

# **Risk Report 2015Q3**

Published 20 November 2015

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The Risk Report has been prepared by Realkredit Danmark's analysts for information purposes only. Realkredit Danmark will publish an updated Risk Report quarterly.

The Risk Report offers an update on the performance of mortgage collateral supporting mortgage bonds and mortgage covered bonds (covered bonds) issued by Realkredit Danmark.

Contents of the report falls into two parts. The first part contains general market information relevant to the performance of mortgage collateral. The second part contains Realkredit Danmark specific information. Contents of the report are:

## **1 Key Market Indicators**

- House Prices
- Homeowners Equity
- Geographical Dispersion
- Unemployment and Real Wage Growth
- Homeowner Affordability
- Foreclosures
- Danish economic outlook

## **2 Key Collateral Indicators**

- Dispersions Loan to Value Ratios
- Loan to Value Ratios and Borrower Classifications
- Mortgage Collateral Breakdowns — Total, Capital Centre S and Capital Centre T
- Borrower Exposure to Interest Rates
- Arrears and Repossessions
- Over Collateralisation and Capitalisation
- Supplementary Collateral
- Guarantees
- Market Risk Exposures and Liquidity

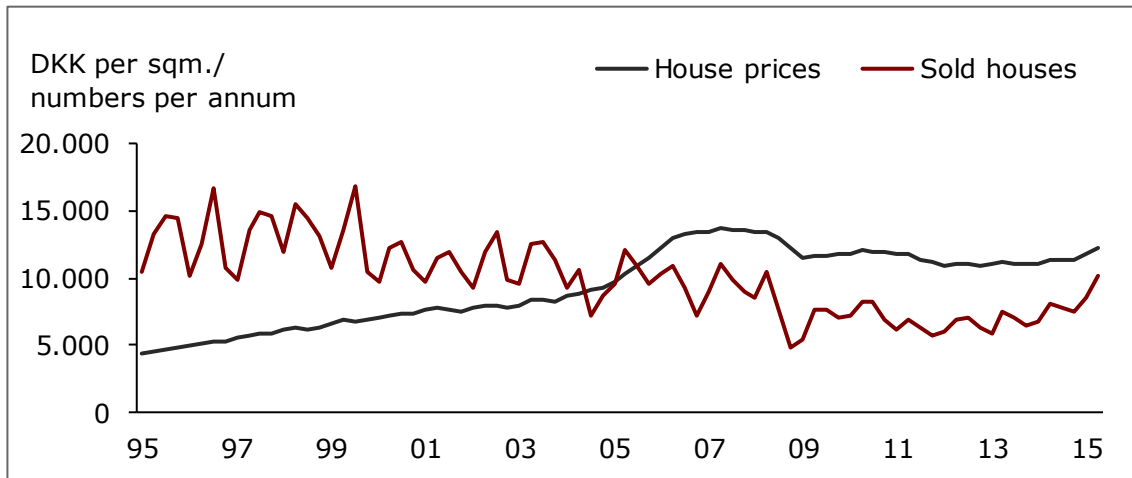
# Key Market Indicators

General Market Information

# 1 House Prices and Homeowners Equity

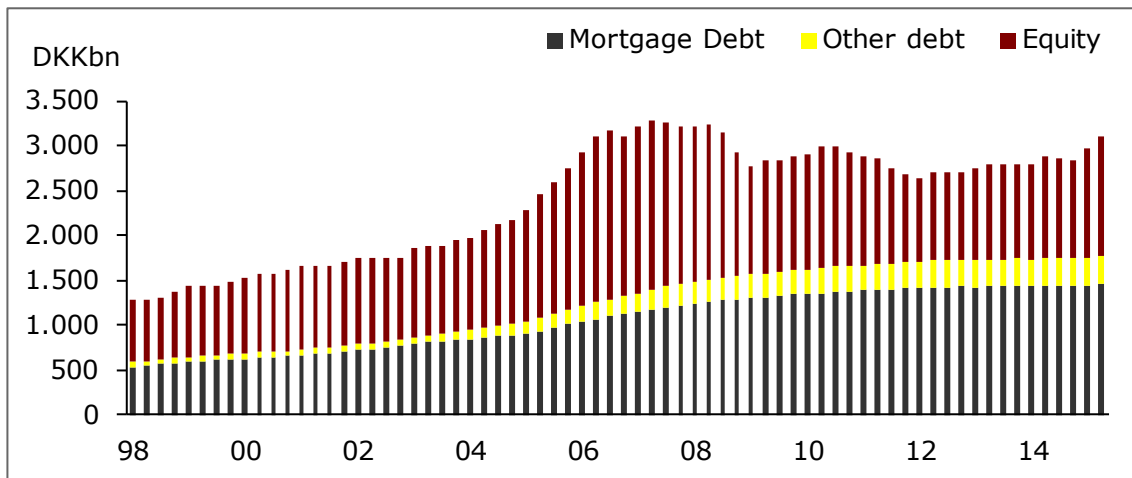
## House Price Trends

- House prices are increasing. Large price increases especially in H1 2015 due to better economic climate and very low interest rates
- The Danish Central Bank expects an increase in house prices of around 3.5 per cent per annum from 2016 to 2017
- Number of houses sold is back to more "normal" levels



