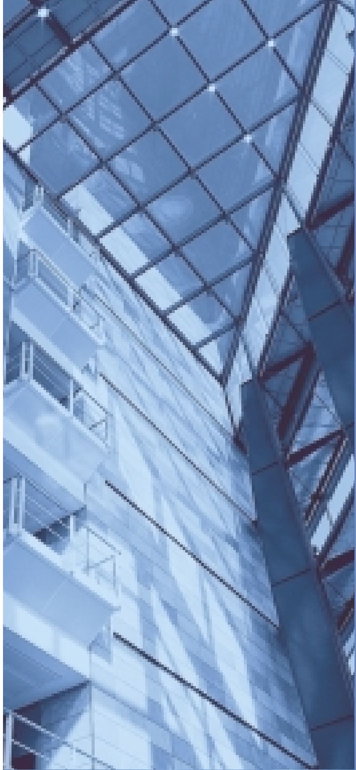
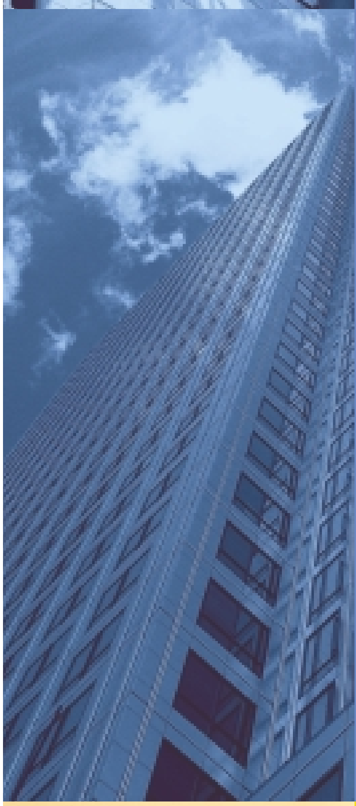


European Mortgage Securitisation: A Valuer's Guide

November 2002

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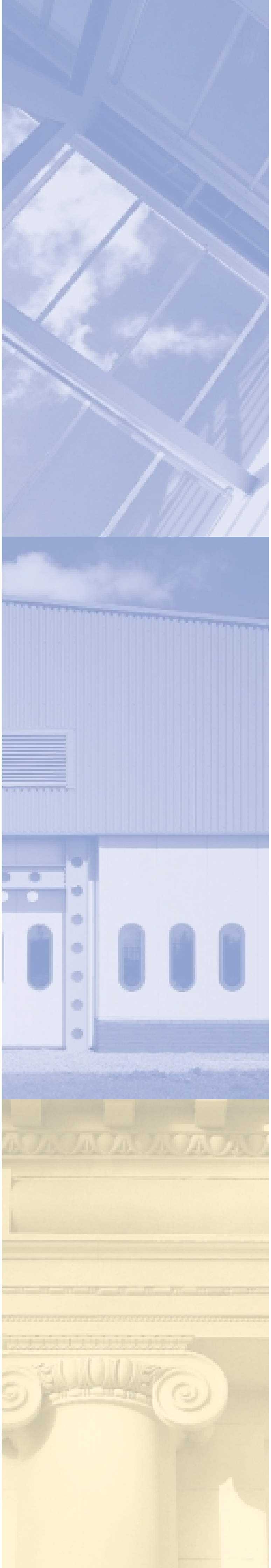
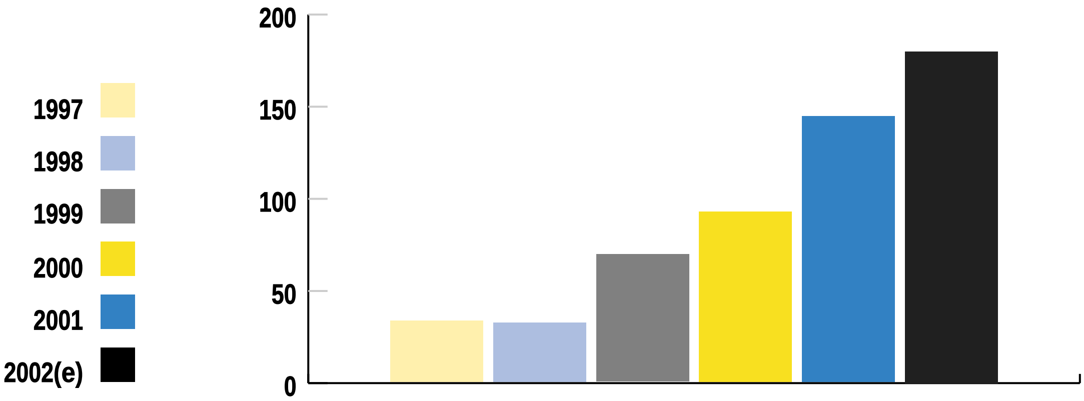


Contents

I. Introduction

Securitisation was developed in the US during the 1960's as part of a public policy initiative to make more funds available for residential mortgage loans. Later on, additional sponsorship has been provided by a certain number of government agencies (GNMA, Fannie Mae, Freddie Mac) carrying implicit US-government guarantees.

