

# Risk Report 2016Q2

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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

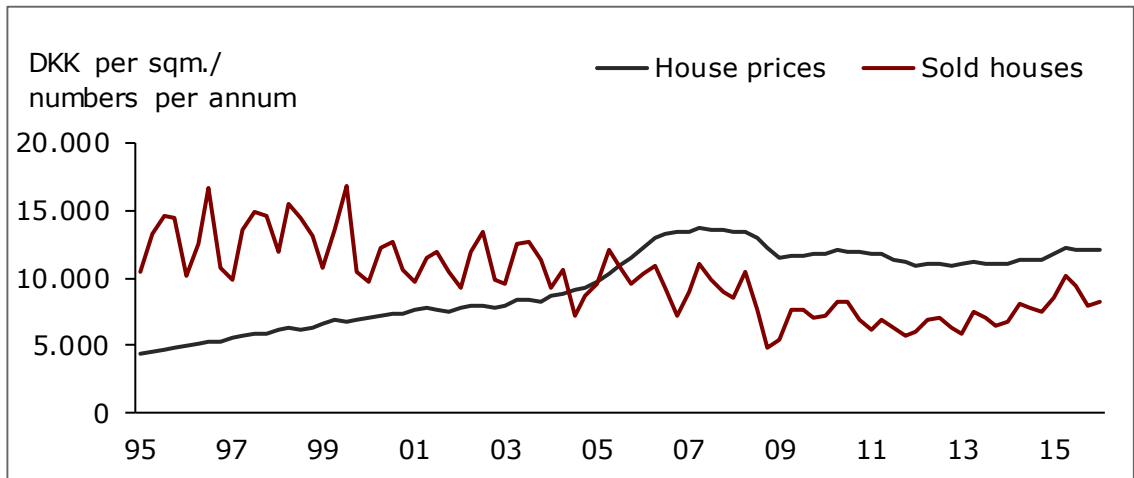
# Key Market Indicators

General Market Information

# 1 House Prices and Homeowners Equity

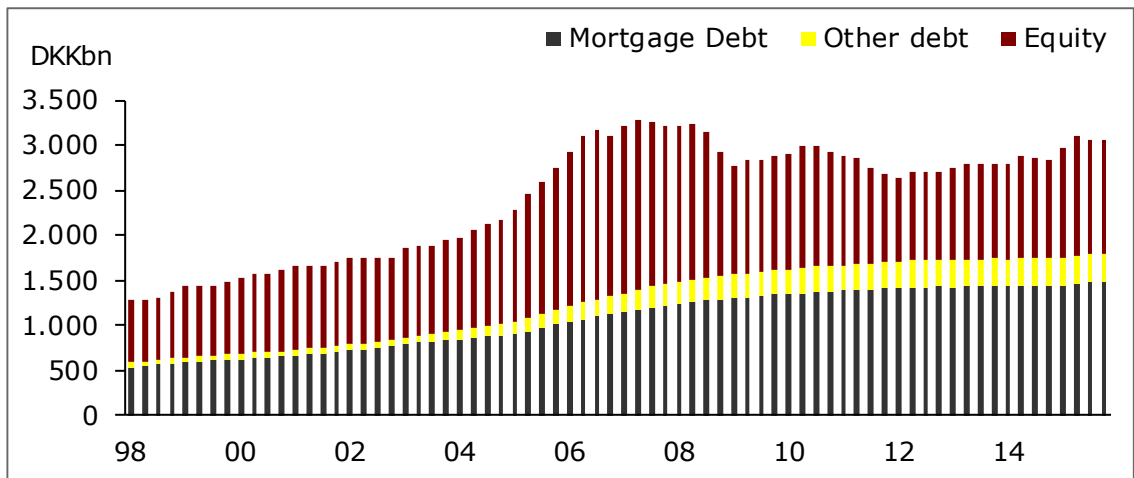
## House Price Trends

- House prices on the rise have been driven by historically 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