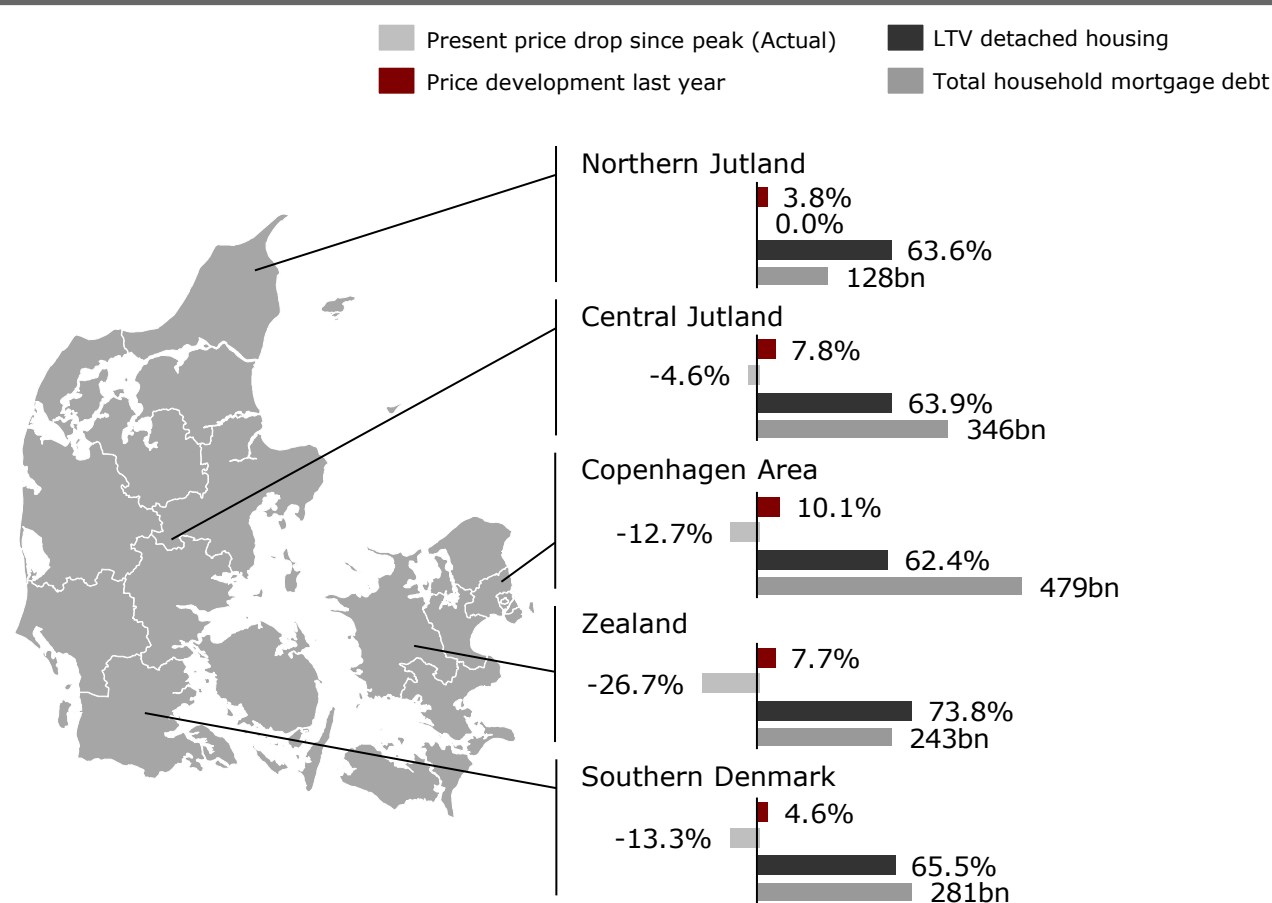
## Homeowners Equity

- Homeowners' equity was DKK 1,336 bn end 2015Q2
- Since the beginning of 2012 homeowners' equity has risen by DKK 408bn
- In the same period total lending increased by DKK 60bn and thus the total value of the housing stock has increased by DKK 468bn



# 1 Geographical Dispersion

## Private lending in Denmark in total

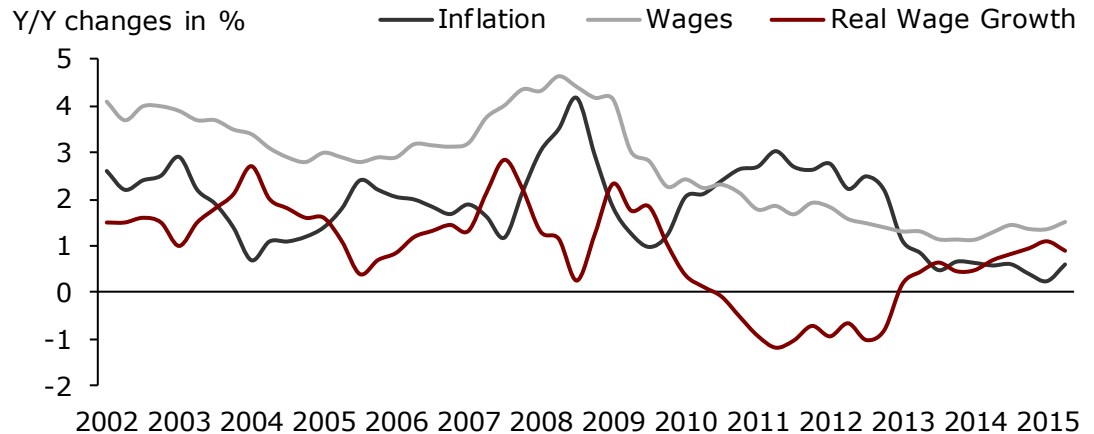


- House prices are generally increasing, but there are still areas in Denmark with falling house prices
- However, there is a trend to more and more municipalities experiencing increasing house prices
- Total mortgage debt in the Copenhagen area is the highest in the country. However, LTV is only 62.4% and house prices are on the rise

# 1 Unemployment and Real Wage Growth

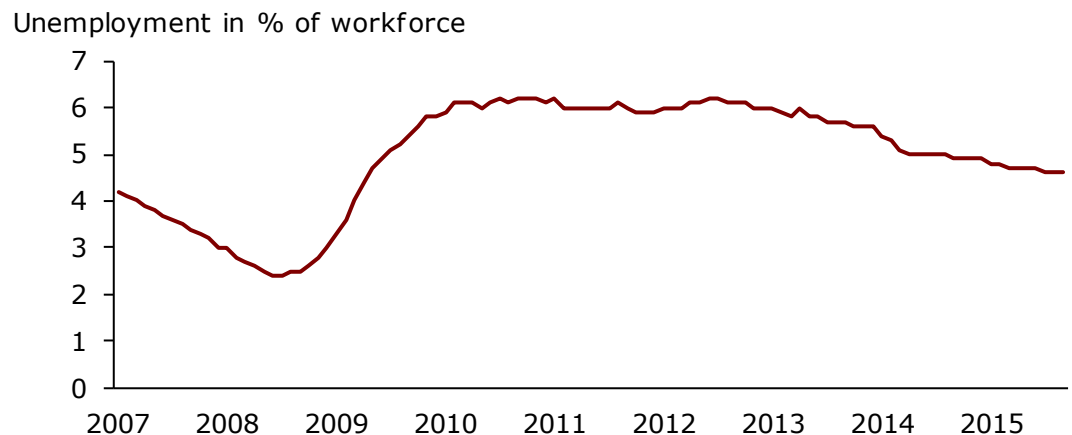
## Real Wage Growth

- Real wage growth in Q2 2015 stood at 0.9%.
- Current real wage growth is now above average



## Unemployment

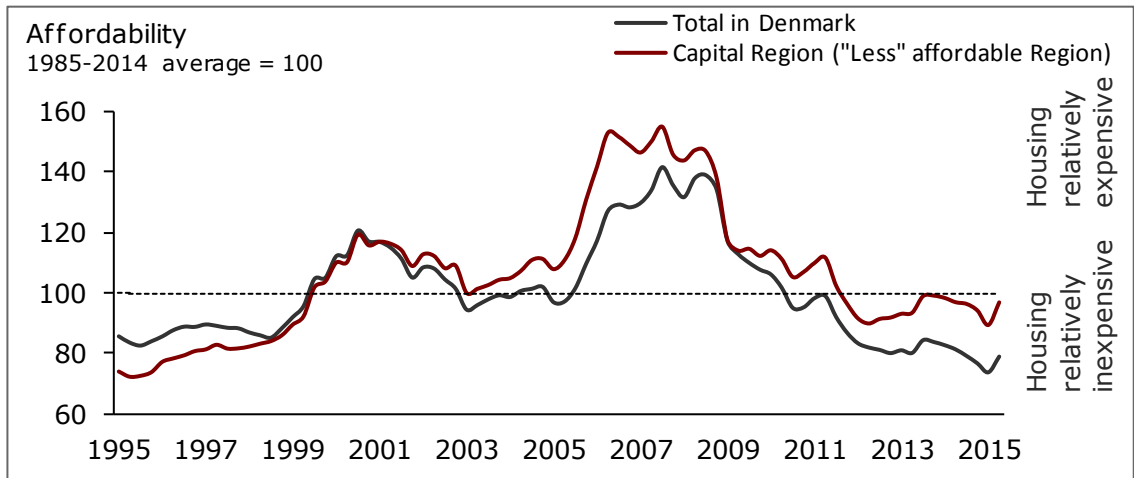
- Gross unemployment rate stood at 4.6 per cent end Q3 2015 up from a historical low of 2.4 per cent in mid 2008
- In a historical perspective unemployment is still on a low level



