
Mortgage Market Integration in Europe: Structures and Policy Issues

Kreditanstalt für Wiederaufbau

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Finpolconsult.de

Structure of the Presentation

1. European mortgage markets in comparison: structure
2. European mortgage markets in comparison: performance
3. Some remarks on the German special case
4. Excursion: United States – integration approach model for Europe?
5. European integration obstacles and benefits
6. Possible agenda for the European Union and for global initiatives

Mortgage product availability in the credit dimension

Incompleteness in the Credit Dimension

	Market							
	Denmark	France	Germany	Italy	Netherlands	Portugal	Spain	UK
LTV								
Typical	80%	67%	67%	55%	90%	83%	70%	69%
Maximum	80%	100%	80%	80%	115%	90%	100%	110%
Borrower								
Young household <30	●	◐	●	◐	◐	●	●	●
Older household >50	●	◐	◐	◐	●	◐	◐	●
Low equity	○	●	◐	○	◐	◐	◐	●
Self certify income	○	○	○	○	◐	○	◐	◐
Previously bankrupt	◐	○	○	○	○	○	○	◐
Credit impaired	◐	◐	○	◐	◐	○	◐	●
Self employed	●	◐	●	●	◐	●	●	●
Government sponsored	◐	●	◐	◐	◐	●	◐	◐
Purpose								
Second mortgage	●	◐	●	●	●	●	●	●
Overseas holiday homes	●	●	◐	●	◐	○	○	●
Rental	●	●	●	●	●	●	●	●
Equity release	●	○	◐	●	●	○	◐	●
Shared ownership	●	◐	◐	◐	◐	●	○	●
Key ● Readily available ◐ Limited availability ○ No availability								

- Most EU lenders as yet serve only standard markets.
- High-LTV markets:
 - Conservative regulations (esp DE),
 - Government rental subsidies distort
 - Second mortgages & insurance competing.
- Subprime markets:
 - Only UK with serious credit impaired market. (easy repossession)
 - Older households, free-lancers are often rationed.
 - Regulatory and insurance “barriers”

Source: Mercer Oliver Wyman /European Mortgage Federation

Mortgage product availability in the interest rate risk dimension

Incompleteness in the interest rate dimension

- Historical patterns
 - Covered bonds + FRM (DE, FR, DK),
 - Depositaries + ARM adjustable-rate loans (UK), also emerging Europe (ES, GR, PL).
- ... are difficult to change:
 - UK, ES attempts to FRM failed,
 - DE, FR, DK ARM have rate caps.
- Public support for callable fixed-rate loans:
 - US, GSEs + tax deduction,
 - DK, institutions were forced to buy mortgage bonds + tax deduction.

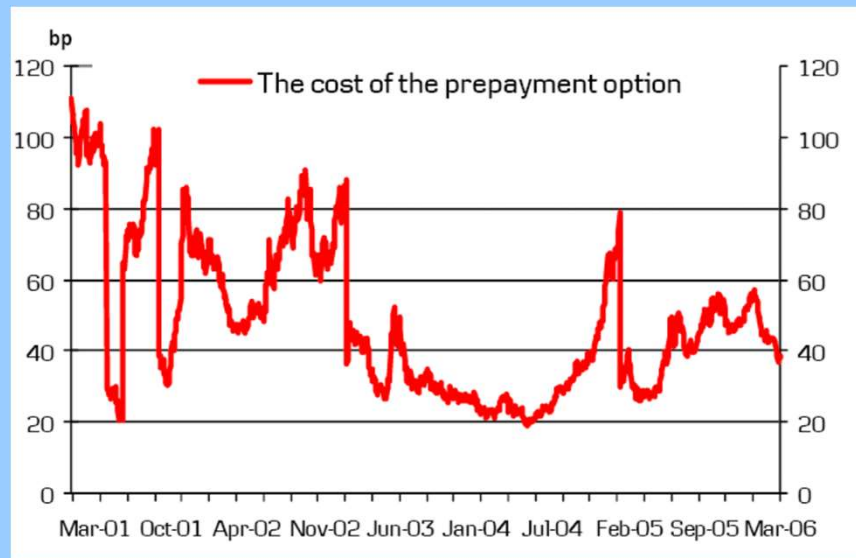
	FIXED-RATE		ADJUSTABLE-RATE
	Without call protection	With call protection	
EUROPE			
Germany	O	X	X
Great Britain	O	O	X
France	X	O	X
Netherlands	O	X	X
Spain	O	O	X
Denmark	X	X	X
WORLD			
USA	X	O	X
Japan	O	X	X
Canada	O	X	X
Australia	O	O	X

LEGEND	
Dominant	X
Widely used	X
Not widely used or missing	O

Source: Finpolconsult

Prepayment option costs and mortgage pricing

Prepayment option costs in Denmark, 01-06, 4% coupon 2038 mortgage bond



Source: Realkredit Danmark

- Prepayment option costly, higher than credit and administration costs together,
- Options costs volatile due to interest volatility/yield curve + borrower behaviour 'surprises',
- European lenders usually apply call protection through prepayment indemnities
 - Yield maintenance indemnities (DE, SE, NL, implicitly DK on non-callables)
 - Statutory capped indemnities (FR, ES, IT), leads to mix of both options + exercise price.

Prepayment rates and pricing – 06 data synopsis

	Product	Fixing period	CPR*	Option value quotes**	Call protection applied
Denmark	FTM	20-30 yrs	10-30% C	30-60bp (30y) C	None (some discount issues)
	FTT	2-5 yrs	10% C	0 C	YMPP, symmetric
France	FTM	15-20 yrs	10-20% C	n.a., likely ca 30bp L	Capped PP
Germany	FTT	5-20 yrs	n.a.	20-45bp (10y) L	None
	FTT	5-20 yrs	n.a.	10-20bp/10% p.a. 0-10 bp/5% p.a. (term invariant) L	None within partial prepayment range agreed
	FTT	5-20 yrs	3-6% C	~0 L	YMPP or exclusion
Netherlands	FTT	5-10 yrs	15-20% C	30 bp (10y) C	YMPP over 10% p.a., caps
U.K.	Hybrid (FTT-float)	2-3 yrs & 3 mths	30-40% C	n.a.	Uncapped PP
Portugal	Float	12 mths	10-11% C	n.a.	Uncapped PP
Spain	Float	12 mths	8-25% C	n.a.	Capped PP
Italy	Float	1-6 mths	5-8% C	n.a.	Capped PP

Sources: Merrill Lynch (2006a) and (2006b), Duebel (2006), Soerensen (2006), interviews with Danish lenders. Evidence based on capital market transaction analyses (C), bank term sheets, surveys & analyses (L).

A closer look at a complete European market in the interest rate risk dimension - Denmark

Observations

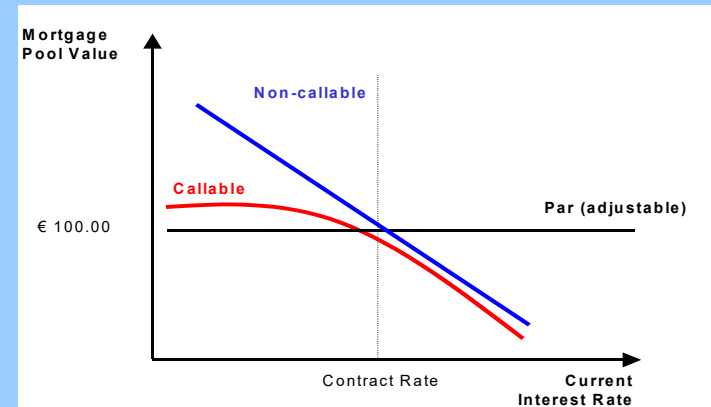
Product menu

- Non-callable fixed-rate <5 yrs – comparable to DE
- Adjustable-rate (capped!)
- Callable (prepayable) 20 or 30 year fixed-rate.
- Loans in DK can be ‘delivered’, I.e. bought back at the market price. This reduces the risk of ‘lock-in’ if interest rates rise.

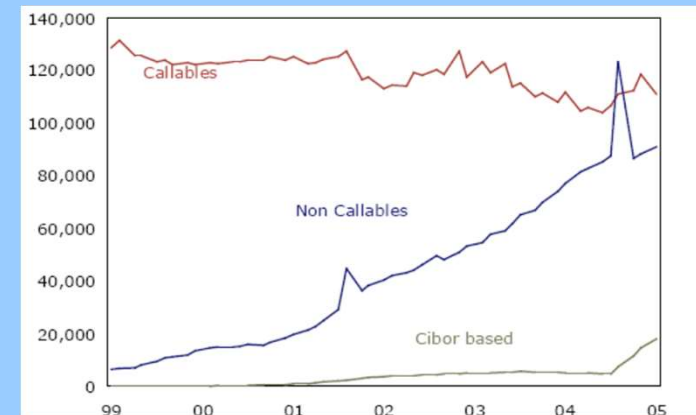
Assessment:

- Basic interest rate risk protections in place, yet sufficient selection options for consumers.
- Caps on adjustable-rates imply that downside interest rate risk is always limited.
- Pricing exclusively via the capital markets
- Standardized DK system at the same time is weak on credit risk innovation, distribution.

