Covered Bonds: Design, Use and Prerequisites for Emerging Markets

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Presentation Outline

- What Are Covered Bonds?
- Where Are Covered Bonds Found?
- Why Have Covered Bonds?: Issuer, Investor and Government Motivations
- Key Design Features
- Issues: Legislation, Prepayment, Subordination, Liquidity, Ratings Considerations
- Prerequisites For Emerging Markets

What Are Covered Bonds?

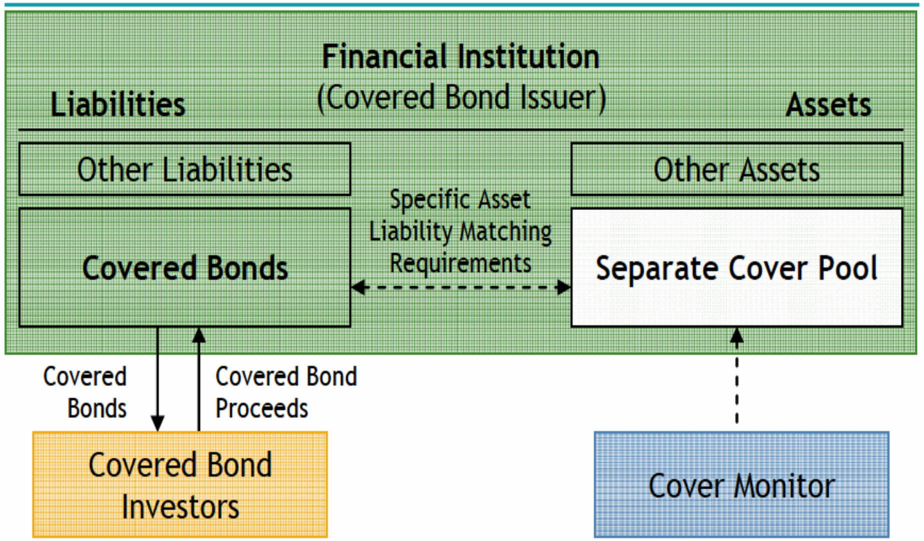
- Definition: Corporate bond secured by pool of qualified assets*
- Essential Features (ECBC**)
  - The bond is issued by a credit institution which is subject to public supervision and regulation
  - Bondholders have a claim against a cover pool of financial assets in priority to unsecured creditors
  - The credit institution has the ongoing obligation to maintain sufficient assets in the cover pool to satisfy the claims of bondholders at all times
  - The obligations of the credit institution in respect of the cover pool are supervised by public or other independent bodies

