

# **European Mortgage Markets – Efficiency and Completeness**

**An Analysis with Reference to the U.S.**



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**American Enterprise Institute Conference 23 March 2004**

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## Disclaimer

The presenter is co-author of a study project on the Financial Integration of European Mortgage Markets, executed by the international consulting firm Mercer Oliver Wyman (MOW) on behalf of the European Mortgage Federation (EMF) in 2003.

The study is available for download from [www.hypo.org](http://www.hypo.org)

While support from both MOW and EMF is gratefully acknowledged, the analysis and conclusions presented here represent the personal perspective of the presenter whose insights are based on a decade of work experience with mortgage industry, consumer groups and regulators in Europe.

## Purposes of Today's Presentation

- To present the main results of the Mercer Oliver Wyman / European Mortgage Federation study, which is the most comprehensive European comparative analysis so far (8 EU countries). Two earlier studies are of interest in that regard:
  - Diamond/Lea (1992), Fannie Mae. Comparative analysis of U.S., U.K., Denmark, France, Germany.
  - Batchvarov et al (2003), Merrill Lynch. Comprehensive descriptives of 12 advance mortgage markets, excluding U.S. and Denmark
- To discuss with the audience similarities and differences between European and U.S. mortgage markets in the light of these results

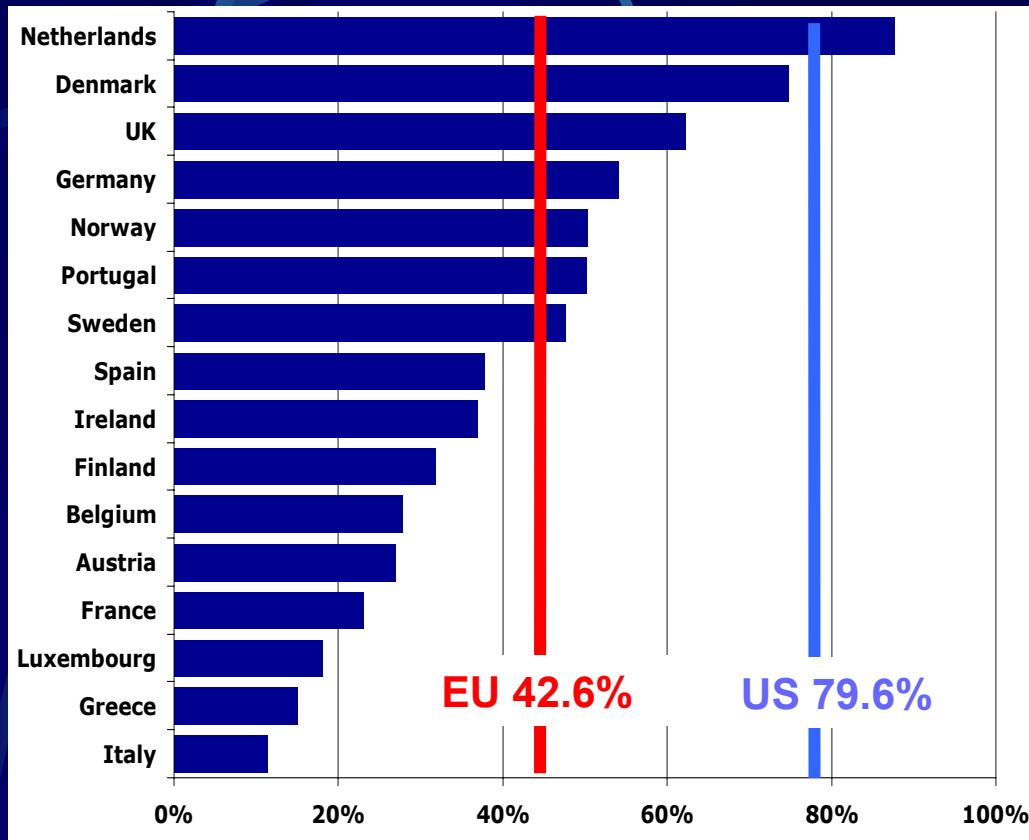
# Contents

## **1. Introduction**

2. Efficiency and Completeness of European Mortgage Markets
3. Europe and the U.S. Compared - Selected Issues
4. Discussion

# Mortgage Market Size and Long-term Growth

## Residential Mortgages to GDP 2002



## Selected Growth Rates p.a. 1992 - 2002

- EU 15 average 8.2%
  - Greece 23.5%
  - Portugal 22.5%
  - Ireland 18%
  - Spain 17%
  - Germany 6%
  - France 4%
  - Finland 3.5%
  - Sweden 2.5%
- U.S. 8.0% (1993/2002)