Asset securitisation came to Europe in the early 1990's, but issues and volumes have only increased significantly since 1997/1998. Compared to the volume of the worldwide Asset Backed Securities market being estimated today at 7.000 bn USD[1], the size of the European ABS market still remains relatively modest. Adding up European gross issues of the last five years, the overall ABS market amounts to approximately 550 bn Euro, representing less than 10% of the global market.



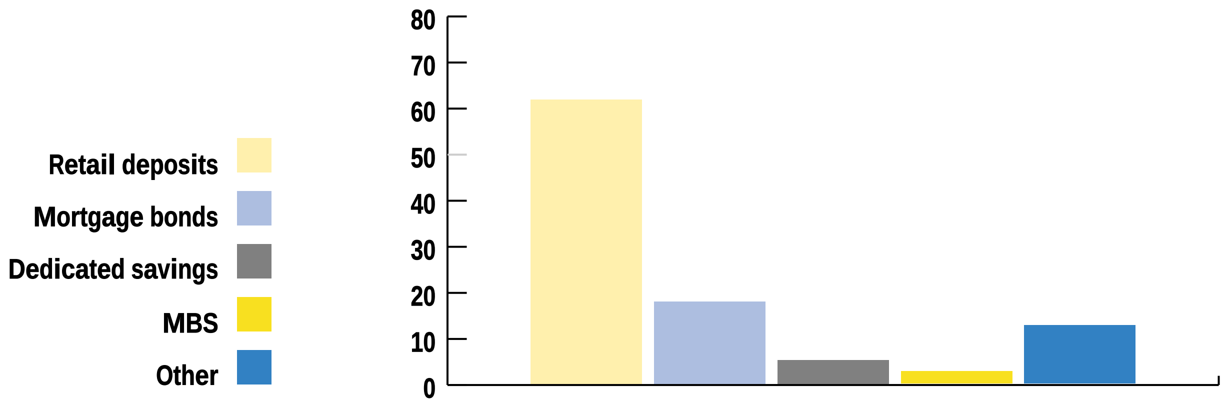
Growth of the European ABS market since 1997 in bn Euro (Source: DB Global Markets Research)

Securitisation can be defined as the process whereby loans, receivables and other financial assets are pooled together, with their cash flows or economic values redirected to support payments on related securities. These so called "asset-backed securities" (ABS) are issued and sold to investors who use securitisation to finance their business activities. The financial assets that support payments on ABS include any asset that has a reasonably ascertainable value or that generates a reasonably predictable future stream of revenue. Those assets are residential and commercial mortgage loans (residential mortgage backed securities or RMBS and commercial backed securities or CMBS) as well as non-mortgage assets such as credit card balances, consumer loans, trade receivables etc.

[1] *Bloomberg*

1. Mortgage Backed Securities (MBS)

A variety of funding instruments is used in mortgage business in Europe, more than 60% of which is still funded by deposits.



Funding methods used in Europe in % (Source: European Mortgage Federation)

However, MBS are meeting more and more mortgage lenders' requirements for various reasons. The use of MBS will depend on the specific needs of the lender with respect to its solvency ratio requirements, balance sheet structure, return on equity. It will also be influenced strongly by history, legal framework and mortgage market structure of the country where the lender operates.

Transaction structure

Mortgage securitisation is an unbundled process divided into origination, grouping and funding of loans followed by the structuring and the rating of the new mortgage assets. The credit institution first creates a legal entity known as a special purpose vehicle (SPV) and sells mortgage loans that it has originated ("receivables") to this SPV. The SPV issues securities that are sold to investors such as credit institutions, insurance companies, pension funds and the like. The SPV is bankruptcy-remote, which means that the assets of the SPV are legally separated from the assets of the originator, thereby leaving the SPV out of the reach of any potential receiver for the originator.