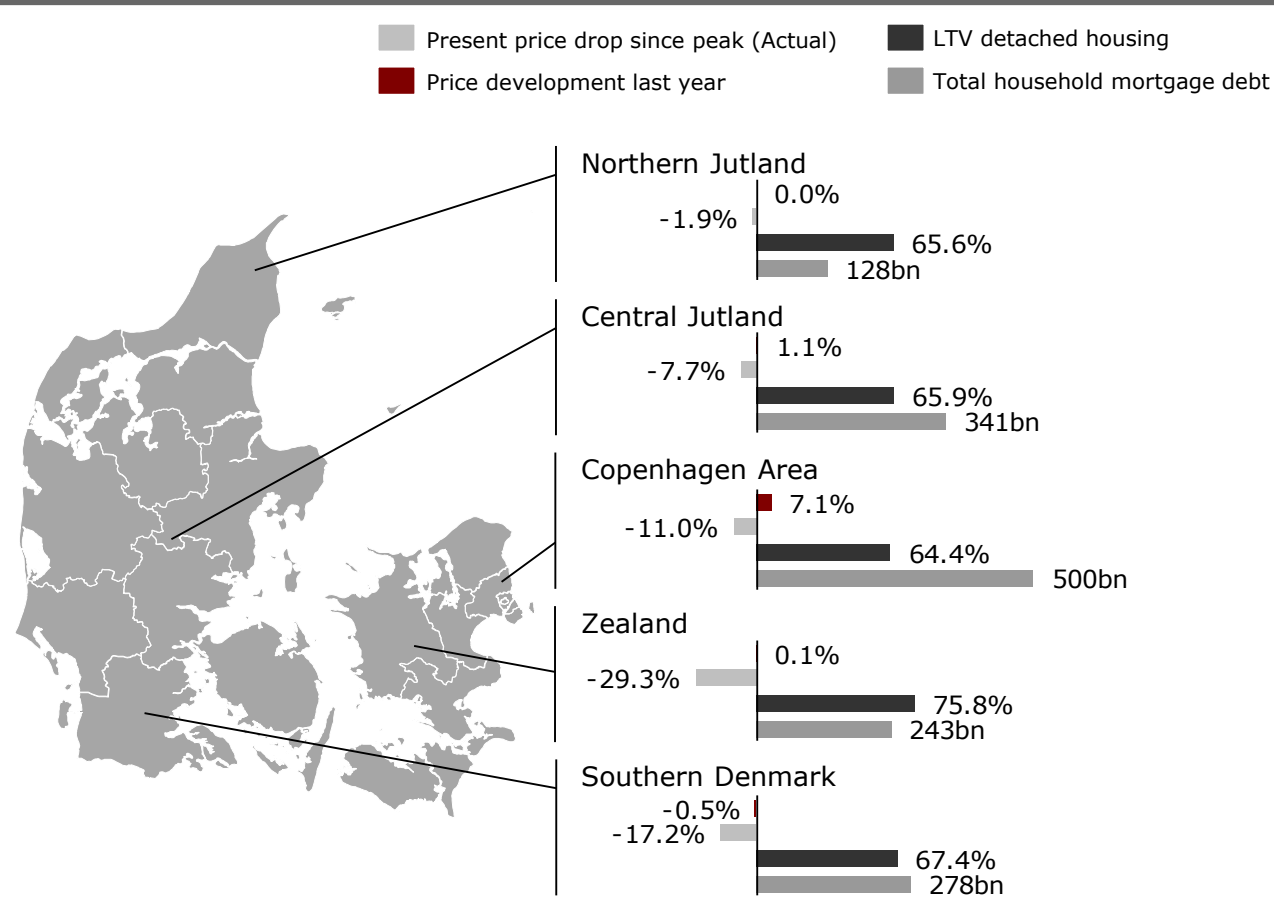
## Homeowners Equity

- Homeowners' equity was DKK 1,262bn end 2015Q4
- Since the beginning of 2012 homeowners' equity has risen by DKK 334bn
- In the same period total lending increased by DKK 73bn and thus the total value of the housing stock has increased by DKK 407bn