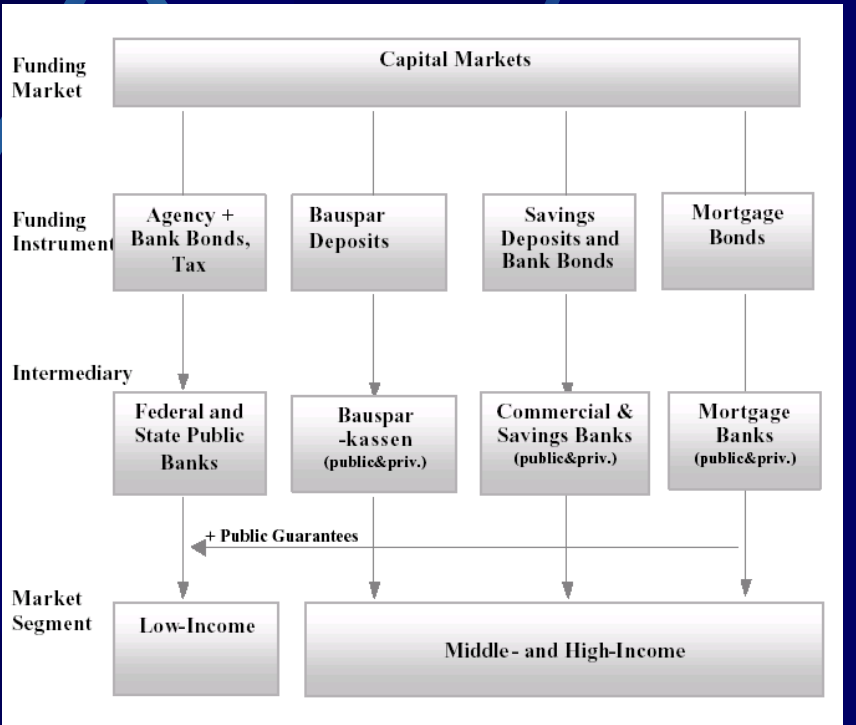
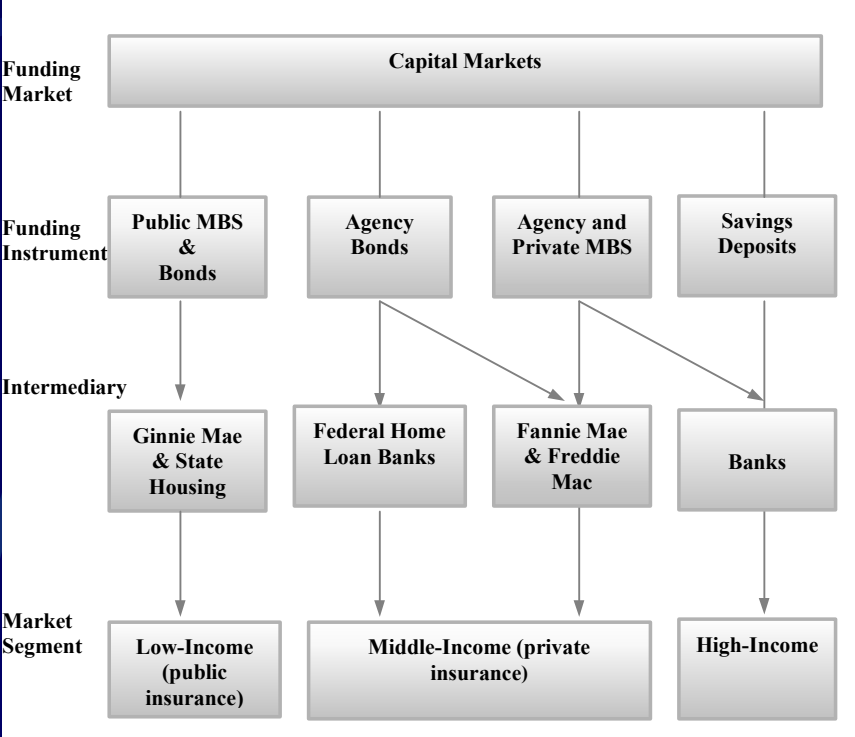
## Growth Determinants

- Income levels and growth, urbanization trends, house prices
- EMU interest rate convergence, financial market conditions
- Leverage-inducing tax policy (Denmark and Netherlands), covenants (France)
- Increasing consumer indebtedness (U.K., Netherlands), partly catch-up (Southern Europe)

# Institutional Structure

## United States

## Germany (Example)



# Business Processes

## Observations

### ● Scale

- The US is a national market with increasing consolidation allowing lenders to achieve significant economies of scale. Consolidation is farther advanced on the wholesale than on the retail side.
- Europe is 15 regional markets, each of which is substantially consolidated but , each of which is substantially consolidated but lenders do not have similar scale as the US ch is substantially consolidated but lenders do not have similar scale as the US

### ● Distribution

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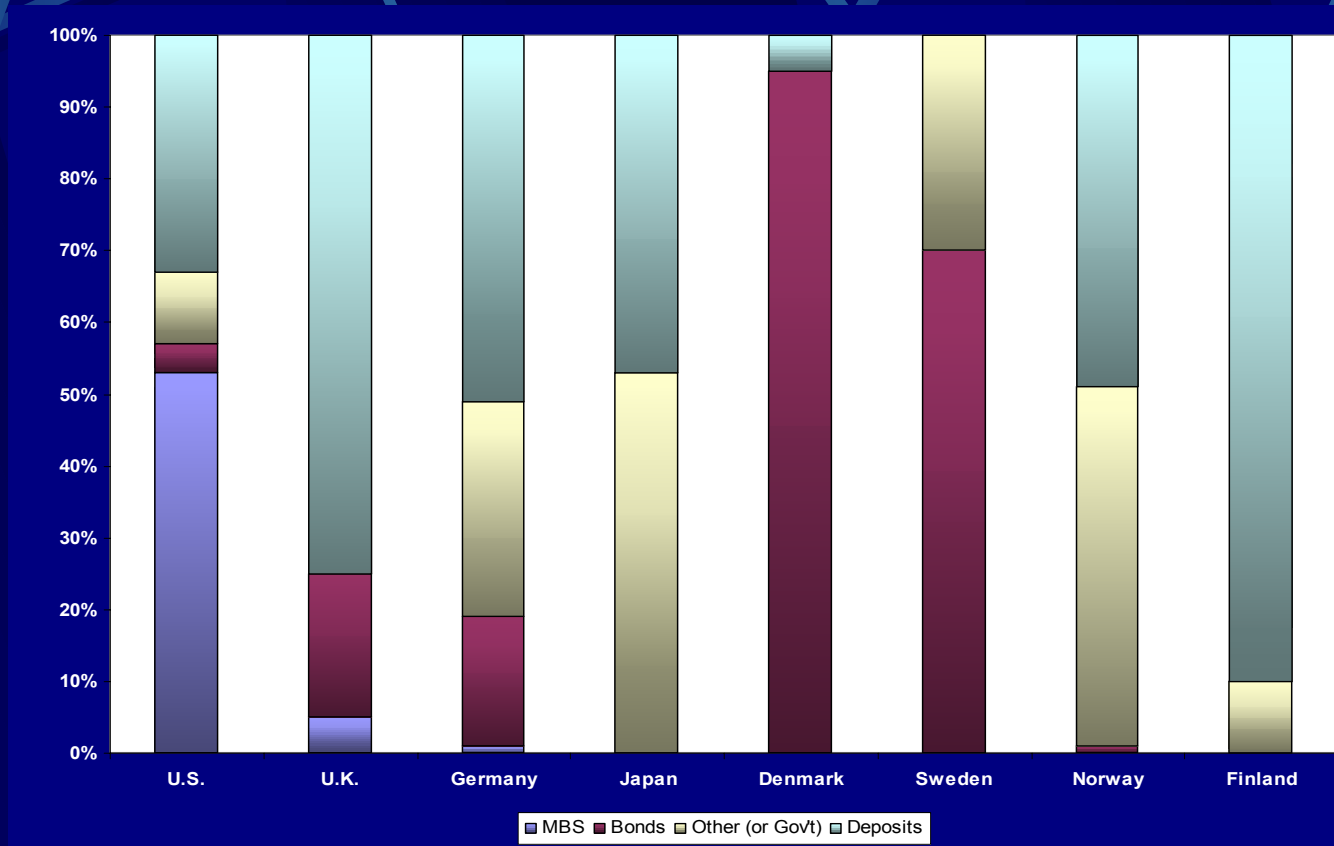
product

