



Nykredit

Eurobanking 2011

Perspectives from the Danish Mortgage Market

Christian Weinreich, Nykredit A/S

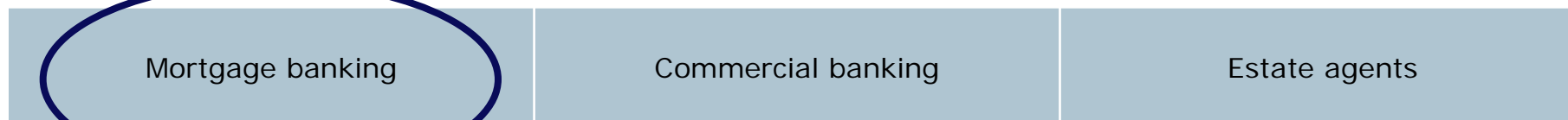
Agenda

- **The Nykredit Group**
- Danish Housing Finance
- Legislation and risk
- Funding
- Pricing
- New regulations



The Nykredit Group

Business areas



- Established in 1851
- Largest lender and largest covered bond issuer in Denmark
- ...and one of the largest issuers in Europe

Facts

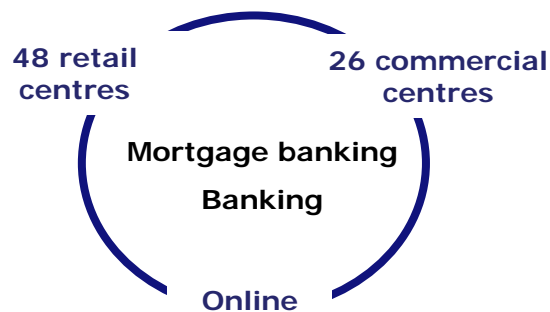
Customers	1,025,000
Staff	4,026
Equity	EUR 7.4bn
Loan portfolio	EUR 146,2bn



Strategic market position

Nykredit

Business-to-Consumer



Mortgage loan portfolio
EUR 77.3bn

totalcredit

Business-to-Business



Mortgage loan portfolio
EUR 61bn

- Strategic alliance with almost 100 local and regional banks
- Originates mortgage loans through Totalcredit

Capital structure

The Nykredit Realkredit Group at 31 December 2010

Equity after dividend distribution EUR 7.4bn					Hybrid 2014/2015 EUR 1.5bn
Statutory capital deductions EUR 0.6bn	Pillar I EUR 3.2bn	Pillar II EUR 0.9bn	Cyclical buffer (added severe recession) EUR 2.1bn	Strategic capital EUR 0.6bn	
	Business capital EUR 4.1bn				
Statutory capital deductions EUR 0.6bn	EU stress test, summer 2010 EUR 4.4bn				
	Danish FSA severe stress test, April 2010 EUR 4.8bn				

Rating

Nycredit Realkredit A/S	Moody's¹	S&P
Capital Centre E (covered bonds, SDO)	Aaa	AAA
Capital Centre E (junior covered bonds, JCB)	Aa3	-
Capital Centre D (covered bonds, RO)	Aaa	AAA
Capital Centre C (covered bonds, RO)	Aa1	AAA
Capital Centre G (covered bonds, RO)	Aa3	-
Nycredit in General (covered bonds, RO)	Aa1	AAA
Short unsecured rating	P-1	A-1
Long unsecured rating	A1	A+
Hybrid core capital (Tier 1)	Baa1	BBB+
Totalkredit A/S		
Capital Centre C (covered bonds, RO)	Aaa	AAA

Nycredit Bank A/S	Moody's	S&P
Short-term deposit rating	P-1	A-1
Long-term deposit rating	A1	A+
Bank Financial Strength Rating (BFSR)	C-*	
Euro MTN Program		
- Short-term senior debt	P-1	A-1
- Long-term senior debt	A1	A+
Euro Commercial Paper and Certificate of Deposit Program		
- Short-term senior debt	P-1	A-1

¹ No JDA uplift for mortgage banks

* Outlook negative

Financial highlights

	2006	2007	2008	2009	2010
Profit for the period as % of average equity pa	6.6	6.3	(1.3)	0.3	7.2
Core earnings before impairment losses as % of average equity pa	6.0	7.5	7.0	6.4	7.4
Core earnings after impairment losses as % of average equity pa	6.7	7.6	4.3	(9.2)	2.9
Costs as % of core income from business operations	70.8	67.9	67.6	62.4	57.8
Total provisions for loan impairment – mortgage lending, EURm	43	34	62	261	299
Total provisions for loan impairment – bank lending, EURm	12	13	334	1,132	926
Impairment losses for the year, % – mortgage lending	(0.04)	(0.01)	0.05	0.18	0.09
Impairment losses for the year, % – banking	(0.11)	(0.03)	1.80	6.07	1.31
Capital adequacy ratio, %	11.8	10.3	14.7	17.8	18.5
Core capital ratio, %	11.0	9.7	13.5	16.7	18.5
Average number of full-time staff	3,129	3,217	4,037	4,135	4,026

Source: Nykredit Annual Report 2010



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The Danish mortgage system

Facts

- 200-year history
 - specialised mortgage lending and bond issuance
 - first institution in 1797
- No defaults for over 200 years
- Special legislation and supervision
- The largest mortgage covered bond market in Europe



A very robust system that has survived several crises

Crisis	Loss
Agricultural crisis of the 1880s	Less than 1%
WWI – Denmark remained neutral	No crisis
Dual currency bonds	Intervention
The Great Depression	Less than 1%
WWII – Denmark occupied by Germany	No crisis
Change in macroeconomic climate in 1980 and the 1990s	Less than 1%

Several kinds of house financing

Fixed interest rate – Callable Bonds

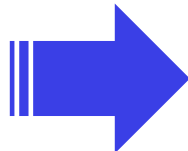
- Prepaid at par
- Buy back option below par

Bullet bonds – refinanced from one to ten years

- Variable interest rates – auctions each year

Bullet bonds with caps

- Variable interest rates with a cap

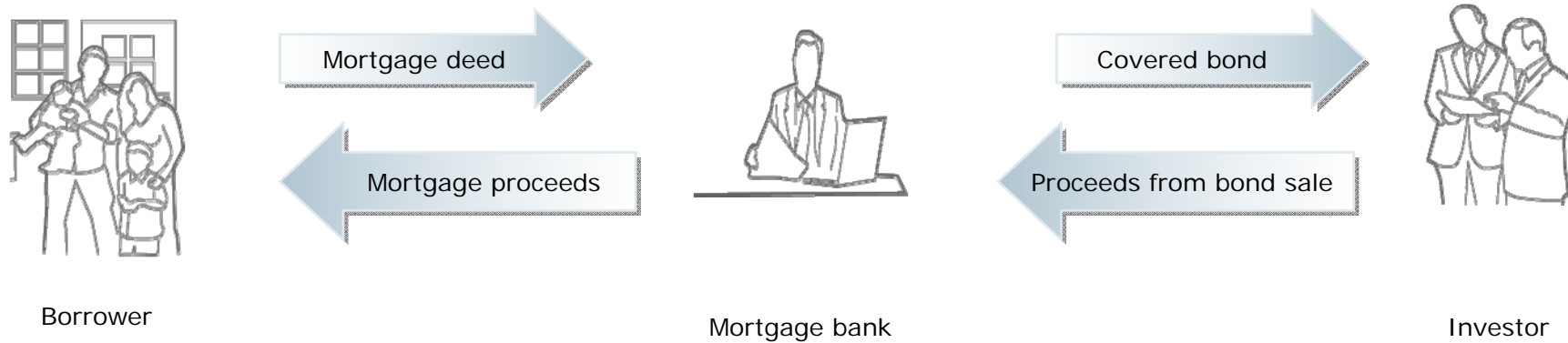


- Listed on Copenhagen Stock Exchange – transparency
- Daily trading – effective market conditions and pricing
- Auctions on bullet bonds held quarterly – changes will move into a more smooth refinancing – fixed interest rate bonds issues on daily basis