Interest rate dynamics of the three principal DK products



Market shares of the three principal products 1999-2005



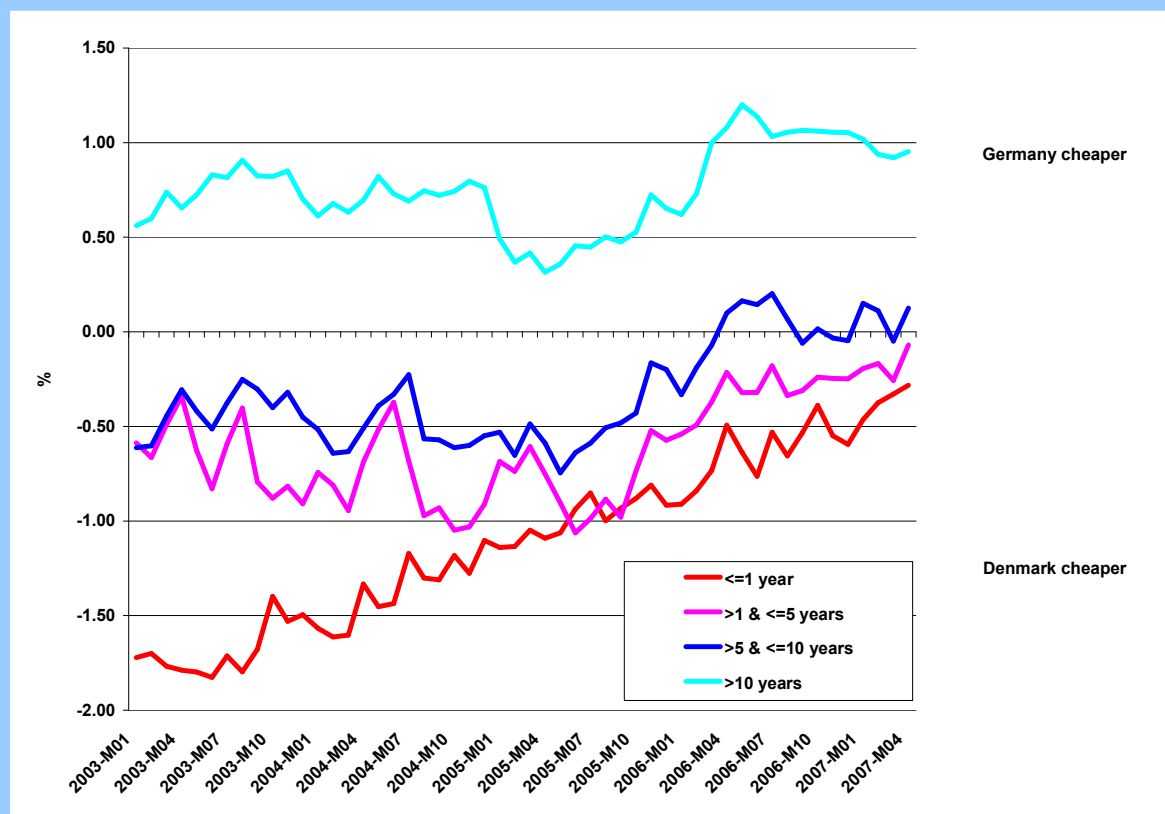
Product concentration – liquidity & regulatory barriers

	Spain	Germany
London economics		
Variable rate mortgage spreads	1.19	1.45
APRC spreads (i.e. including fees)	1.39	2.08
ECB Statistics 2003-2005		
Fixed rates (mat >10 y) on loans for house purchase	6.39	4.82
Long-term rate	4.1	4.1
Spread	2.3	0.7
Floating rates on loans for house purchase	3.34	4.59
Short-term rate	2.2	2.2
Spread	1.14	2.39

- Countries ‘specialize’ on mortgage products:
 - Spain: ARM priced over Euribor, Germany: FRM priced over swap/Pfandbriefe curve
 - Huge liquidity in core products shifts relative prices
- Regulatory structure contributes to concentration:
 - ARM prepayment indemnities allowed in Spain (1%), forbidden in Germany
 - FRM prepayment indemnities severely capped in Spain (2.5%), almost free in Germany.

Product price differences – Germany vs. Denmark

Interest rate differences by interest binding period



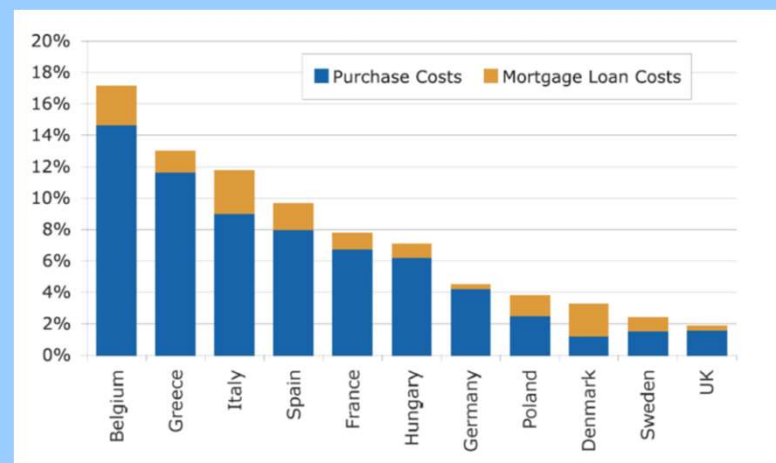
- Denmark with prepayable FRM, Germany non-prepayable or call protected reset ARM.
- Germany ARM very expensive, liquidity effect and non-market pricing. DK ARM priced on the market and with constant lender spread.

Other consumer protection issues/philosophy/culture & transactions costs

Observations

- Varying approaches of consumer protection regulations:
 - Anglo (UK, EI) on consumer information & counseling,
 - French/Southern European on 'material' consumer protection.
- Example: strength of foreclosure threat
 - Repossession (UK), strict foreclosure rules (DE),
 - 'Solution amiable' (FR).
- Valuation rules differ by banking culture
 - Open market value (UK) vs.
 - Sustainable mortgageable value (DE)
- Different registration systems
 - Accessory mortgages with strong role of notary (FR, ES)
 - Fiduciary mortgages with low transactions costs (DE)
 - Access conditions to registers vary widely.

Housing as an investment – transactions costs in the EU 2005



Source: European Mortgage Federation

- High transactions costs limit asset class liquidity in Western & Southern Europe.
- Integration into contractual savings system patchy:
 - Some countries promote housing savings (DE, FR), partly related to aversion against indebtedness.

Financial markets convergence – intra-EU and globally

- Adaptation of institutions & products
 - Anglo→Euro: Mortgage-backed securities (1990s), mortgage insurance (2000s),
 - Euro→Anglo: Covered bonds (2000s),
 - Intra-Euro: Covered bonds (1990s), 3rd party distribution (2000s),
 - System adaptation in emerging Europe (CZ, PL, HU).
- Strong appetite of specialists to go cross-border
 - “Vertical” national mortgage banking circuits in retreat (DE, DK) ,
 - “Horizontal” service providers (GMAC, Genworth insurance) push across borders.

Financial markets convergence – use of capital market for EU mortgage funding not very clear

ABS/RMBS Issuance 2004-2007

Chart 13: Issuance by Asset Class (EURbn) to 25 May 2007

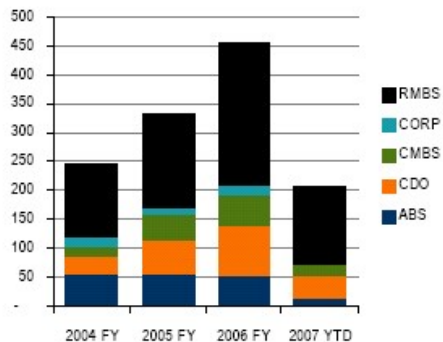
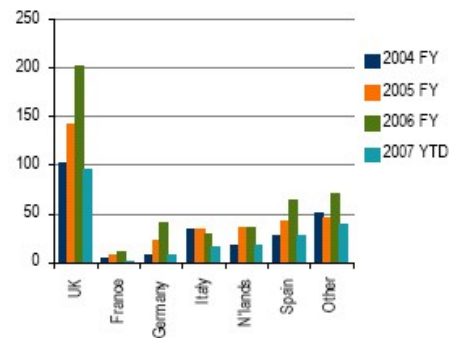


Chart 14: Issuance by Country (EURbn) to 25 May 2007



Source: Merrill Lynch

Nobody knows exactly what proportion of residential mortgages is funded via capital markets in Europe.

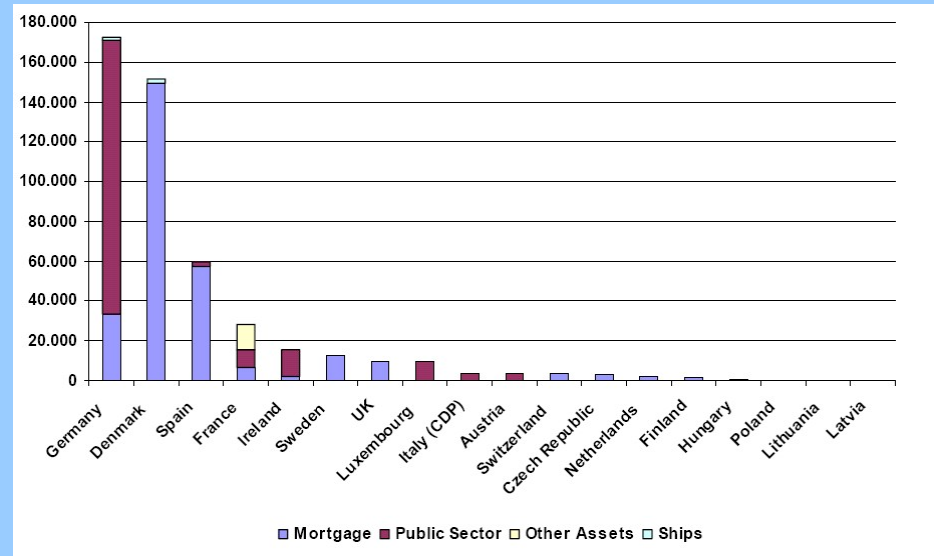
F ca 15%, UK ca 20%, D 10%?

DK almost 100%

Universal banks/deposit funding advancing in former 'covered bond countries', D Fr, DK

Covered bond market notoriously data/information poor.

Covered Bond Issuance in EU 2005



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Performance: European markets are very competitive

- Latecomers are becoming more competitive, fast.
- Intense, but distorted competition in many developed markets
 - Cross-subsidization;
 - Mispricing of yield curve/mismatch (non-adj. price 10-30bp higher);
 - Partial mispricing of credit risk.

Caveats

- Weighted average over all products;
- Options costs (credit/default, prepayment) are notoriously difficult to determine, esp. in systems where the option is not securitized.