- Most European mortgages are variable rate or fixed for 5 years or less with prepayment limits variable rate or fixed for 5 years or less with prepayment limits

ng and Risk Management

# Funding Structure Detail

## Selected European Countries, United States and Japan



# Mortgage-related Securities and the Bond Markets

## U.S.

Gross issuance 2000	US\$ bn	Share %
<b>Private sector</b>		
Asset backed	230	10%
... of which housing related	79	4%
Corporations	507	23%
<b>Subtotal</b>	<b>737</b>	<b>33%</b>
<b>Public sector</b>		
Central government	283	13%
Local government	200	9%
Agency debt	408	18%
Agency CMO	100	5%
Agency MBS	483	22%
<b>Subtotal</b>	<b>1475</b>	<b>67%</b>
<b>Total long-term</b>	<b>2212</b>	<b>100%</b>
Rollover of ST agency debt (est)	550 - 600	

Source: The Bond Market Association. Note: Domestic issuers only. Housing related asset backed: home equity loans, manufactured housing.

## Europe

Gross issuance 2000	Euro bn	Share %
<b>Private sector</b>		
Financials	246	19%
Pfandbriefe	207	16%
Asset backed	39	3%
Corporations	142	11%
<b>Subtotal</b>	<b>634</b>	<b>49%</b>
<b>Public sector</b>		
Central government	595	46%
Local government	13	1%
Agencies	39	3%
Supranationals	13	1%
<b>Subtotal</b>	<b>659</b>	<b>51%</b>
<b>Total long-term</b>	<b>1293</b>	<b>100%</b>

Source: EU Commission. Note: Domestic, foreign and supranational issuers in the Euro bond market. 'Pfandbriefe' includes all mortgage bonds. Agency issues include Euro 10 bn issue by Freddie Mac in the second half of 2000.

# Contents

1. Introduction

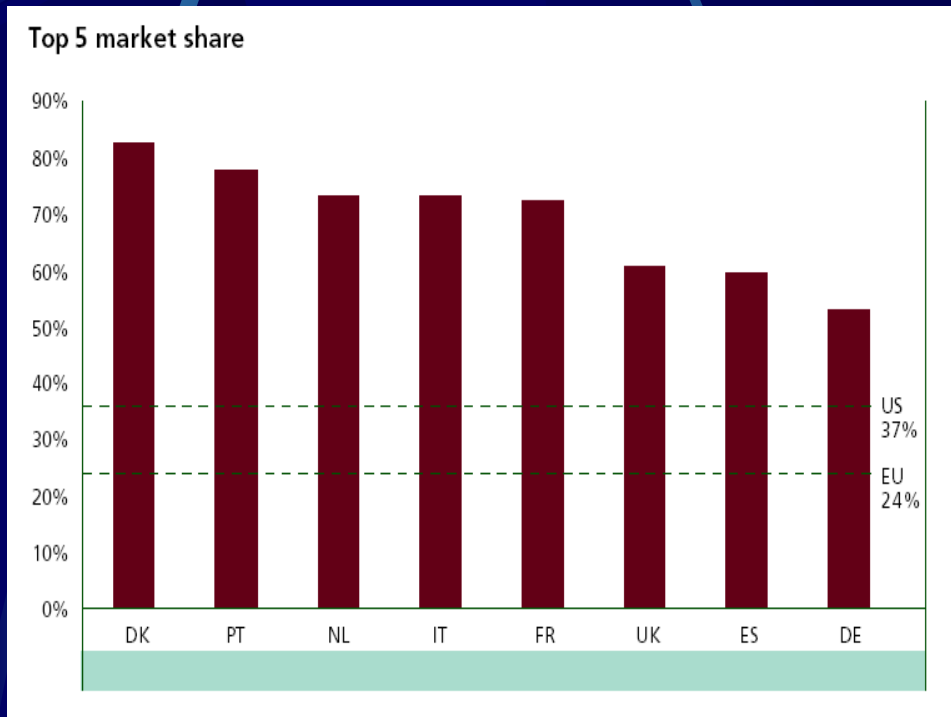
**2. Efficiency and Completeness of European Mortgage Markets**

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# European Markets Are Concentrated With the Largest Five Lenders Accounting for Over 50% of Outstandings

## Market Concentration (Market Share of Top Five Lenders As a % of Outstandings)



## Observations

- There is a strong inverse correlation between market size and concentration
  - Driven by lender scale economies
- EU concentration is below that of the nearest comparable market, the US
- Government involvement has a large impact on market structure
  - Direct involvement
  - Regulation
  - Tax and subsidies