# 1 Homeowner Affordability and Foreclosures

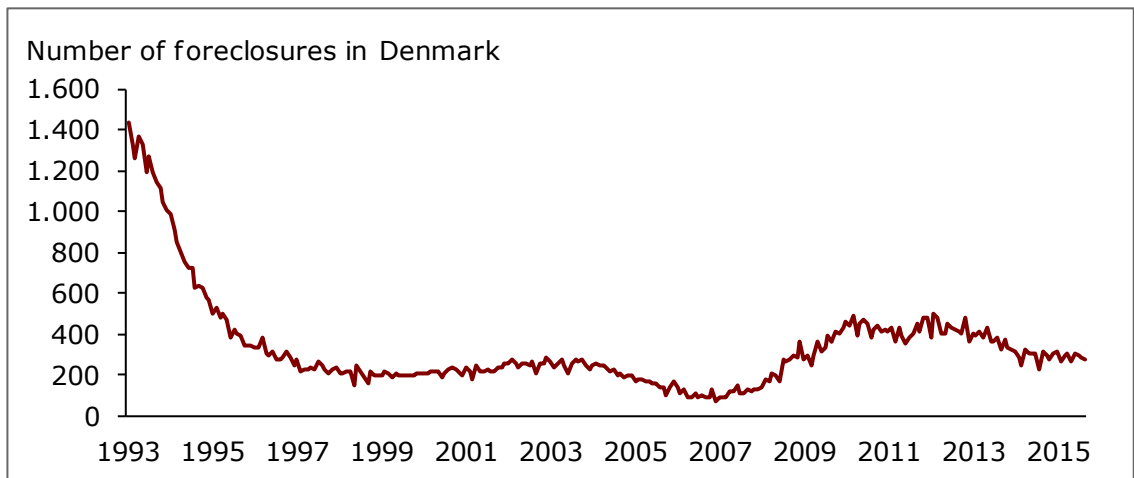
## Homeowner Affordability

- House price deflation and lower interest rates has made housing more affordable
- In Copenhagen, the affordability index is close to 100



## Foreclosures

- The number of foreclosed properties in Denmark in September 2015 was 280
- The number of foreclosures is now back to "normal levels"
- The duration of a foreclosure is approx. 6 months from missed payments to completion



# 1 Political measures and outlook

Denmark <span style="color: grey;">■</span> Euro Zone <span style="color: blue;">■</span>	2014		2015		2016	
GDP	1.1	0.9	1.6	1.4	1.9	1.7
Private Consumption	0.8	0.9	2.0	1.7	2.1	1.1
Fixed investments	4.0	1.3	0.1	1.5	2.6	3.7
Export	2.6	3.9	0.4	4.8	3.0	4.2
Unemployment %	5.0	11.6	4.7	11.1	4.4	10.6

## Danish Economy Outlook

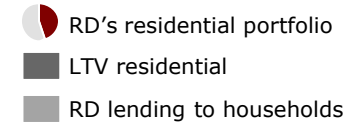
- The growth in the Danish and European economy is expected to increase to 1.6 per cent and 1.4 per cent, respectively, in 2015
- Interest rates are a key element in the household economy
- Lately, we have experienced negative interest rates in Denmark
- Denmark conducts a fixed-exchange-rate policy vis-à-vis the euro. Consequently, monetary and foreign-exchange policy is aimed at keeping the krone stable against the euro
- The QE programme from the ECB has put focus on Denmark and its high credit ranking (triple A)
- Further, when the SNB removed the floor, focus turned to the Danish peg
- As a consequence, the Danish Central Bank has lowered its key interest rates. Certificates of deposit rate currently stands at -0.75% p.a.
- We expect very low interest rates in the near future



# Key Collateral Indicators

Realkredit Danmark Specific Information

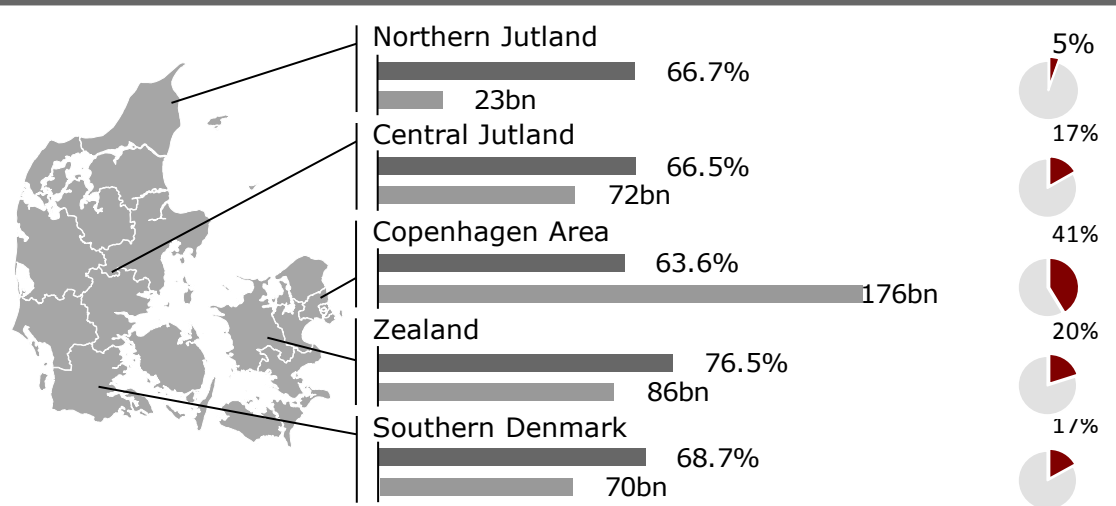
## 2 Dispersion and Loan to Value Ratios



### Dispersion of RD's residential portfolio

- RD's loan portfolio is concentrated in the Copenhagen area and on Zealand where prices have been reduced the most
- Homeowner equity remains highest in the Copenhagen area which also is the region with the smallest LTV
- The affordability ratio in the capital region is rising and is now very close to index 100

### Geographical Dispersion in Realkredit Danmark



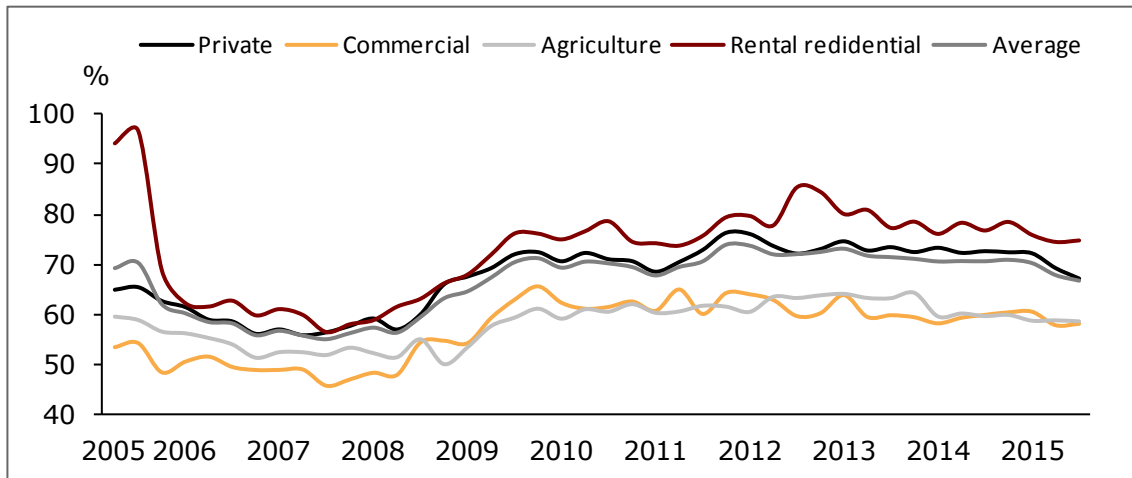
### Loan To Value Ratios

- Covered bonds are secured by a first claim on the mortgage collateral and the reserves of the issuer
- LTV ratios of the mortgage collateral are maximised by legislation at 80% in residential segments and 60% in commercial segments (70% if the outmost 10% are secured by additional collateral). Lending beyond these limits is prohibited
- LTV ratios are monitored on an ongoing basis based on current market values of the property and current prepayment value of the mortgages
- 36% of mortgage collateral securing covered bonds issued by Realkredit Danmark has a current LTV ratio of 20% or less. More than 65% has a current loan to value ratio lower than 40%
- Foreclosure costs are typically less than 15% of the outstanding loan balance

## 2 Loan To Value and Borrower Classifications

### Loan to Value

- Average loan to value ratios across market segments are 67% in Q3 2015 compared to 71% in Q3 2014
- LTV's for Commercial and Agriculture are based on few observations to confirm correct price levels