A placement agent or underwriter generally serves as an intermediary between an issuer and investors in an MBS offering. The underwriter provides guidance on structuring the transaction in an efficient and cost-effective manner which includes devising one or more "tranches" of MBS that are sold to investors. The cash flows may be allocated to different tranches of debt securities to meet the needs and preferences of individual investors. The proceeds from the issuance of the securities provide the funds needed by the SPV to pay the purchase price of the assets.

Usually, the bank manages the mortgage loan pool in accordance with its existing credit and collection procedures. These activities are generally referred to as "servicing". A trustee is charged to survey the servicer and the security pool. He executes the security in case of insolvency of the mortgage borrower.

Rating

MBS can only be placed when they are rated by a rating agency. Rating agencies evaluate a MBS transaction by focusing on three key components: collateral quality, bankruptcy-remoteness and pool administration. The collateral evaluation consists in analysing the delinquency, foreclosure, and loss of experience of both the originator/servicer and similar mortgages. Therefore the pool is subjected to a series of stress tests designed to simulate severe economic stress. The bankruptcy-remoteness evaluation focuses on a legal analysis of the trust structure or SPV set up to hold the mortgage collateral on behalf of the security holders. The pool administration evaluation centres on the trustee and servicer and their ability to perform the administrative functions associated with the pool.
The servicer is evaluated for collecting, investing and disbursing payments to investors. Historically, the rating agency evaluation of structured transactions have been extremely conservative.

Credit enhancement

In order to get a favourable rating, the rating agency demands an additional security for MBS-creditors besides the security pool (credit enhancement).

A credit enhancer employs internal or external credit support to make sure that investors will receive the cash flows to which they are entitled. The external credit support is an external insurance policy purchased from an insurance company. The insurance company *covers losses up to a stated percent of the original face value of the pool, on average 7-13 % depending on the quality of the mortgage collateral. The insurance could be supported by other forms of credit enhancement including over-collateralisation and cash reserve accounts.*

The internal credit support is the senior-subordinated structure or the senior-junior tranching. In this structure, two or more classes of MBS are created that bear differing exposures to credit losses. MBS-issuances are therefore divided into first class senior (AAA to AA) and second class junior tranches (A and lower), the latter representing 10-20 % of the total transaction volume and serving as security. Junior tranches are lower rated but offer high revenues for investors. There are one or more junior or first loss tranches that support the senior classes by absorbing credit-related losses up to the face amount of such junior classes. Only after the junior classes have disappeared do the senior classes face the risk of losses. Today, the senior-subordinated structure is the dominant form of credit enhancement for ABS/MBS. Pool insurance is mostly used for small securitisation transactions or for new asset classes where there is insufficient credit-related data to support an efficient senior-subordinated structure.

True Sale – Synthetic MBS

If the originator sells mortgage loans by removing them from its balance sheet, the transaction is called true sale securitisation. If only the credit default risk is transferred to the investor and the mortgage assets remain on-balance of the originating bank, the transaction is called synthetic securitisation.

The true sale structures are most prevalent in Europe (94%), whereas synthetic securitisation is the main feature of the German MBS market. The reasons for synthetic MBS business are the lack of an appropriate ABS framework, the absence of SPV specific legal and fiscal rules and sophisticated mortgage assets transfer regulations. In order to avoid complex legal and fiscal implications, it may be more efficient for originating banks to sell the credit risk by contracting credit default swaps with swap counter-parties (investors) without constraints to create off-shore SPV structures and cross-border cash flow.

2. Benefits of securitisation

There are many reasons for mortgage lenders to use securitisation techniques:

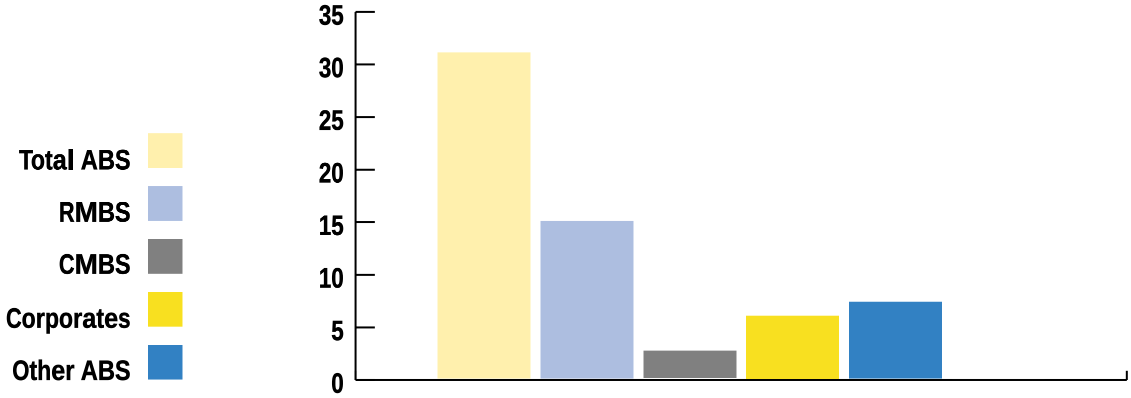
- *it offers the perspective of providing a vehicle for transforming relatively illiquid, individual financial assets into liquid and tradable capital market instruments;*
- *securitisation enables the mortgage lender to transfer the credit risks associated with risk assets, thus enabling the bank to hold less regulatory capital;*
- *by leveraging the balance-sheet of the mortgage lender, the lender locks into the origination and servicing revenues associated with the relevant loans, whilst effectively minimising the credit costs - this enables returns on capital to be optimised to a greater extent as capital can potentially be employed to support the origination of assets at higher return;*
- *significant operational efficiency enhancements are a result of the discipline imposed on banks' business by MBS servicing requirements;*
- *securitisation is a more flexible and adaptable nature of financing in relation to more traditional alternatives. The issuer can better manage the balance sheet and can achieve a more precise and efficient matching of the duration of its assets and liabilities by subdividing and redirecting cash flows from underlying financial assets.*

II. European MBS-Market

There is no market evidence about the overall MBS outstanding in Europe. As statistics only relate to primary market activities, the only reliable figures refer to issuance volumes per year and country. Tracking issuances, the volume of the residential MBS market segment in the European Union may be estimated at 150 bn Euro, which represents approximately 3.5% of the total residential mortgage loan outstanding in the EU (end of 2001).

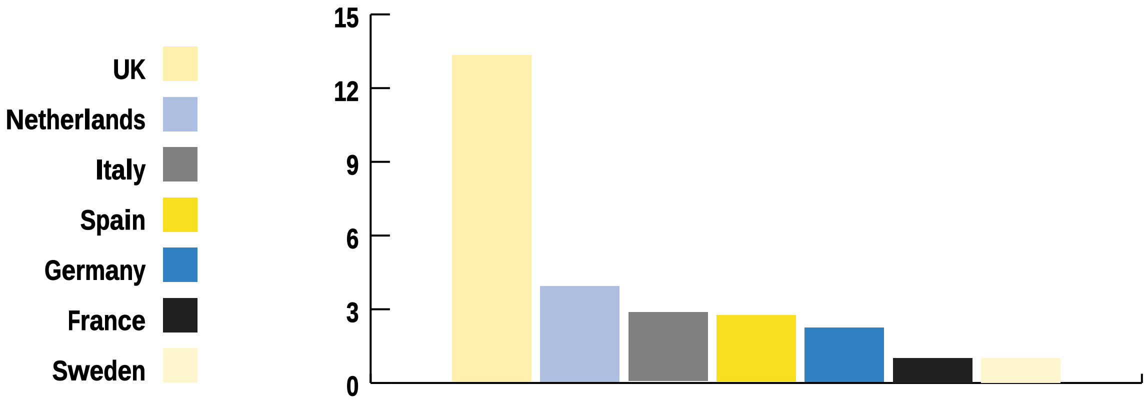
In some European countries, outstanding RMBS are much more significant than the European average. RMBS volume ranges from 3.6% (UK), 7 and 8% (Spain and the Netherlands respectively) up to even 10% (Ireland) of the respective domestic residential mortgage loan outstanding.

With regard to assets, MBS represent the most important asset class in Europe, holding an average 1/3 of the total ABS market. In the second quarter of 2002, MBS issues represented as much as 56% of European securitised assets. Of the 31 bn Euro total ABS issuance during this period, residential MBS totalled over 15 bn Euro, a share of 48%, whereas commercial property issuances hold an 8% market share.