Adjusted price 2006 over 2003

	FR	UK	GR	IT	NL	ES	PT	DK
AP 2003	0.89%	1.15%	0.70%	1.34%	0.97%	1.03%	0.95%	0.70%
AP 2006	0.36%	0.68%	0.35%	0.99%	0.64%	0.87%	0.88%	0.63%
Δ	0.53%	0.47%	0.35%	0.35%	0.33%	0.16%	0.07%	0.07%

Price components 2006

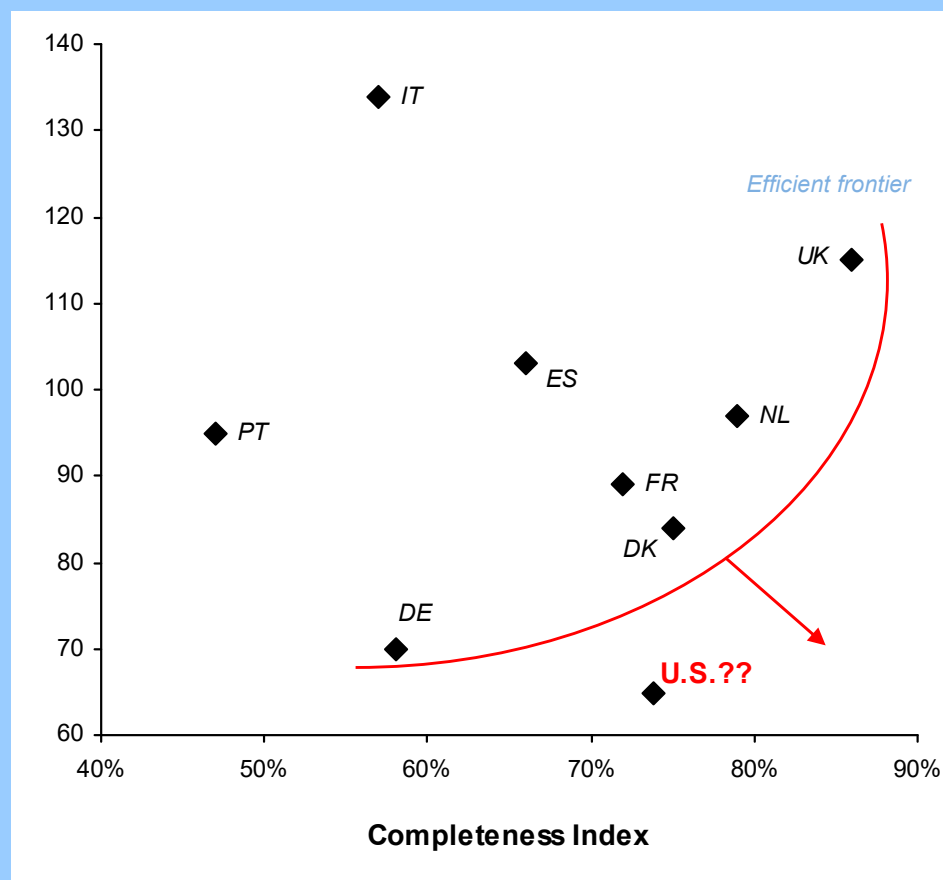
	Interest rate	Fees	Yield curve adjustment	Credit risk adjustment	Pre-payment adjustment	Adjusted price
CZ	4.75%	0.03%	3.35%	0.18%	0.00%	1.25%
IT	4.84%	0.03%	3.55%	0.23%	0.10%	0.99%
PT	4.57%	0.06%	3.56%	0.18%	0.01%	0.88%
ES	4.65%	0.10%	3.77%	0.09%	0.02%	0.87%
GR	4.64%	0.02%	3.57%	0.30%	0.00%	0.79%
UK	5.73%	0.11%	5.07%	0.10%	0.00%	0.68%
IE	4.24%	0.00%	3.42%	0.13%	0.02%	0.67%
NL	4.60%	0.14%	3.84%	0.07%	0.18%	0.64%
DK	4.75%	0.06%	3.82%	0.04%	0.32%	0.63%
SE	3.98%	0.04%	3.39%	0.04%	0.00%	0.60%
BE	4.89%	0.03%	3.98%	0.13%	0.29%	0.52%
FR	4.36%	0.17%	3.88%	0.13%	0.17%	0.36%
DE	4.41%	0.05%	4.02%	0.09%	0.00%	0.35%

Performance: completeness vs. efficiency trade-off – the credit dimension

Adjusted price¹ vs. completeness index²

- Efficiency frontier exists between price and completeness in European mortgage markets.
- Depository systems using adjustable-rate products tend to be more complete / flexible (UK).
- Capital-market-based systems tend to be less complete, but also less costly (DE).
- Emerging European markets (ES, IT, PT, also PL, CZ) start with a limited product menu and need time to reach the efficiency frontier.
- Capital markets seen as important factor in reaching efficiency (ES cov bonds).

Adjusted Price
(bp of loan amount)



Source: Mercer Oliver Wyman/European Mortgage Federation, Finpolconsult.

Performance: completeness vs. stability trade-off – the interest rate dimension

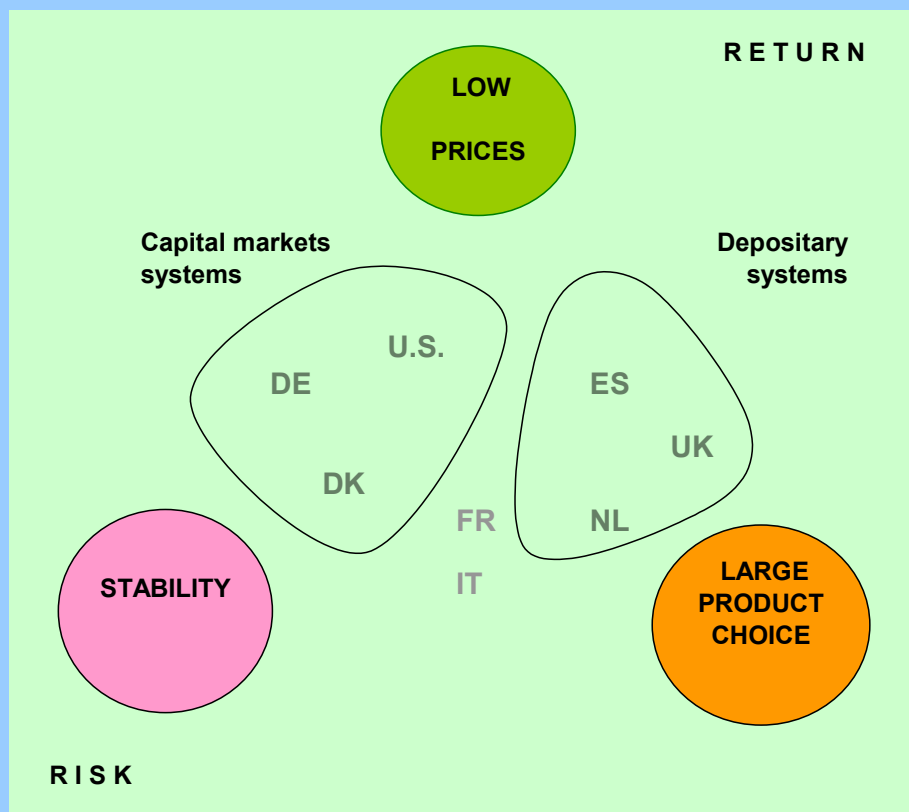
	PRICE, INITIAL PAYMENT				RISK OF FUTURE PAYMENT SHOCK	
	Price impact	Increment	Cumulative	Protection level	Protection impact	Risk level
Callable fixed-rate			650 bp	HIGHEST		LOWEST
Non-callable fixed-rate	Prepayment option	50 bp	600 bp	↑	Only upside risk	↓
Capped adjustable-rate	Full yield curve	120 bp	480 bp		Repricing risk	
Adjustable-rate	Cap	30 bp	450 bp		Limited interest rate risk	
					No protection	

Source: Finpolconsult

- Adjustable-rate mortgages are cheap, yet risky:
 - Cause higher house price fluctuations, greater negative equity risk (IMF research).
 - Higher default levels of marginal borrowers (subprime, high LTV) - UK crisis 1989-95
- Non-callable fixed-rate mortgages carry some interest rate risk:
 - Short-term fixed-rate loans with repricing risks,
 - Non-callables reduce interest rate pass-through (see DE case below).
- Callable fixed-rate mortgages provide the most protection
 - Yet, the prepayment option is costly.
- Adjustable rate loans with caps are a reasonable cost-risk compromise.

Summary – performance of developed mortgage systems

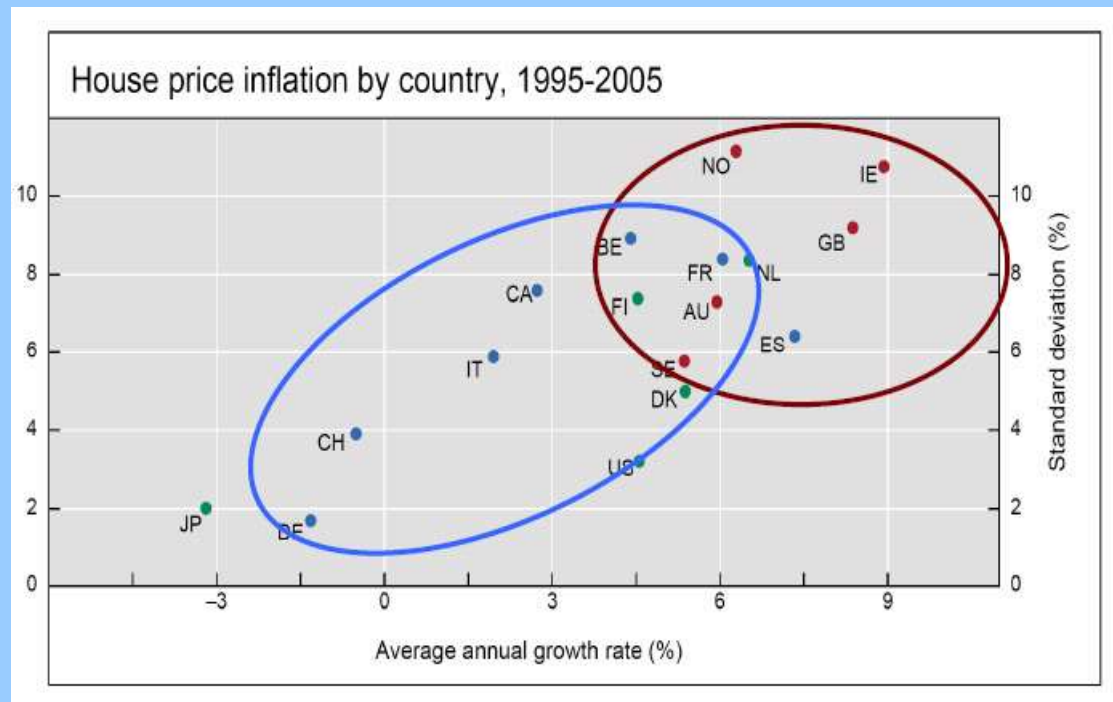
Golden Triangle Assessment



Source: Finpolconsult

- Approach “Minimum Price”:
 - standardize primary market products & maximize liquidity via capital markets → low prices, with *relatively* limited product availability (e.g. U.S. Fannie Mae purchase policies)
- Approach “Maximum Choice”:
 - maximize product choice / margin, manage prices by shifting risk to consumers.
- Approach “Maximum Stability”:
 - Maximize stability and promote liquidity through safe capital market instruments, limit product choice.
- Trends blur strategic distinctions
 - Depository systems adopting capital markets (ES, UK)
 - Capital markets systems adding choice (DE, US)