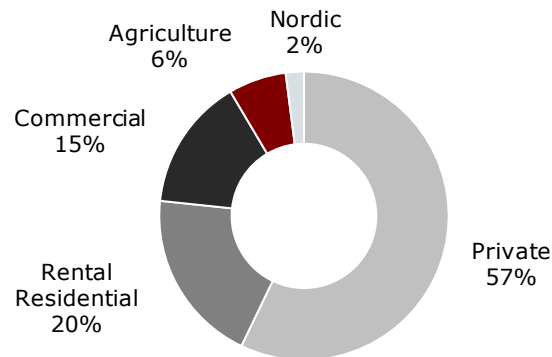
### Borrower Classifications

- Borrowers' financial strength is classified on a scale from 1 to 11, 1 being the highest score
- Approx. 6bn of total lending is secured by mortgages above the 80% LTV limit for which the borrowers' financial strength is classified 8-11 — equivalent to 1% of the portfolio

DKKbn	Rating Category (Scaled 1-11)			
	1-3	4-7	8-11	Total
LTV				
0-20 %	59	191	19	269
20-40 %	40	162	17	220
40-60 %	25	116	14	155
60-80 %	11	52	9	71
> 80 %	7	18	6	32
Total	142	540	66	747

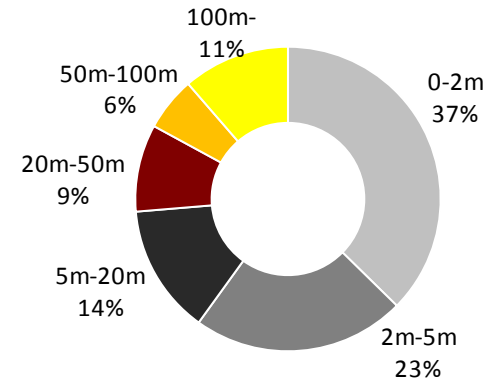
## 2 Collateral Breakdowns — Total portfolio

### Borrower Segmentation



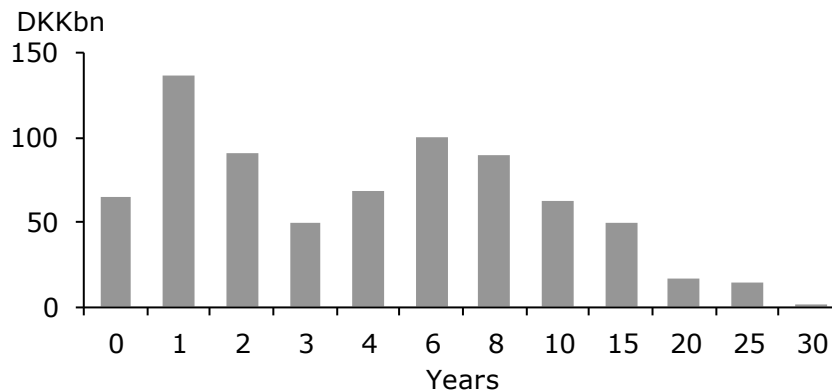
Note: Total lending distributed on segments

### Outstanding Loan Balance



Note: Total lending distributed on outstanding loan balances

### Portfolio Seasoning



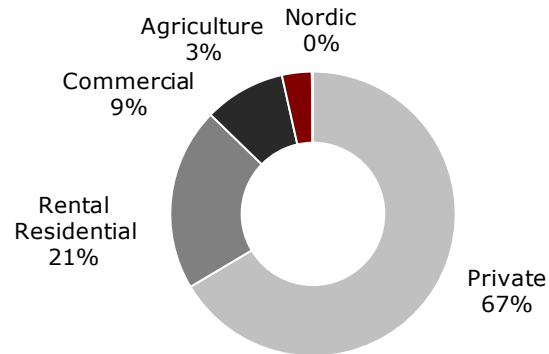
### Outstanding Debt in DKKbn by LTV ratio

Segment	0-20%	20-40%	40-60%	60-80%	>80%	Total DKKbn
Private	146	126	92	46	15	427
Commercial	47	40	26	7	4	124
Agriculture	19	16	10	3	1	48
Rental Residential	57	38	26	15	12	148
Weighted dist.	36%	29%	21%	10%	4%	100%
Total, DKKbn	269	220	155	71	32	747

Average LTV: 66.8%

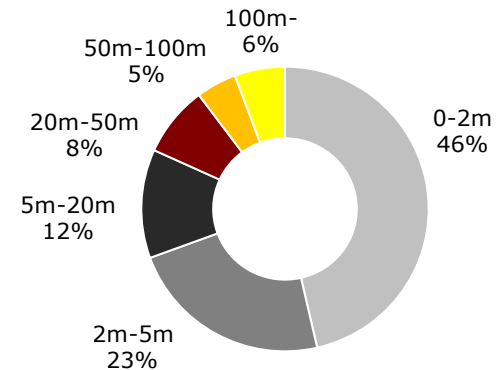
## 2 Collateral Breakdowns — Capital Centre S

### Borrower Segmentation



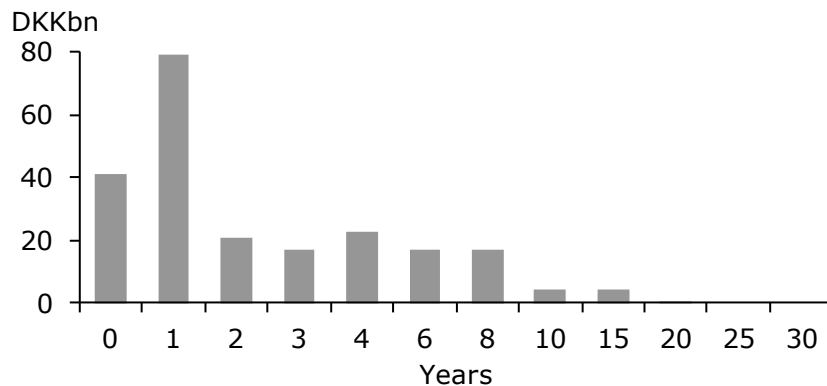
Note: Total lending distributed on segments

### Outstanding Loan Balance



Note: Total lending distributed on outstanding loan balances

### Portfolio Seasoning



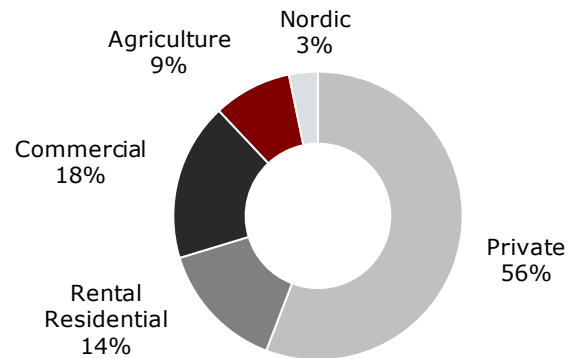
### Outstanding Debt in DKKbn by LTV ratio

Segment	0-20%	20-40%	40-60%	60-80%	>80%	Total DKKbn
Private	51	45	33	16	4	149
Commercial	7	6	5	2	1	21
Agriculture	3	3	2	0	0	8
Rental Residential	21	12	7	4	3	47
Weighted dist.	37%	30%	21%	10%	4%	100%
Total, DKKbn	82	66	46	22	8	224

Average LTV: 63.0%

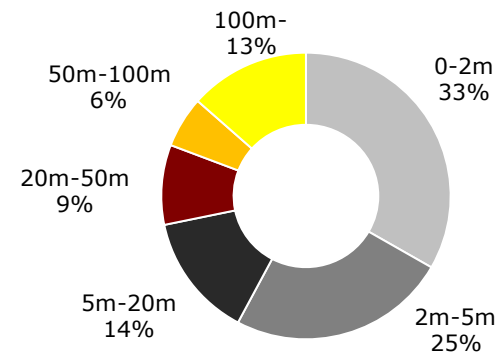
## 2 Collateral Breakdowns — Capital Centre T