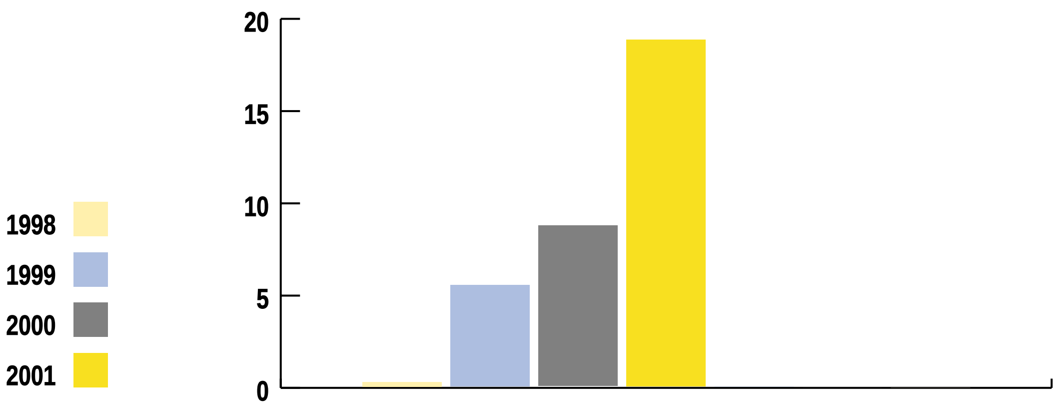
Second quarter 2002 ABS issuance by asset class in bn Euro (Source: ING)

In the residential MBS segment, the European market is largely dominated by the UK, followed by the Netherlands, Italy and Spain. The country-specific RMBS breakdown shows the following picture:



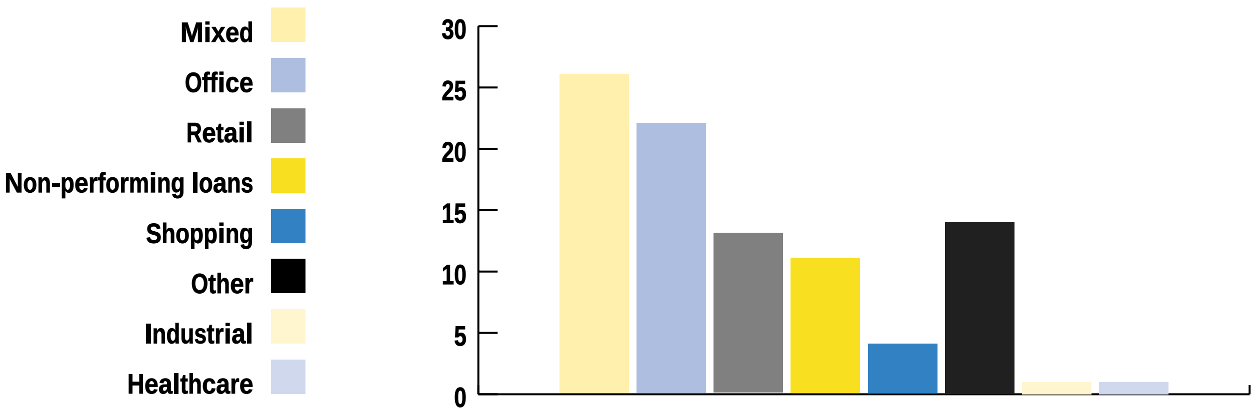
First half of 2002 RMBS issuances by country in bn Euro (Source: Standard & Poors)

European commercial mortgage assets are in a cyclical downturn. The office sector is mainly suffering from the downturn in technology, telecommunication and banking industries. As a consequence, there is weaker demand, an accelerated drop in prime rents and rising vacancy rates. Similar to office markets, European retail and shopping markets are also suffering from the economic downturn and from the reduction of investment. The following figure shows the sharp growth of European CMBS issuance volume over the last 4 years from which the outstanding European CMBS can be estimated at approximately 30 bn Euro:



European CMBS issuance volume from 1998 to 2001 in bn Euro (Source: S&P, HVB Credit Research)

The breakdown of the CMBS asset types is shown by the following figure:



2001/2002 European CMBS issuance volumes in % by underlying assets (Source: HVB Credit Research)

The size of the European MBS market as a whole will probably amount to more than 180 bn Euro, confirming the strong UK position, with Italy and the Netherlands as the second largest markets, followed by Spain and Germany.

1. United Kingdom

The UK traditionally dominates both European RMBS and CMBS markets. The UK is the most advanced issuance country in terms of portfolio types being securitised, since it includes property specific pools of loans and credit lease portfolios as well. One reason for the leading role of the UK is its creditor friendly legal environment and the strong position of secured creditors in case of default.

Issued RMBS volume for the first 6 month 2002 ended at 13.5 bn Euro as compared with 8.5 bn Euro over the same period in 2001. An estimated 40 bn Euro of residential MBS backed by UK residential mortgages were outstanding at the start of 2002. This corresponds to 4% of the total UK mortgage book.

