

Until now, primary mortgage markets have been growing more quickly than GDP and have proved surprisingly resistant to change, as both mortgage and property markets are tightly governed by national law. Differences in tax and subsidy rules, consumer protection rules and the fact that mortgage lending has always been considered as a local business with various ways of providing mortgage credit, will mean that the achievement of a single European market in the field of mortgage credit can only take place in the longer term.

However these structural differences are increasingly subject to the factors of change which strive to impose a certain level of integration.

Following the introduction of the single currency, all indications are that we are moving towards a European capital market with the funding of house purchase being an integral part of that market via funding instruments ranging from mortgage bonds to mortgage backed securities. Savings or retail deposits remain the most common way to access funds for lending purposes; but in the low interest rate environment existing up until recently they have become increasingly subject to competition.

Mortgage bonds, the second most popular source of funds, and mortgage backed securities, both specialist mortgage instruments, are proving particularly attractive in this new environment. The development of a single capital market has led to new opportunities for the wholesale funding of mortgages, resulting in new products on the primary markets.

Legislative progress in the creation of a single market for the provision of mortgage credit has been painstakingly slow. On the other hand, one has to be optimistic about the likely impact of the business drivers of changes such as the Internet and the single currency on a macro level and cross-border commercial property lending on a micro level.

The current review of bank capital requirements being undertaken by the Basel Committee and the European Commission will influence the business environment faced by mortgage lenders for, at least, the next fifteen years. Therefore, how funding instruments are treated is of crucial importance for lenders in both the European Union and the accession countries.

Annex 1 - The Funding of Mortgage Credit

The funding of mortgage credit is split between retail markets and the wholesale capital markets. The bulk of mortgage funding is still through various types of savings deposits, although there is increasingly recourse to the capital markets, in particular through the issue of mortgage bonds. Mortgage-backed securities are not widely developed yet, although institutions in many Member States are increasingly looking to this new instrument to fund their mortgage assets.

The use of savings deposits (sight and term deposits)[4] to finance mortgage loans is the most widespread method in the EU, existing in virtually all the Member States and Norway. For Greece, savings deposits constitute the only technique used by banks to fund mortgage lending activity. The system is dominant in Belgium (50%), Norway (38%) and Austria (35%) where savings deposits represent the largest source of mortgage refinancing. The use of deposits (both savings deposits and accounts) is further dominant in France (76%), Ireland (60%), Spain and the Netherlands.

Savings deposits are used by a variety of mortgage lenders, including commercial/universal banks, savings banks and mutual & co-operative banks. Savings deposits are also used in the so-called « contractual savings system ». In this system potential house buyers agree to save a certain amount for a certain period, usually below market rates. In return, the borrower will qualify for a loan also at below market rates. This system is mainly operated in Germany and Austria by the so-called « Bausparkassen » (also referred to as dedicated system).

The other types of lenders (mortgage banks, building societies and insurance corporations) do not use savings deposits as and they have their own specialised funding techniques.

The funding of mortgage credit through various types of savings products is still by far the most common form of mortgage funding in the EU. It is used by both specialist and non specialist institutions and takes many different forms.

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[4] The terms « savings deposits » and « accounts » refer to the following (partly based on ECB definitions) :

Term used in EMF working paper	*ECB category of deposits*	*ECB description*
Accounts	Overnight deposits	Balances (interest bearing or not) which are convertible into currency and transferable on demand by cheque, banker's order, debit entry or similar means, without significant delay, restriction or penalty.
Sight (savings) deposits	Overnight deposits	Balances (interest bearing only) which are convertible into currency on demand (either immediately or by close of business on the day following that on which the deposit was made), without any significant delay or restriction but which are not transferable.
Term (savings) deposits	Deposits with agreed maturity	Non-transferable deposits which can not be converted into currency before an agreed fixed term or that can only be converted into currency before that agreed term provided that the holder is charged some kind of penalty.
	Deposits redeemable at notice	Non-transferable deposits without any agreed maturity which can not be converted into currency without a period of prior notice, before the term of which the conversion into cash is not possible or possible only with a penalty.

In the United Kingdom and Ireland, specialist institutions called Building Societies have been the traditional mortgage lenders, attracting funds through various savings schemes and granting long term mortgage loans on a variable rate basis. Because the variation of mortgage interest is not subject to regulation, Building Societies are in a position to vary rates on the both sides of the balance sheet, and there is no mismatching of funds. Strong competition ensures that margins remain low.