### Borrower Segmentation



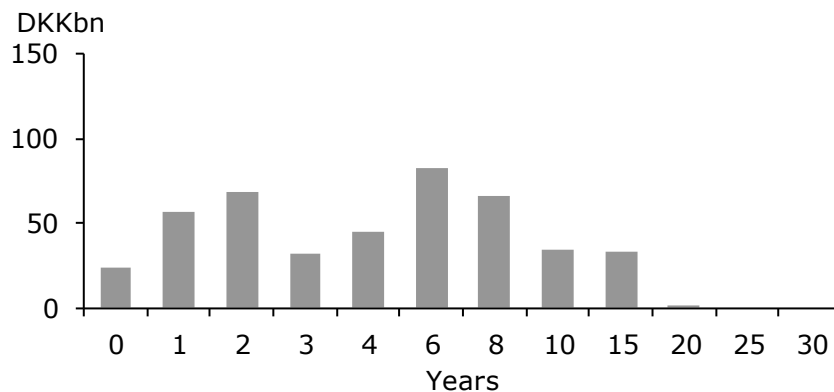
Note: Total lending distributed on segments

### Outstanding Loan Balance



Note: Total lending distributed on outstanding loan balances

### Portfolio Seasoning



### Outstanding Debt in DKKbn by LTV ratio

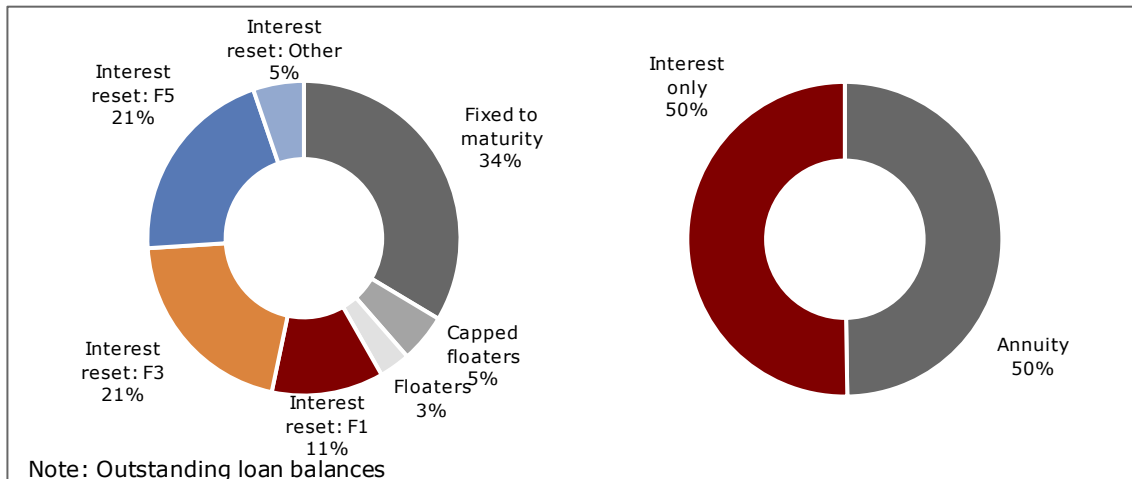
Segment	0-20%	20-40%	40-60%	60-80%	>80%	Total DKKbn
Private	84	73	55	28	10	249
Commercial	36	30	19	5	2	92
Agriculture	15	13	8	3	1	39
Rental Residential	22	18	14	7	5	66
Weighted dist.	35%	30%	21%	10%	4%	100%
Total, DKKbn	157	134	96	43	17	447

Average LTV: 65.6%

## 2 Borrower Exposure to Interest Rates

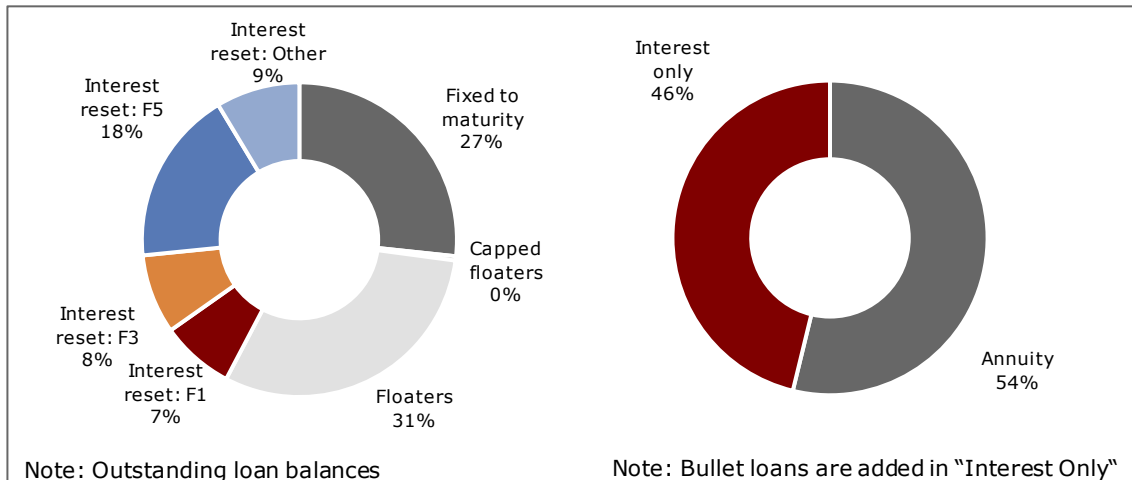
### Private Segment

- Homeowners must be able to service a 30-year fixed rate annuity loan for Realkredit Danmark to underwrite
- Originally, fixed rate mortgages were standard in the Danish market, but now interest reset accounts for 58 %
- Expectations are for this percentage to decline since fixed rates are now only 3% and FlexKort® (floater) is offered as an alternative to interest reset loans
- Negative interest rates has been a reality for F1 – and some floaters' floor of 0% p.a. became effective as of 1 July 2015



### Corporate Segments

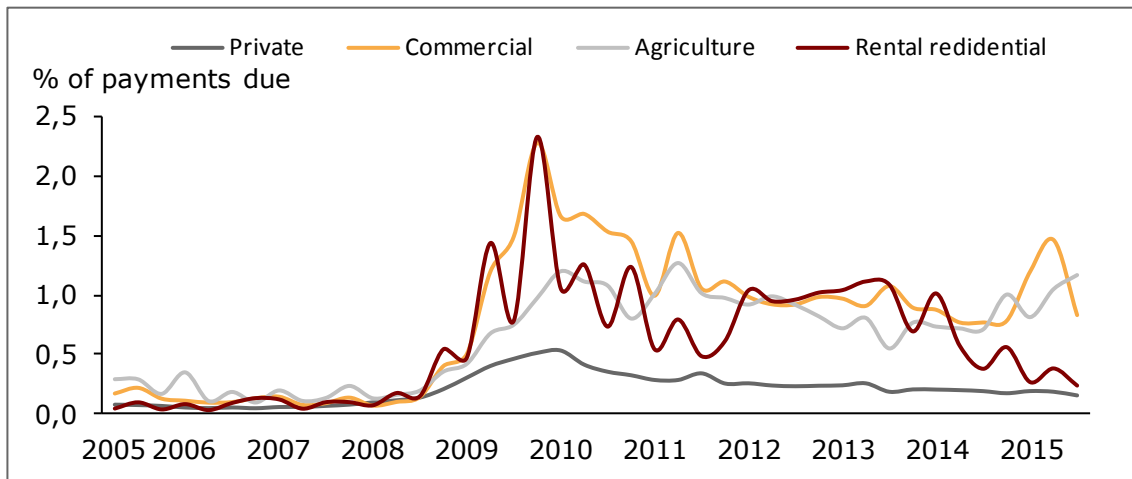
- 27% of all lending in corporate segments is fixed rate to maturity
- 73% are either interest reset (typically, rates are reset every year or every third year) or floating rate (base rates are either 6M CIBOR, 3M EURIBOR or 6M CITA)
- Bullets and Interest only loans make up 46% of corporate lending