* real estate loans or public sector loans

** European Covered Bond Council

Covered Bond: Basic Structure

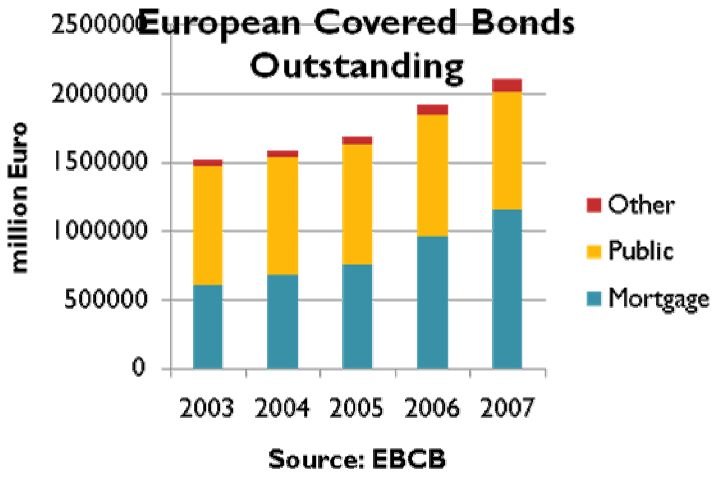
Chart 9: Common covered bond structure*

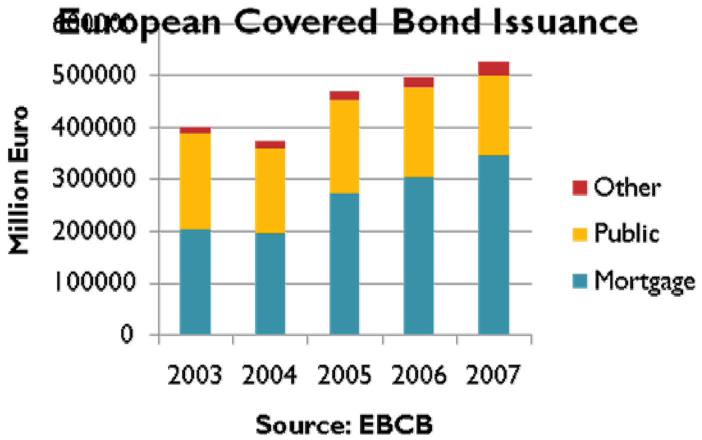


Source: Merrill Lynch, *The German Pfandbrief structure as an example for the common covered bond structure.

- Obligation of issuer => Assets stay on the balance sheet
- Cover pool contains qualified assets
  - Defined in legislation or by contract
  - Reviewed by authorized monitor
- Investors have priority claim on cover pool, pari passu claim on unsecured assets of issuer (dual recourse)
- Simple, standardized securities
  - In most cases, bullet bonds

Where Are Covered Bonds Issued?





- In Europe a €2 trillion asset class
  - 55% mortgage, 41% public
  - 53% “jumbo” bonds (> € 1 billion issue)
  - Legislation in 24 member states
  - Fund more than 16% of outstanding mortgages
  - Germany, France, Spain the largest issuers
- In Central Europe ~ € 15 billion outstanding
  - Mainly Czech Republic, Hungary
- 2 US issues ~ € 12 billion outstd.
- 2 Canada issues ~ € 2 billion outstanding
- Chile ~$ US 7 billion outstd.
  - Recently introduced in Mexico

Why Have Covered Bonds: Issuer Perspective

- Relatively low cost of issuance, funding
  - Bond rating > issuers unsecured rating (+1to 4 notches)
  - Low issuance costs using simple, standardized, fungible instruments
- Longer term maturities facilitates ALM
  - Pass some or all interest rate risk to capital market investors
- Liquefy mortgage portfolio (borrow against existing assets)
  - Does not require sale of assets
- Diversify funding (access new investor base)

Why Have Covered Bonds: Investor Perspective

- High credit quality
  - Dual recourse: collateral and issuer
  - Higher rating than issuer
  - Protection against event risk (bankruptcy)
- Simplicity (typically bullet bond structure)
- Liquidity (frequent issues of standardized instrument)
- Yield pick up (alternative to govt. bonds)
- Possible lower capital requirements
  - E.g. 10% risk weight for qualified bonds in EU

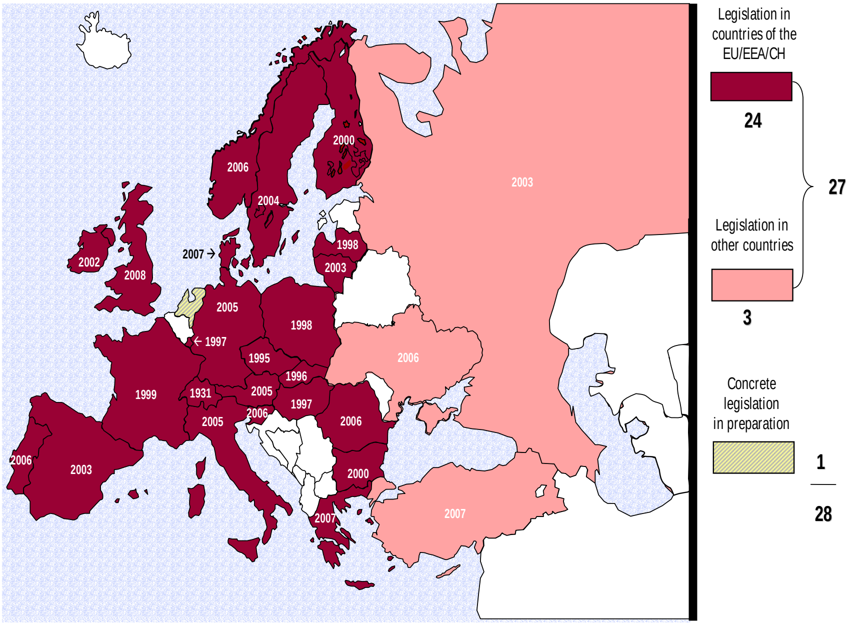
Why Have Covered Bonds: Government Perspective