Correlation between house price growth & nature of housing finance system



Group 1: (BLUE)
Conservative

Group 2
(GREEN):
Aggressive, fixed

Group 3 (RED):
Aggressive, float

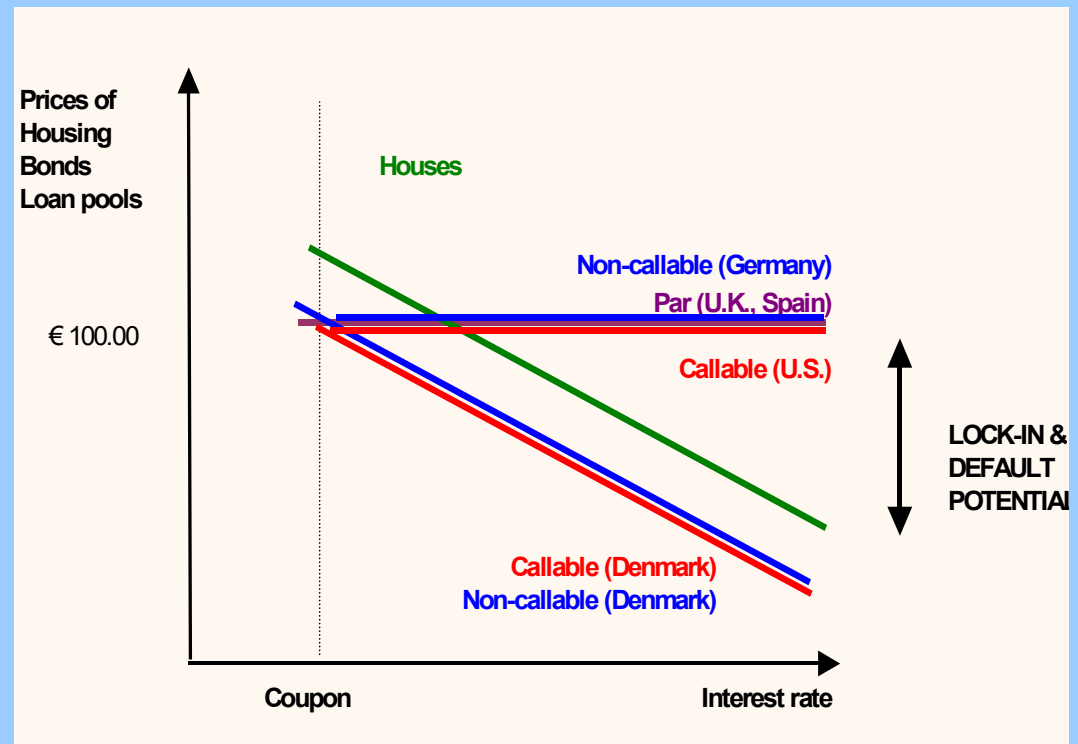
German position
changing, from
Group 1 (until 05,
*misclassified by
BIS*) to Group 2

		Mortgage rate	MEW	Maximum LTV	Valuation method
Group 1	BE, CA, FR, DE, IT, ES, CH	Mostly Fixed	No	Low	Mixed
Group 2	DK, FI, JP, NL, US	Mostly Fixed	Yes	Medium	Mixed
Group 3	AU, IE, NO, SE, UK	Variable	Yes	Very high	Market value

Current stability issues: the lock-in downside

- Floating: UK default crisis 1989-95, and perhaps Spain/[UK, Ireland] 08-10?
- U.S. S&L crisis 80s, 07/8 house price stagnation/decline, rate increases. Lenders are in trouble as callables extend their duration (prepayment in U.S. only at par!!).
- Denmark: delivery option of BOTH callable and non-callable avoids lock-in.
- Germany: yield maintenance prepayment indemnity generates par structure → lock-in.

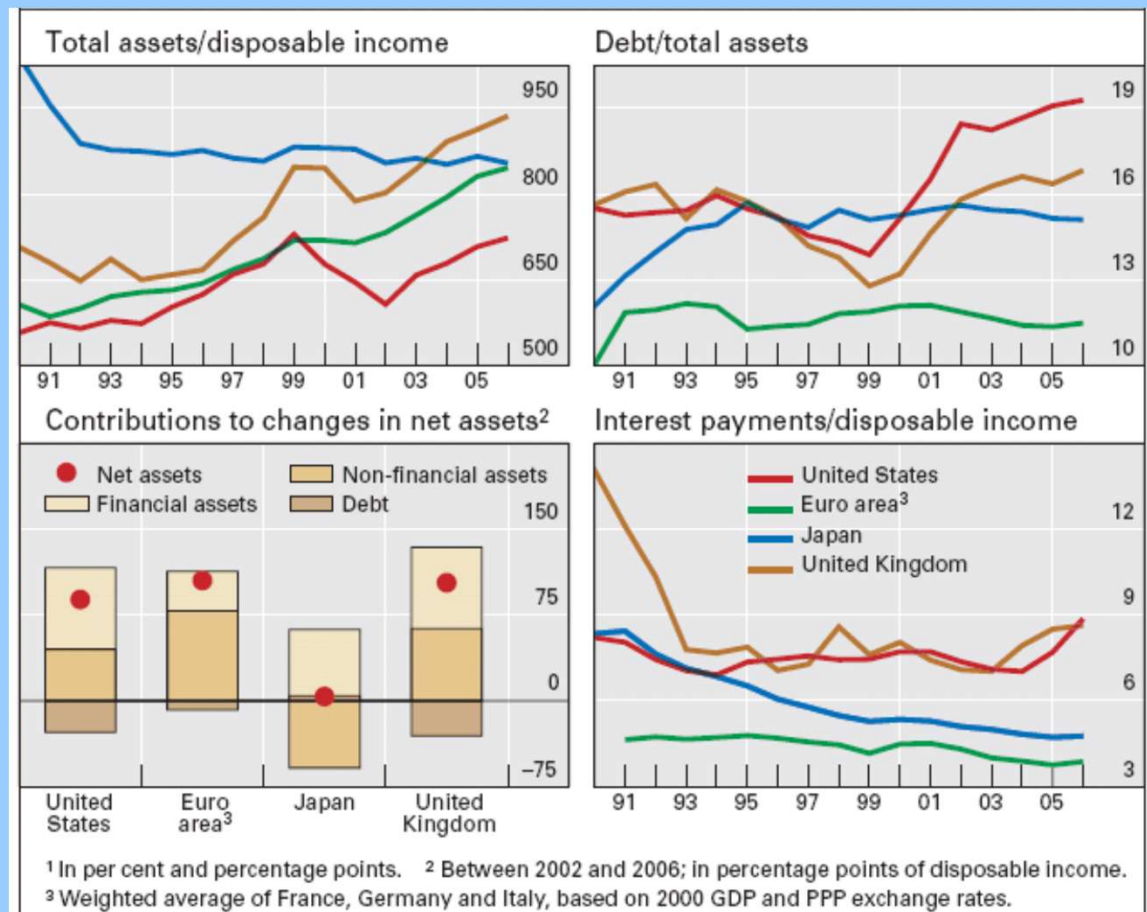
Price impact of interest rate increase



Source: Duebel/Finpolconsult.

Non-financial asset contribution to wealth (consumption) – turning south again?

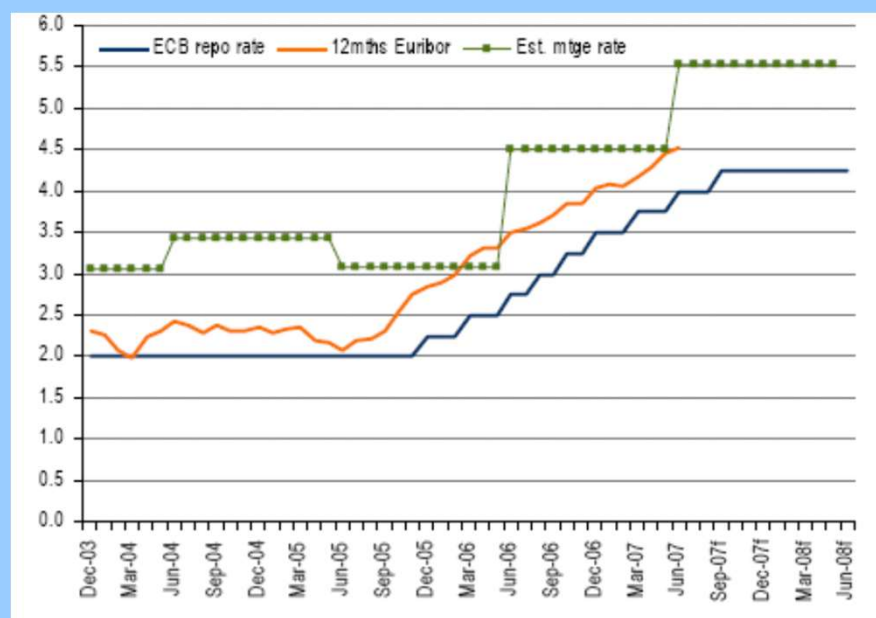
Household Assets & Indebtedness



Source: BIS 77th Annual Report

Current stability issues: Spanish payment shock 2006/7

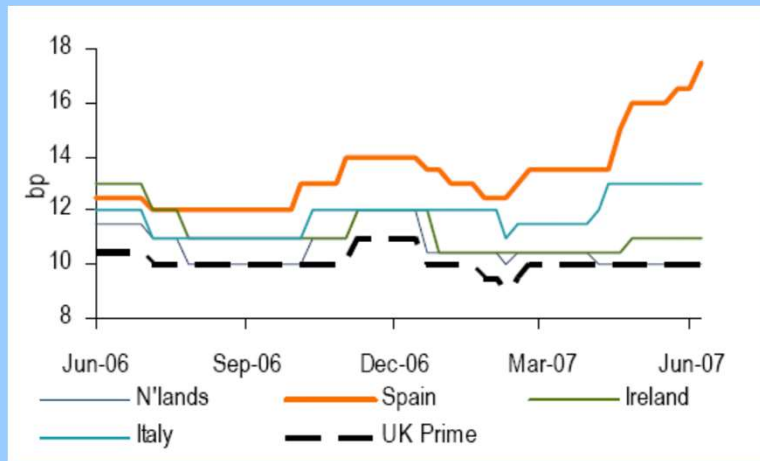
Rising rates, rising defaults?



