Comparative Mortgage Finance System Analysis

Developed markets trends and considerations for transition countries

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Structure of the Presentation

1. Mortgage finance systems and their performance

2. Considerations for transition economies

Historic differences between Anglo-saxon and Continental European mortgage finance systems

Legal system

- Europe: regulation of mortgage banking primarily through legal codification (Roman Law). Collateral enforcement and creditor rights very variable. Focus on risk mitigation.
- Anglo: common law context of mortgage regulation with strong collateral enforcement and creditor rights. Focus on transparency.

Policy approach

- Europe: low homeownership preference, high role of rental market. Internal unbundling. Savings are important policy and regulatory tool.
- Anglo: High homeownership preference and low role of pre-savings. Common law context supports unbundling of services. Insurance is primary policy and regulatory tool.

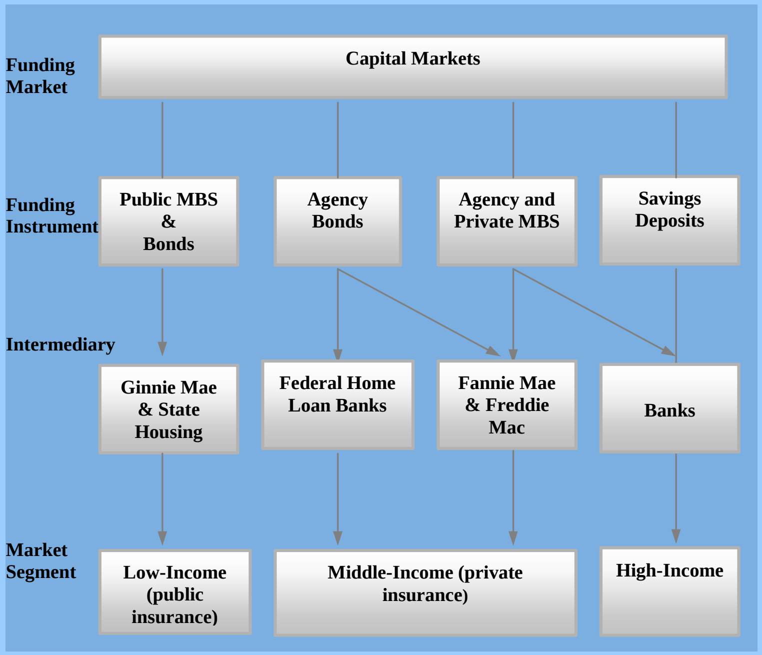
Financial sector structure

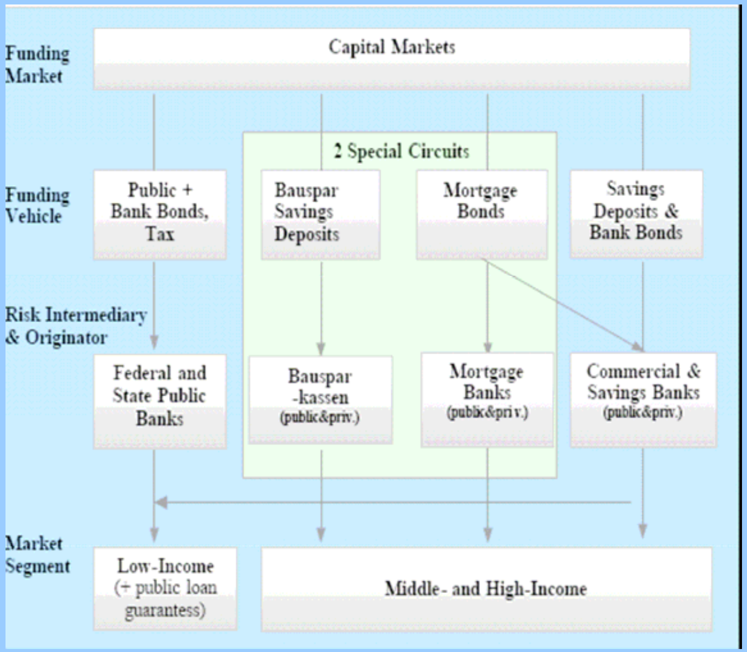
- Europe: Origin of decentral mortgage bank bonds in areas with strong creditor rights. Elsewhere, central bond issuers and public banking dominant.
- Anglo: Origin of savings and loan and of mortgage insurance systems. Traditionally small bank bond markets.