In Germany and Austria, the *Bausparkassen* attract savings at below market rates, and after a contractually agreed period and with the help of a government subsidy, the borrower is entitled to benefit from below market rate mortgage loans. This is a dedicated savings system which performs in isolation from wider movements on the capital market.

In France, a system has evolved whereby a government subsidy on certain forms of savings deposits ensures a steady flow of capital for housing purposes. More recently, the French government has been trying to move away from such systems which can result in a situation of mismatching, whereby interest rates on dedicated savings accounts were higher than interest rates on mortgage loans.

In many other cases, deposits by investors are channelled into the property market through mortgage loans by non-specialised lenders such as commercial banks and savings banks.

Given the desire of most depositors to have ready access to their capital, the use of savings for mortgage funding offers the lender no long term guarantees. Consequently this form of funding tends to favour mortgage products with variable rates of interest. Table 1 overviews the use of savings for general funding methods.

Table 1 - Overview of the use of general funding methods (1998)

Country	**General funding**	Accounts	Savings deposits	Bank bonds	Loans from other MFIs	Insurance premiums	Other
BE	**major**	yes	50%	-	-	-	yes
DK (a)	**-**	-	-	-	-	-	-
DE	**yes**	-	yes	yes	-	yes	-
GR (a)	**100%**	-	100%	-	-	-	-
ES	**86%**	major		yes	yes		yes
FR	**80%**	76%		-	-		4%
IE	**93%**	60%		33%		-	-
IT	**yes**	yes	yes	yes	yes	-	-
NL	**87%**	major	major	-	yes	10%	-
PT	**yes**	-	yes	-	-	-	-
SF	**100%**	59%	31%	10%	-	-	-
AT (a) (b)	**92%**	3%	35%	24%	30%	-	-
SE (c)	**30%**	-	-	6%(d)	24%	-	-
UK	**major**	Retails deposits and wholesale resources.					
NO	**85%**	10%	38%	12%	21%	4%	11%

(a) EMF members only; (b) Includes commercial mortgage loans outstanding; (c) Refers to housing credit institutions only ; (d) certificates

Financial institutions in the European Union and Norway use a very wide range of methods to fund mortgage loans. These methods will either be «specialised » referring to mortgage bonds and mortgage-backed securities (MBS), or «general » referring to deposits (savings deposits and accounts) and other general funding (bank bonds, loans from other MFIs[5] and insurance premiums). Mortgage loans will also to some extent rely on the own resources (equity capital) of the lender.

An overview of the various funding methods used in the EU Member States and Norway is provided in Table 2 below. The data available is rather limited but the information indicates that mortgage loans in most EU member states are primarily funded by retail deposits. Specialised funding methods involving the tapping of capital markets are used to a smaller extent. The use of mortgage bonds is more widespread than that of

[5] « Monetary Financial Institutions » (MFI) is a term used by the ECB. It comprises resident credit institutions as defined in Community law and all other resident financial institutions whose main business is to receive deposits and/or close substitutes for deposits from entities other than MFIs, and, for their own account (at least in economic terms), to grant credit and/or to make investments in securities.

mortgage-backed securities (MBS). The information available on equity capital to fund mortgage loans is not conclusive.

Even though certain conclusions about funding methods may be drawn at EU level, it should be emphasised that the situation varies widely across country and by type of mortgage lenders.

Table 2 - Overview of mortgage loan funding methods by country (1998)

	Residential mortgage loans outstanding *(end 1998 in EUR bn)*	***Own resources (equity)***	***Specialised funding***		***General funding***	
			Mortgage bonds	***MBS***	***Deposits***	***Other***
BE	*56*	yes	-	minor	>50%	yes
DK (a)	*122*	-	100%	-	-	-
DE	*1 013*	-	yes	yes	yes	yes
GR (a)	*7*	-	-	-	100%	-
ES	*123*	5%	6%	3%	major	yes
FR	*262*	minor	21%(d)	3%	76%	-
IE	*21*	6%	-	0.7%	60%	33%
IT	*81*	yes	-	yes	yes	yes
NL	*221*	4-8%	7%	minor	major	10%
PT	*32*	yes	yes	-	yes	-
SF	*34*	yes	yes	-	90%	10%
AT (b) (a)	*10*	1%	7%	-	38%	54%
SE (c)	*99*	yes	70%	-	-	30%
UK	*647*	-	-	yes	yes	yes
NO	*54*	3%	1%	-	48%	48%