Source: Merrill Lynch

Stability in the mortgage bond markets – structuring, public and private credit enhancements

RMBS Spreads – AAA is not always AAA



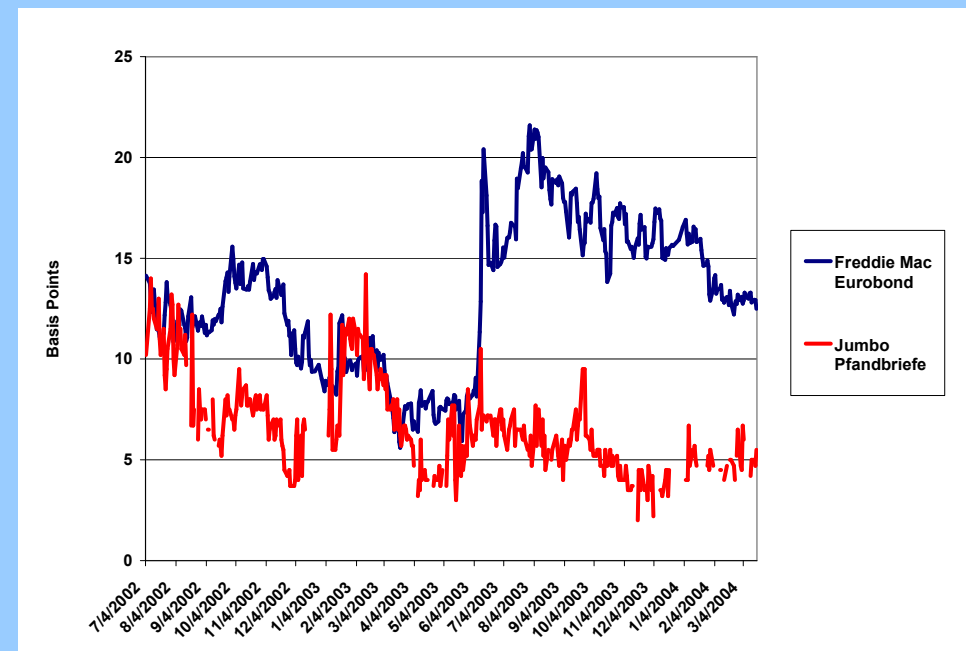
Source: Merrill Lynch

Pure structuring approach may fail investors, lead to excess complexity, illiquidity (CDO)

Covered bonds to combine structuring and external enhancement (yet laws heterogeneous);

‘Agency’ not necessarily more stable, cheaper, despite implicit public guarantees.

Public guarantee is not always cheaper than corporate guarantee



Source: Commerzbank Securities, Dresdner Kleinwort Benson, Dübel.

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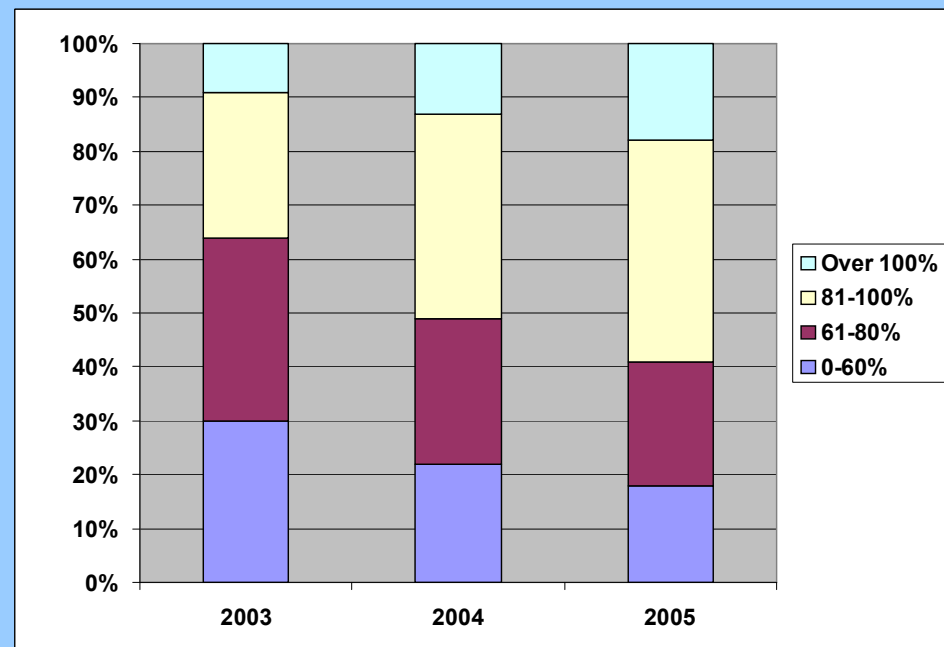
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Germany – getting more flexible

Observations

- Land & housing market
 - Land markets have gained flexibility
 - Elastic supply and low-cost building technologies arrived (esp. East Germany, Privatizations support supply)
- Mortgage markets
 - Demand for higher LTV, subprime, call features increasing and callable?
 - Supply dominated by rigid regulatory credit (LTV & subprime) limits, while interest rate risk taken by investors is high (Postbank, ING).
 - Increasing disintermediation (brokers, introducers, platform world).

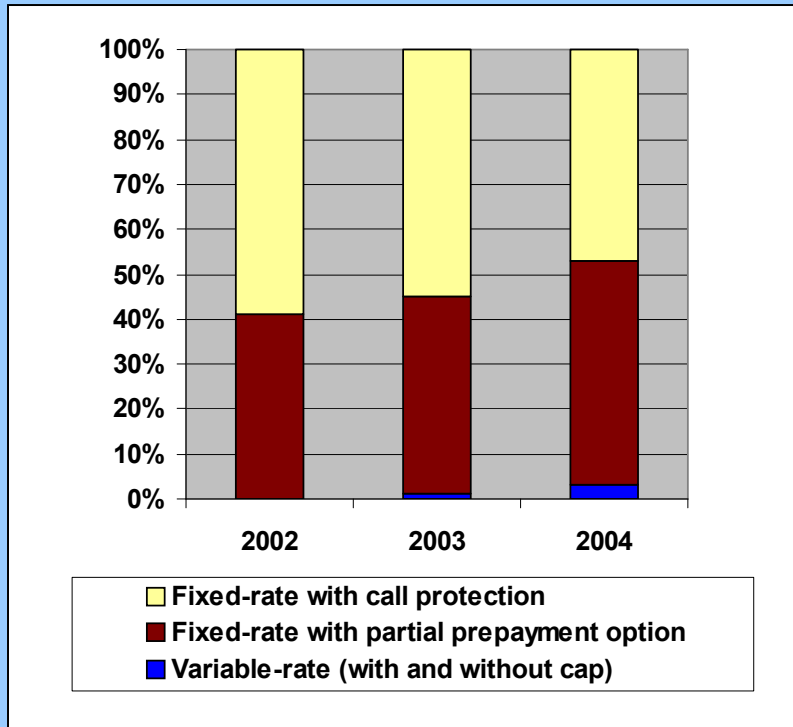
Demand shift to high-LTV products, 2003-2005



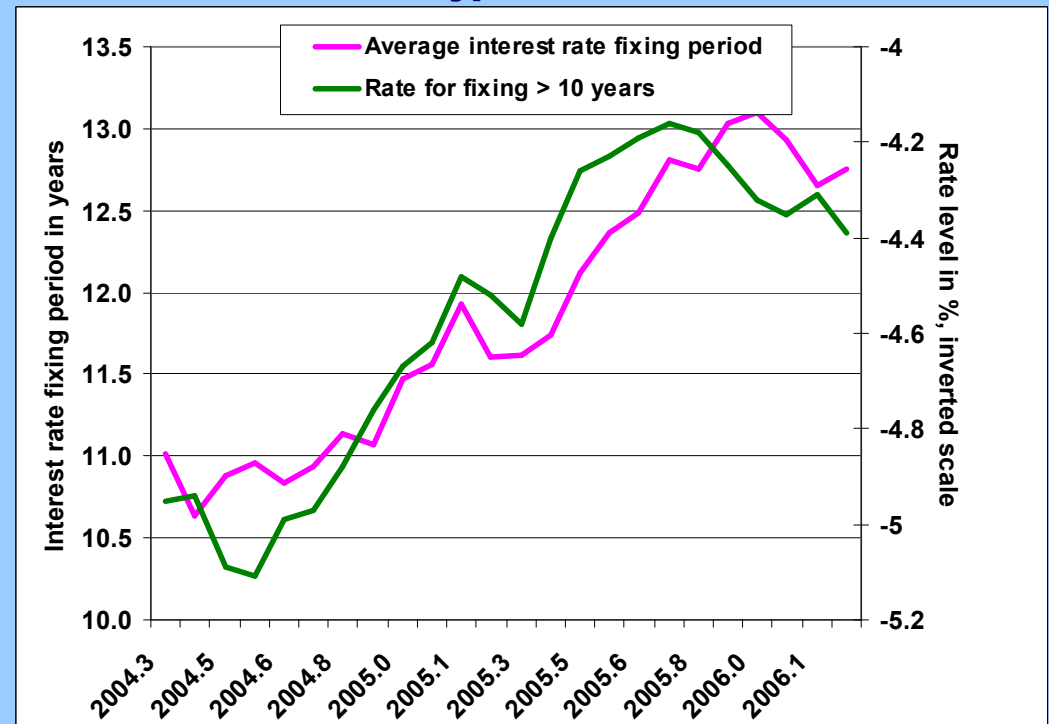
Source: Hypoport AG

Germany – limited interest-rate pass-through via non-callable mortgages

Rising demand for callability features 2002-2004



Interest rate binding periods for German non-callable fixed-rate loans and typical interest rate levels



- In a market dominated by non-callable loans, consumers self-select non-callable fixing periods – not product,
- Pass-through of interest rate signals to the borrower at 10 years plus fixing is very limited,
- Yet, consumers demand greater flexibility (volatile curricula, inheritance wave, etc).