Example for anglo-continental structural differences: U.S. vs. German housing finance systems

United States

Germany



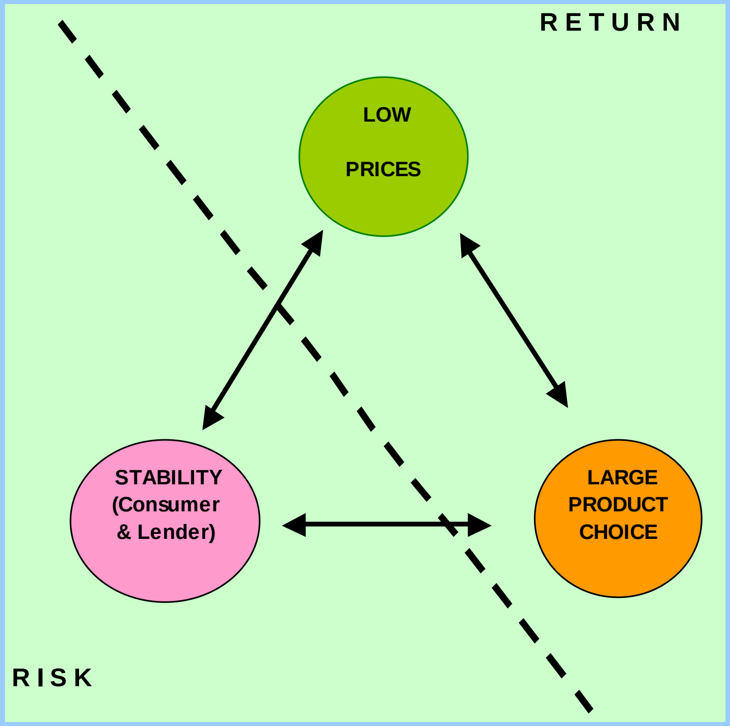


Reasons: public intervention in different areas (U.S. New Deal – insurance, Germany Frederick the Great - Pfandbriefe), some cross-border adaptions (German Bausparkassen from U.K., KfW from U.S.)

Source: Finpolconsult

Measuring system performance – Golden Triangle Approach

Golden Triangle



Source: Finpolconsult.de

Observations

- Target function:
  - minimum price/interest rate
  - maximum choice/access
  - minimum risk levels for consumers/lenders.
- But there are trade-offs:
  - Large choice vs. stability, e.g. loans for unfinished housing or Forex-denominated loans
  - Low prices vs. stability, e.g. adjustable vs. fixed-rate lending
  - Low prices vs. large choice, market standardization

System performance – product incompleteness in Europe

Incompleteness in the Credit Dimension

	Denmark	France	Germany	Italy	Netherlands	Portugal	Spain	UK
Market								
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

Observations

Factors

- High-LTV:
  - Excessively conservative regulation
  - Government programs and rental subsidies distort.
- Subprime
  - Only UK with serious credit impaired market. Older households, free-lancers rationed. Usury rules.

Empirical results:

- MOW/EMF study calibrates benefits. Higher completeness: domestic channels 5-10 bp, cross-border channels 10-20 bp
- LE study confirms .9% GDP growth potential, completeness major factor

Source: Mercer Oliver Wyman/European Mortgage Federation, Dübel

System performance – product incompleteness in Europe (w. World comparators)

Observations

- Institutional dichotomy – bond issuers vs. depositaries
  - Covered bonds in central and northern European priced over government bonds led to dominance of short-term fixed-rate loans.
  - Depositaries dominant elsewhere induced dominance of floaters (U.K.), also emerging Europe (Spain).
- Public interventions for callable fixed-rate loans
  - In the U.S., GSE only purchase fixed-rate loans + tax deduction
  - In Denmark, institutions had to buy mortgage bonds + tax deduction
- Interest rate/exchange rate risk, esp. U.K. has difficulty to develop fixed-rate market

Incompleteness in the interest rate dimension

	FIXED-RATE		ADJUSTABLE-RATE
EUROPE	Without call protection	With call protection	
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