- Augment the funding of housing
- Bond market development
  - High grade alternative to government bonds
  - Substitute for government bond benchmarks
- Attractive for institutional investors
  - Long duration suitable for pension, insurance
    - Chile: Share of mortgage bonds in investment portfolios (16% pension funds, 24% insurance cos.)
- Potential tool for central bank operations
  - Acceptable collateral at discount window
- Incentive alignment

Key Design Features

- Legal Framework
- Issuer: Specialized vs. universal bank
- Collateral: Credit quality of assets, types of assets, collateralization requirements,
- Cash Flow Matching: Contract and bond design, matching requirements
- Insolvency Protection: Rights of investor in event of default
- Supervision: Trustee, regulator
- Comparison With MBS

Legal Framework



- Special law defining characteristics and regulation of covered bonds exists in 24 European countries
- Bonds can be issued subject to general contract law – 5 countries as of 12/07
- Bonds issued with special law can benefit from preferential risk weightings
- Legislation helps create a “brand” image that enhances investor acceptance
  - But legislation varies by country and affects performance (later)

Issuer

- Should issuer be a specialized or diversified institution?
  - Historically and still in many countries issuance of covered bonds allowed only by specialized credit institutions (mortgage banks)
    - Denmark, Germany, Hungary, France, Poland
    - Rationale: safety and transparency
  - But many countries allow diversified universal banks to issue covered bonds
    - Spain, Sweden, Chile, Czech Republic, Ireland
    - Rationale: banks exist; costs to set up specialized lender
  - Trend: Mortgage banks as specialized subsidiaries of diversified banking groups

Collateral

- **Loans secured by mortgage on real property**
  - First mortgage or public guarantee
  - Residential and in some cases commercial real estate
- **Valuation rules**
  - Maximum Loan to Value (LTV) typically:
    - Residential $\leq$ 80% LTV
    - Commercial $\leq$ 60% LTV
  - Rules for valuation of property: “mortgage lending value”
- **Substitute collateral**
  - Cash, public debt, bank debt, derivatives (?), MBS (?)
- **Collateralization requirement**
  - Value of assets (cover) $\geq$ value of bonds (OC)
  - Continuous LTV compliance: if PV falls, increase cover

Collateralization Structure: Specialized Lender With Dynamic Portfolio

MORTGAGE BANK	
MORTGAGE PORTFOLIO	MORTGAGE BONDS (fungible)
SUBSTITUTE COLLATERAL	
Debt Securities and Other Assets	EQUITY

- Pfandbrief model
- Specialized issuer (most assets in cover pool)
- All assets in cover pool support bonds
- Cover pool grows with new lending, shrinks with repayment, default
- Little or no required overcollateralization
- Limited diversification
- Some interest rate risk

Collateralization Structure: Pass-Through Series

LENDER (SPECIALIZED OR DIVERSIFIED)	
MORTGAGE LOANS	MORTGAGE BONDS
MORTGAGE LOANS	MORTGAGE BONDS
MORTGAGE LOANS	MORTGAGE BONDS
MORTGAGE LOANS	MORTGAGE BONDS
Debt Securities and Other Assets	EQUITY