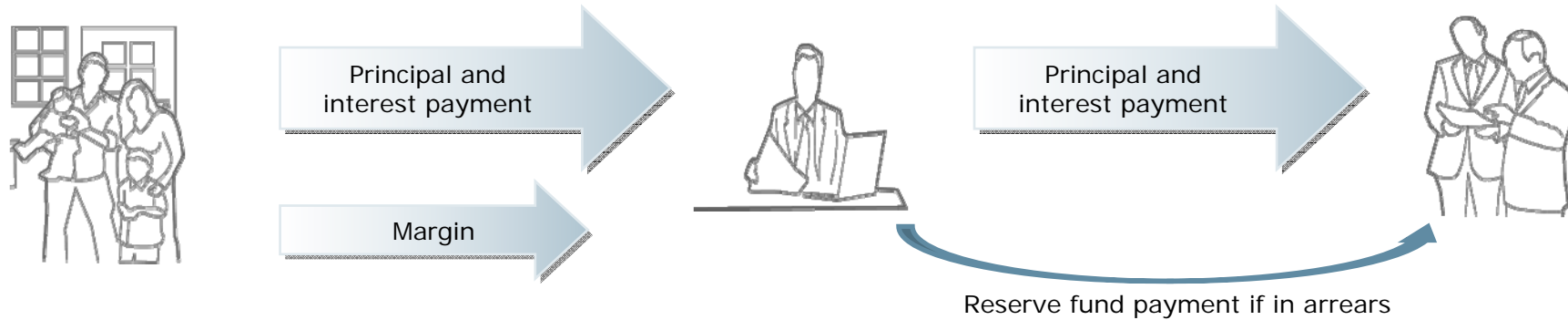


The basics of the system

Mortgage origination



Payments

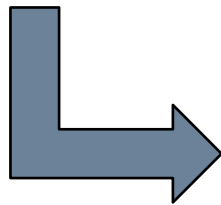
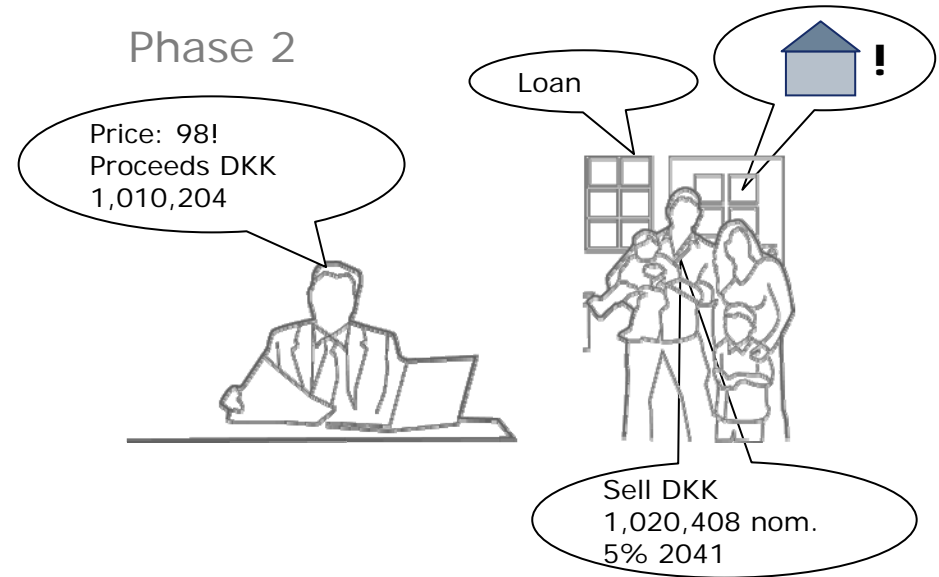


Mortgage loan workflow

Phase 1



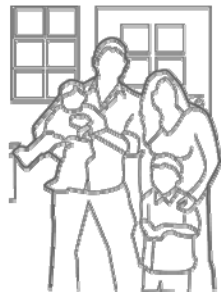
Phase 2



Loan offer

DKK 1,020,408
Nom. 5% 2041 at a price of
98 fixed rate worth
DKK 1m

Phase 4



Settlement:
1,020,408
at 98.00

Phase 3



Callable mortgage loan Cash flow



Borrower's cash flow, 30-year callable mortgage loan, 6%

	Outstanding debt	Principal payments	Interest payments	Margin	Repayment
Year 1	1,000,000	12,649	60,000	5,000	77,649
Year 2	987,351	13,408	59,241	4,937	77,586
...
Year 30	68,537	68,537	4,112	343	72,992



Mortgage institution

- In relation to funding, the mortgage institution **matches the cash flow** from the borrower – except for the margin
- Funding is carried out through tap issuance on a day-to-day basis
 - The borrower's interest (or amount) is adjusted according to the issuance price

Margin
5,000
4,937
...
343



Investor's cash flow, 30-year fixed-rate callable bond, 6% coupon (at par)

	Outstanding amount	Principal payments	Interest payments	Total
Year 1	1,000,000	12,649	60,000	72,649
Year 2	987,351	13,408	59,241	72,649
...
Year 30	68,537	68,537	4,112	72,649

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Danish covered bond legislation

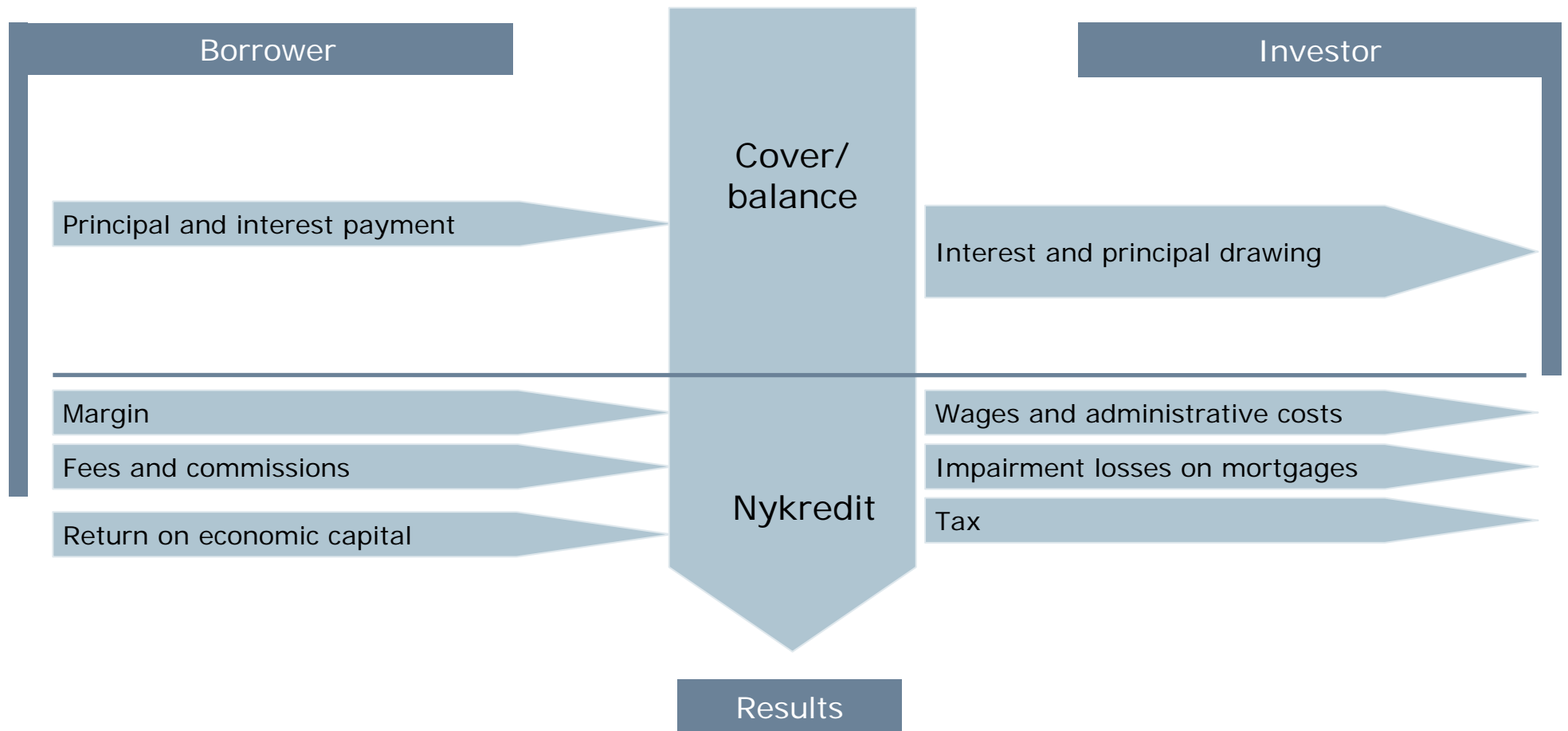
- The first Danish mortgage bonds date back **more than 200 years**
- Danish mortgage banks and one commercial bank grant loans against **registered mortgages on real property** funded by covered bond issues
- Mortgage lending has been regulated by **special mortgage legislation** since 1850
- The main principle of **low risk for investors**, as established in the 1850 legislation, is still the mainstay of Danish mortgage legislation
- The **new Danish covered bond legislation** took effect on 1 July 2007
- Balance principle with matched funding limits liquidity risk
- Strict supervision by experienced regulator

"The legal framework is still considered to be among the strongest in Europe."