# There are Gaps in the Product Range: Typical LTV's, Borrower Types and Mortgage Purposes

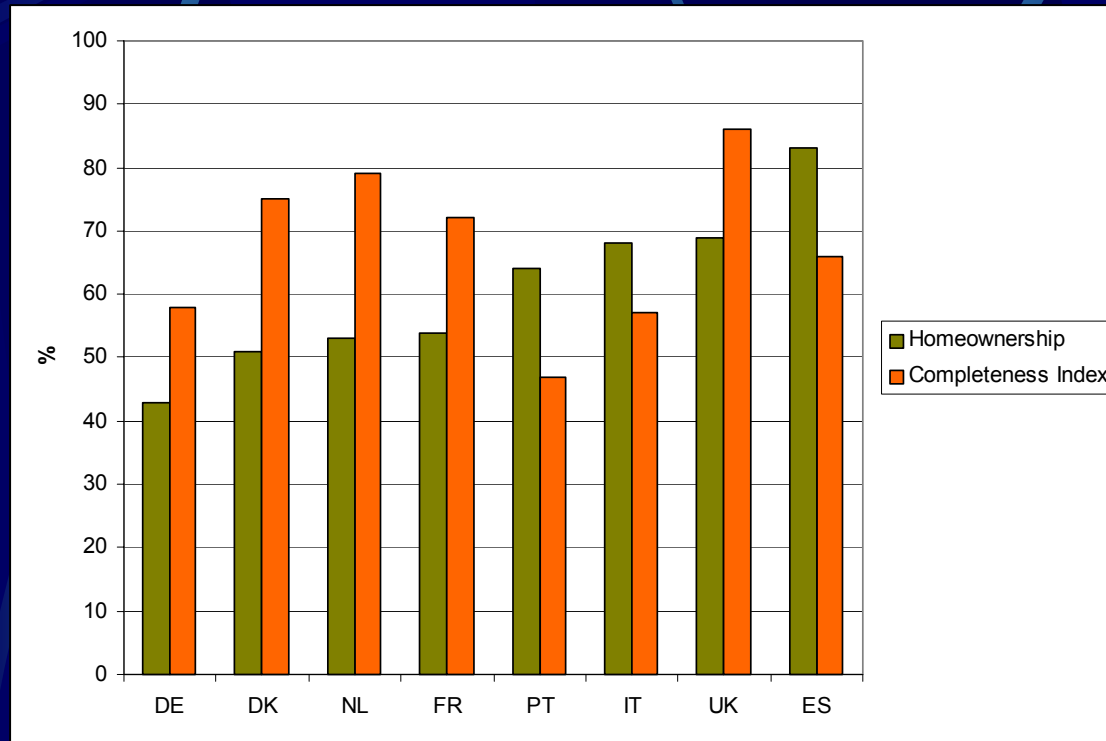
	Market							
	Denmark	France	Germany	Italy	Netherlands	Portugal	Spain	UK
<b>LTV</b>								
<b>Typical</b>	80%	67%	67%	55%	90%	83%	70%	69%
<b>Maximum</b>	80%	100%	80%	80%	115%	90%	100%	110%
<b>Borrower</b>								
Young household <30	●	◐	●	◐	◐	●	●	●
Older household >50	●	◐	◐	◐	●	◐	◐	●
Low equity	○	●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

## Observations

- High-LTV:
  - High risk and high regulation countries very conservative
  - Government programs
  - Few countries with private MI
- Subprime
  - Only UK with serious credit impaired market.
  - Older households are rationed.
- HEL
  - Home equity release markets small (tax treatment, instead second mortgages)

# Product Range and Homeownership Rate – Is There a Direct Relation?

## Homeownership Rate and Mortgage Market Completeness

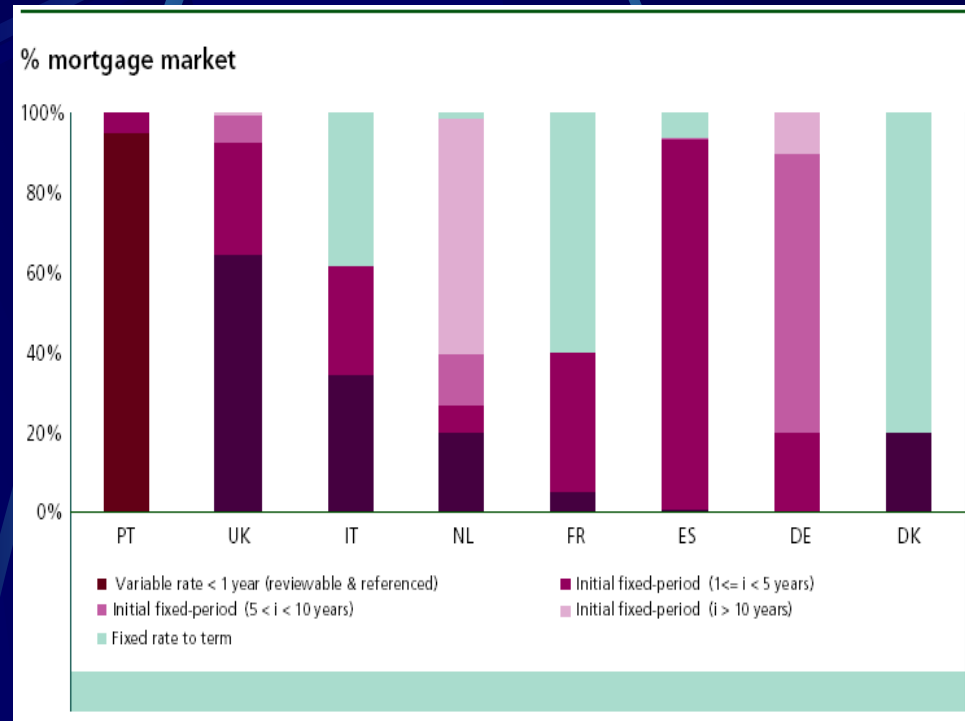


## Observations

- Strong correlations between building structure (multi-family stock ratio) and tenure structure
- Rental housing historically strongly subsidized in Central and Northern Europe
- Some correlation with market completeness among mature markets (U.K., France, Netherlands, Denmark, Germany)
- Emerging mortgage markets (Spain, Portugal, Italy) display limited product range, low market/GDP ratios and high – mostly equity-financed - ownership rates

# The Degree of Interest Rate Risk Protection Varies Widely for Historical Reasons

## Market Share by Interest Rate Variability



## Observations

- Only emerging markets are highly incomplete (Spain, Portugal, Italy)
- Inflation risk history has led to vastly different market shares of fixed-rate products
- Emerging markets and U.K. dominated by adjustable rates
- Covered bond countries (Denmark, Germany, France) with high fixed-rate shares.
- Loans with fixed rates to maturity and prepayment option only in Denmark

# Markets Completeness Summary – Ranking by Country

## Completeness Index

Country	Product <sup>9</sup>	Borrower type and purpose	Distribution	Information and advice	Completeness index
Denmark	85%	62%	71%	80%	75%
France	81%	67%	42%	70%	72%
Germany	62%	48%	54%	100%	58%
Italy	65%	51%	42%	50%	57%
Netherlands	81%	73%	88%	80%	79%
Portugal	35%	58%	71%	40%	47%
Spain	58%	67%	88%	90%	66%
UK	77%	92%	100%	100%	86%
Weighting <sup>10</sup>	50%	35%	10%	5%	100%

Note: 9) refers to interest rate and repayment structures.