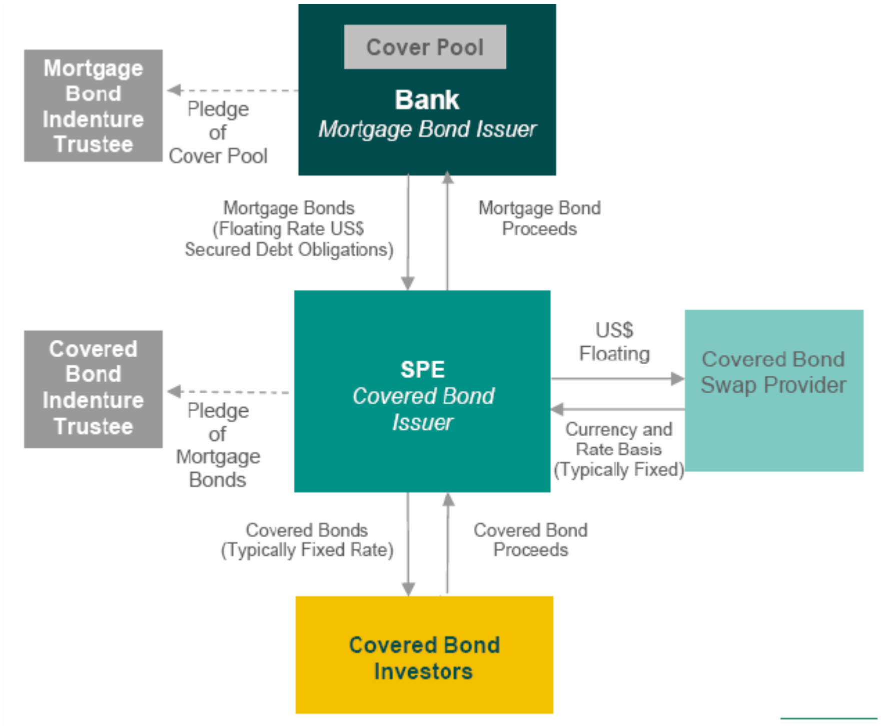
- Danish model
- Specialized (Denmark) or bank (Chile) issuer
- Bonds issued in series backed by finite pools
  - Pools can be open several years (vary by coupon)
  - Some substitution allowed
- 1:1 correspondence between loan and bond
  - No interest rate risk for issuer
- Bonds are pass-through
  - Investor has all market risk
  - Symmetrical call option
- Overcollateralization through equity requirement

Collateralization Structure: Diversified Financial Institution

MORTGAGE PORTFOLIO	**MORTGAGE BONDS** (fungible)
SUBSTITUTE COLLATERAL	
OVERCOLLATERAL	SENIOR DEBT
OTHER (NON-ELIGIBLE) ASSETS	SUBORD. DEBT
	EQUITY

- Issuer is a diversified lender (commercial, savings, universal bank)
- Global cover (all eligible assets)
- Open pool; issues can be against seasoned loans
- Substitute collateral necessary (within limits typically 20% of portfolio)
- Overcollateralization likely or required (Spain)

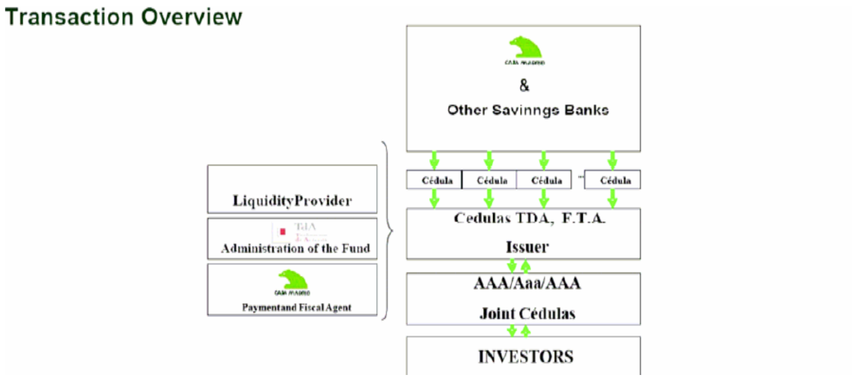
Structured Covered Bond (UK,US)



