Mortgage markets : why US and EU markets are so different

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The American market has been characterized by a number of factors which have encouraged the growth of securitization and this, in turn, has substantially reduced the need for mortgage lenders to hold own funds. This paper looks at the key differences between the US and Europe, their implications with regard to capital adequacy regulation and why a similar evolution for Europe seems unlikely.

EU/US MORTGAGE MARKETS COMPARED : *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

I THE ROLE OF THE US FEDERAL AGENCIES

- ***The savings and loans crisis***

To understand the American mortgage market, one needs to remember the crisis in the savings and loan associations, or «thrifts,» during the 1980s. The thrifts were subject to a classic squeeze resulting from the cardinal banking sin of borrowing short and lending long. Between the 1930s and 1970s the thrifts funded long-term fixed-rate mortgage loans on the basis of variable rate deposits. This system worked well in a time of stable interest rates but broke down from late 1979 onwards, following the very sharp increase in interest rates that occurred then. It rapidly became clear that the traditional thrift system could not continue at a time of high and fluctuating interest rates.

- ***Lack of Capital***

Those thrifts that survived the squeeze on interest margins and liquidity resulting from pressure to pay increased rates on deposits while holding a portfolio of fixed-rate loans, quickly realized that fixed-rate loans which they made in the future should not be held on the balance sheet but instead sold into the secondary market. Indeed, much of their capital was wiped out at the time of very high interest rates between 1979 and 1981. This created a clear incentive for thrifts to move loans off the balance sheet and to enable other adequately capitalized institutions to purchase the loans.

In Europe, institutions have not generally suffered a lack of capital. Indeed, the contrary - over capitalization of institutions - is the rule in many cases. Over capitalization may mean that capital is not used as efficiently in Europe as it is in the U.S.

- ***The US mortgage banks model***

The crisis during the 1980s provided an opportunity for a new type of lenders, the U.S. mortgage banks, who originate and warehouse loans for a short period before reselling them. In 1990 the mortgage banks were responsible for around 35% of residential mortgage originations; by 1996 the figure had risen to around 55%. These institutions are quite different from the organizations of the same name in Europe. In the US they originate and package mortgage loans, holding them on balance sheet for a short period of time before selling them into the secondary market. Typically, this is a low capital intensive business. In Europe mortgage banks are portfolio lenders, funding their mortgage assets through the issue of mortgage bonds.

SUMMARY OF 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.

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	*Consequences*
⇒ US mortgage banks require limited own funds to do their business as large parts of their mortgages are sold to government sponsored enterprises	⇒ 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
⇒ risks are sold to third parties (investors)	

⇒ risks are outside supervisory scrutiny	EUR 2.7 trillion in 1998.
	⇒ credit risks (including prepayment risk) remain on banks' balance sheet
	⇒ risks are controlled through banking supervision

- ***The implicit guarantee of the US government agencies***

In the US central government agencies play a central role. They buy individual packages of mortgage loans from lending institutions and either hold them on balance sheet or securitize them, selling them into the secondary mortgage market. There are three such agencies active in the secondary market in the US. The Government National Mortgage Association, otherwise known as GNMA or Ginnie Mae, guarantees pools of loans originated by mortgage banks. The loans are insured by the Federal Housing Administration (FHA) and are targeted toward lower and moderate-income home buyers. Ginnie Mae is backed by the full faith and credit of the U.S. government, which guarantees the timely receipt of principal and interest. U.S. institutions buying Ginnie Mae mortgage securities do not need to allocate capital to back these purchases, *as Ginnie Mae paper enjoys a zero percent risk weighting, the same as U.S. Treasury bills*. There are two other federal agencies active in the market, the Federal Home Loan Mortgage Corporation, FHLMC or Freddie Mac, and the Federal National Mortgage Association, FNMA or Fannie Mae. In many cases it can be advantageous for a lending institution to sell loans to one of the federal agencies and repurchase credit-enhanced securities backed by the original loans.