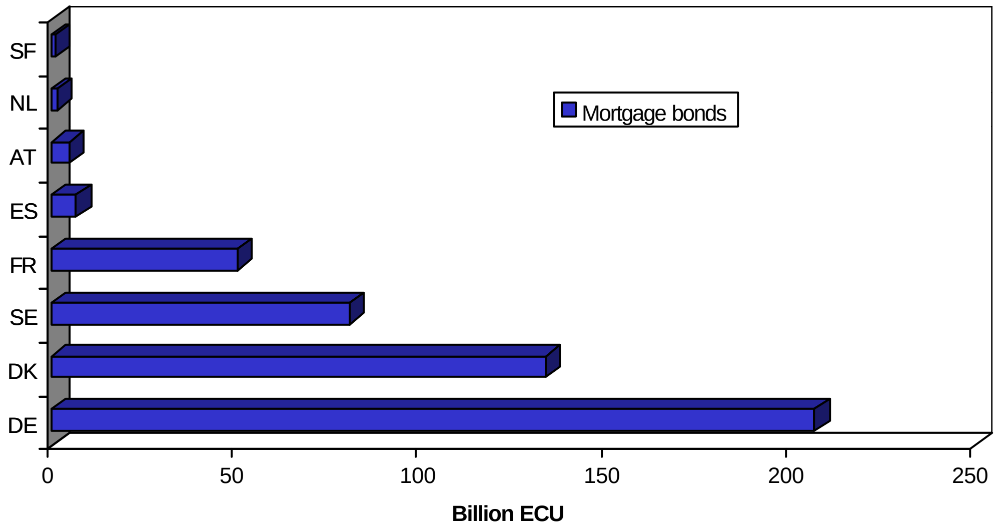
(a) EMF members only ; (b) Includes commercial mortgage loans outstanding ; (c) Refers to housing credit institutions only ; (d) of which 4% points bonds issued by CRH.

Annex 2 - Mortgage bonds

The mortgage bond is, by contrast, typically a long term fixed interest rate product. The bond market is an important source of funds for mortgage credit institutions. To find long-term capital is in fact an essential component of fixed rate mortgage lending in view of its long-term nature.

In terms of volume, this form of funding instrument represents the largest category of securities in European capital markets after government issues. Mortgage bonds provide almost 20% of the funding of all mortgage credit in Europe and at the end of 1997 amounted to some Ecu 500 bln[6].Figure 1 illustates the significance of mortgage bonds.

Figure 1: The importance of mortgage bonds in the Member States



Mortgage bonds are generally issued by the specialist mortgage banks, and are regulated by law. They are financial securities which have as a collateral the corresponding bundle of mortgage loans, and represent guaranteed claims against what are considered to be particularly secure types of credit institution. Furthermore there are limits to the loan-to-value ratios of the mortgages which are included in the pools, and in some cases the valuation techniques are also strictly defined.

In Germany, for example, mortgage bonds include built in security for the investor in the form of:

- a cover principle and a matching principle (i.e. the totality of the bonds in circulation must be covered to their nominal value at all times by mortgages of the same value and at least the same interest rate);
- a preference in the event of bankruptcy;
- an appointed trustee who must ensure that the statutory cover is maintained at all times

[6] This excludes the figure for Italian mortgage bonds

- the name "*Hypothekenpfandbrief*" is protected, which prevents other credit institutions offering less secure types of instrument under the guise of the same name.

The special character of mortgage bonds has also been enshrined in European law through the 1988 UCITS directive, which allows mortgage bonds to benefit from increased investment possibilities and favourable solvency ratio weightings. The UCITS directive recognises that the different types of mortgage bond share certain common characteristics:

- the bonds must have been issued on the basis of legal provisions to protect the holders of these bonds
- they must be subject to special supervision by the public authorities
- the sums deriving from the issue of these bonds must, according to the legal provisions, be placed in assets which provide sufficient cover for the liabilities deriving from the bonds for their entire duration and,
- in the event of the bankruptcy of the issuer, the sums deriving from the issue of the bond are intended as a priority to repay the capital and interest becoming due.

Fulfilment of these common characteristics and notification to the European Commission can be noted for Germany, Denmark, Austria, France, Spain, Italy (for the mortgage bonds outstanding)[7] and Luxembourg. Mortgage bonds issued in Portugal, the Netherlands, Sweden and Norway do not follow these common characteristics. A mortgage bond law exists in Germany, Denmark, Austria, France, Spain, Luxembourg and Finland and is currently under discussion in Ireland and Belgium. In Greece, mortgage bonds were issued only once in 1989 by the National bank of Greece that matured in February 1997. Mortgage bonds do not exist in the United Kingdom.