# 1 Geographical Dispersion

## Private lending in Denmark in total

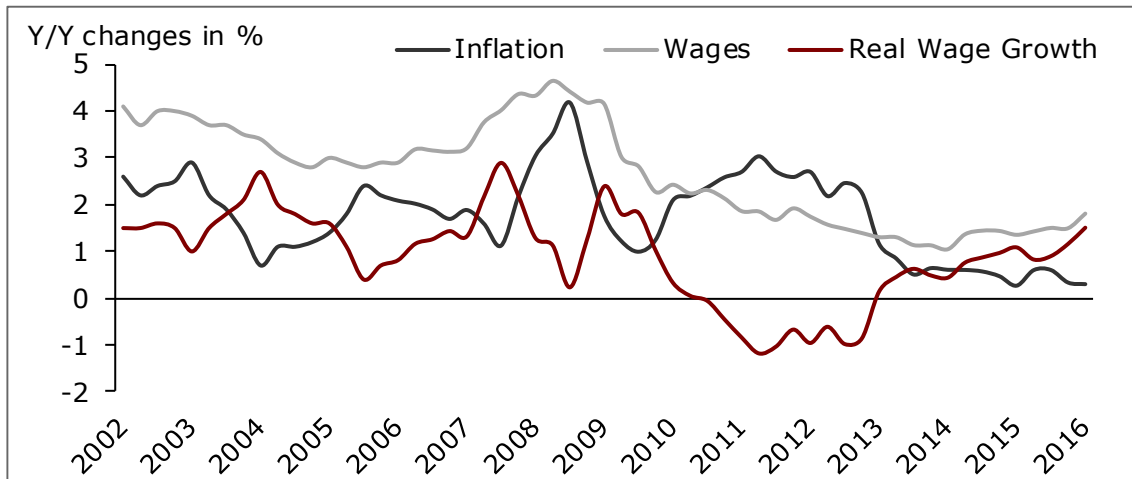


- House prices are generally increasing in all areas of the country – though at a slow pace
- Total mortgage debt in the Copenhagen area is the highest in the country. However, LTV is only 64.4% and house prices are on the rise

# 1 Unemployment and Real Wage Growth

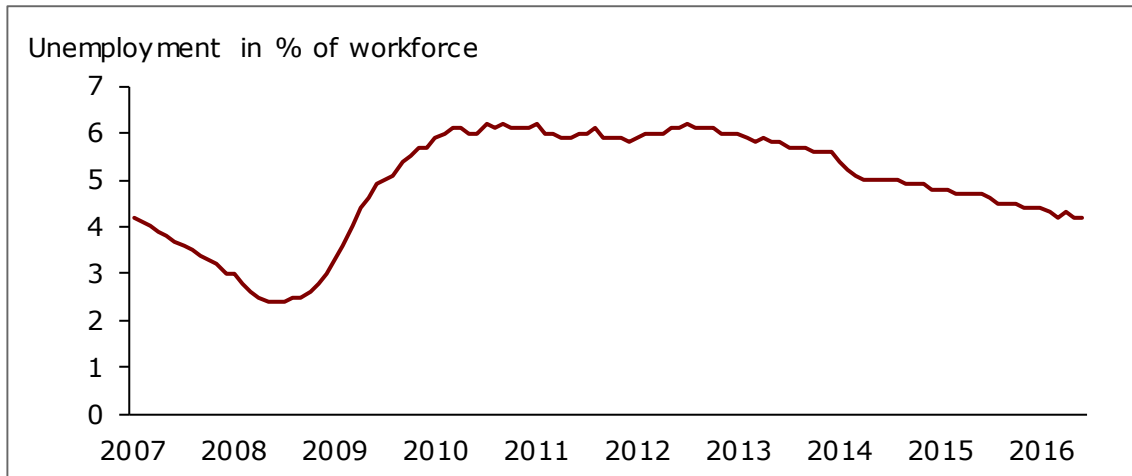
## Real Wage Growth

- Real wage growth in Q1 2016 stood at 1.5%.
- Current real wage growth is now above average



## Unemployment

- Gross unemployment rate stood at 4.2 per cent end Q2 2016 up from a historical low of 2.4 per cent in mid 2008
- In a historical perspective unemployment is on a low level