## 2 Arrears and Repossessions

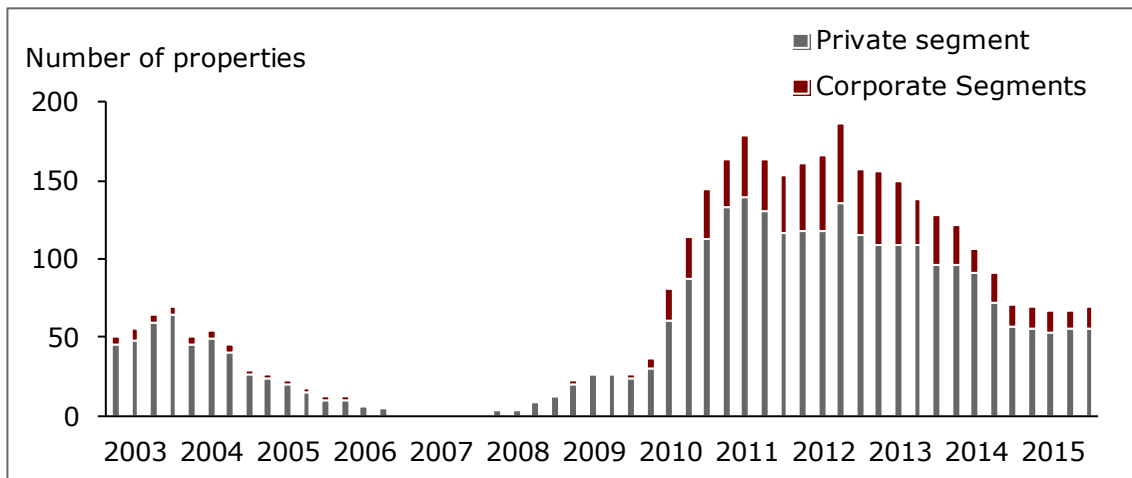
### Arrears (3 months)

- Total arrears stood at 0.32% end Q3 2015
- Arrears are rather volatile in the Rental residential segment. However, arrears are down considerably from Q4 2009
- Arrears in the Commercial segment is now 0.83%. The peak in Q2 2015 was due to a few individual loans
- Arrears in the Private segments have been rather stable around 0.2% for the last years



### Repossessions

- The stock of repossessed properties stood at 69 end Q3 2015 — up by 2 since Q2 2015
- This compares to a total stock of mortgage collateral of 482,208

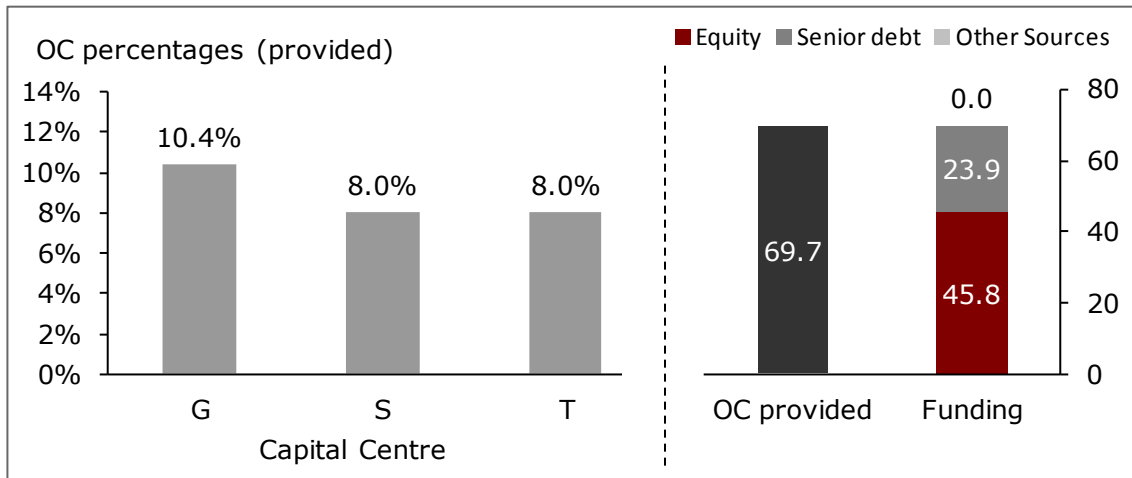




## 2 Over Collateralization and Capitalization

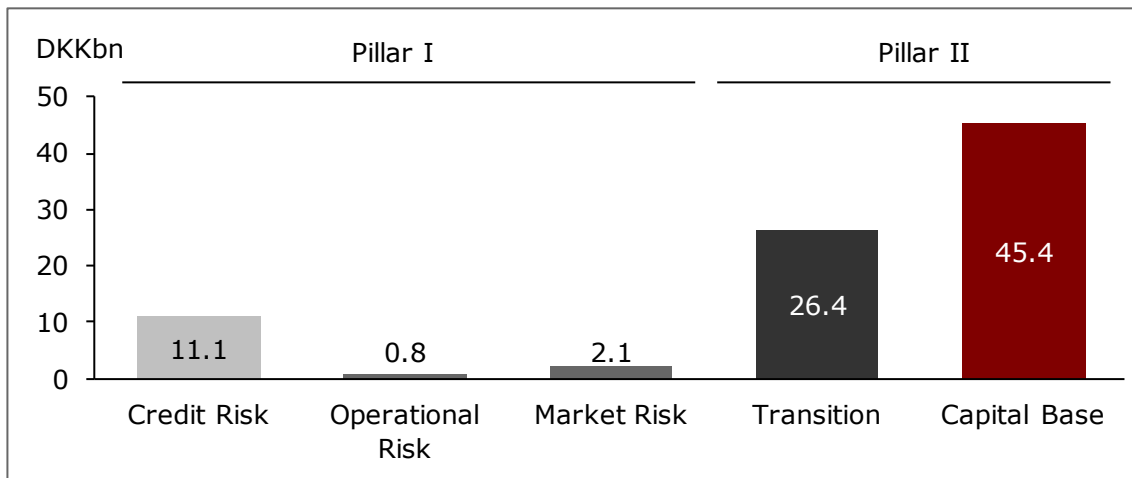
### Over Collateralisation

- Covered bonds issued by Realkredit Danmark are secured by mortgage collateral and reserves
- Reserves are invested in government exposures, covered bonds and bank exposures
- In case of bankruptcy Over Collateralisation will also be comprised by bondholders preferential claim



### Capitalisation

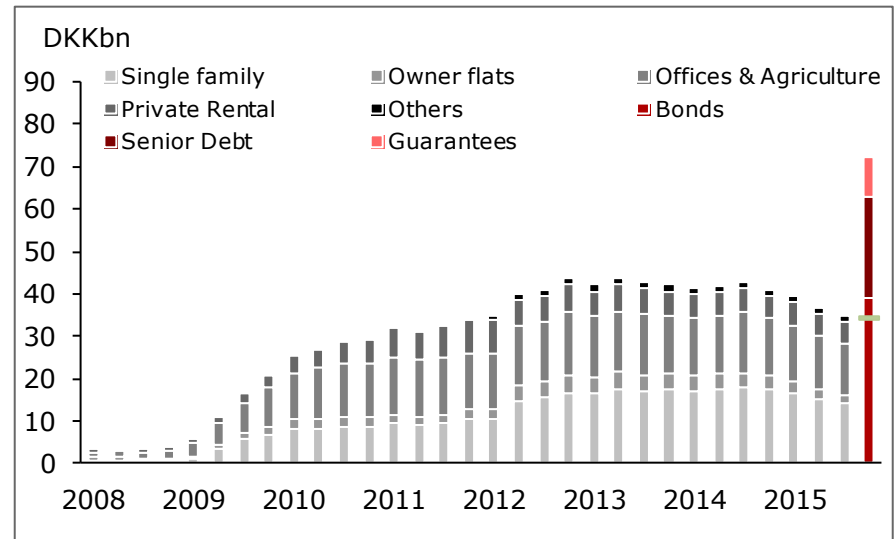
- The solvency ratio stood at 11.8% end Q3 2015 (CRD definition)
- Realkredit Danmark has been issuing senior debt since Q1 2012 to strengthen the capital base