Issuing mortgage bonds into the capital market is a major specialised method to fund mortgage loans. In Denmark, mortgage lending by mortgage banks is fully funded through the issue of mortgage bonds[8]. For Sweden, mortgage bonds, representing about 70% of total funding for the housing credit institutions, constitute the leading source of financing. The system is further strongly established in Germany and Austria. The German «Hypotheken-Pfandbrief » market, amounting to EUR 232 billion (outstanding in mid-1999), is on of the largest fixed-income market in Europe.

Mortgage bonds constitute the second source of financing in France and Spain, but represent only 17% and 6% respectively of total mortgage funding well behind deposits. In the Netherlands and Norway mortgage bonds are issued but fund a relatively small part of loans (7% and 1% respectively).

Mortgage bonds are the most important source of financing for mortgage banks. Complementary funding techniques used by these specialised credit institutions include bank bonds, loans from other MFIs and deposits. In Sweden, mortgage bonds are issued by housing credit institutions. In Austria and Portugal,

[7] The Italian mortgage bond (« obbligazione fondiaria ») was eliminated in September 1993, without having been replaced by any other specific funding instrument for mortgages.

[8] Danish mortgage banks represent around 90% of the market.

mortgage bonds are issued by commercial/universal banks and savings banks. In Spain, mortgage bonds can be issued by commercial banks, savings banks, credit co-operatives and specialised financial institutions (they are all credit institutions), but it is the first two types of institutions that have carried out most of the issuing activity so far.

The value of mortgage bonds outstanding in the EU and Norway is estimated at EUR 511 billion which represents **19% of total** residential mortgage loans outstanding (end 1998).

Annex 3 - Mortgage backed securities

Securitisation refers to the process of turning cash-generating assets into securities that can be marketed to investors. The originator creates a legal entity known as a Special Purpose Vehicle (SPV) and sells receivables to the SPV. The purpose of the SPV is to isolate the receivables and the associated cash flows from the originator and to perform certain other closely related operations (such as restructuring of cash flows and credit quality improvement). The SPV issues the securities which are sold to investors.

The assets supporting the securities are removed from the balance sheet of the originating institution or, in some cases, never appear on the balance sheet of the originator. The investor's decision whether to purchase the security is separate from the credit standing of the originating institution. The decision instead depends on both the investor's assessment of the capacity of the underlying assets to generate the cash flows needed to meet contractual payments and the degree of protection incorporated in the structure of the security itself. The rating of the MBS will therefore depend on the quality of the underlying mortgage assets, the strength of the securitisation structure that is set-up (taking into account features such as credit enhancement, over-collateralisation and tiering of the capital structure) in addition to other legal considerations. Principal and interest are usually payable on a monthly basis. Assets are normally grouped together in large homogeneous pools for which historical data can be used to estimate probable default rates. Individual components of the secured pool of mortgages are usually not substitutable.

Initially, securitisation was developed to promote residential mortgage finance in the US during the 1970s where MBS have become major instruments in the capital markets. Many observer had expected this technique to spread to many other countries.

This is to some extent true for the UK, which is the largest MBS market in the EU, and Ireland. In the UK, new issues of MBS in 1999 totalled EUR 8.2 billion which represents 4.5% of gross mortgage lending in the period. MBS are becoming more popular as a method of removing assets from balance sheets to reduce the amount of capital which has to be retained. As the market for mortgages becomes more competitive in the UK the use of MBS is likely to become more common.

In Ireland, securitisation is likely to increase in importance as a funding source as more mortgage lenders acquire the expertise and systems required to issue MBSs. With the volume of new lending increasing each year on the back of the buoyant Irish economy, lenders are likely to look to issues of MBSs to move quality existing loans off the balance sheet and hence free up capital for additional new lending.

Elsewhere in Europe, securitisation of mortgage loans has been relatively active in Spain (3.2 % of mortgage lending in March 1999) and France. Other countries that issue MBS include the Netherlands, Belgium and Germany but activity is remaining limited. MBSs have not been issued in Greece, Austria and in the four Scandinavian countries.

MBSs are in general originated by commercial/universal banks. In Ireland and the UK they can be originated by building societies. In Spain, MBS used to be originated primarily by « specialised financial institutions » (EFC). This situation has changed. Commercial/universal banks and savings banks have securitised large amounts in 1999 (each for 41% of MBS outstanding), bringing these types of lenders ahead of the volume issued by the EFCs. Spanish credit co-operatives have also carried out their first securitsation.