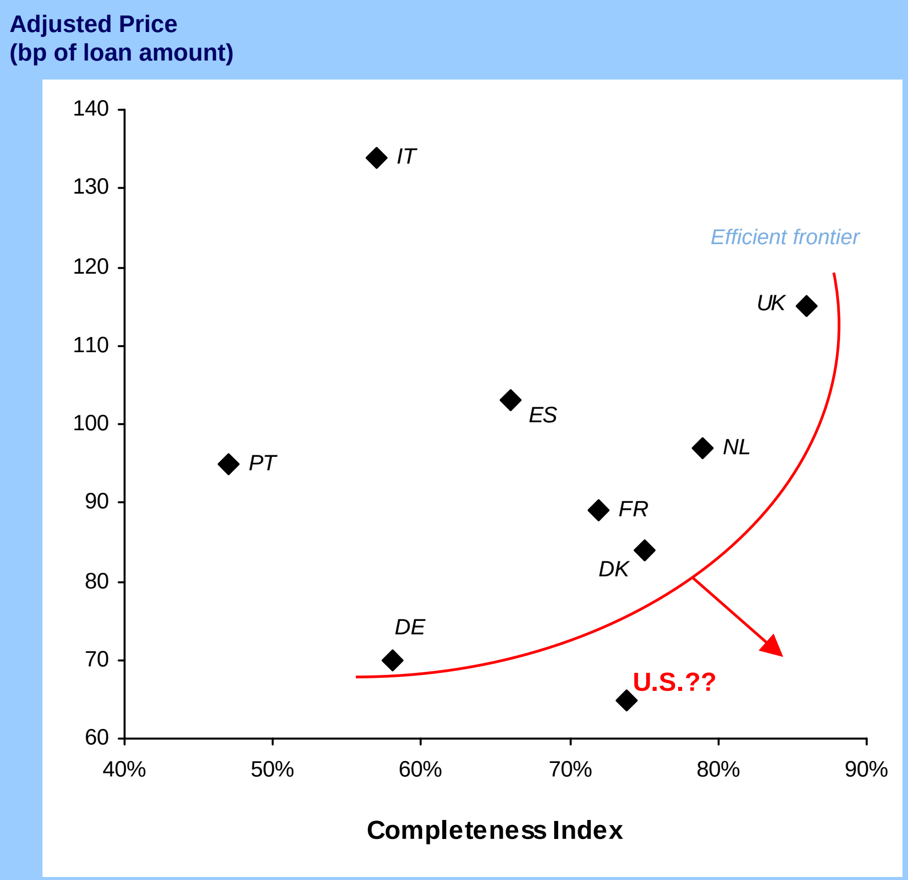
LEGEND
Dominant X
Widely used X
Not widely used or missing O

System performance –
product completeness vs. price trade-off in Europe

Observations

- There is an efficiency frontier between price and completeness in Europe.
- Depositary systems using adjustable-rate credit tend to be more complete/flexible.
- Capital-market-based systems tend to be less complete, but also less costly.
- Emerging European markets start with a limited product menu and need time to reach the efficiency frontier. Capital markets important factor (Spain).
- U.S. likely more efficient than most EU systems, but some incomple-teness as capital market focus requires standardization.