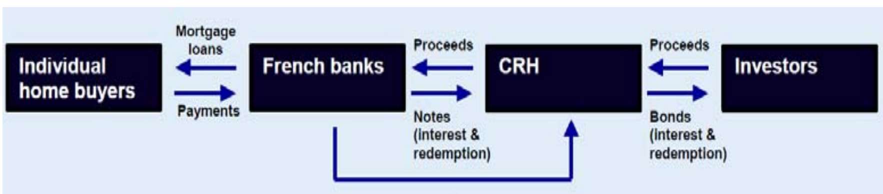
- Contractual not legislative design
- Bonds issued by special purpose entity (SPE)
- Bank creates mortgage bonds backed by dynamic cover pool
- Bank sells mortgage bonds to SPE which issues covered bonds
- Bond holders have sole claim to SPE assets and pari passu claim with other unsecured creditors on bank assets
- Typically floating rate loans and bonds

Multi-Lender Model (France, Spain)

Spain



France



- Spanish savings banks (SB) have created special purpose funds that issue covered bonds
- Individual SBs issue covered bonds (cedulas)
- Fund (Cedulas TDA) acquires SB cedulas and issues joint cedulas backed by individual SB bonds
- In France a specialized institution, CRH, acquires covered bonds created by its bank owners and issues its own bonds

Cash Flow Matching

- Covered bonds can reduce but not necessarily eliminate interest rate risk (IRR) for the issuer. Degree of IRR depends on:
  - Mortgage contract design
  - Level of capital market sophistication
  - Regulation
- Mortgage contract design
  - Partial or full exclusion of prepayment option (or ARM)
  - Borrower takes pipeline risk (Chile, Denmark)
- Capital Market
  - Will investors accept (and be able to price) long term debt with heterogeneous call options?
  - Are hedging instruments available?

Cash Flow Matching Regulation

- Regulatory requirements vary:
  - Nominal cover requirement (value of assets > (1+x%) * value of liabilities)
    - Where x = overcollateralization
  - Strict symmetry: loan/bond pass-through
  - Global ALM requirements (recent trend)
    - NPV of assets > (1+x%) * NPV of liabilities
    - Duration gap limit (difference in duration of assets and liabilities)
    - Inclusion of derivatives as part of the cover pool
    - Stress testing to determine overcollateralization

Insolvency Protection

- The cover pool is excluded from the general bankruptcy mass (ring fenced assets)
- Mortgage bond holders have a priority claim on the assets in the cover pool
- Bankruptcy does not trigger acceleration of bond repayment
  - Continuation of portfolio best for bondholders
    - Requires specific legal and regulatory framework and access to back-up servicer
  - Liquidation of portfolio may be necessary if assignment not possible. May result in loss

Supervision

- To ensure protection of the general "covered bond" brand
- To ensure compliance with solvency requirements, lending and valuation rules
  - Bonds / Cover register
  - Cover monitor: special auditor or trustee or prudential supervisor to check quality standards and cover requirements
  - Prudential supervisor to authorize issuers and check compliance with minimum capital requirements

Rating of Covered Bonds

- Main Criteria
  - Legal framework: Ability to protect bond holders in event of issuer bankruptcy
  - Collateral quality: Probability of default and loss per default in “stress” scenario
  - Cash flows: Effect of portfolio mismatches in stress scenario
  - Overcollateralization: Buffer against deterioration of collateral pool, adverse currency or interest rate movements (can be reduced by hedging)
  - Liquidity: Access to liquidity in event issuer cannot access capital markets

Covered Bonds and RMBS Comparison

Main characteristics of covered bonds and asset-backed securities

	Covered bonds	Asset-backed securities
Motivation of issuer	Refinancing	Risk reduction, regulatory arbitrage, refinancing
Who issues	Generally originator of loans	Special entity
Recourse on originator	Yes	Generally no
Structure	Assets generally remain on balance sheet, but are identified as belonging to cover pool	Assets are transferred to special entity
Impact on issuer's capital requirements	None	Reduction
Legal restrictions on issuer or eligible collateral	Yes (if issued under covered bond legislation)	Generally none
Management of asset pool	Generally dynamic	Predominantly static
Transparency of asset pool to investors	Limited (but quality regularly controlled by trustees or rating agencies)	Generally high
Prepayment of assets	No pass-through as assets are replaced	Generally full pass-through
Tranching	None	Common
Coupon	Predominantly fixed	Predominantly floating