PUBLIC GUARANTEE : THE IMPORTANT ROLE OF THE US GOVERNMENT AGENCIES

UNITED STATES

- The US central government sponsored enterprises (Ginnie Mae, Fannie Mae and Freddie Mac) 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.
- They have an emergency credit line from the Treaesure of $8.5 billion (so far unused)
- Fannie and Freddie have roughly $ 32 of debt for each dollar of capital (compared to 11.50 of debt per dollar at private banks)
- 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

EUROPE

- 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 or arrangements in France, Austria, Sweden and Switzerland. In a number of countries their existence is threatened because of differing ratings of originating institutions. Private centralised issuing institutions sometimes have difficulties to create enough 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.

- ***Capital adequacy implications***

These agencies enjoy an implicit U.S. government guarantee; there is a belief, so far untested, that if the agencies failed they would be bailed out, in one way or another, by the U.S. government. They are, however, in other respects, conventional shareholder-owned institutions, with widely traded equity. Bonds and mortgage-backed securities issued by Freddie Mac and Fannie Mae *carry only a 20% risk weighting for U.S. banks, compared to the internationally agreed 50% weighting for conventional residential mortgages*. Fannie Mae holds about 17% of all outstanding mortgages (and therefore about 34% of securitized mortgages), Freddie Mac holds 14% (28%), and Ginnie Mae, about 13% (26%). About 8% of outstanding mortgages (20% of securitized loans) are in pools issued by private conduits, not backed by the federal agencies. (This gives us some idea of why the secondary market in the United States is so large and attractive.)

In effect, the secondary market is government backed, enjoys implicit government guarantees and therefore *provides cheaper sources of funding than other mechanisms*. Informal estimates suggest that the federal backing for Fannie Mae and Freddie Mac, for example, *reduces their funding costs by about 50 basis points*. Moreover, the sheer size of the institutions allows them to develop significant scale economies. Also, the *agencies are allowed to operate with significantly lower capital-to-assets ratios than banks*. They did not become subject to specific capital adequacy regulation until the mid-1990s.

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

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

II. SECURITISATION

- ***Unbundling of the mortgage process***

The role of securitization in mortgage markets is more developed in the US than in Europe. It involves the packaging together of bundles of mortgages and their resale, so that they are tradable on the capital markets. In the US about 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 are seven key functions in mortgage lending: design of the mortgage product, selling, or marketing, of the loan, packaging the loan, administration, funding, the assumption of risk, delinquency management. The unbundling of the mortgage process enables institutions to concentrate on those areas in which they have the greatest comparative advantage. In Europe, typically, mortgage credit institutions have undertaken most of the functions mentioned, although this is changing. In addition, in a number of countries (including BE, DE, NL, UK, IRL) loans are also arranged through credit intermediaries and a range of packaging companies with varying functions has been established.

- ***Securitization has a number of advantages***

1. *Efficient use of capital* In a non-securitized system the lender normally bears the risks involved in making the mortgage loan and in holding it on balance sheet during the lifetime of the loan. In a securitized system this risk is sold to third parties.

2. *Higher liquidity* In a non-securitized system, an institution must have sufficient funding for the lifetime of the loan, if it wishes to continue to hold it. In a securitized system a lender does not need to be successful in funding in order to create the conditions necessary to be successful in lending.

3. *Risk management* Organizations operating within a securitized market are able to constantly re-assess the risk/reward relationship involved in holding mortgages and alter their portfolio behavior accordingly. For example, securitization offers local mortgage lending institutions the opportunity to reduce the risk of geographic concentration by selling loans which they had originated in the local area and purchasing a more diversified portfolio on the secondary market.

- ***Introduction of the euro***

With the creation of a single European capital market, mastering securitisation will increasingly become an advantage. In addition, securitisation could also help in imposing minimum standardisation of products and procedures for the granting and management of loans throughout Europe and enable issuers to attain a critical mass of homogenous assets. Experts expect that the cost of securitisation operations should continue to fall for the transferors due to :

1. the role of the rating agencies;

2. the familiarization of investors with securitisation operations;

3. the tendency to reduce spreads, observed in the United States, which should become general practice because of a demand for structurally strong high-quality paper.