Banking System Outlook Denmark – Moody's Global Banking November 2007

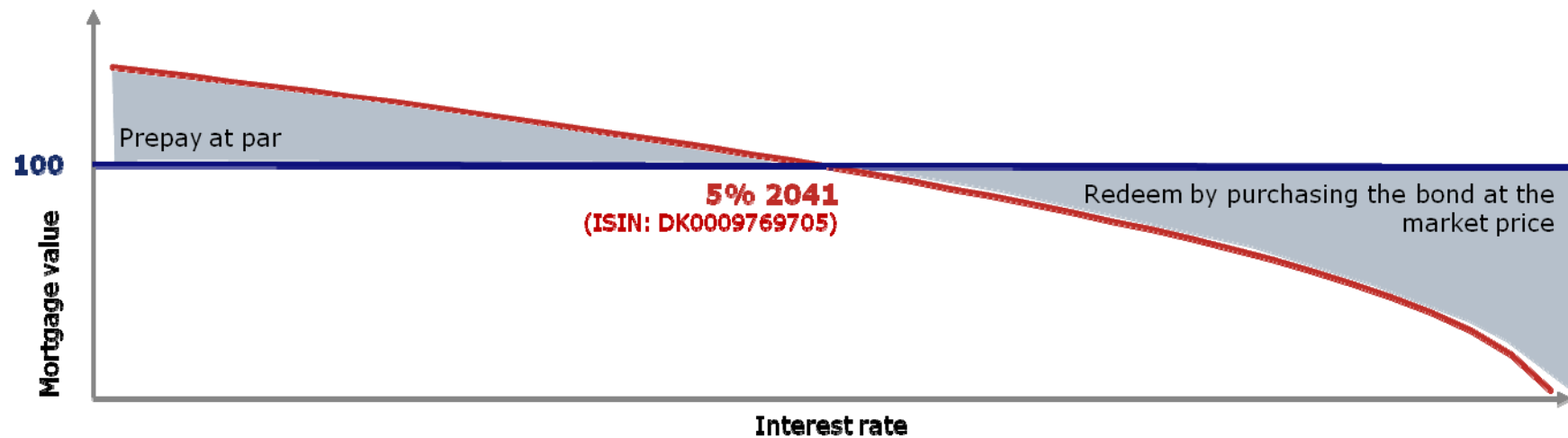
Pass through system

"The balance principle"



Principle of Balance Mortgages

- Danish mortgage loans can always be prepaid at par or redeemed by purchasing the bond at the market price.
- Since the value of homes and the associated mortgage bonds tend to move in the same direction, Principle of Balance prevents homeowners from having negative equity in their homes



The balance principle

- Cash flow on the loan = cash flow on bonds issued to fund the loan
 - Eliminates all financial risks for the issuer
 - Borrower assumes price risk at refinancing (if any)

- Tap issuance
 - Bonds issued daily to fund new loans = No pipeline risk
 - Daily bond buybacks to match redeemed loans
 - Issuer active as market maker, seller and buyer every day

- Price transparency

- Product transparency and standardisation
 - All loan features embedded in the bonds

Strict underwriting standards

Real estate

- On site appraisal – maximum LTV
- Differentiated LTV rules
- Building data from public registers
- Land registry data, house price data and local knowledge
- Regulation from Danish FSA

Borrower

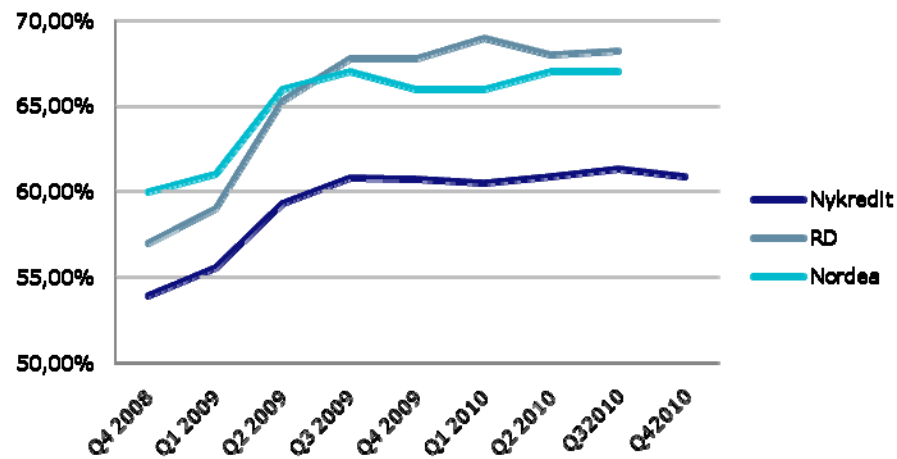
- Credit scoring and rating models
- Budget
- Must be able to afford fixed-rate 30Y amortising loan
- Credit register check
- Retail customers pays “fixed spreads”; corporate customers pays risk differentiated prices.

Legal and policy

- Personal liability
- No speculative buying
- Standard documentation
- Effective foreclosure procedure (less than 9 month all in all from 1st reminder)

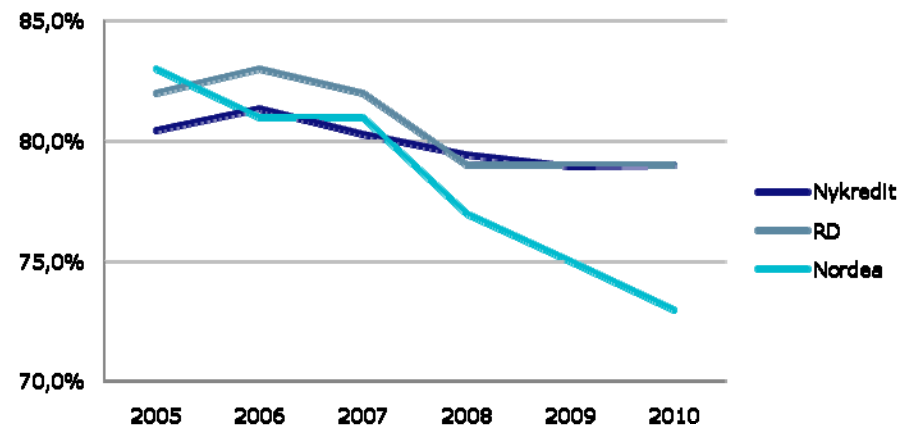
Loan-to-value (LTV)

Average LTV



Source: LTV reports

Residential loan share*



Source: Annual reports



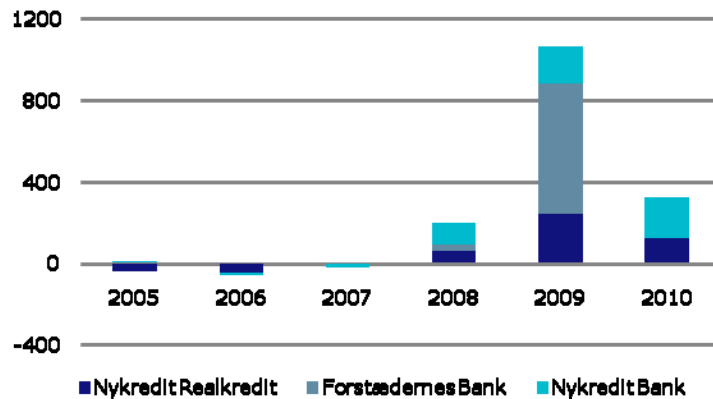
Statutory maximum LTV ratios:

- Commercial loans: 60 %
- Residential loans: 80 %

*Commercial loans: Industry & trades, Office & retail, Agriculture, Other
 Private loans: Owner-occupied dwellings, Private rental, Subsidized housing

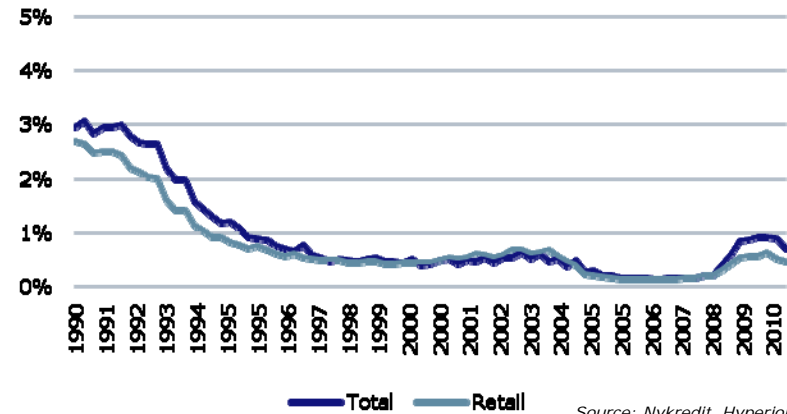
Robust performance despite difficult economic conditions