Adjusted price[1] vs. completeness

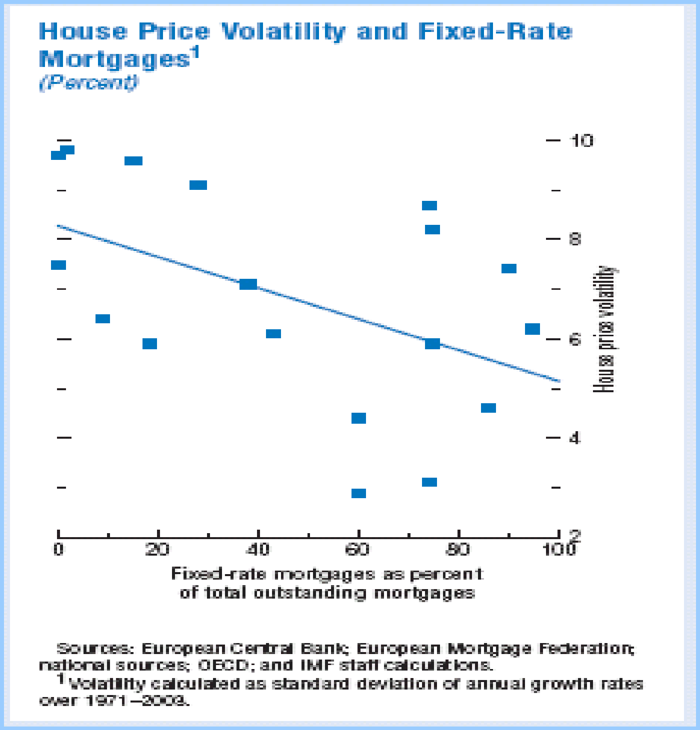


Source: Mercer Oliver Wyman/European Mortgage Federation, Dübel

1 Nominal price (including fees) adjusted for interest rate risk, credit risk and prepayment options

System performance - price vs stability trade-off

Fixed-rate Share and House Price Volatility



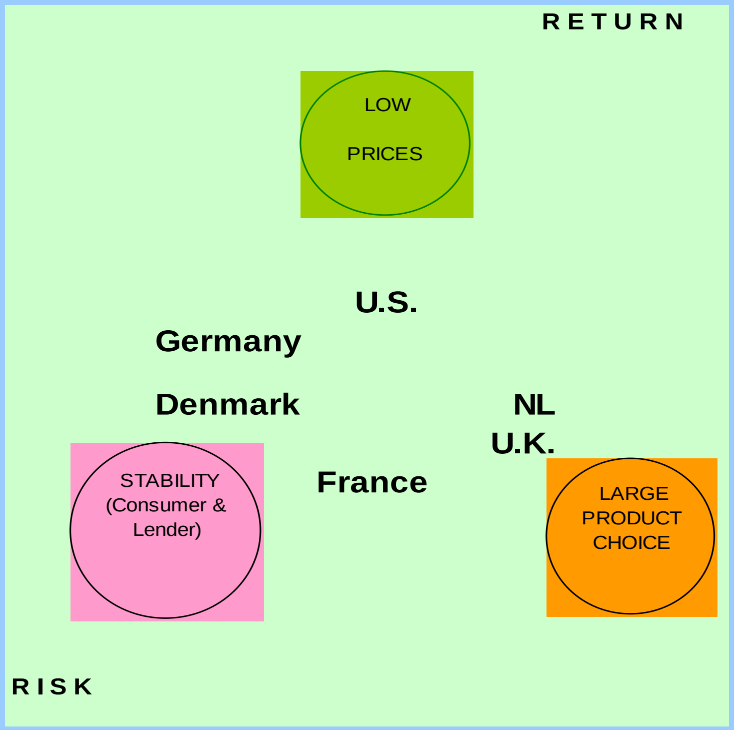
Source: IMF (2004)

Observations

- Protection against interest rate risk is costly – there is no free lunch!
- Floating rate loans look cheaper, but are more risky.
  - Higher house price fluctuations, negative equity risk.
  - Higher default levels, U.K. crisis 1989-95
- Fixed-rate markets carry risk, too:
  - If prepayments are made at par while rates rise, there is risk of negative equity/lock-in (U.S., Germany).
  - In Denmark, that risk is eliminated through the 'delivery option', I.e. the consumer can buy back the loan at the market price.
  - The prepayment option on a fixed-rate loan is costly (50-100 bp)
- Floating-rate loans with caps are a reasonable alternative, caps cost ~10-30 bp.

Broad classification of developed mortgage markets

Golden Triangle with Assessment



Source: Finpolconsult.de

Observations

- Approach "Minimum Price":
  - standardize primary market products & maximize liquidity via capital markets→low prices, with *relatively* limited product availability (e.g. U.S. GSE purchase policies)
- Approach "Maximum Choice":
  - maximize product choice, manage prices by shifting risk to consumers.
- Approach "Maximum Stability":
  - Maximize stability and promote liquidity through safe capital market instruments, limit product choice.

Main international system trends - cross-border adaptation of institutions and instruments