- ***Why has securitisation not grown more rapidly on EU markets ?***

According to recent figures, less than two percent of outstanding mortgage loans in Europe are currently funded through securitisation. Given its apparent benefits it is surprising that the securitization market has not grown as quickly as was predicted in the mid-to late 1980s. Reasons include :

1. *Capital requirements:* Securitisation in Europe remains relatively costly and capital intensive. Indeed, the 98/32/EC directive allows for a 50% weighting of mortgage-backed securities, a less favorable weighting than that enjoyed by the securities issued by the US federal agencies.

2. *The existence of competitive on-balance sheet funding instruments:* Given the relatively expensive structure of MBS issues in Europe, a number of European countries are currently introducing mortgage backed bonds, i.e. on-balance sheet securitisation. Because of their reputation and their legal structure, mortgage banks enjoy a funding advantage which can be as much as 20 to 30 basis points over government bonds. Typically, mortgage backed securities currently trade with an average margin of 75bp to 150 bp over German government bonds.

3. *State guarantees* : Article 92 and 93 of the EC treaty outlaw state aid in the form of guarantees as there may be an element of unfair competition. Therefore - although some EU Member States have centralized issuing institutions which pool mortgages from a number of lenders and which are owned by private shareholders - EU Member States are not allowed to create National Agencies similar to the American Federal Agencies.

4. *Lack of consistent data* : Because of the diversity of European regulations there is a lack of available data in many fields including property valuation, defaults and forced sale procedures and early repayment. This makes the pricing of securities more difficult.

5. *Legal complexities and lack of standardization* : The time taken to foreclose may vary substantially and consumer protection regulation may not allow the mortgage lender to foreclose. Other problems include fiscal and legal difficulties such as the lack of harmonisation between the Roman and common law systems as regards the transfer of assets. The lack of standardization in Europe results in a great variety of products such as variable rate loans. These are more difficult to securitize as it is not possible to predict the likely return for the holders of the securities.

III US STANDARDISATION VS EUROPEAN PRODUCT VARIETY

- ***US standardisation - the role of the Agencies***

The size of the federal agencies enables them to impose homogeneity on the market. Fannie Mae, for example, has developed standardized software to assist lenders in underwriting processes. The federal agencies can insist on loans having particular characteristics before they purchase and they are able to publish uniform, widely available mortgage rate benchmarks in order to facilitate comparison shopping by borrowers. <u>*No such standardization process exists in Europe*</u>.

- ***Fixed vs. variable rate mortgage products***

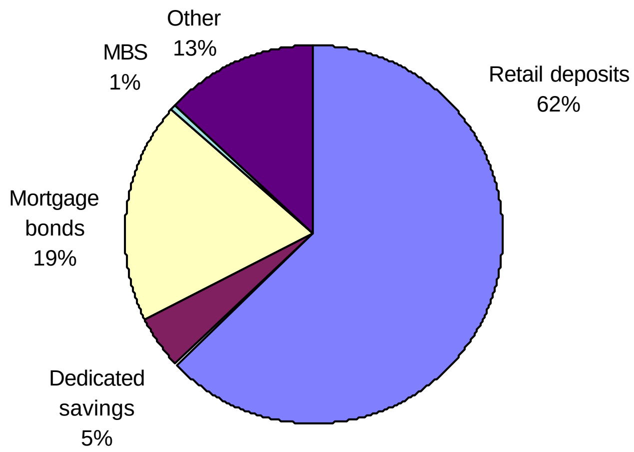
The U.S. market is dominated by fixed-rate mortgages. Almost two-thirds (65%) of loans held by the federal agencies are 30-year fixed-rate loans and a further 15% are 15-year fixed rates. Just 10% of the loans are adjustable-rate mortgages and the rate charged by the mortgage lending institution is linked to an index.

In Europe, despite deregulation, the Member States retain marked differences in their financing systems. For instance, several Member States (AT, DE, DK, SE) retain specialized financing networks, whilst in other Member States specialists have disappeared, mortgage credit being part of the range of basic products offered by any institution on the market. This explains the considerable diversity (outlined below) between the various types of mortgage loans offered to consumers.