Total impairment provisions



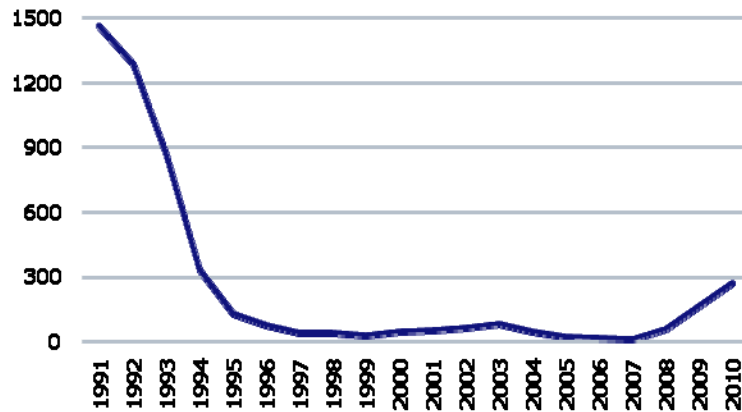
Source: Nykredit Annual Report 2010

Delinquencies, 75 days



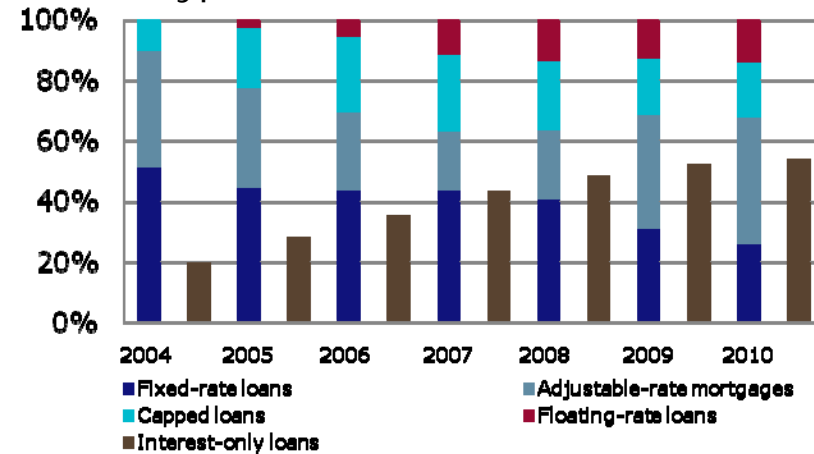
Source: Nykredit Hyperion 2010

Repossessions



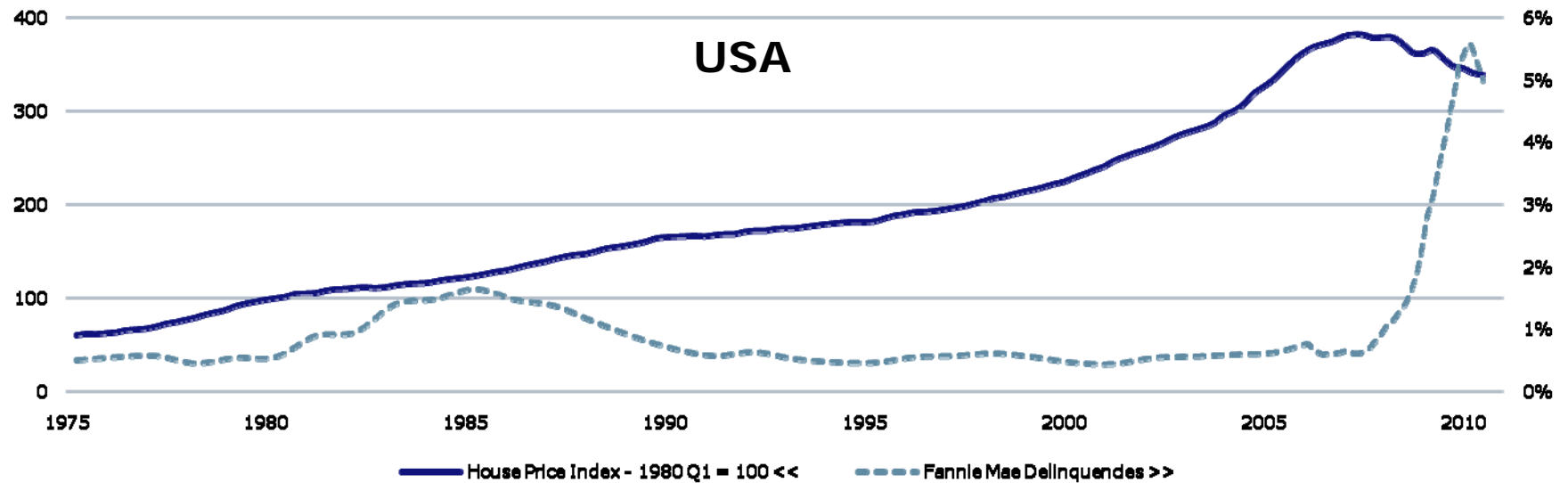
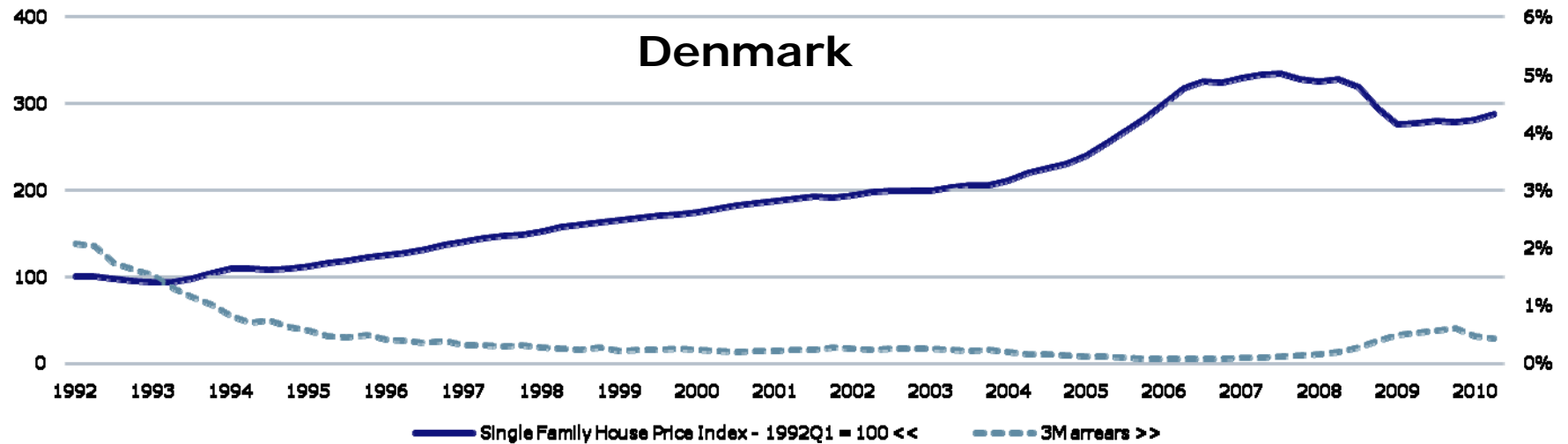
Source: Nykredit Hyperion 2010