In 2001, UK commercial MBS issuance totalled more than 8 bn Euro. During the first two quarters 2002, CMBS issuances amounted to approximately 4.9 bn Euro.

2. The Netherlands

Dutch RMBS issuance claims second place after the UK, with volumes ending at 4 bn Euro for the first half of 2002 as compared with 2.4 bn Euro a year earlier. Over the last 3 years, RMBS issues fund approximately 8% of the total outstanding mortgage loans in the Netherlands.

3. Italy

Italian banks really entered into the securitisation business only in 2000. Specific securitisation rules had been introduced just before with the aim of boosting this market segment. For example, the Bank of Italy published a specific regulation on SPV's and regularly assesses the structure of transactions on a case-by-case basis.

In 2000, the amount of issued MBS totalled 3.4 bn Euro. In 2001, Italian issuers were very active in the overall MBS market issuing 7.3 bn Euro of CMBS and 11.5 bn Euro of RMBS. In 2002, no Italian CMBS has been closed during the first half-year and only 2.8 bn

Euro RMBS have been issued so far. The reason for this may be the expiry of the tax relief pursuant to Law 130/1998 for the securitisation of non-performing loans, which was one of the main driving forces of the first wave of securitisations. Furthermore, an interim regulation of the Bank of Italy seems to penalize banks investing in MBS by higher capital adequacy requirements compared to other European countries.

4. Spain

While the Spanish RMBS market was marginally behind Italy in volume terms, its growth was much more spectacular. Its first half 2002 figures almost doubled to end at 2.3 bn Euro with four transactions compared to 1.4 bn Euro a year earlier. Over the last four years, RMBS issues totalled 20 bn Euro corresponding to 7% of the outstanding mortgage loans in Spain.

5. Germany

The German MBS market is essentially characterised by synthetic securitisations and not by true sale transactions. In terms of volume, the market is lagging behind the UK or Dutch markets and it is still very fragmented in terms of size, structure and underlying assets.

In 2000, MBS issuance in Germany picked up substantially when MBS were issued in considerable sizes and also by institutions other than mortgage banks for the first time. As 14 of 15 transactions were synthetic, there is an evident tendency in Germany to use MBS as a tool for risk and balance sheet management as well as for gaining capital relief rather than for funding purposes. Each structure is tailored to meet the specific needs of the underlying portfolio so a standardised MBS market, compared to the US market, will probably not exist in short or medium term.

Residential MBS issues have shown a steady growth since 2000 from 4.5 bn Euro up to 7.3 bn Euro in 2002 year to date, but German CMBS issuance seems to have slowed. Whereas in 2001 German CMBS issuance volume totalled 4.7 bn Euro, only two CMBS issues totalling 2.2 bn Euro have been placed in 2002 to date.

III. Valuation

The performance of European MBS is primarily driven by the quality of the underlying properties and the respective property markets. The quality of the valuation has a strong impact in this context.

Qualified valuers have to value the property assets which are generally financed at a loan-to-value ratio of 60 – 80% of the value of the property. There has been very low transparency about MBS related property valuations. As any investor decision is based on the property's ability to produce revenue over the long term up to the MBS's maturity, qualified property valuation is of fundamental importance.

Investors are principally exposed to the performance of the mortgage loans serving as collateral to the securities and to certain other third parties providing additional credit enhancement. They therefore usually rely on credit ratings from one or more major internationally recognised rating agencies in order to assess the credit quality, structural integrity and other attributes of a particular mortgage backed security (see above).

1. Property risk and portfolio segmentation

Valuers dealing with property valuation for securitisation purposes need to focus on market and property-related risk criteria of the mortgage assets. The aim is to provide originators, rating agencies and MBS-investors with transparency regarding both market and sustainable net asset values for individual properties and/or portfolios and market and property risk details, thus facilitating the structuring of mortgage loan portfolios, portfolio ratings and investor decisions.

It is therefore necessary to define a set of detailed criteria allowing the determination of the risk profile of the underlying property assets. The following 6 risk buckets are suitable to accurately reflect the long term quality grade of a property and to calculate its net asset value for securitisation purposes:

- *market risks*
- *location risks*
- *property related risks*
- *partnership risks*
- *fiscal and legal risks*
- *financial risks*

Appendix 1 lists the criteria in greater detail.