Source: BIS 2008

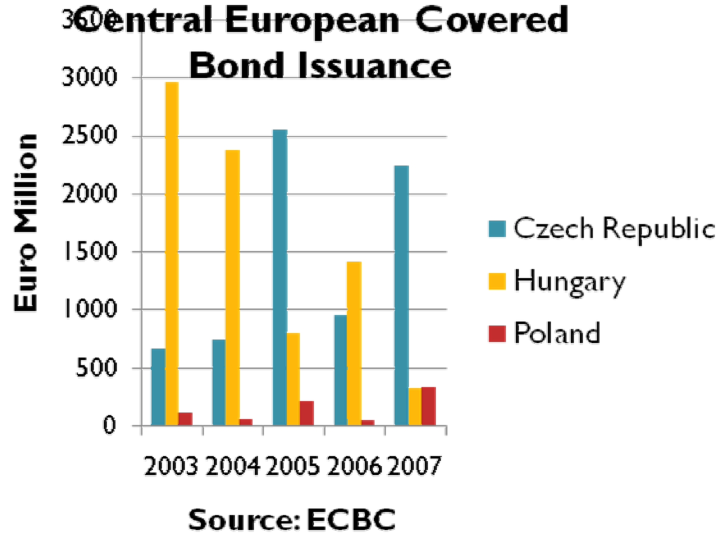
Issues

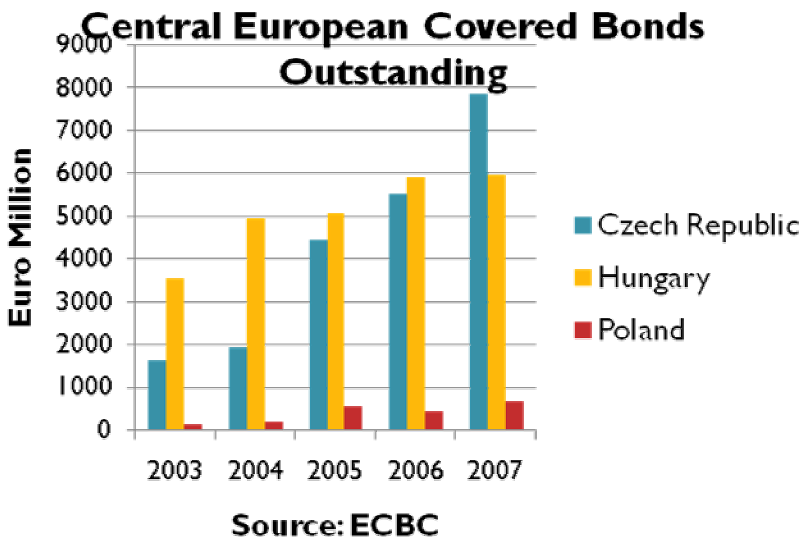
- Special or General Law
  - Ensure primacy of investor interest in bankruptcy
- Structural subordination
  - Does priority claim on high quality assets unfairly treat unsecured creditors (e.g., depositors)?
  - Should regulators limit CB issuance by banks?
- Market Making and Liquidity
  - Are market makers required to ensure liquidity?
  - Issuer access to third party liquidity
- Dealing with prepayment risk
  - Major issue for fixed rate lenders, investors

Prerequisites For Emerging Markets

- Legal Infrastructure: Title and registration, foreclosure and repossession, priority of lien, strength of bankruptcy law
- House price data and valuation standards
- Issuer Need: Issuers must see advantage over alternative sources of funds (cost and ALM)
- Investor Readiness: Ability to invest, capital requirements; desirability of longer term investments
- Bond Market Requirements: Benchmark yield curve; regulation and supervision; rating agency?