Germany – deregulation agenda for the mortgage market

- Deregulation so far:
 - Removal of state guarantees for Landesbanken,
 - Mortgage bank system reform.
- Additional
 - Civil code reform: universal prepayment option,
 - Replacement of special bank with special product regulation: Bausparkassen,
 - Mortgage lending deregulation: higher LTVs, indexed loans,
 - Push for greater use of capital markets: callable Pfandbriefe, address bank mismatch, facilitation of MBS investment of institutions.

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US historical integration approach

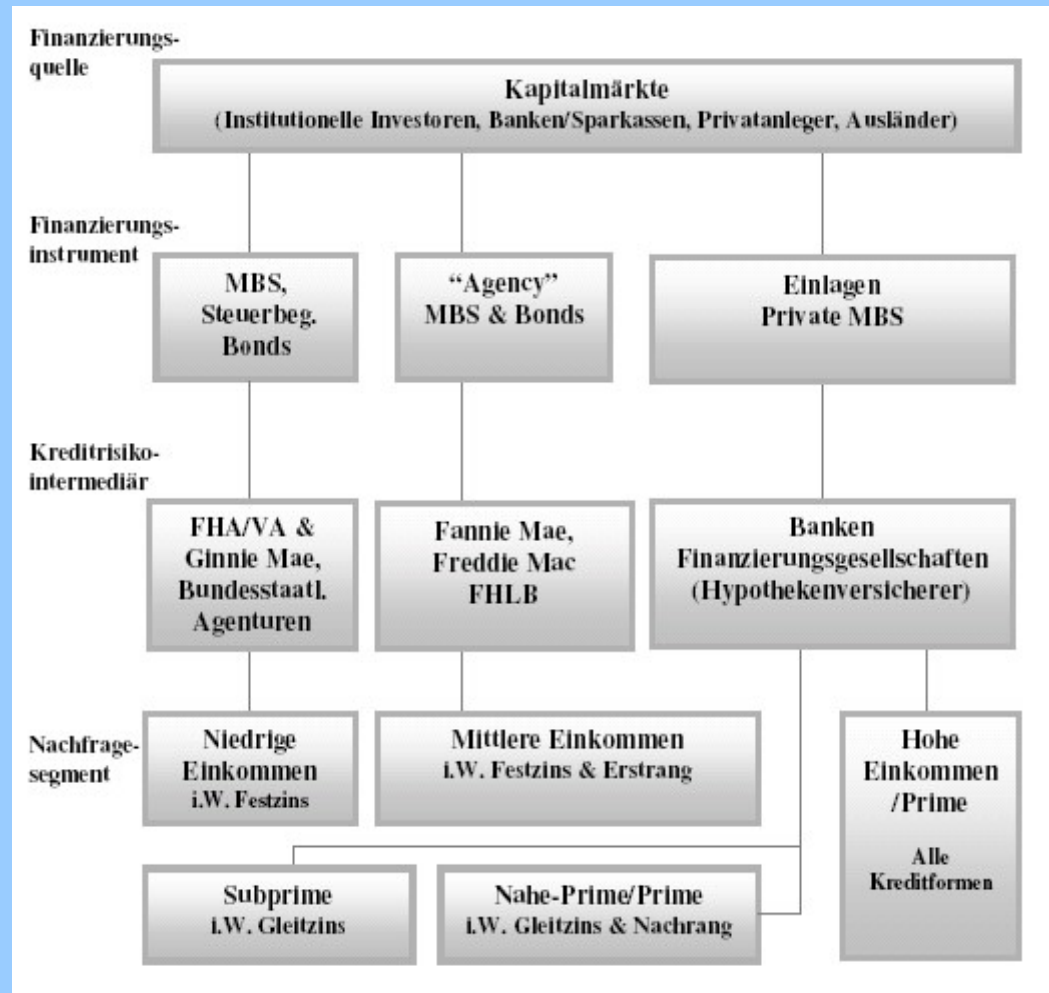
- 1920s regulatory fragmentation of state banking systems (no cross-border lending/funding) gives rise to creation of Federal Home Loan Banks (1932)
- 1934 system of public guarantees (Federal Housing Association)
- 1937 – failed attempts to introduce European-style mortgage banks (National Mortgage Associations, Act of 1934) results in government intervention (Federal National Mortgage Association)
- 1969 – Vietnam war fiscal crisis prompts Fannie Mae ‘privatization’, new horizontal split of the system (Ginnie Mae);
- 1980s, early 1990s Federal (Reagan) deregulations disempowers state consumer protections; Fannie Mae and Freddie Mac become duopolies with de-facto consumer protection powers, Subprime market develops
- 1990s states claw back some consumer protection powers

Approach:

- a) funding and guarantees first - but addressing a policy, not a market failure!!
 - b) consumer protection last (still unsolved)
- a) possible model for Europe, b) as complicated in US as in Europe.

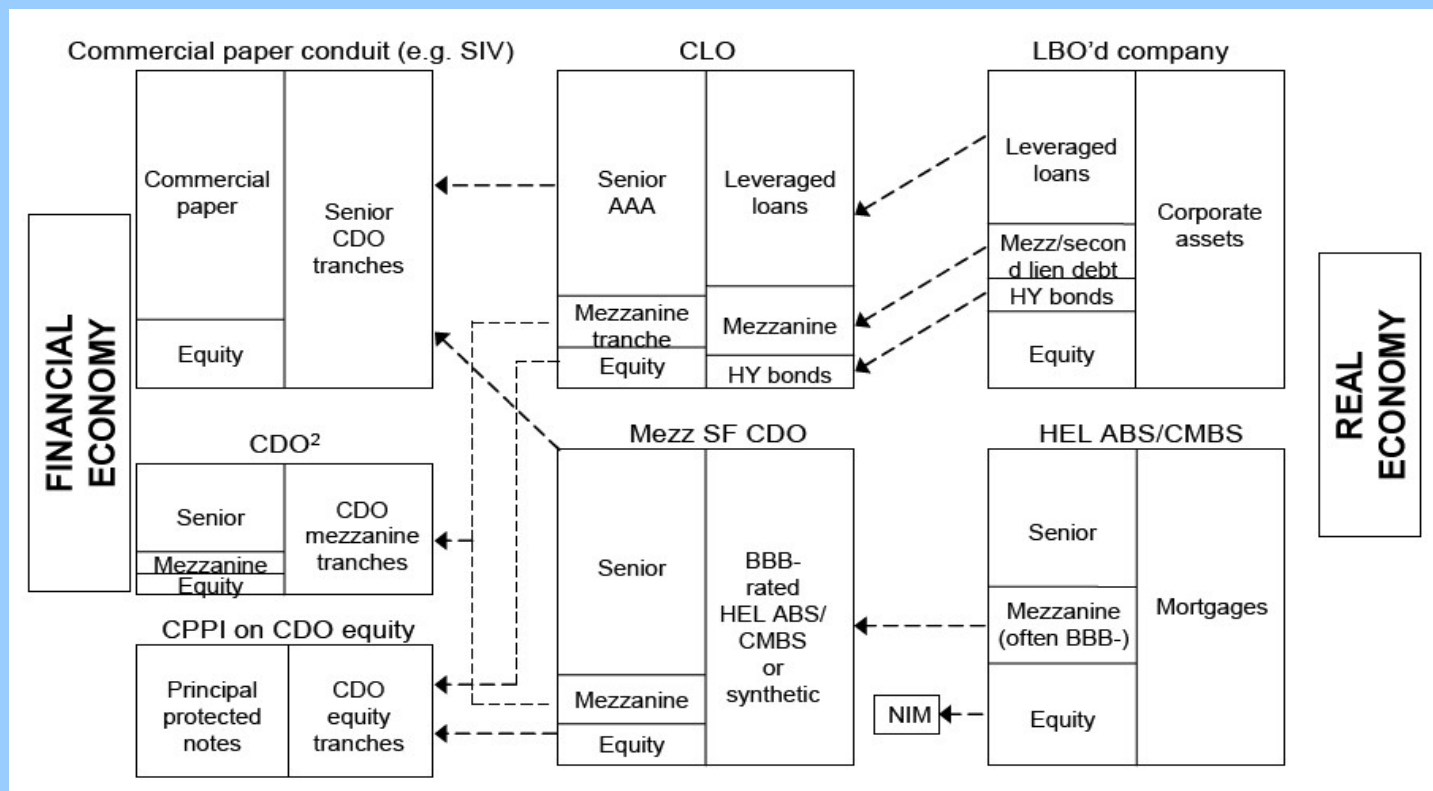
US structure – initial ‘horizontal’ public-private split has turned into ‘vertical’

US mortgage credit system 2007



Laissez-faire in the US private mortgage bond sector – Europe’s future?

Converting mortgages and corporate assets into bonds



Source: Presentation given at Barcelona Global ABS Conference June 2007

- No risk intermediaries, fee-based system;
- No liquidity, no market pricing;
- SEC always too late.