Furthermore, it is necessary to distinguish between three types of mortgage loan portfolios:

- *Residential mortgage backed securities (RMBS) based exclusively on retail mortgage loans (mortgage loans to private customers investing in not more than 3 residential properties)*
- *Residential mortgage backed securities conceived as a commercial business (loans to commercial investors holding 4 or more residential properties, condominiums)*
- *Commercial mortgage backed securities (CMBS) based on commercial properties*

The process described below must always apply to valuation of properties and the identification of market and property related risks, including regular updates, if mortgage loans are suitable to be securitised. It is addressed towards professional property valuers. The transparency of other risk aspects relating to the assets, such as debt service coverage and credit quality of the borrower, are not the subject of a valuer’s work and are therefore not subject of the following description.

2. Definition of Terminology

2.1. Market Value (see EVS 4 / IVS 1)

"Market value is the estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm’s-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion"

2.2. Sustainable Net Asset Value

The sustainable value that an asset may be expected to achieve or maintain over the long term. In the securitisation business; this concept is employed by originators, rating agencies, portfolio insurers and investors. Sustainable net asset value is estimated either by reference to mortgage lending value or by making variable adjustments to market value, depending on the phase in the ongoing market cycle and potentially destabilising factors such as market volatility and speculative activity. The estimate should reflect the cyclical forecast and expectations of volatility and speculation, characteristic of the specific property market. In concept, sustainable net asset value is *similar to mortgage lending value. Also called Long-term Sustainable Value or Sustainable Asset Value.*

2.3. Mortgage Lending Value

Mortgage Lending Value shall mean the value of the property as determined by a valuer making a prudent assessment of the future marketability of the property by taking into account long-term sustainable aspects of the property, the normal and local market conditions, the current use and alternative appropriate uses of the property. Speculative elements may not be taken into account in the assessment of the Mortgage Lending Value. The Mortgage Lending Value shall be documented in a transparent and clear manner.

3. Valuation Process

In order to provide the necessary transparency, a two-step process divided into the traditional valuation of the property and an assessment of the specific property risk profile is being recommended to valuers.

According to the national practice, qualified valuers using transparent valuation methods that are recognised by national valuers' associations have first to proceed to a traditional valuation, i.e. to determine market value and sustainable net asset value for each property in a portfolio to be securitised at the moment when the individual property is financed. If the assessment of the sustainable net asset value was not carried out at the time when the individual property was financed, this must be done at the moment when the mortgage loans are being sold to the special purpose vehicle.

In addition to the property valuation, a structured risk assessment (market and property risks, see above) has then to be produced for each property of the commercial and investor related residential mortgage loan portfolios at the moment when the individual property is financed. Regarding the retail residential loan portfolio, a cluster analysis should be used to divide the entire portfolio into homogeneous clusters which should be valued by means of a simplified method taking into account value determining parameters. If this assessment was not carried out at the time when the individual property was financed, this must be done for each property at the moment when the mortgage loans are being sold to the special purpose vehicle.

Appendix 1
Criteria for determination of the risk profile

1. Residential property (as private investment)

Criteria		Territorial reference: Country	Region	Local market	Location & Site	Building
Demography						
Inhabitants	Number	X		X		
Trends of the population	Changes in %	X		X		
Structure of age	Part of the 25-to-35 years range	X		X		
Macroeconomic development						
Economic growth	Changes in %	X				
General price development	Changes in %	X				
Long term interest rates	Interest rate	X				
Exchange rate	Volatility	X				
Unemployment	Rate	X		X		
Political & financial conditions						
crisis area	yes / now	X				
...						
Regional environmental & soil risks						
Endangering by high water	yes / no		X			
Endangering by earthquakes	yes / no		X			
Possibility of soil sinking	yes / no		X			
Market structure / - size / - dynamic						
Owner-occupier / Investor driven market	Ownership rate			X		
Residential units in one / two family houses & free hold apartments	Share of total resid. properties			X		
Approved residential units in above buildings	In % of total resident. properties			X		
Constructed residential units in above build.	In % of total resident. properties			X		
Market cycle	Boom/Recession			X		
Price volatility	Coefficient of variation			X		
Vacancy	Rate			X		
Residential environment						
Location in the settlement area	good/average/bad				X	
Image/appreciation of the location	good/average/bad				X	
Infrastructure / public transport	good/average/bad				X	
Traffic impairments	high/average/low				X	
Other impairments	high/average/low					
Other location & site criteria						
Soil characteristics / qualities	Contamination				X	
	Construction land				X	
Use of land / property suitable to location	yes/no				X	
Rent / Tenant						
Quality of the tenant	good/average/bad					X
Risk of rental losses	low/average/high					X
Amount of the rent (contractual)	Euro per sqm					X
Rent compared to the market average	Relation			X		X
Let space / pre-leases	Percentage					X
Further details of the property						
Year of construction						X
Type of the property	Apart./sing.-double fam houses					X
Way of building	traditional / prefabricated					X
State of repair	good/average/moderate/bad					X
Equipment	good/average/simple					X
State of restructuring	fully / partly / non restructured					X
Possibility of owner occupancy	yes / no					X
Housing units	Number					X
Size of the land	sqm					X
Parking / Garage	Number					X
Special renovation risks	yes / no					X
Existing contamination	yes / no					X