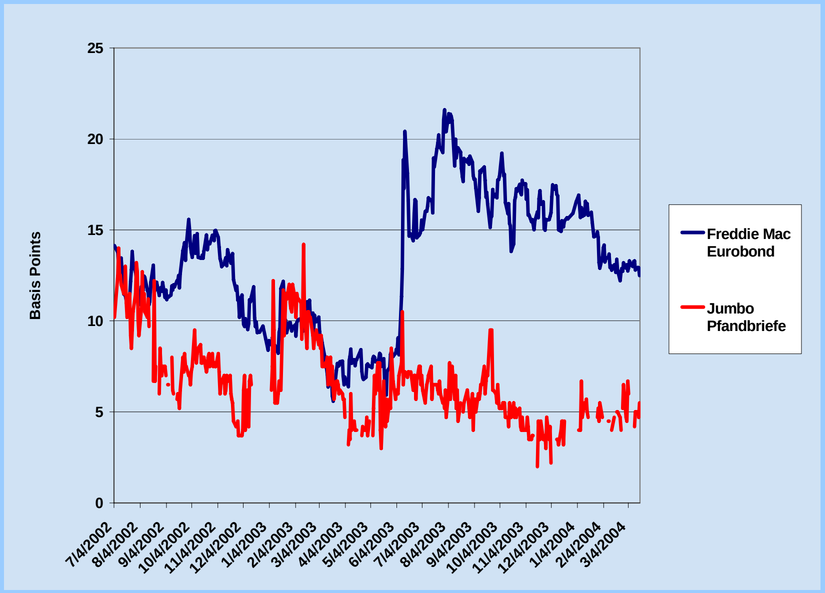
- **Mortgage finance systems internationally are converging and becoming more complete.**

- **Adaptation of institutions & products across systems has come in waves:**
  - **Anglo→Euro: S&L (1920s), Agencies (1940s), RMBS (1990s), Mortgage loan insurance (2000s)**
  - **Euro→Anglo: Covered Bonds in cont Europe, Ireland, UK (1990-00s), possibly U.S. (GSE charter debate, FHLB similar system, W Mutual)**
  - **Danish 1-1 issuance system (1 loan = 1 bond) has potential to become global benchmark for direct consumer-investor interaction (currently attempts to adapt in Mexico). Resistance from banks expected.**

- **Cross-border trade in mortgages has been more sluggish:**
  - **Direct investment (insurers, specialists), pooling of cross-border collateral in covered bonds or insurance portfolios →still no full regulatory benefits.**
  - **Trade in primary market still nascent, e.g. EU only 1% of total RM lending.**

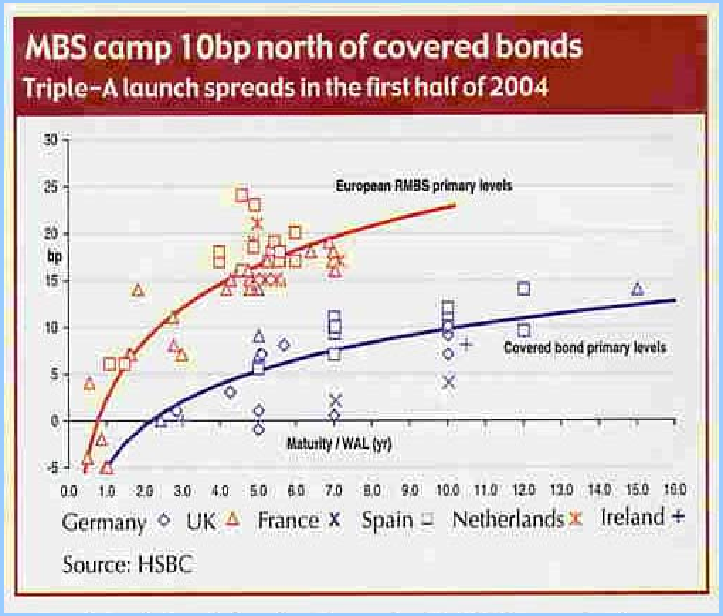
Converging – Agency Bonds, Covered Bonds, and RMBS in pricing perspective

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



Source: Commerzbank Securities, Dresdner Kleinwort Benson, computations by Dübel.

Swap Spread Differences RMBS and Covered Bonds



Source: Euroweek/Structured Finance International: European Mortgages and the Capital Markets, October 2004.

Main international system trends – simultaneously increasing specialization & renewed universal banking focus

Changing nature of special banking/financial services

- Special, “vertically” integrated (all functions) mortgage banking in retreat, due to lack of process synergies, fixed capital deployment reduces flexibility.
- However, “horizontal” special services on the rise (special functions, such as brokers, servicers, insurers, capital markets specialists). Unbundling process.

Return of universal banking

- Overregulation of banks and Basel I “brush” capital approach (8% flat) promoted non-bank charters (e.g. U.S. GSEs) and off-balance sheet securitization in 1980s and 90s.
- Basel II (2007 bis) corrects anti-bank bias and revives bank portfolio holdings of mortgages and on-balance covered bonds.
- However, Basel II does not correct interest rate risk bias in favor of universal banks, as no capital needs to be held for mismatch risks.