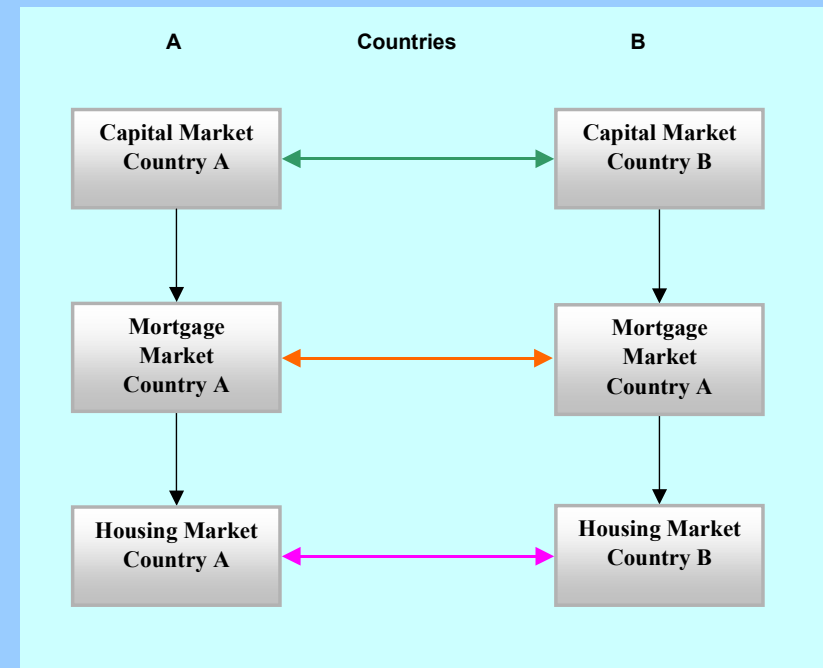
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Integration channels & obstacles

- Capital market channel so far dominating - covered bonds & mortgage-backed securities → indirect.
- Direct mortgage market cross-border channels rather limited:
 - Trade in mortgage loans - only 1% of lending
 - Obstacles: consumer protection followed by financial regulation issues,
 - Trade in mortgage credit risk/pan-European credit portfolios (so far U.S. insurers & KfW Provide program)
 - Obstacles: inconsistent financial regulation and collateral issues,
 - M&A and greenfield entry
 - Obstacles: inconsistently applied competition and subsidy rules.
- Developing market in trading housing portfolios.
- There are also market obstacles, e.g. mortgage cross-subsidization & lack of access to distribution.

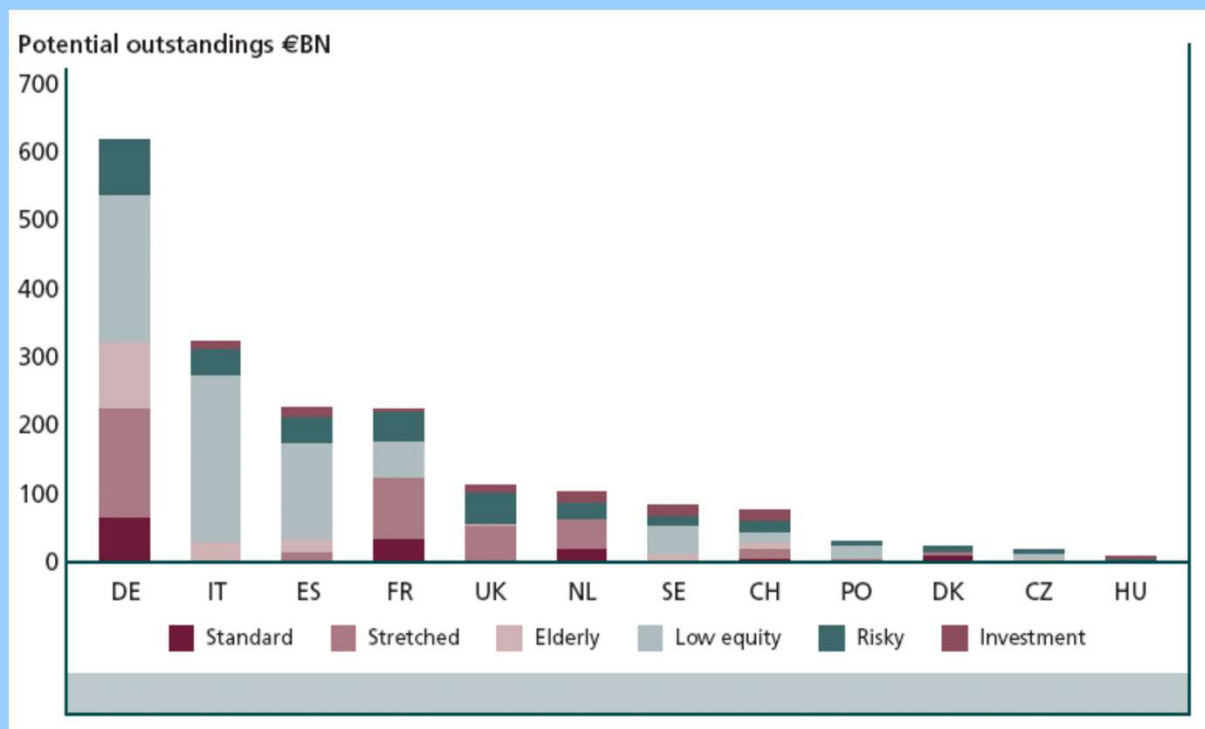
Integration channels



Source: Finpolconsult

Integration benefits – greater completeness potentially major source

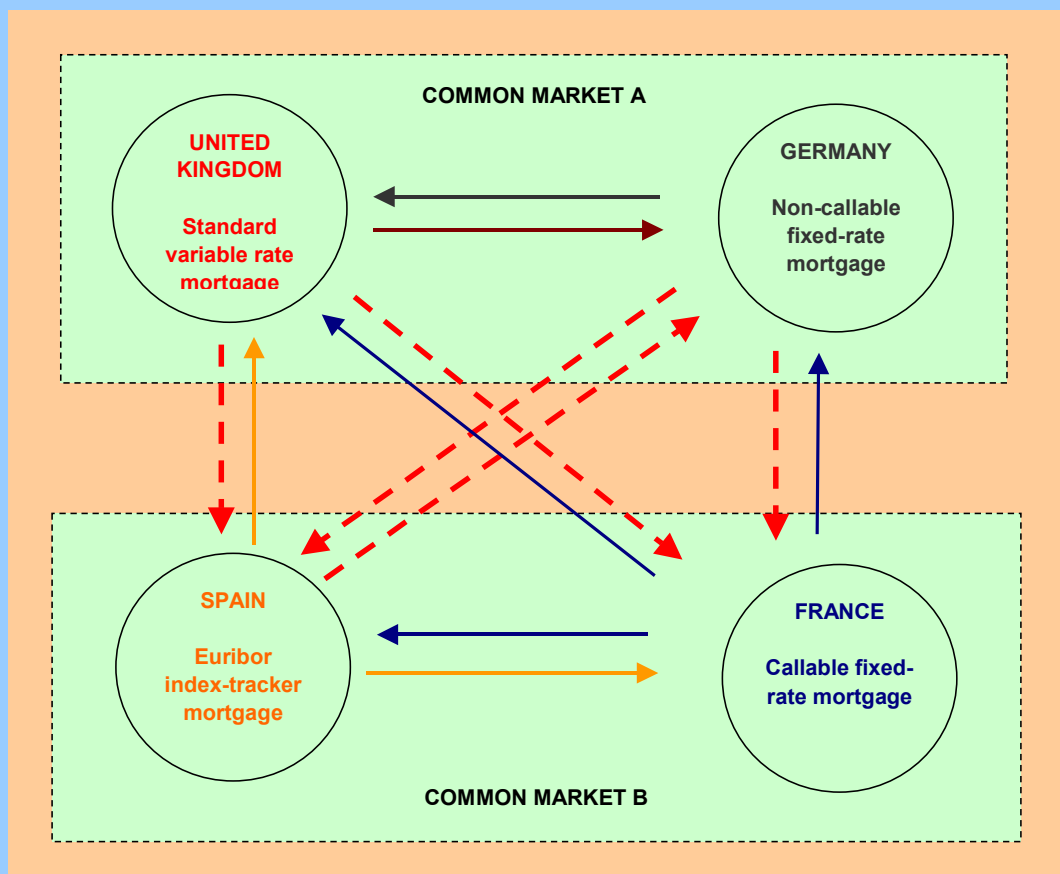
Potential EU mortgage market volume gains from greater completeness in the credit dimension



- Stepwise realization:
 - Greater product choice,
 - Housing market reforms.
- In addition gains through greater efficiency via
 - Intensified capital market use (liquidity, pricing efficiency),
 - Cross-border product standardization,
 - Cross-border servicing.

Source: Mercer Oliver Wyman

Key integration obstacle in the primary mortgage market: consumer protection



Status quo under mutual recognition approach:

Core products cannot be exchanged !!

Multiple internal markets.