10) Index in last column is weighted average of the first four columns.

## Observations

- Product range varies by market
  - Gaps relate to fixed rate products, indexed and capped adjustable rate mortgages and flexible repayment products
  - Product gaps often driven by regulation or consumer protection
- There are more gaps in the type of borrower that can access the mortgage product
  - Gaps in products for higher risk borrowers (e.g. sub-prime, high LTV)
- Many markets are dominated by bank branch distribution
  - Limited product information and advice outside of the branch channel

# European Mortgage Markets are Broadly Efficient: Adjusted Prices Are Closely Clustered Around 100bp

**Adjusted Price  
(% of Original Loan Advance)**

**Observations**

Figure 3.16: Adjusted mortgage price by market, April/May 2003

	Unadjusted price		Adjustments			Adjusted price
	Rate	Fee	Yield curve	Credit risk	Prepayment option value	
<b>Denmark</b>	5.10%	0.09%	3.83%	0.06%	0.46%	0.84%
<b>France</b>	4.93%	0.17%	3.79%	0.13%	0.29%	0.89%
<b>Germany</b>	4.77%	0.07%	3.99%	0.09%	0.06%	0.70%
<b>Italy</b>	4.68%	0.04%	3.00%	0.19%	0.20%	1.34%
<b>Netherlands</b>	4.39%	0.16%	3.30%	0.08%	0.20%	0.97%
<b>Portugal</b>	3.53%	0.06%	2.46%	0.17%	0.00%	0.95%
<b>Spain</b>	3.44%	0.11%	2.40%	0.12%	0.00%	1.03%
<b>UK</b>	4.80%	0.07%	3.60%	0.12%	0.01%	1.15%

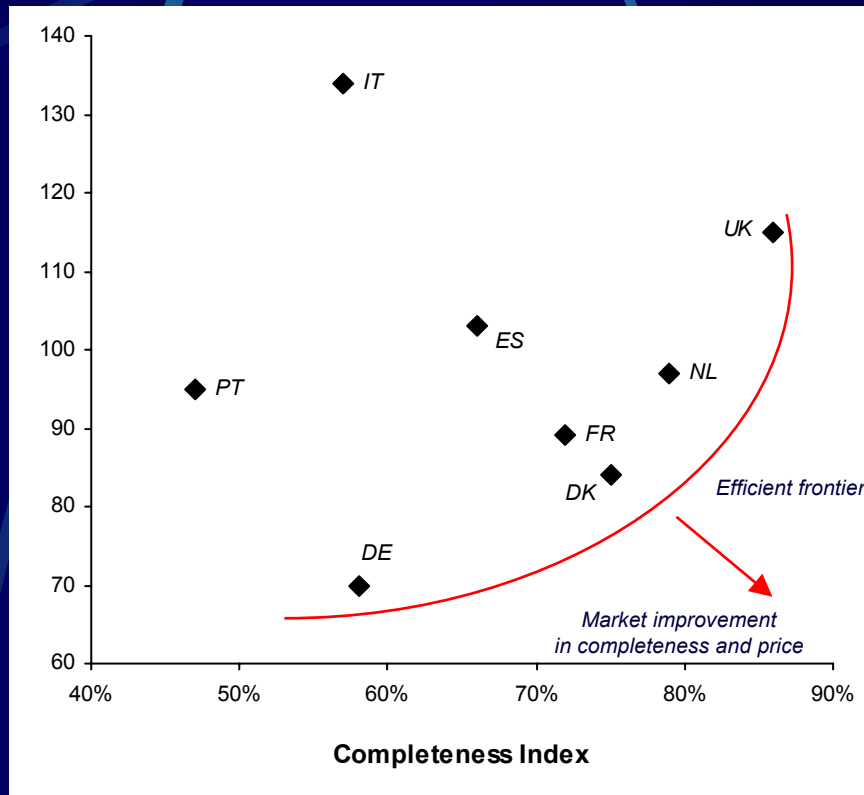
Source: Mercer Oliver Wyman analysis based on 45 questionnaires completed by European lenders and market data. Adjusted price analysis based on a composite of prices for all lenders included within each country.

- 60% of differences in nominal rate are due to underlying product differences
  - Countries with highest nominal rate are not those with the highest adjusted price
- Average adjusted prices are in a range of 64bp
  - This is less than the variation in prices within many markets
- Observations are broadly consistent with lender interviews
- Price levels influenced by
  - Cost levels
  - Product cross-subsidisation

# There Is Some Evidence of a Trade Off Between Efficiency and Completeness

## Adjusted Price<sup>1</sup> vs. Market Completeness

Adjusted Price  
(bp of loan amount)



## Realising Potential Benefits for Consumers

### Market strategies

- Raise financial returns on a standalone mortgage strategy, in particular stop product cross-subsidisation
- Realise cross-border scale benefits
- Improve access to distribution, esp. through IT
- Improve information on foreign markets

### Policy strategies

- Improve collateral laws, render mortgage loans transferable
- Address regulatory differences between markets, differences in consumer protection policy
- Rationalize mortgage taxation and subsidies
- Limit government intervention

### MOW/EMF Study calibrates benefits

- Higher efficiency: domestic channels 10-20 bp, cross-border channels 5-10 bp
- Higher completeness: domestic channels 5-10 bp, cross-border channels 10-20 bp