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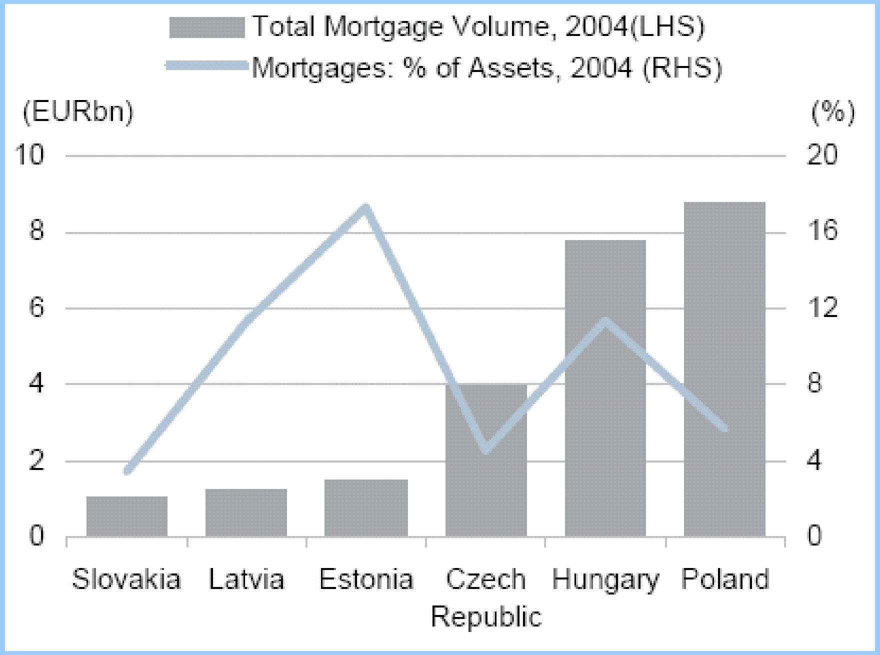
2. Considerations for transition economies

Considerations for Transition Countries – financial institutions

System development should be bottom-up & stability-oriented:

- Banks are the workhorses of development in European transition countries:
  - Initial banking crises eliminated weaker players,
  - Competition is still increasing, partly due to strong foreign entry (conflicts with domestic players).
- Lenders need basic prudential regulation and governance control – not state discipline. Examples: Basel II 3-pillar approach, Mortgage Code of Ethics.
- Public-private secondary market initiatives useful to promote stability:
  - Initiatives should be supported by lenders bottom-up (ownership),
  - Should leave freedom to lenders pursuing own lending / funding programs (e.g. covered bonds vs. agency bonds),
  - Should support stability-oriented lending / funding practices that the market doesn’t (e.g. fixed rates loans, or bond funding),
  - Should be subsidy/arbitrage-free.
- As stability is secured, focus on competitive environment:
  - Allow non-bank lenders, subject to sufficient prudential regulations;
  - Enable ‘horizontal’ institutions – brokers, servicers, insurers.
    - E.g., brokers that link originators (e.g. real estate agents, developers, finance advisors) with lenders create market transparency.

Transition Countries – growing mortgage volumes matched by strong bank liquidity



Source: Fitch

- Entirely bank-financed, often driven by foreign banks owning and providing finance to local banks.
- Mortgage-to-asset ratio of the banking system are still moderate, I.e. liquidity ‘wall’ enforcing capital markets use still away.

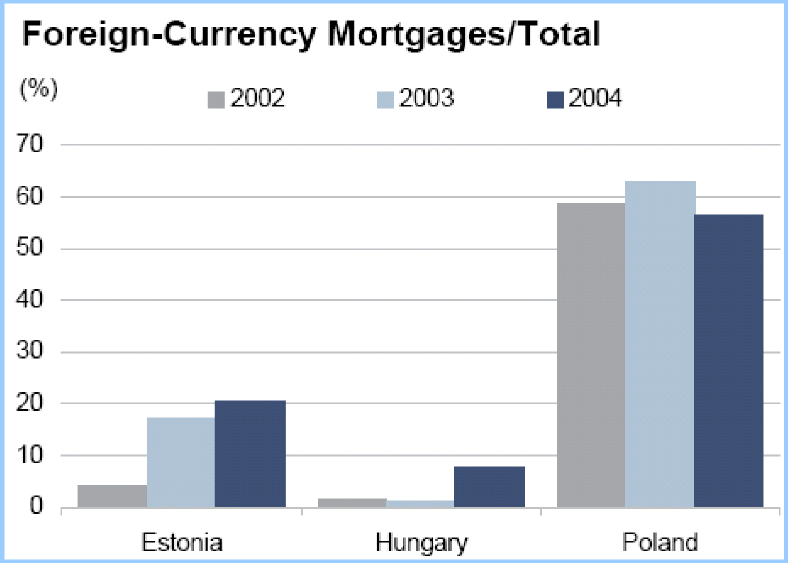
Considerations ctd.. – instruments and risks