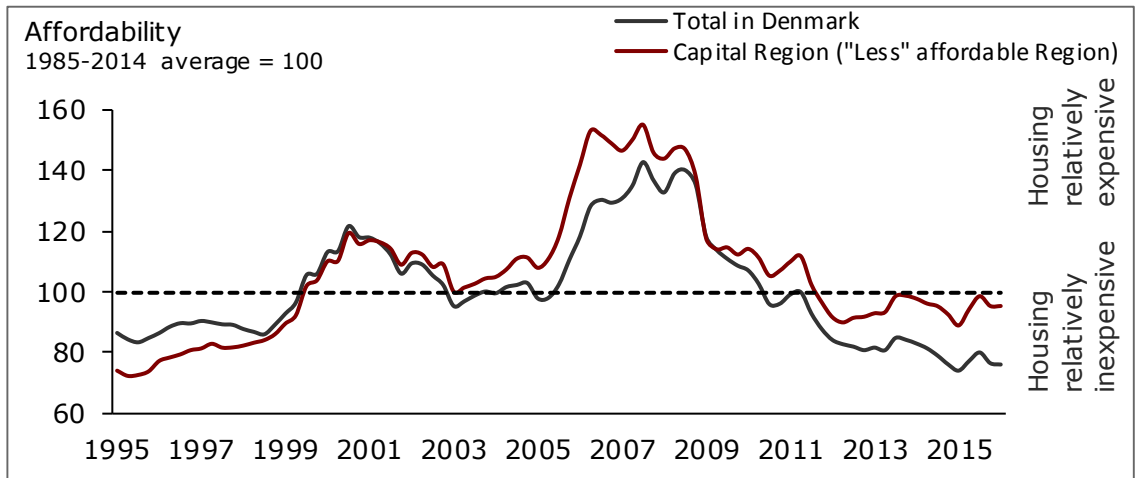


<sup>1</sup> Gross unemployment rate defined as net unemployment plus persons in activation schemes

# 1 Homeowner Affordability and Foreclosures

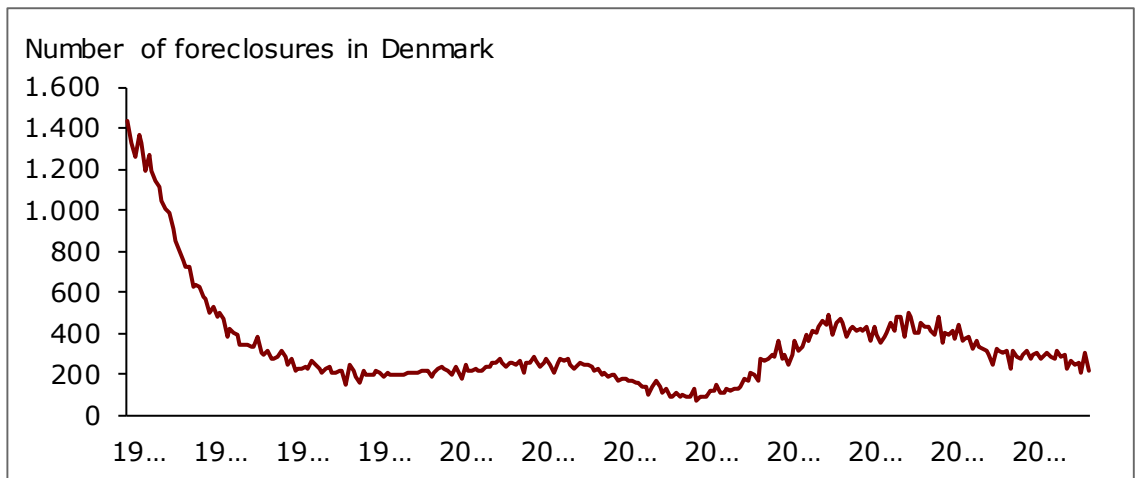
## Homeowner Affordability

- Housing remains affordable compared to a 30 year average
- Recent house price inflation is off-set by low interest rates



## Foreclosures

- The number of foreclosed properties in Denmark in June 2016 was 302
- 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>	2015		2016		2017	
GDP	1.0	1.6	0.7	1.2	1.0	0.7
Private Consumption	2.3	1.7	1.9	1.5	1.9	0.9
Fixed investments	1.1	2.7	1.1	1.7	0.9	-0.7
Export	0.3	5.1	0.7	2.7	2.6	3.2
Unemployment %	4.6	10.9	4.3	10.3	4.1	10.3

## Danish Economy Outlook

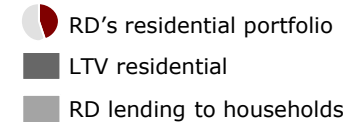
- The growth in the Danish and European economy is expected to be 0.7 per cent and 1.2 per cent, respectively, in 2016
- Interest rates are a key element in the household economy
- In 2015, Denmark was introduced to negative interest rates
- Certificates of deposit rate currently stands at -0.65% p.a.
- We expect very low interest rates in the near future