# Supplementary Collateral — Total in S and T

## Buffer in Capital Centres S and T

- End Q3 total OC provided was DKK 63.1bn in Capital Centres S and T of which 23.9bn was funded by Senior debt
- Supplementary Collateral of DKK 34.7bn is required end Q3 2015 in Capital Centres S and T
- Loss Guarantees of DKK 8.9bn are utilised
- Buffer for further growth in need for supplementary Collateral in Capital Centres S and T is DKK 37.3bn
- If the OC is insufficient to comply with Supplementary Collateral requirements, RD can transfer OC from the General Capital Centre or write Loss Guaranties within the 15% limitation of issued bonds



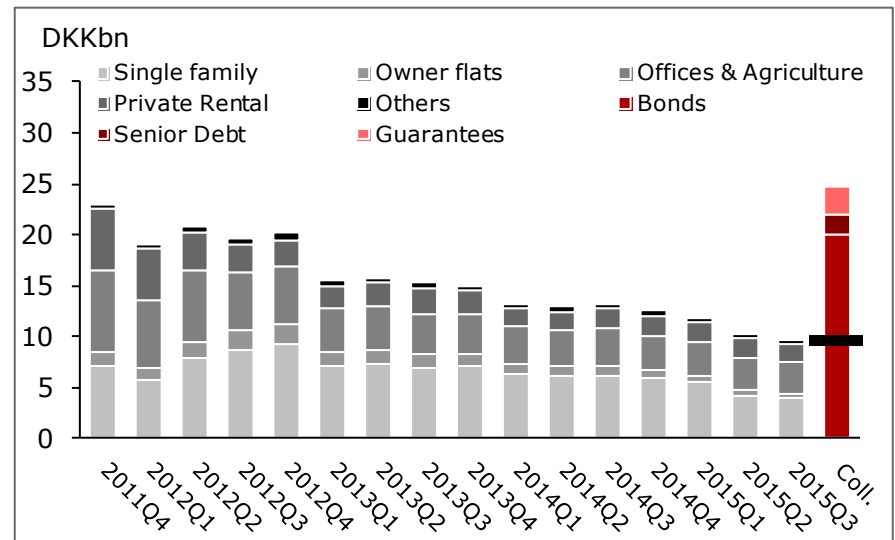
## Supplementary Collateral requirements

- If LTV limits are breached during the term of the loan the mortgage loan will only be eligible with the part that comply with the LTV limits. If eligible collateral is insufficient, Supplementary Collateral must be provided
- Increased need for Supplementary Collateral is due to
  - House price deflation
  - Properties selected for supervision
  - Refinancing and remortgaging of loans
  - Increased market value on bonds
- Loss Guaranties and eligible bonds can be used as Supplementary Collateral (bonds which also are used to comply with the solvency requirement) but no other asset types are eligible

# Supplementary Collateral — S

## Buffer in Capital Centre S

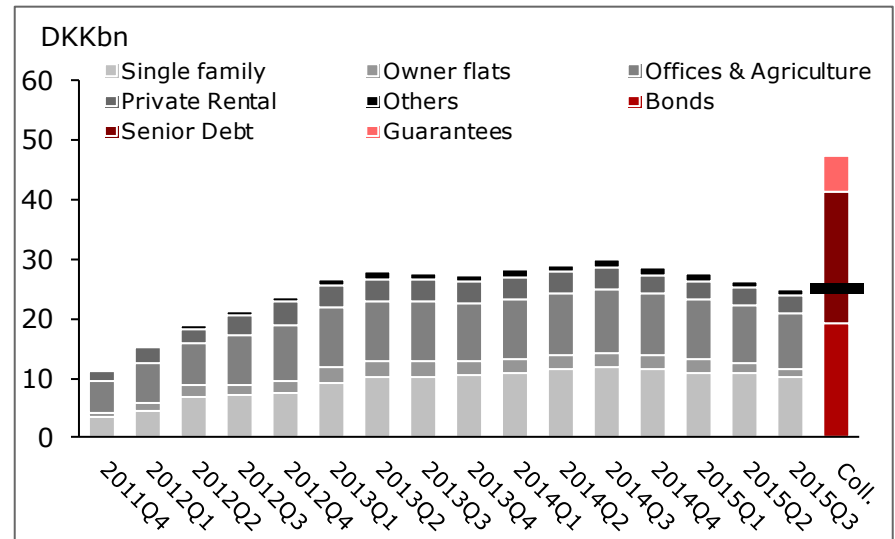
- End Q3 2015 total OC provided was DKK 21.9bn in Capital Centre S of which 1.9bn was funded by Senior debt
- Supplementary Collateral of DKK 9.6bn is required end Q3 2015 in Capital Centre S
- Loss Guarantees of DKK 2.8bn are utilised
- Buffer for further growth in need for supplementary Collateral in Capital Centre S is DKK 15.1bn
- If the OC is insufficient to comply with Supplementary Collateral requirements, RD can transfer OC from the General Capital Centre or Capital Centre T or write Loss Guaranties within the 15% limitation of issued bonds



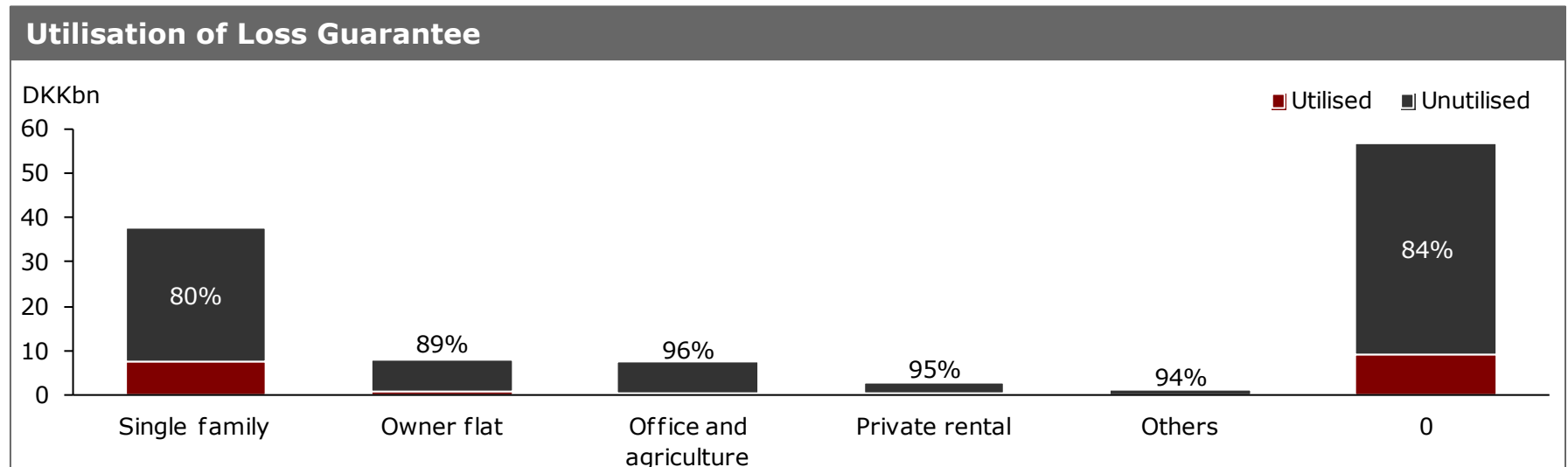
# Supplementary Collateral – T

## Buffer in Capital Centre T

- End Q3 2015 total OC provided was DKK 41.2bn in Capital Centre T of which 22.0bn was funded by Senior debt
- Supplementary Collateral of DKK 25.1bn is required end Q3 2015 in Capital Centre T
- Loss Guarantees of DKK 6.1bn are utilised
- Buffer for further growth in need for supplementary Collateral in Capital Centre T is DKK 22.2bn
- If the OC is insufficient to comply with Supplementary Collateral requirements, RD can transfer OC from the General Capital Centre or Capital Centre S or write Loss Guaranties within the 15% limitation of issued bonds