Instrument choice:

- Completeness not an immediate priority.
- Simple asset design: short-term call-protected and adjustable-rate lending → Mortgage Code of Ethics.
- Keep funding structure simple and transparent:
  - Simple collateralized bank bonds,
  - Simple (senior-sub) MBS structures.

Risk management, priorities :

- Construction finance by consumers, legal issues
- House price risk (developer margins, valuations?)
- Cash flow risks (forex share, prepayments /asset durations), certain expansion of funding maturities (5 year/10 year) by greater use of bond funding instruments
- Governance and lender-consumer relations



Source: Fitch

Generally, the higher market or credit risk are in an emerging market, the more important is a consequent focus on stability and simplicity.

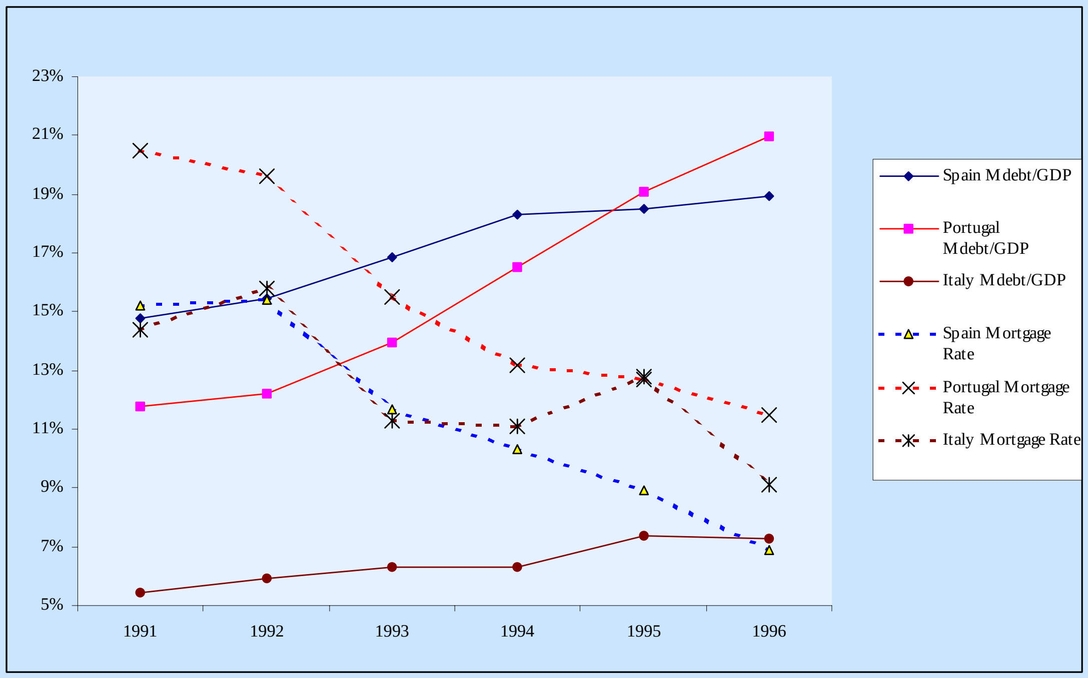
Considerations ctd.. – subsidies/affordability

Comment

Subsidies

- General subsidies usually not needed in disinflation trend
- Targeted subsidies often premature (insufficient penetration).
- Example Spain/Portugal early 90s – nearly subsidy-free growth.
- Rather focus public resources on
  - land and housing supply (to discourage house price bubbles)
  - infrastructure for finance (courts, consumer education).

Spanish/Portuguese Mortgage Market Takeoff in the early 90s



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