# Key Collateral Indicators

Realkredit Danmark Specific Information

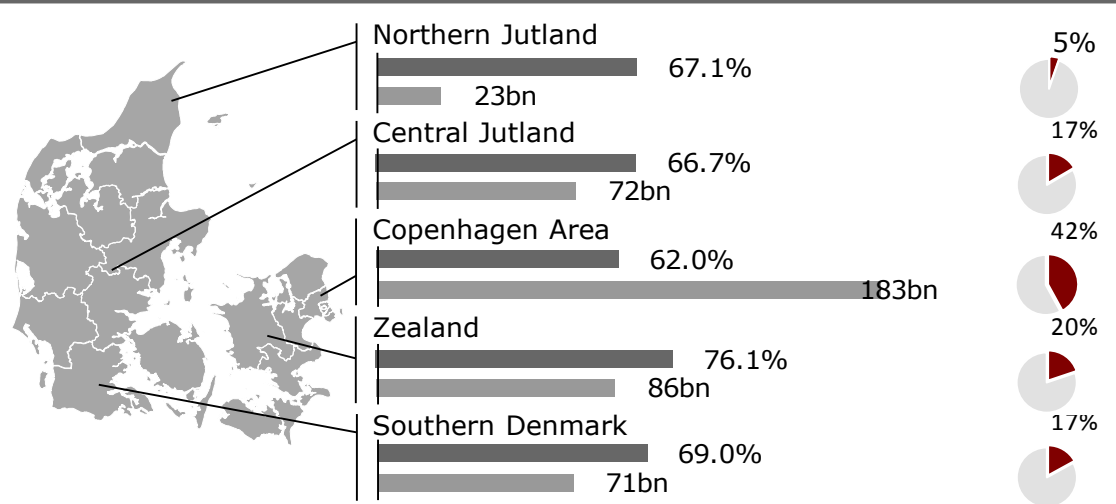
## 2 Dispersion and Loan to Value Ratios



### Dispersion of RD's residential portfolio

- RD's loan portfolio is concentrated in the Copenhagen area and on Zealand where prices were reduced the most during the recent crisis
- 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 getting close to index 100

### Geographical Dispersion in Realkredit Danmark



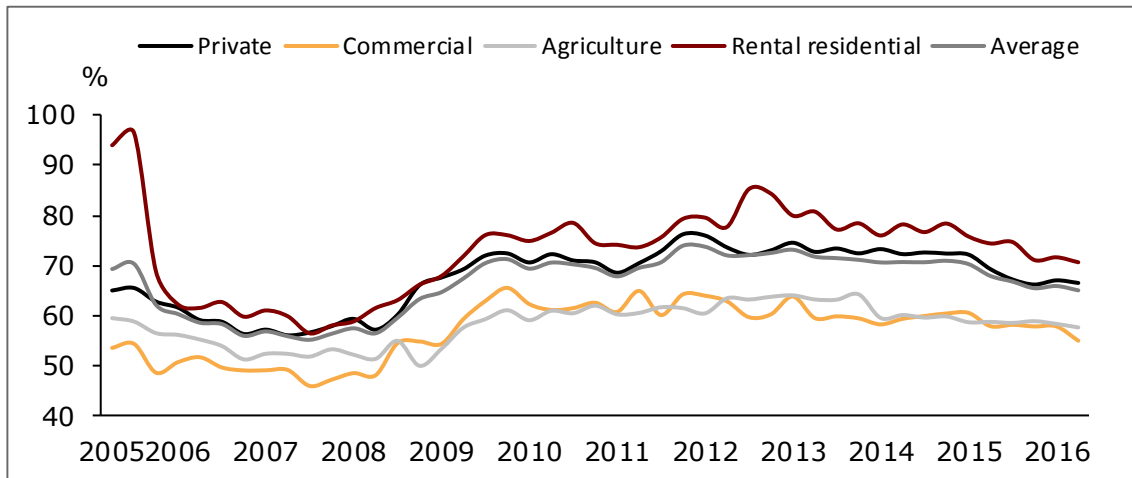
### Loan To Value Ratios

- 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
- 37% of mortgage collateral securing covered bonds issued by Realkredit Danmark has a current LTV ratio of 20% or less. More than 67% 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 65% in Q2 2016 compared to 68% in Q2 2015
- LTV's for Commercial and Agriculture are based on few observations to confirm correct price levels