Loan types



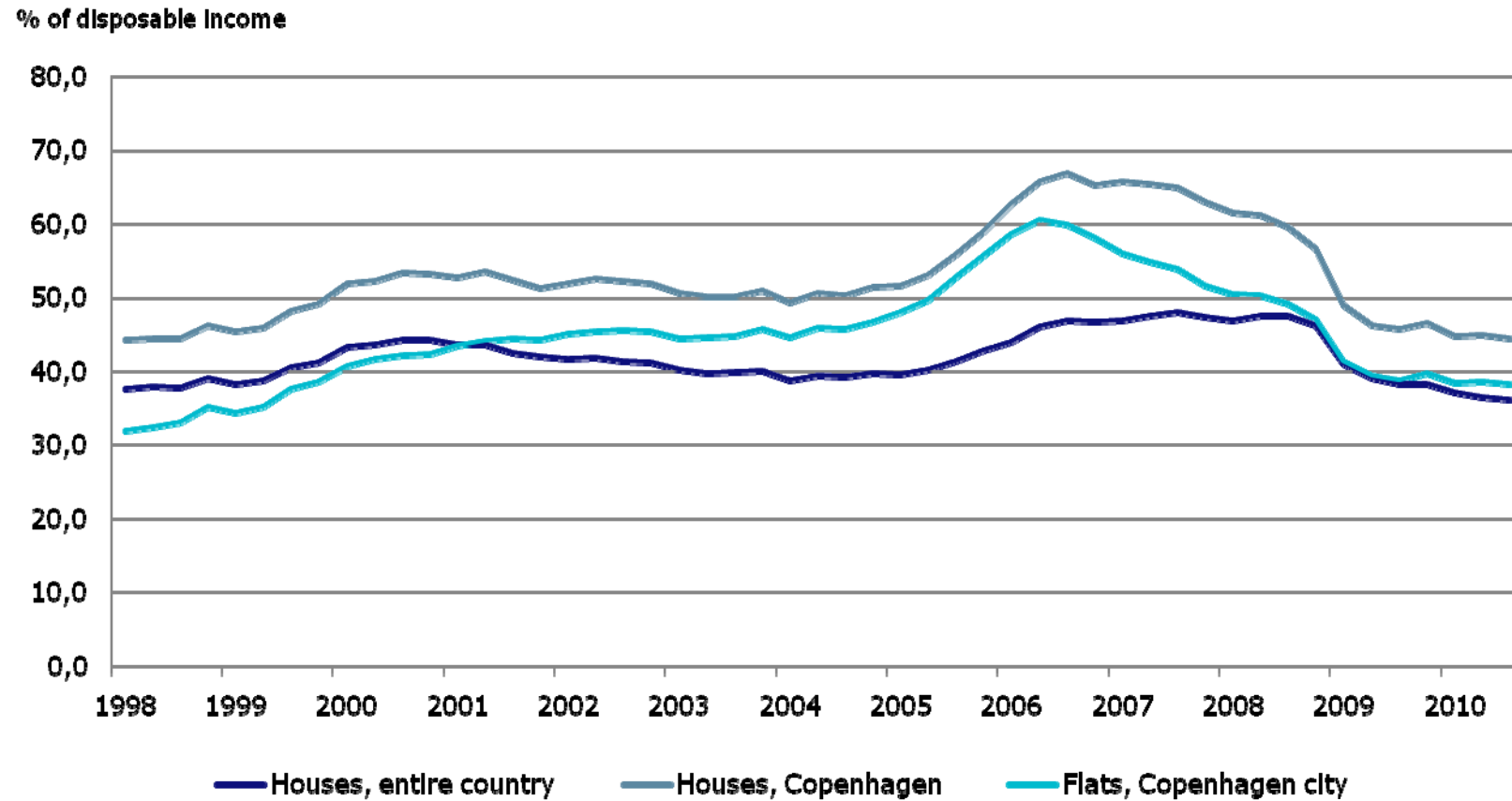
Source: Nykredit Hyperion 2010

House prices and arrears/delinquencies



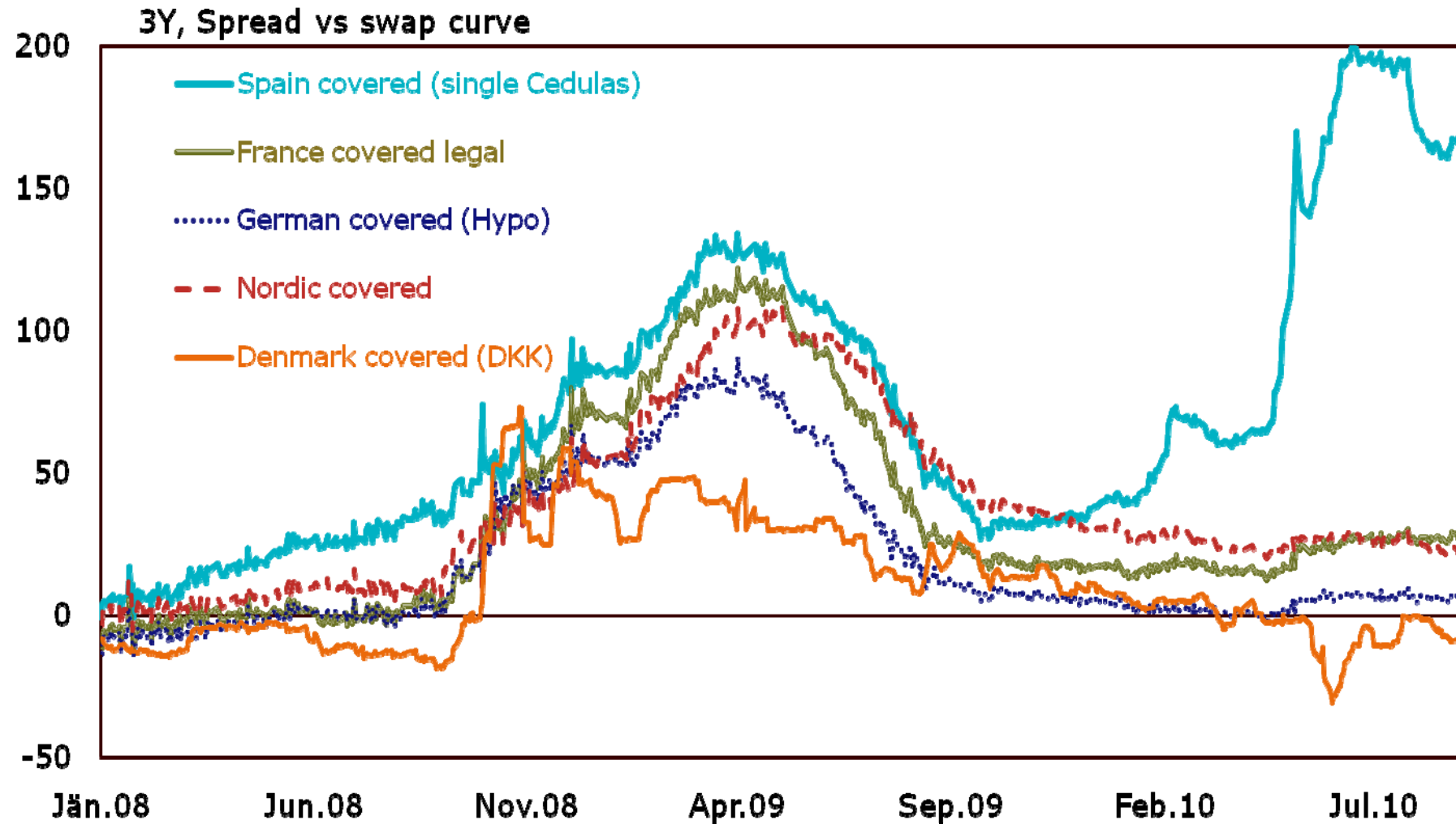
Source: DK: Association of Danish Mortgage Bank and Statistics Denmark
 USA: OFHEO (Office of Federal Housing Enterprise Oversight) house price index and Fannie Mae delinquencies

Affordability Index (houses)



Source: Nykredit Markets, Affordability Index

Stable and attractive pricing of Danish covered bonds



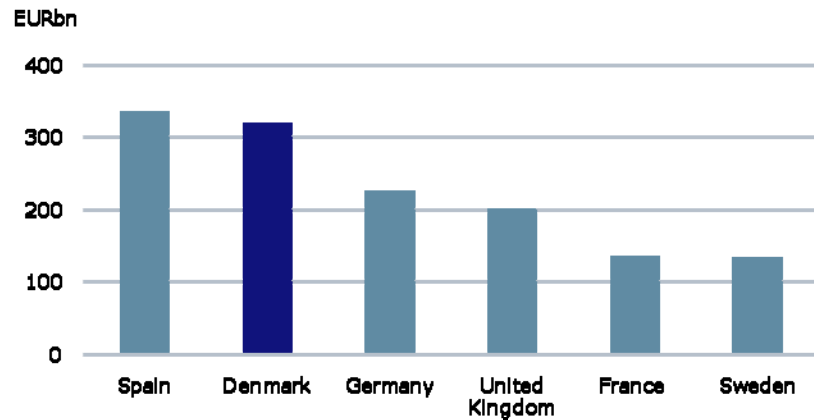
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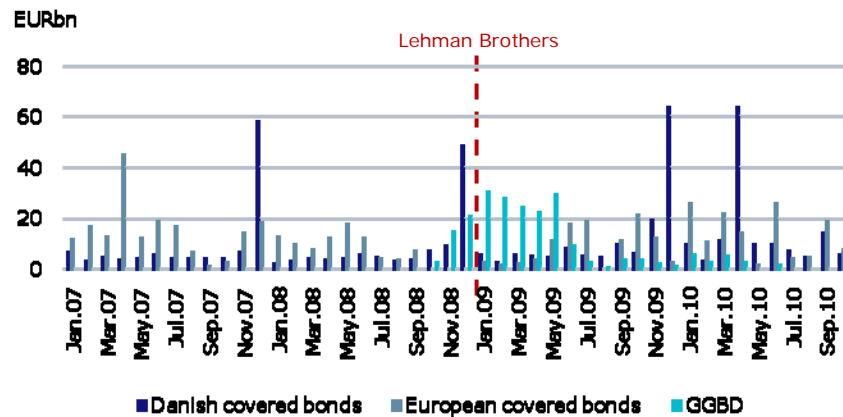
The Danish covered bond market