	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

Approximately 70 % of new loans in 1997 were variable rate (initial fixed period of up to 5 years). Such loans are clearly more difficult to securitize if there are no objective indicators of the likely return to be received by the holders of the securities. The return depends on the interest rate policy pursued by the originator. Fixed-rate loans have become more popular in recent years, accounting for the remaining 30 % of new loans in 1997 (initial fixed period of 6 years or more).

- ***Funding of EU mortgage loans (end-1998)***



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Funding (end-1998)	%		DE
Retail deposits	63%	1.700.034	
Dedicated savings (Bausparkassen)	5%	134.590	132.703
Mortgage bonds	19%	511.000	
MBS	1%	16.000	
Other	13%		
Total residential outstanding	**100%**	**2.713.152**	

IV PRE-PAYMENT RISK

A further key difference between the American and the European markets is the overwhelming importance of pre-payment risk in the United States and its relative absence in the European markets. In the US borrowers typically take out 30-year fixed-rate mortgages, but there are no, or minimal, redemption penalties. The secondary market - which operates under a risk of not receiving the expected return from the borrower if he pre-pays - offers an effective mechanism for pricing that risk. This means that the prepayment risk is « mutualised » among the borrowers and that borrowers who do not prepay effectively pay for other borrowers' mobility.

On early repayment penalties, there are significant differences in national laws. In European countries with a variable rate tradition such as the UK, the pre-payment risk does not exist. In other countries, lenders offering fixed rate products are allowed to recover their losses by charging a redemption fee. A number of countries have introduced rules which limit prepayment penalties charged to consumers. This has complicated the funding process and has resulted in mismatching.

V CONCLUSION

Products and techniques which operate in the US market are not yet easily transferable to European markets, not least because of the dominant role of the federal agencies. However, conditions in EU markets are changing rapidly. Intense competition, greater focus on the need to use capital efficiently, changing funding conditions created by historically low inflation and interest rates, and an acceleration of already existing trends towards specialization may drive the creation of a much larger secondary market. Mirroring the diversity of European mortgage markets, this secondary market will have a different shape from the US market : there will be competition between on-balance and off-balance sheet instruments on the basis of the intrinsic quality of the issuing institution and the securities.

VI REFERENCES

- Boléat, M. (1985), *National Housing Finance Systems,* Croom Helm, London
- Coles, A. (1999), *What Is Different About the USA?,* International Union of Housing Finance
- European Mortgage Federation (1996), *Mortgage Banks and Mortgage Bonds in Europe,* Nomos Verlagsgesellschaft, Baden-Baden
- European Mortgage Federation (1999), *Hypostat 1988-1998,* EMF, Brussels
- European Mortgage Federation (2000), *The Commission's consultation document on Regulatory Capital Requirements for EU Credit Institutions and Investment Firms,* EMF, Brussels
- Gardner, K., Paterson R. (1999), 'The potential for mortgage securitisation in the UK and Europe', *Council of Mortgage Lenders*
- Hardt, J. (1999) 'European Integration : Prospects for the Mortgage Lending industry', *Housing Finance No. 41,* Council of Mortgage Lenders
- Houman, A. (1999) 'The impact of the euro on the financial markets', *Housing Finance No. 41,* Council of Mortgage Lenders
- Levine, M. (1999), 'Issuing Bonds on World Capital Markets - the US experience'*, European Mortgage Federation*
- Lore, K. Cowan, C. (1998), *Mortgage-Backed Securities* : *Developments and Trends in the Secondary Mortgage Market*, West Publishing
- McCarthy, M. (1999), 'Securitization in the United States : a model for Europe*?* ' *European Mortgage Federation*
- Moody's, (1989), 'European Residential Mortgage Markets', *Moody's Global Structured Finance,* volume 1, issue 3
- OECD/Thompson, J K., (1995), *Securitisation : An international Perspective,* OECD.
- The Economist, *Homesick blues,* April 15th 2000, p. 89
- The Economist, *Fannie, Freddie and Uncle Sam,* April 15th 2000, p. 15
- Wallison, P., Ely, B. (2000), 'Nationalizing Mortgage Risk, The Growth of Fannie Mae and Freddie Mac, The AEI Press (publisher of the American Enterprise Institute), Washington D.C.