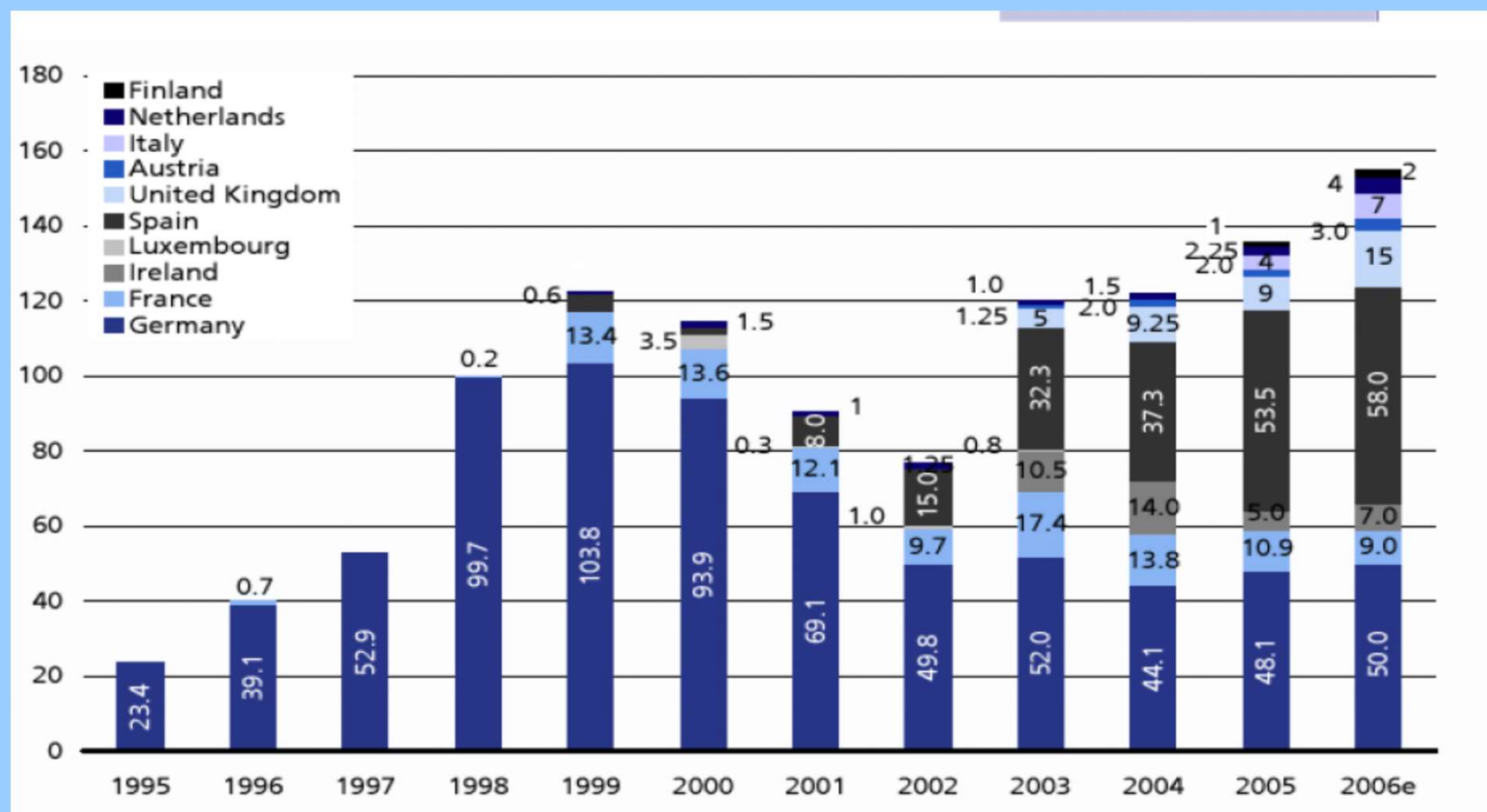
- Possible approach:
 - define empirical methodology to assess the credit risk impact of mortgage products;
 - maximum harmonization on the minimum level;
 - interaction process between Member State and Commission on possible stricter rules.

Integration at work in capital markets: – covered bonds & mortgage-backed securities

- Covered bond and MBS markets develop in parallel nearly everywhere
 - UK (covered bond law), earlier DE (true sale initiative).
 - Emerging European mortgage markets are catching up (covered bonds, not RMBS)
 - MBS markets outside UK/Spain predominant in special risks (CMBS, non-standard res).
- EU ABS fixed income market shares
 - ~4-5%, covered bond market share
 - ~16% (gross new issuances).
- Integration obstacles:
 - Attempts to generate minimum product standards lobby-driven (both structured finance and covered bonds);
 - Only apparent conflict, as joint obstacles prevail (mismatch, legal/registration issues);
 - Too many issuers (>70 in cov bonds) => producing high intermediation costs;
 - Insufficient liquidity of instruments due to collateral issues, greater liquidity could generate 10 – 20 bp lower liquidity premia.

Integration at work in capital markets: – diversification of covered bond issuers

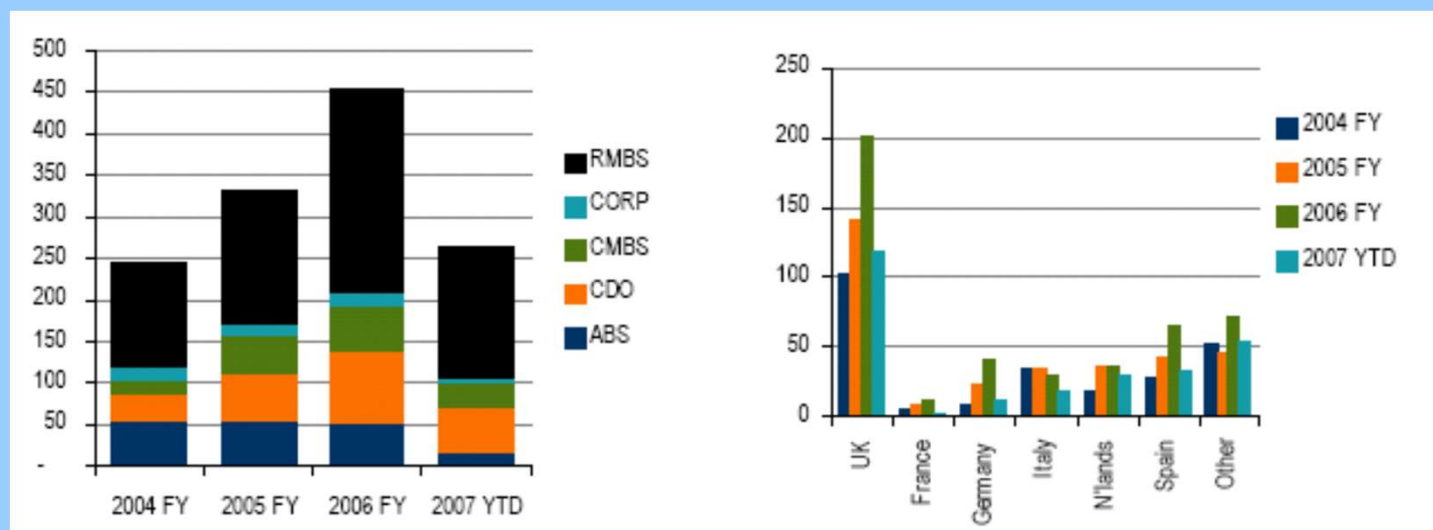
EU new covered bond issuance by country of origin



Source: European Mortgage Federation.

Integration at work in capital markets: – emerging structured finance markets follow UK

EU structured finance issuance by type & country of origin



Source: Merrill Lynch

Structure of the Presentation

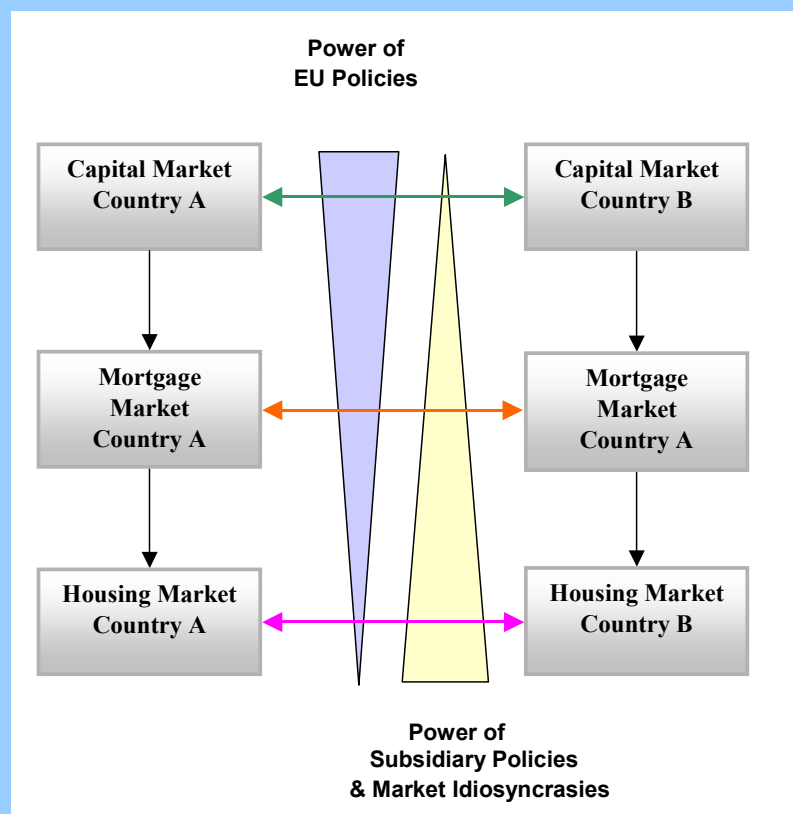
1. European mortgage markets in comparison: structure
2. European mortgage markets in comparison: performance
3. Some remarks on the German special case
4. Excursion: United States – integration approach model for Europe?
5. European integration obstacles and benefits
6. Possible agenda for the European Union and for global initiatives

Possible agenda for the European Union

EU agenda could focus on the 4 C's of MF – collateral, consumer, competition, capital markets.

- Collateral
 - Cross-border registration & enforcement of collateral,
 - Reduced transactions costs (incl. tax),
 - Common valuation standards;
 - Minimum foreclosure standards.
- Consumer protection
 - Improve consumer information (ESIS, APRC),
 - Common methodology to assess the credit risk impact of mortgage products,
 - Address strategic dilemma of Rome Convention.
- Competition
 - Facilitate cross-border M&A,
 - Remove idiosyncratic special bank regulation, replace by special product regulation,
 - Address subsidies.
- Capital markets
 - Eurohypotec,
 - Incentives to use capital markets (Basel III),
 - Cross-border diversification mechanisms,
 - Minimum standards for asset-backed instruments.

EU mid-term agenda – go upstream?



Open questions:

- Does it make sense to focus on the integration and convergence of finance, when the real side remains divergent and distorted?
 - One mortgage pricing process, but large rent price variations/intervention intensities.
- What are the stability and wealth implications of developing finance, but not the real supply side?

Possible global initiatives

- Consumer protection
 - Consumer information and risk awareness initiative.
- Financial regulation
 - 'Basel III' – focus on interest rate risk, idiosyncratic mortgage credit risk,
 - Common valuation standards beyond EU,
 - Common minimum standards for asset-backed instruments (esp. CDO & Pfandbriefe).
- Broader stability aspects
 - Best practice initiative on removing housing supply side distortions,
 - Enhanced, standardized and in-time market information,
 - Promotion of capital markets incl. derivatives as control instrument for credit risk taking,
 - More clearly define job-share between market (e.g. rating) & regulation.

END

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