Covered mortgage bonds outstanding, 2009



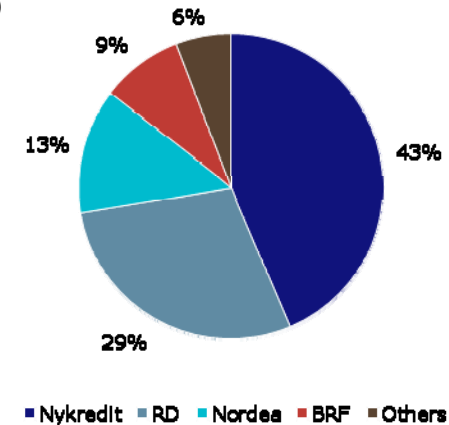
Source: ECBC 2010

Issuance



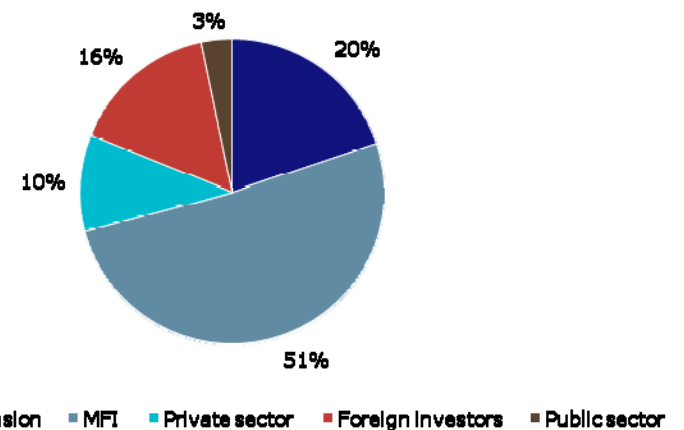
Source: Nykredit and Bloomberg

The Danish market (EUR 335bn)



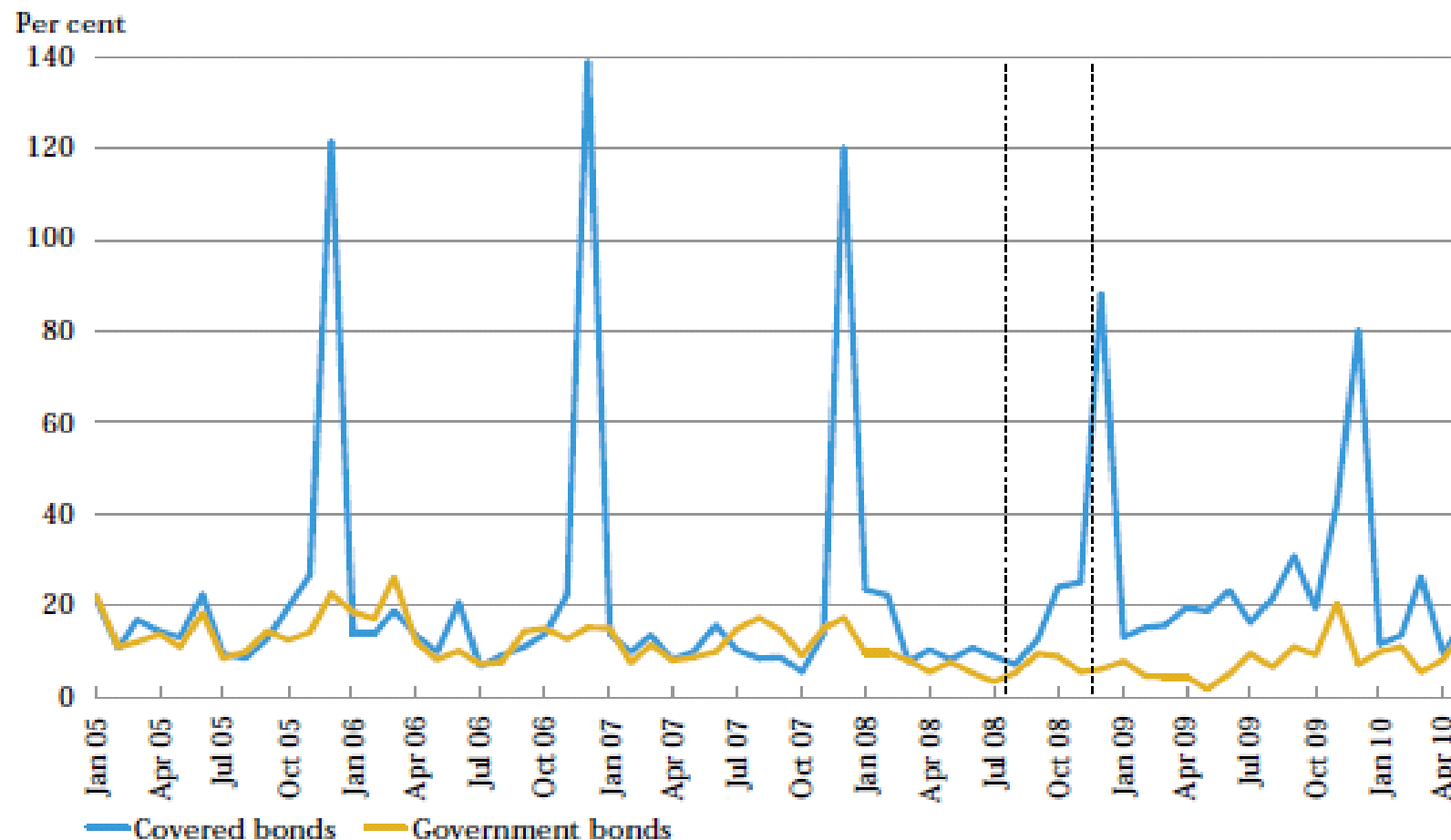
Source: Danmarks Nationalbank, January 2011