While securitisation of residential mortgage loans is regularly used in several countries, it has remained relatively inactive in most of the European Union. The value of MBS outstanding in the EU and Norway is estimated at EUR 16 billion which represents **less than 1% of total** residential mortgage loans outstanding (end 1998).

In the majority of countries, credit institutions are increasingly combining short-term deposit retail funding with special derivative products to fund longer term fixed mortgage loans for the purpose of market risk reduction. The exceptions are Denmark and France.

The high demand for mortgage loans, coupled with low interest rates on deposits, raises questions over the continued ability of lenders to finance mortgages primarily through retail funds. Greater emphasis on the wholesale markets as an alternative methods of funding mortgages is likely in the medium to long term. In the UK (second largest residential mortgage market after Germany) and Ireland, off-balance balance sheet securitisation to fund a mortgage loan portfolio is becoming more popular. While the use of the mortgage bond is already strongly established in a number of countries (Germany, Denmark, Austria and Sweden), several other countries have recently taken measures to promote this funding instrument, largely inspired by the success of the *Pfandbrief* in Germany. This has been the case most notably for Spain (« *cédula hipotecaria* »)[9], France (« *obligations foncière* »), Luxembourg and Finland.
Mortgage bonds and mortgage-backed securities are instruments that meet the funding requirements of mortgage lenders in different ways. The choice will depend on the needs of the lender and will be strongly influenced by the history, legal framework and mortgage market structure of the country in which the lender operates. In a number of countries mortgage bonds and mortgage-backed securities are considered to be alternative and complementary funding instruments, which has lead to the co-existence of these two different approaches to tapping capital markets. This is the case, for instance, in Spain and France. A similar situation could develop in Ireland and Belgium if the planned legislation on mortgage bonds is introduced.

[9] The Spanish « *cédula hipotecaria* » was introduced in 1981 by the mortgage market law but its use started to grow only recently.

Table 4 - Overview of mortgage loan funding methods by country (1998)

	Residential mortgage loans outstanding *(end 1998 in EUR bn)*	***Own resources (equity)***	***Specialised funding***		***General funding***	
			Mortgage bonds	***MBS***	***Deposits***	***Other***
BE	*56*	yes	-	minor	>50%	yes
DK (a)	*122*	-	100%	-	-	-
DE	*1 013*	-	yes	yes	yes	yes
GR (a)	*7*	-	-	-	100%	-
ES	*123*	5%	6%	3%	major	yes
FR	*262*	minor	21%(d)	3%	76%	-
IE	*21*	6%	-	0.7%	60%	33%
IT	*81*	yes	-	yes	yes	yes
NL	*221*	4-8%	7%	minor	major	10%
PT	*32*	yes	yes	-	yes	-
SF	*34*	yes	yes	-	90%	10%
AT (b) (a)	*10*	1%	7%	-	38%	54%
SE (c)	*99*	yes	70%	-	-	30%
UK	*647*	-	-	yes	yes	yes
NO	*54*	3%	1%	-	48%	48%

(a) EMF members only ; (b) Includes commercial mortgage loans outstanding ; (c) Refers to housing credit institutions only; (d) of which 4% points bonds issued by CRH.

Annex 4 - US and EU mortgage markets : differing views on bank capital requirements

Large proportions of the US housing market operate in a non competitive manner (i.e. backed by US government sponsored enterprises). As a result, US mortgage banks enjoy cheaper funding and US issuing institutions have substantial funding advantages in the capital markets over their European counterparts. The current proposals, based largely on American models, could therefore put European mortgage lenders at a substantial disadvantage. These fundamental differences need to be kept in mind when discussing new bank capital adequacy rules. This paper looks at the key differences between the US and Europe and their implications with regard to capital adequacy rules.

Mirroring the diversity of European mortgage markets, Europe's mortgage markets are structured differently and function differently to the US market : there is competition between on-balance and off-balance sheet instruments on the basis of the intrinsic quality of the issuing institution and the securities. Therefore, the weighting of residential and commercial property loans as well as the weighting of mortgage bonds and mortgage backed securities is of much greater importance to the European industry.