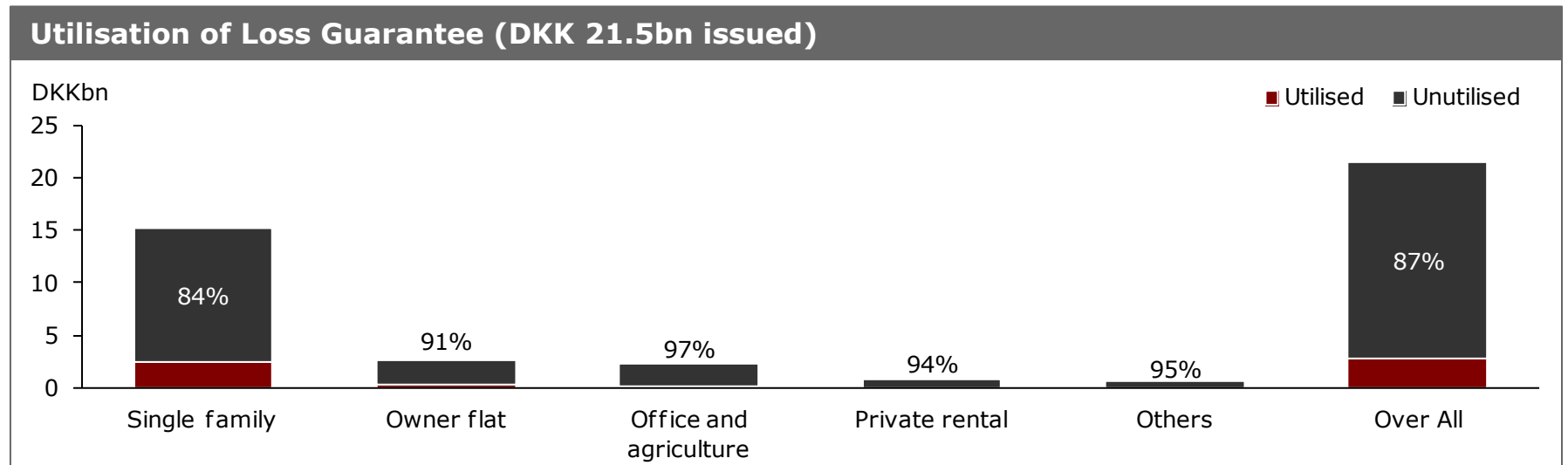
# Guarantees — Total



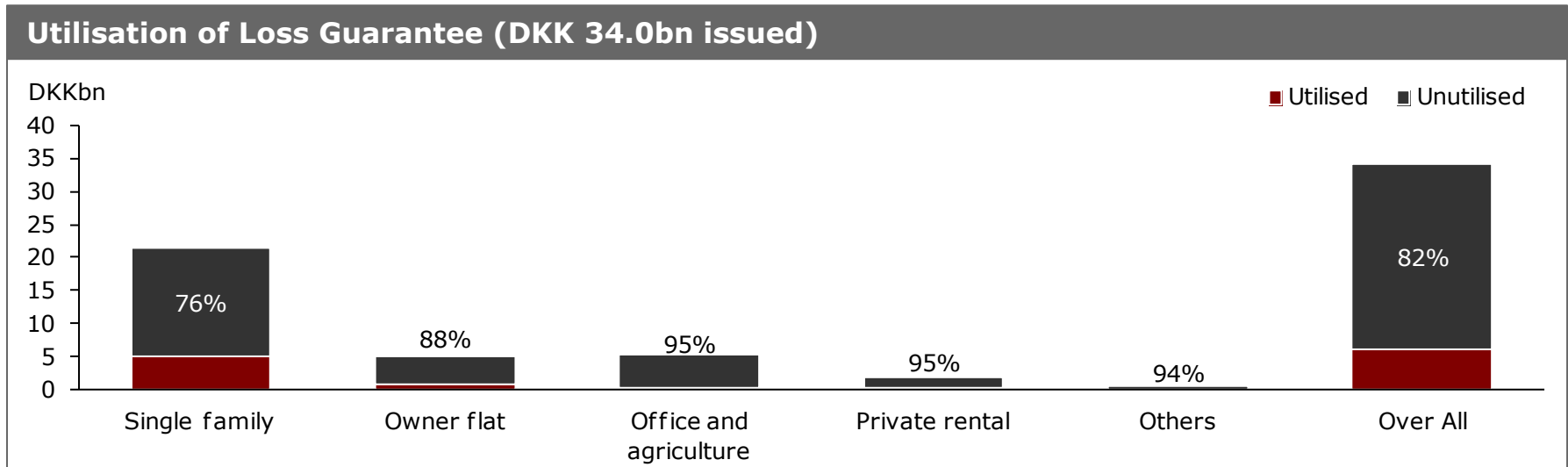
## Loss Guarantees issued by Danske Bank (DKK 56.9bn)

- RD loans disbursed through Danske Bank has a Loss Guarantee
- Loss Guarantees covers the outmost LTV limited to 20% of the maximum lending corresponding to LTV from 60–80% for Single Family Housing and 40–60% for Corporate and Holiday Housing
- Maturity of 8 years with an amortization equivalent to the covered loan
- Loss Guarantee covers losses obtained from forced sales including costs

# Guarantees — S



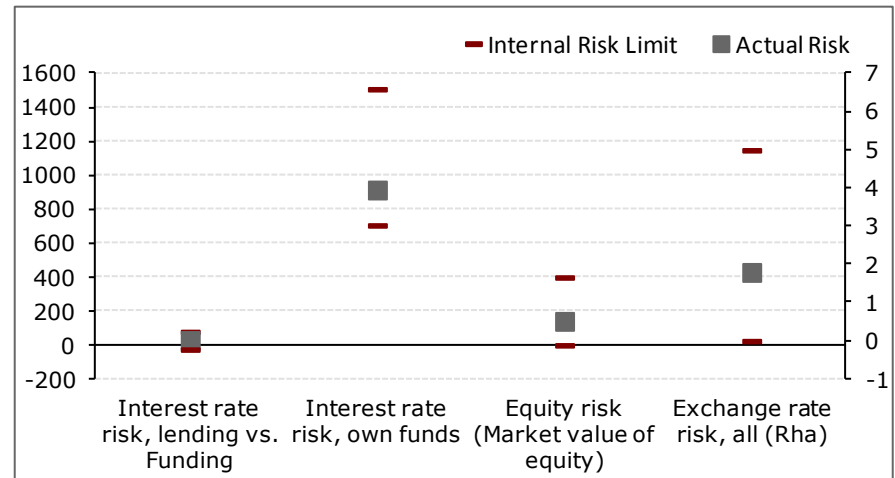
# Guarantees — T



## 2 Market Risk Exposure and Liquidity

### Market Risk Exposures

- Realkredit Danmark operates subject to the specific balance principle
- In adherence with the principle Realkredit Danmark issues covered bonds on a daily basis to match loan origination and employs a pass through structure i.e. bond terms mirror loan terms
- Market risk exposures are, therefore, limited. End Q3 2015 interest rate risk on lending vs. funding stood at DKK 28.5m
- Derivatives are not employed for hedging imbalances on lending and funding





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