Denmark, investor distribution



Source: Danmarks Nationalbank, January 2011

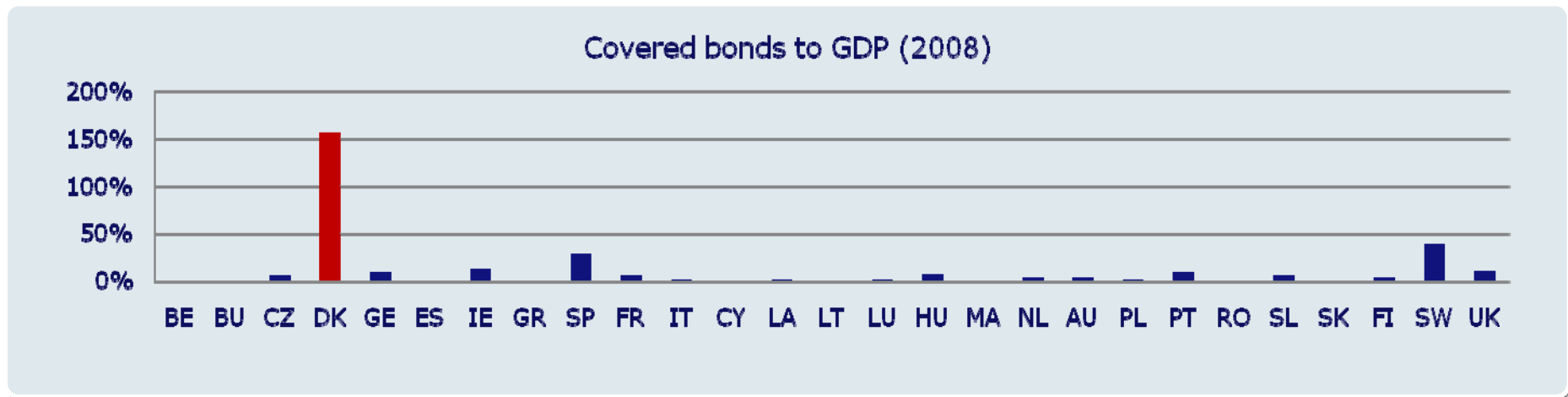
Monthly turnover rate – short bonds



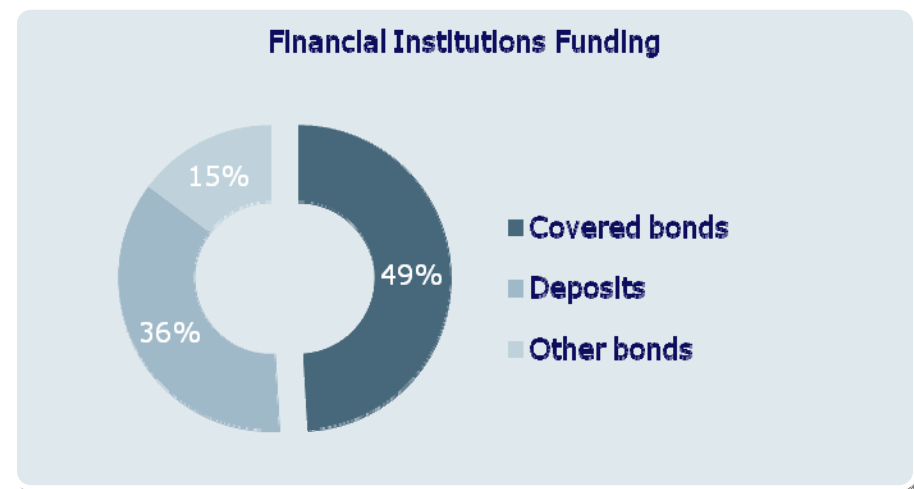
Note: Only bonds with an outstanding nominal amount of at least EUR 1 billion and trades of at least DKK 10 million have been included.

Source: Nasdaq OMX, Danish FSA and Danmarks Nationalbank.

Funding through covered bonds rather than deposits

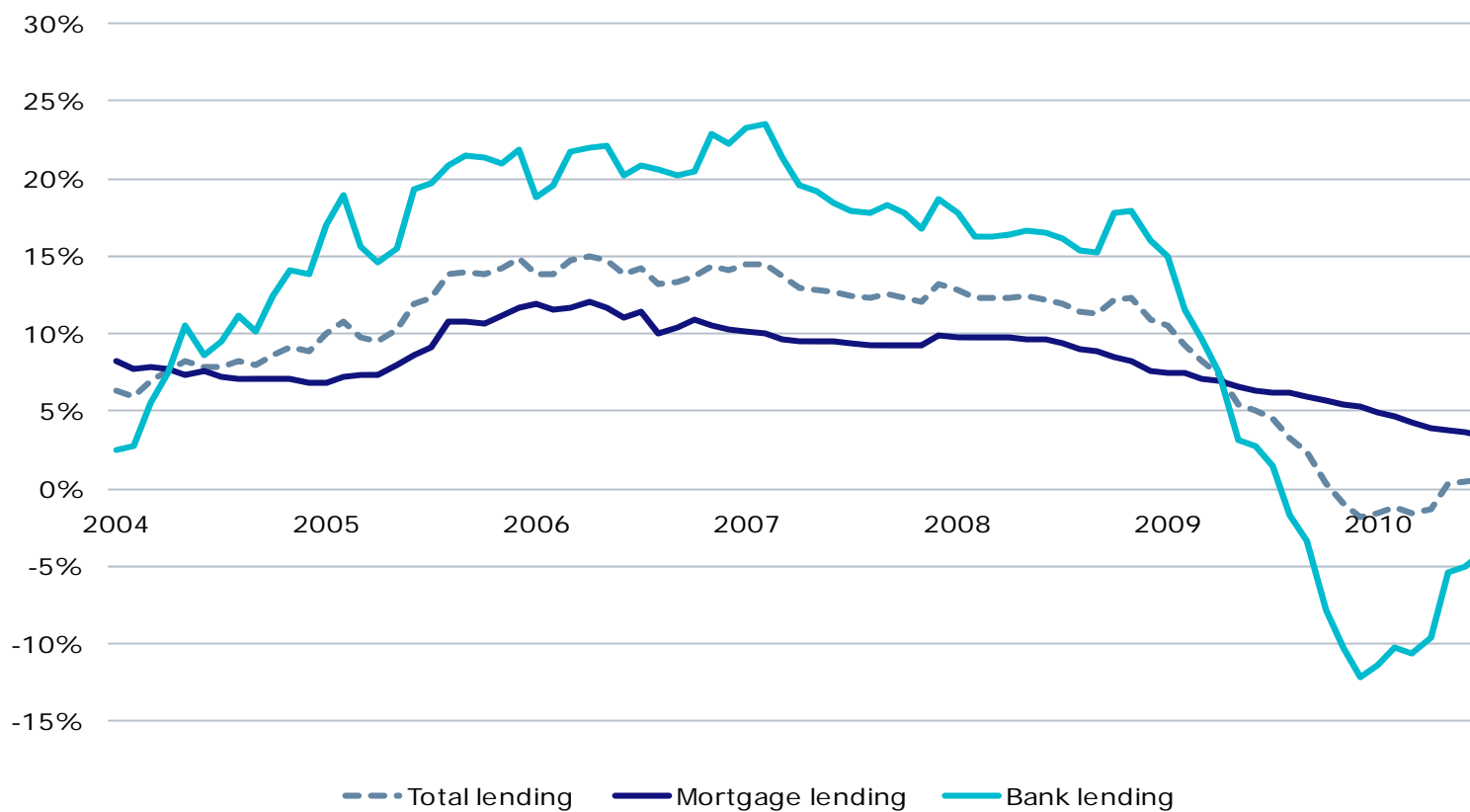


- Covered bonds make up half of financial institutions funding
- Primary reason is the Danish mortgage banking system wholly relying on covered bond funding
- Shift from covered bond funding to deposit funding would require an institutional reform, significantly increase costs and be detrimental to financial stability
- Covered bond to GDP ratio stands at 156 per cent way above EU average



Mortgage banks kept lending in Denmark

YoY growth in mortgage lending and bank lending, sector excl MFI



Sources: Danish central bank, MFI statistics

Conclusion

- The Danish covered bond market fared better than most European markets during the crisis
 - Issuance and trading continued
 - Spreads widened
 - Turnover on a par with government debt
 - Lending to the private sector continued

- Moderate government support
 - No public guarantee for covered bonds
 - Central bank purchase of bonds (~1% of stock)

- Unique system design supported the market
 - Strong legal framework
 - Sound lending practises
 - Low and transparent risk in the mortgage banks
 - Tap issuance

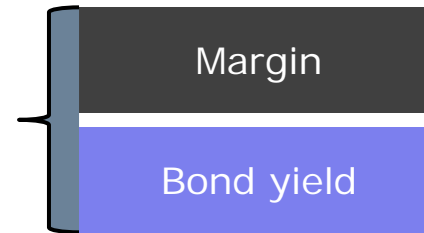
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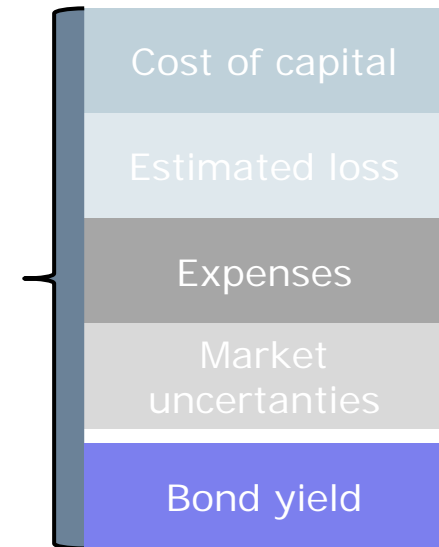
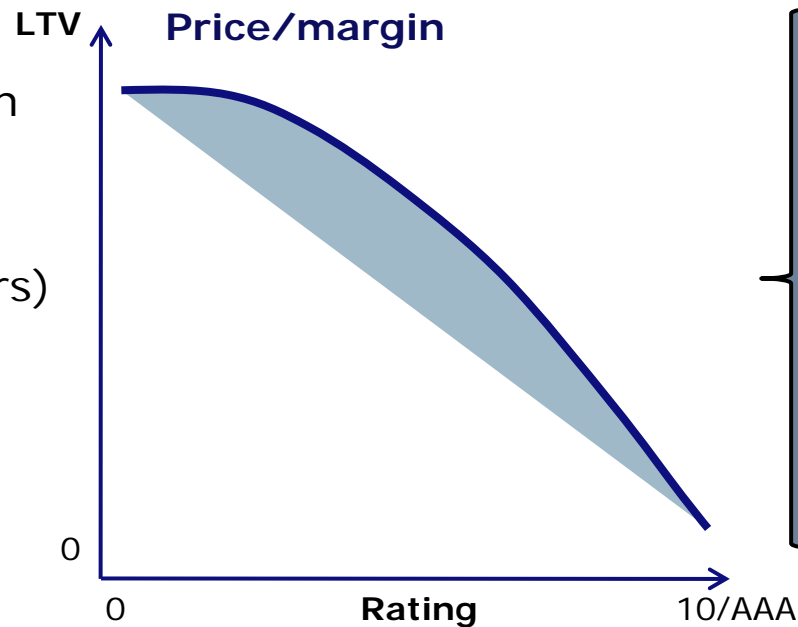