DIFFERENCES BETWEEN EU/US MORTGAGE MARKETS

UNITED STATES

The US mortgage market

1. The US mortgage market is dominated by mortgage banks.
2. The rise of mortgage banks was triggered by the *Savings & Loans* crisis where the lack of capital induced institutions to remove loans from the balance sheet through securitisation.
3. Mortgage banks sell their loans into secondary market, primarily to US government sponsored enterprises who benefit from lower capital-to-assets ratios than banks (approximately 1/3 of the EU capital requirements).
4. The mortgage bank does not need to be successful in funding in order to create the conditions necessary to be successful in lending.

Consequences
⇒ US mortgage banks require limited own funds to do their business as mortgages are sold to government sponsored enterprises
⇒ risks are sold to third parties (investors)
⇒ risks are outside supervisory scrutiny

EUROPE

The EU mortgage market

1. There is a great diversity of mortgage lenders in Europe as housing finance systems have evolved within national boundaries.
2. Mortgage loans remain on the balance sheets of banks and are capital intensive (50% or 100% weighting).
3. European « mortgage banks » are portfolio lenders, tightly regulated, funding their mortgage assets to a large extent through the issue of mortgage bonds (on balance sheet instruments).
4. In Europe, an institution must be successful in funding the loan for the lifetime of the loan (if it wishes to continue to hold it).

Consequences
⇒ European mortgage lenders need to hold own funds of between 4% and 8% for mortgages on balance sheet. These holdings can be substantial as residential mortgage loans outstanding totalled EUR 2.7 trillion in 1998.
⇒ credit risks (including prepayment risk) remain on banks' balance sheet
risks are controlled through banking supervision

PUBLIC GUARANTEE : THE IMPORTANT ROLE OF THE US GOVERNMENT AGENCIES

UNITED STATES	***EUROPE***
• The US central government sponsored enterprises (Ginnie Mae, Fannie Mae and Freddie Mac) play a central role. They buy mortgage loans from mortgage banks and sell them into the secondary mortgage market. • These enterprises enjoy implicit government guarantees which reduces funding costs by about 50 Bp. • The sheer size of the enterprises allows economies of scale. 50% of all outstanding residential mortgages at the end of 1997 were securitized. This amounted to about $2 trillion out of a total market of $4.1 trillion.	• There is no national or European government agency to help lenders fund their loans. Mortgage loans have to be funded on the basis of the financial strength of banks or the intrinsic quality of the securities. • EU law (Article 87 and 88 of the EC treaty) outlaws state aid in the form of guarantees as there may be an element of competitive distortion. • There are privately owned centralised issuing institutions but their existence is threatened because of differing ratings of originating institutions. Private centralised issuing institutions have difficulties to create liquidity.

Consequences	*Consequences*
⇒ There is an element of state aid in American mortgage funding	⇒ EU mortgage lenders enjoy no funding advantage through government backing
⇒ This advantage reduces funding costs by about 50 Bp	⇒ mortgage bonds trade 20 to 30 Bp over government bonds
	⇒ EU mortgage backed securities currently trade with an average margin of 75Bp to 150 Bp over government bonds.

PRUDENTIAL TREATMENT OF MORTGAGE LOANS AND FUNDING INSTRUMENTS

UNITED STATES	***EUROPE***
Mortgage Lending	Mortgage Lending
• not on balance sheet	• on-balance sheet : 50% or 100% weighting
Funding	Funding
• MBS issued by US government sponsored enterprises: 20% weighting • MBS issued by other institutions : 20% (if AAA) (regulations currently under review)	• MBS : 50% weighting (directive 98/32/EC) • Mortgage bonds : 10% weighting (directive 89/647/ EEC) and 50% weighting of mortgage loan.

Consequences	*Consequences*
⇒ Funding instruments are inexpensive	⇒ Funding instruments are relatively costly and capital intensive

EU/US MORTGAGE MARKETS COMPARED : STATISTICS

Key figures for 1998 (in billion EUR unless stated otherwise)

	US	EU
Residential mortgage loans outstanding	3 751	2 700
as a proportion of GDP	53 %	36%
MBS (US) and Mortgage Bonds (EU) outstanding	2 041 **	500 ***
as a proportion of mortgage loans outstanding	54%	19%
as a proportion of GDP	29%	7%
Home-ownership level	66%	63% *
Housing transactions	5.7 million	4.0 million *
Population	267 million	375 million
GDP	7 055	7 470

* Based on the most recent information ; ** MBS issued by GNMA, FHLMC, FNMA and private mortgage conduits
*** Excluding mortgage bonds backed by public sector loans
Sources : Eurostat, OECD, MBAA, EMF