Central European Covered Bonds

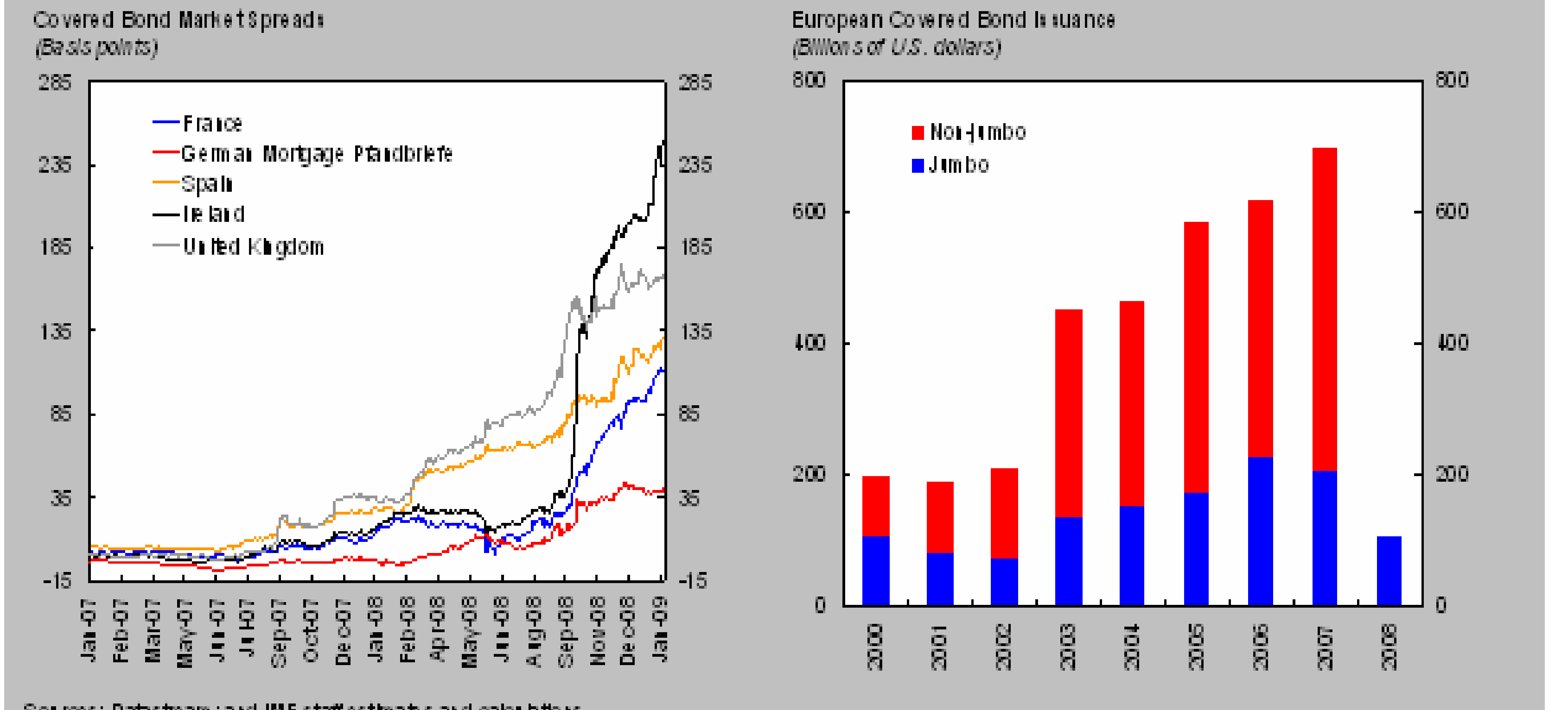




- Legislation passed in 9 CEE countries plus Turkey, Russia and Ukraine
- Most volume in Czech Republic and Hungary
  - Tax exempt interest in CR
  - Interest rate and tax subsidies in Hungary
- Challenges
  - Incomplete legislation
  - Foreign owned banks not needing long term finance
  - Strong demand for FX mortgages

Recent Performance

- CB Issuance has been impacted by the crisis but less so than other non-government securities



Sources: Datastream; and IMF staff estimates and calculations.
Note: Above spreads refer to the Iboxx Collateralised (Euro) Covered All Maturities for each country, over the benchmark sovereign bonds.

Recent Performance II

- Bonds issued under legislation have performed better than those without (UK, US)
- Bonds with strong domestic demand (France, Germany) have performed better than those more dependent on international investors (Ireland, Spain)
- Bonds issued by lenders from countries with more stable housing markets have performed better than those with recent boom/bust
- State guarantees of bank bonds have crowded out covered bonds
- Market making arrangements have collapsed