Pricing principles

- Retail customers:
 - LTV 0-40 %: 30 bps
 - LTV 40-80 %: 70 bps
 - LTV 0-80 %: 50 bps



- Corporate customers:
 - Huge price differentiation
 - No cost for liquidity risk and commitment period (normally 20+ years)
 - Part of total profitability



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Regulatory reforms under way

- Increased capital requirements
 - 8% solvency rate maintained, but higher share of equity
 - Two buffers in addition
 - 2.5% capital conservation buffer (permanent)
 - 2.5% countercyclical buffer

- Leverage ratio of 3% →

- Limits excessive gearing
- Known from the US at required rates of 3% or 4%
- No recognition of collateral
 - Low-risk business models are hit hard (e.g. mortgage lending)
 - Incentive to seek risk in order to increase yields
 - Incentive for Danish mortgage banks to raise administration fee

- Liquidity measures introduced
 - Liquidity Coverage Ratio (LCR) →

- Max 40% of total liquid assets
- Central bank eligibility
- Not issued by owner
- Rated AA- or above (85%)

Mismatches

- Net Stable Funding Ratio (NSFR) →

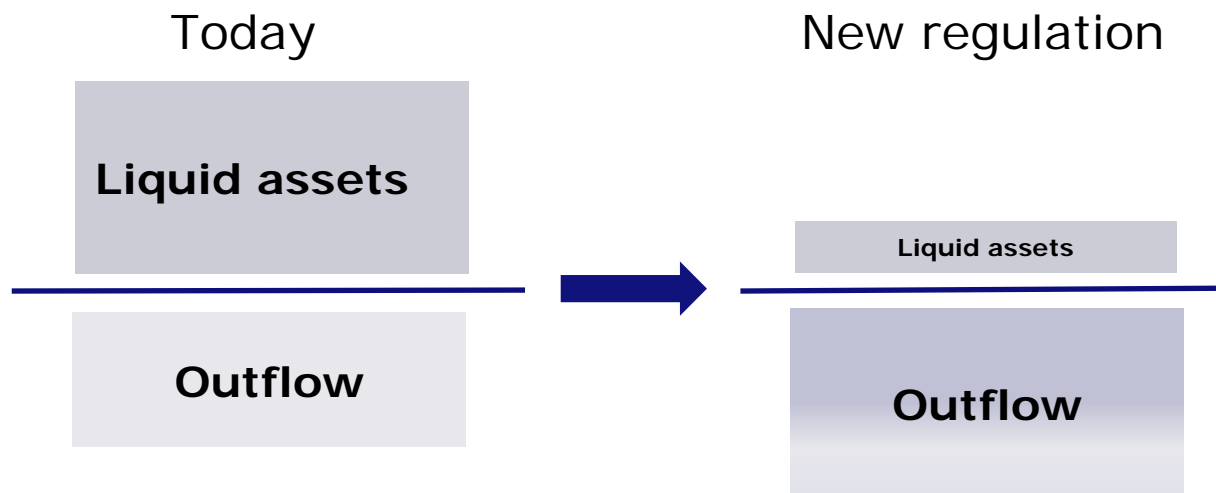
- Debt with a time-to-maturity > 1 year (100%)

Mismatches

Regulatory reforms under way

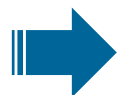
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Example: Liquidity Coverage Ratio



- Only 15 per cent of public debt outstanding would fit into the liquidity management of financial institutions (short term Danish Kroner securities)
- 10 per cent of public debt outstanding is held by state funds
- 25 per cent of public debt outstanding is held by foreign investors

Exemptions for countries with insufficient "Level One assets":



- *Loan facilities at central banks*
- *Acceptance of foreign currency mismatches*
- *Increase the 40% limit on "Level Two assets"; i.e. covered bonds*

10 defining features of a stable and sound mortgage system

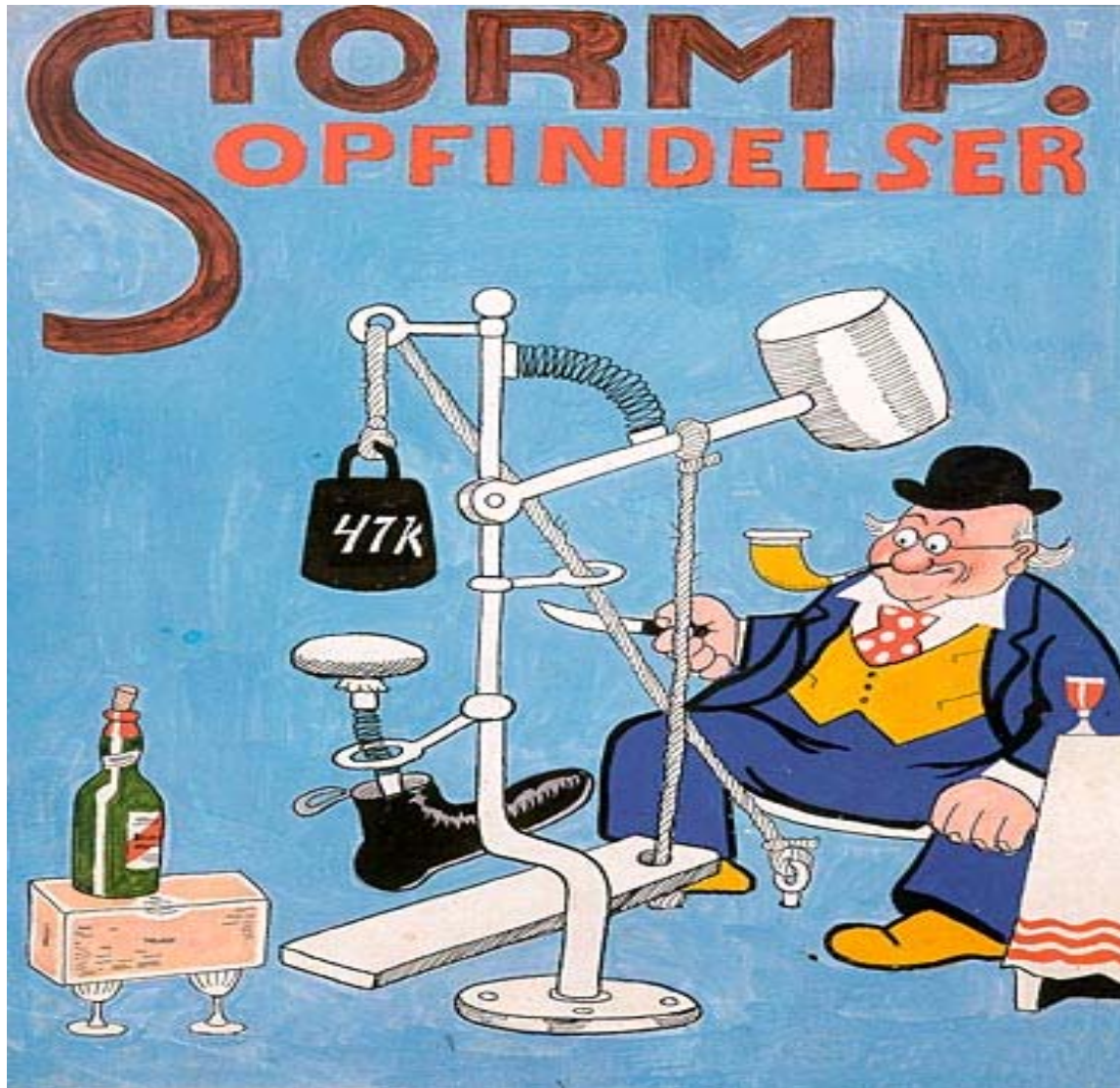
Defining the properties of a stable and sound mortgage financing system:

1. Responsible lending
2. Responsible borrowers
3. Responsible investors with capacity to invest
4. Lenders are personally liable for their debt
5. On balance sheet – originate to hold
6. Balanced liquidity
7. Strict observance of Loan-to-Value limits
8. Segregation of assets
9. Well capitalized lenders
10. Sound legal and procedural foreclosure process

YES - there is a future, but...

- Real risk that sound mortgage systems are not distinguished from the less sound systems
- A need to get regulators to realize the great variety of mortgage systems
- Systems with the proper safeguards should be allowed to continue

If not, then this may be the future system ...



**Thank you for
your attention**