2. Residential property (as commercial investment)

Criteria		Country	Region	Local market	Location & Site	Building
		Territorial reference				
Demography						
Inhabitants	*Number*	X		X		
Development of the population	*Changes in %*	X		X		
Macroeconomic development						
-> cf. residential						
Political & financial conditions						
Crisis areas		X				
....						
Lease legislation		X				
Tax legislation		X				
Regional environmental & soil risks						
-> cf. residential						
Market structure / -size / -dynamic						
Competition				X		
Owner occupier / investor driven market	*Share of rented apartments*			X		
Rented housing units	*Share of total buildings*			X		
Approved rented housing units	*Number / % of total buildings*			X		
Constructed housing units	*Number / % of total buildings*			X		
Market cycle	*Boom / Recession*			X		
Volatility	*Coefficient of variation*			X		
Vacancy	*Rate*			X		
Residential environment						
-> cf. residential						
Other location & site criteria						
Soil characteristics & quality	*Contamination*				X	
	Construction land				X	
Local competition / catchment area	*high/average/low*				X	
Use of land / Property suitable to location	*Yes / no*				X	
Rent / Tenant						
Special risk of rent losses	*Yes / no*				X	X
Amount of rent (contractual)	*Euro per sqm*					X
Rent compared to the market average	*Rate*			X		X
Let space	*In %*					X
Further details of the property						
Year of construction						X
Type of the property						X
Way of building	*Traditional / prefabricated*					X
Floors	*Number*					X
Residential units	*Number in the building*					X
Marketability / Third party use	*Yes / no*					X
Parking / Garage	*Number*					
State of repair	*good/average/moderate/bad*					
State of restructuring	*fully / partly / non restructured*					
Special renovation risks	*Yes / no*					X
Existing contamination	*Yes / no*					X
Quality of tenants	*good/average/bad*					X
Potential of rent increases						
Management						
Cash-flow-risks of the credit facility						

3. Commercial property

Criteria		Country	Region	Local market	Location & Site	Building
		Territorial reference				
Long term influences						
Inhabitants	Number	X		X		
Development of the population	Changes in %	X		X		
Structure of the sector	good/average/bad	X		X		
Growth opportunities of the sectors	good/average/bad	X		X		
Macroeconomic development						
Economic growth	Change in %	X				
General price developments	Change in %	X				
Long term interest rates	Interest rate	X				
Exchange rate	Volatility (cf. Euro)	X				
Political & financial conditions						
Crisis areas	Yes / no	X				
Tax legislation		X				
:::						
:::						
Regional environmental & soilrisks						
Endangering by high water	Yes / no		X			
Endangering by earthquakes	Yes / no		X			
Possibility of soil sinking	Yes / no		X			
Market structure / - size / - dynamic						
Competition	High7average/low			X		
Investors market	Yes / no			X		
Total usable floor space	Square meters			X		
Approved usable floor space	in % of total usable floor space			X		
Constructed usable floor space	in % of total usable floor space			X		
Market cycle with respect to the rent	Boom / Recession			X		
Volatility	Coefficient of variation			X		
Vacancy	Rate			X		
Location & site criteria						
Connection to transport facilities	Motorway/Train/Aircraft/ship				X	
Building suitable to the location characteristics	yes/no				X	
Local competition / catchment area	strong/average/low				X	
Attractiveness of the branch	high/average/low				X	
Use of land suitable to the location	yes / no				X	
Quality of the land (contamination)	yes / no				X	
Emission	yes / no				X	
Rent / Tenant						
						X
Special risk of rent losses	Yes / no				X	X
Amount of rent (contractual)	Euro per sqm				X	X
Rent compared to the market average	Rate			X	X	X
Let space	in %				X	X
Potential for rent increases	Yes / no				X	X
Further details of the property						
Type of property						X
Size	Lettable space in sqm					X
Quality of building and ground plan	good/average/simple					X
Marketability / third party use	Yes / no					X
Special risks of renovation	Yes / no					X
Existing contamination	Yes / no					X

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