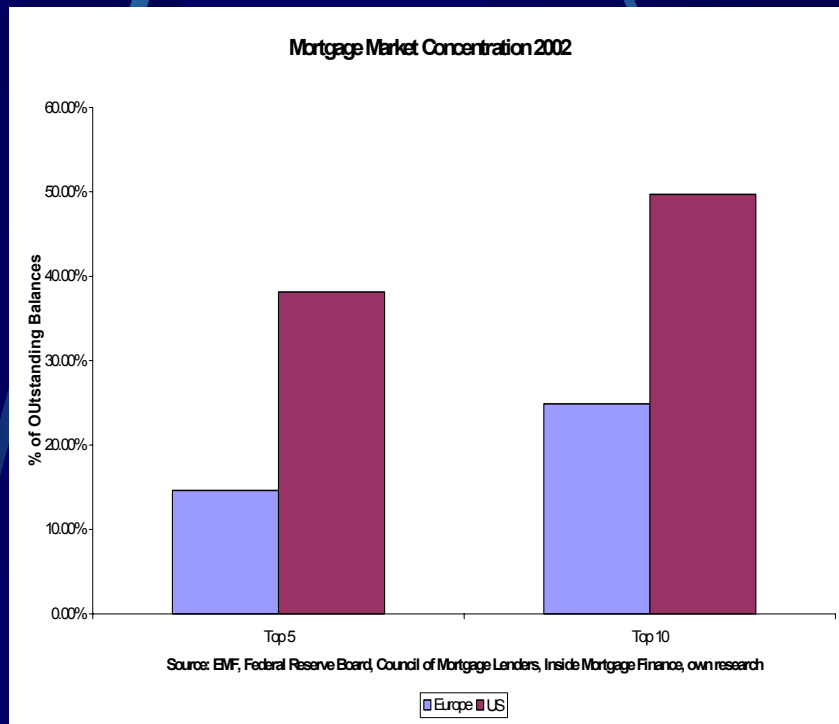
1. Adjusted Price is nominal price (including fees) adjusted for interest rate risk, credit risk and prepayment options

# Contents

1. Introduction
2. Efficiency and Completeness of European Mortgage Markets
- 3. Europe and the U.S. Compared - Selected Issues**
4. Discussion

# The U.S. Market is Higher Concentrated than the European

## Top Balance Sheet Holdings



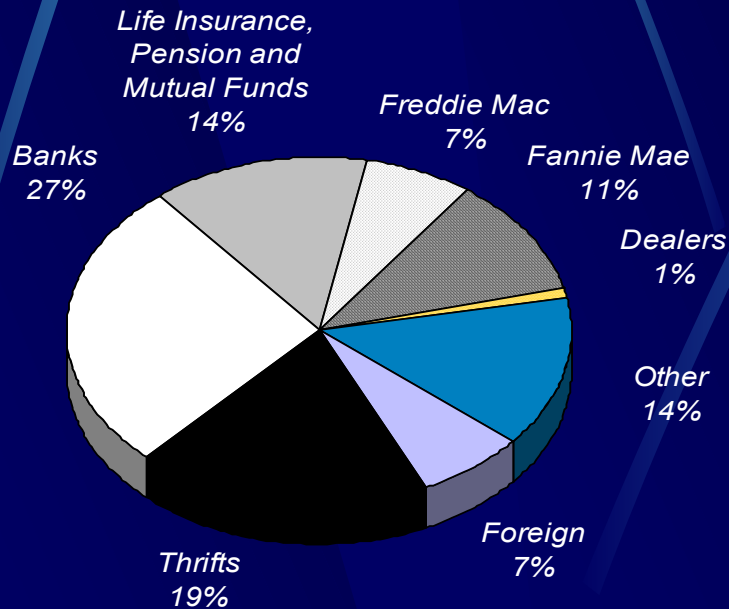
## Observations

- Disintermediation developing fast in Europe, however cross-border integration barriers
- Technology-driven origination and servicing processes
- Economies of scale bring advantages for large and diversified risk intermediaries.
- Questions:
  - How strong will concentration become in the U.S.?
  - Does it explain spread differences to Europe?
  - Are there natural monopolies or oligopolies as a result of technology?

# U.S. Depositories are Still Major Investors in Interest Rate Risk

## 2000 U.S. Investor Structure in ..

### Interest-Rate Risk

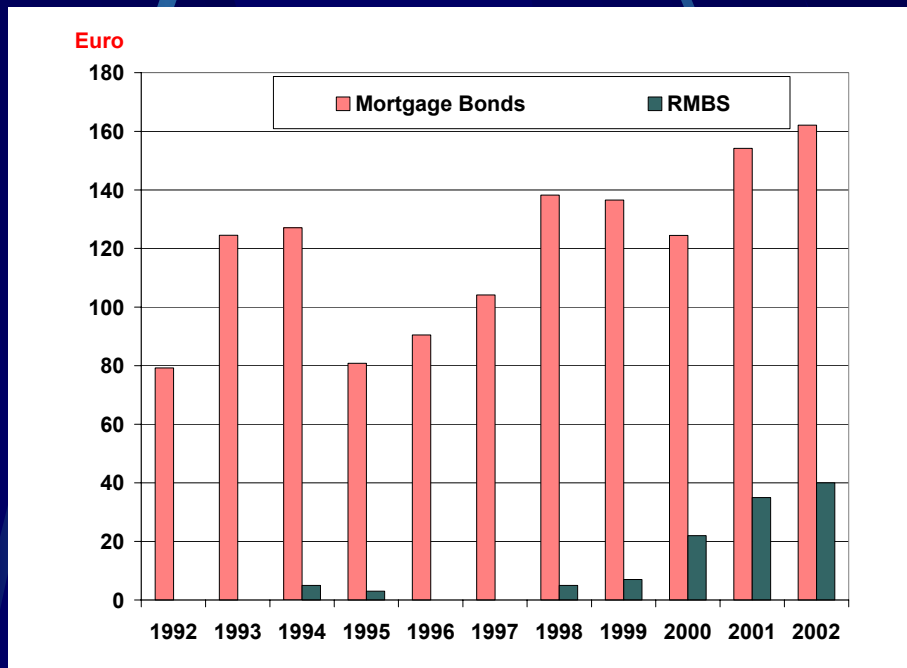


## Observations

- What precisely has been the achievement of the Secondary Market from the perspective of depositories?
  - Substantial liquidity risk relief, makes high loss realisations during fire sale actions less likely (ex. RTC late 80s)
  - Substantial credit risk relief → transfer to government or government-sponsored entities
  - Limited interest rate risk relief. Rationale: deposits are efficient funding instruments for assets carrying prepayment risk. Europe: call protection prevalent.
- How has this result been achieved?
  - Massive portfolio swaps (1980s)
  - Disintermediation model (1990s)
  - Regulatory benefits (see below)

# European Capital Markets are Catching Up, But Remain Different in Structure

## EU Mortgage Bond and MBS Issuance 1992-2002

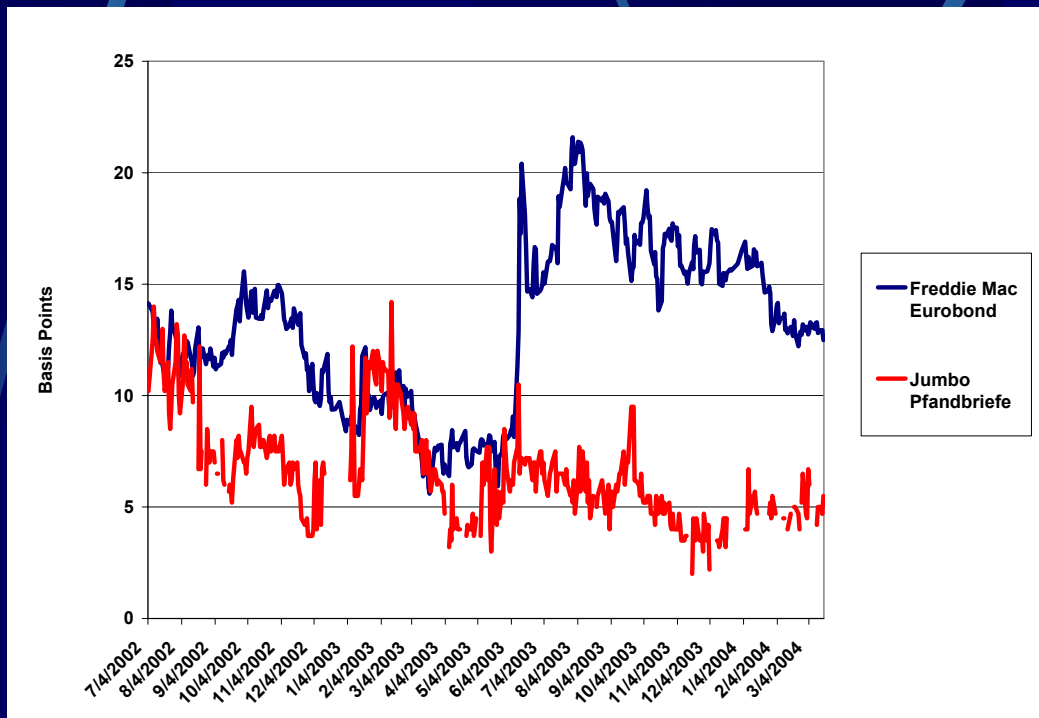


## Observations

- As of 2004, most countries develop parallel Covered Bond (Pfandbrief) and RMBS markets. Germany (true sale RMBS) and U.K. (covered bonds) latest.
- Analogy in the U.S. would be agency MBS and (unsecured) debt markets.
- Unsecured agency bonds are in Europe of minor importance (except for low-income housing).
- Covered bond liquidity is reached through:
  - Pooling of separate collateral types (residential, commercial, public finance)
  - Issuance covenants (Jumbo) and market making arrangements
- Collateral specialization and cross-border orientation in residential finance only beginning. Cross-border business is advanced in commercial and public finance.

# Funding Costs in Decentral Corporate Bond Markets Can Be Very Reasonable Compared to Agency Debt

## Swap Spreads of 10 Year U.S. GSE Debt vs. Pfandbriefe in the Eurobond Market



## Observations

- The European corporate issuer structure is very decentralized. There are more than 70 Covered Bond issuers. Spain, Portugal, Ireland, U.K., Accession countries currently add new issuers.
- The U.S. secondary market is dominated by two large institutions with implicit public guarantees, making market entry very difficult.
- Advantages of a decentral system: absence of political risk, low implicit public guarantee, flexible market entry and exit.
- Disadvantages...: risk of fragmentation, co-ordination needed to obtain sufficient liquidity, flight to safety might create spread widening (e.g. 1998)

# Financial Regulation of Secondary Markets – Mortgage Market Subsidy or Justified Regulatory Benefit for Greater Diversification?

## Observations

### U.S.

- Capital arbitrage for bank selling loan pools and repurchasing agency MBS or debt. Direct circumvention of Basel I banking regulations. *Agreement with Congress in 2001.*
- Agency bonds and MRS not subject to counterparty concentration limits for banks & institutions. E.g. National Banking Act.
- FDIC 04 Report: average exposure of U.S. banks to GSE MBS and Debt 156% of capital; too optimistic stress tests?

### Europe

- More conservative regulatory capital regime, BUT:
- Concentration risk privileges for Pfandbriefe over unsecured bonds (UCITS), exist, too. Lenient investment ceilings for insurers and pension funds; no investment ceiling for banks. Condition: instruments must fulfill Article 22 (4) UCITS Directive (bank issuer, bankruptcy privilege, special supervision).
- Denmark: historical minimum investment requirements for institutions in domestic bonds promoted mortgage bond market. Abolished.

# Untargeted Public Lending, Guarantees and Tax Subsidies for the Mortgage Market – the Never-ending Story

## Europe

### Lending/Guarantees

- State-owned German Landesbanken issue “public” covered bonds (~45% market share). Federal KfW involved in active credit default swap program (see below). Large municipal savings bank sector.
- Danish issuers deemed to be implicitly guaranteed by government (CSFB 2000)
- French state-owned CDC implicitly guarantees Caisses d’Epargne co-op group (~20% market share). Fmr. public Credit Foncier de France integrated as wholesale arm.

### Tax subsidies

- Mortgage interest deductibility disappearing (U.K., Germany) or cut back (Sweden, Netherlands) as rates decline. But Accession Countries are introducing it.

## United States

### Lending/Guarantees

- More than 3,000 billion USD outstanding mortgages, or ~50% of the total, enjoy public guarantees (2001). Of this, only 620 billion USD, or ~11% of the total, are low-income mortgage loans.
- Secondary market structure cum regulatory and fiscal benefits creates too-big-to fail assumption by the capital markets

### Tax subsidies

- Office of Management and Budget puts housing tax preferences for 2003 at approx. \$125 billion, including capital gains tax exemptions (\$20.3 billion), property tax write-offs (\$22.3 billion) and mortgage interest deductibility (\$65.5 billion).
- Mortgage interest deductibility second largest tax preference after Medicare, mistargeted (USD 1 million limit).

# Dealing with Untargeted Public Guarantees – The German Landesbanken Case

## The Case

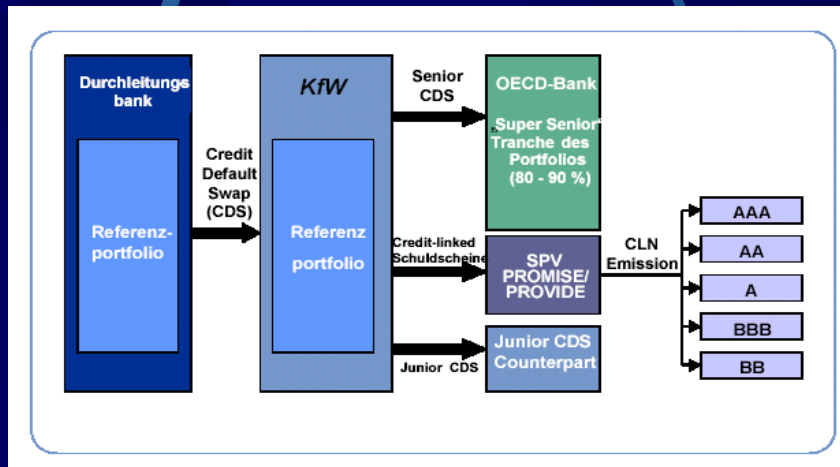
- 1990s Landesbanken use their public guarantee status to gain market share, esp. vis-à-vis other wholesale lenders
- 1998 Case brought forward by private mortgage banks against Landesbanken. Specific trigger is recapitalization of Westdeutsche Landesbank
- 2000 EU rules that Article 87 of the EU Treaty is to be interpreted such that state guarantees can only be attached to institutions focusing on promotional activities
- 2001 Agreement with EU (Bruesseler Verstaendigung)

## The Outcome

- State guarantees to be fully abolished for new issuances after July 18, 2005; partial abolition since July 19, 2001
- Rating agencies publish fictive ratings between A+ and BBB, down from AAA to AA+
- Landesbanken are comprehensively restructured, typically split into two separate institutions (promotional, commercial). Consolidation expected
- Public mortgage bond status still being debated, but two Landesbanken now own private mortgage banks

# KfW – GSE for Europe through the Backdoor?

## PROVIDE Typical Transaction Structure



Source: KfW

Note: there is also a 'frontdoor' proposal for a European Fannie Mae launched by several EU banks.

## Observations

- KfW modelled in 1949 after the U.S. Reconstruction Finance Corporation as a public multi-sector agency. After the immediate postwar reconstruction era (until mid-60s), programs were mostly targeted.
- Provide Program initiated in 2001. So far 18 deals with mortgage banks, Bausparkassen and commercial banks. Includes 2 deals outside Germany (permitted by mandate). Volume so far ~ 20 billion Euro.
- Mechanics
  - Mortgage bank buys credit guarantee from KfW, loan pool remains on balance.
  - Full faith and credit from Federal Government allows conversion from mortgage to public loan portfolio (+ lift the 60% limit) → funding with liquid Jumbo
  - KfW hedges itself through sale of Super-Senior Tranche, Credit-linked Notes and Credit Default Swap, based on loan pool risk profile through SPV (PROVIDE).

# Contents

1. Introduction
2. Efficiency and Completeness of European Mortgage Markets
3. Europe and the U.S. Compared – How Different are the Markets?
- 4. Discussion**

## Possible Questions for Discussion

- Will there ever be a European-wide mortgage market? What can be learned from U.S. experiences from the New Deal to today?
- Are European and U.S. mortgage products “consumer friendly”?
- Will the covered bond – agency bond/MBS dichotomy prevail, or will European and U.S. market practices converge?
- Are there common or diverging views about the role of government in both supporting and regulating housing finance and capital markets?
- Could a synthesis perspective be converted into a common strategy to promote homeownership globally, or will Europe and the U.S. remain in competition?
- Is there something the U.S. can learn from European experiences?

# References

- Batchvarov, A., Collins, J., De Pauw, X., Spencer, J. and W. Davies, “Merrill Lynch Guide to International Mortgage Markets and Mortgage-backed Securities”, Merrill Lynch, London: 2002.
- Colton, K., “Housing Finance in the United States – The Transformation of the U.S. Housing Finance System”, Joint Center for Housing Studies at Harvard University. Cambridge, MA: 2002.
- Congressional Budget Office, „Federal Subsidies and the Housing GSEs“, Congress of the United States: Washington, D.C.: May 2001.
- Credit Suisse First Boston, “Danish Mortgage Bonds - A guide to the market and its securities”, Fixed-income Research Europe, London: 2000
- Diamond, D. and M. Lea, „Housing Finance in Developed Countries - An International Comparison of Efficiency“, in: Journal of Housing Research Vol. 3, Issue 1: 1992
- Dübel, A., “Size and Effects of Public Credit Guarantees in Housing Finance – the Example of the US Government-sponsored Enterprises Fannie Mae and Freddie Mac”, Paper sponsored by Verband deutscher Hypothekenbanken, Berlin: 2002
- Lea, M., "The Role of Government in the Capital Market Funding of Housing: a Comparative Analysis", Report for the Office of Federal Housing Enterprise Oversight, Washington, D.C.: 1997.
- Low, S., Dübel, A. and M. Sebag-Montefiore, “Study on the Financial Integration of European Mortgage Markets”, Study commissioned by the European Mortgage Federation to Mercer Oliver Wyman, Brussels: November 2003.
- Sinn, H.-W., “Der Staat im Bankwesen - Zur Rolle der Landesbanken in Deutschland”, Verlag C.H. Beck: München, 1997
- Stanton, T., “Government-Sponsored Enterprises: Mercantilist Companies in the Modern World”, The AEI Press, Washington, D.C.: March 2002.
- Structured Finance International, “UK RMBS and Covered Bonds – Pillars or Stilts. In: Structured Finance International, September/October, London: October 2003.

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