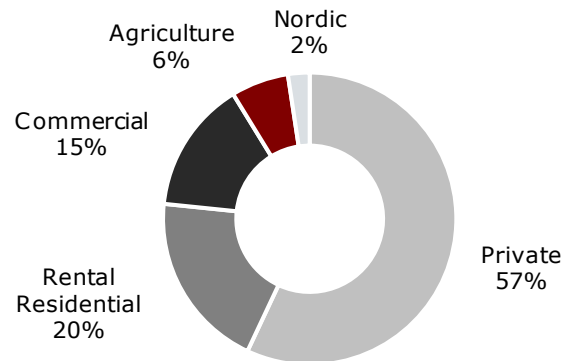
### Borrower Classifications

- Borrowers' financial strength is classified on a scale from 1 to 11, 1 being the highest score
- Approx. 5bn 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 %	65	201	16	283
20-40 %	44	169	15	229
40-60 %	26	116	13	155
60-80 %	11	51	8	69
> 80 %	6	16	5	28
Total	153	553	57	763

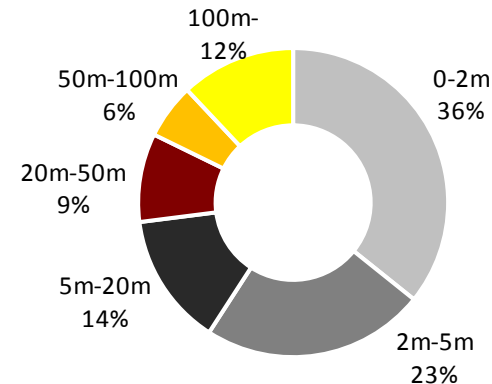
## 2 Collateral Breakdowns — Total portfolio

### Borrower Segmentation



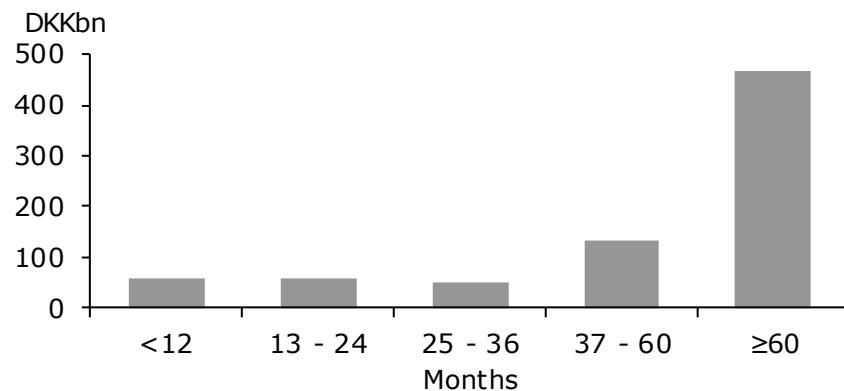
Note: Total lending distributed on segments

### Outstanding Loan Balance



Note: Total lending distributed on outstanding loan balances

### Portfolio Seasoning *defined by duration of customer relationship*



Note: new definition of seasoning compared to previous risk reports

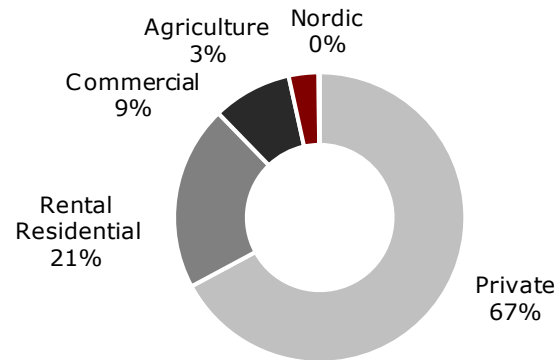
### Outstanding Debt in DKKbn by LTV ratio

Segment	0-20%	20-40%	40-60%	60-80%	>80%	Total DKKbn
Private	151	130	94	47	14	435
Commercial	51	42	24	6	3	127
Agriculture	19	16	10	3	1	49
Rental Residential	62	41	27	14	10	153
Weighted dist.	37%	30%	20%	9%	4%	100%
Total, DKKbn	283	229	155	69	28	763

Average LTV: 65.0%

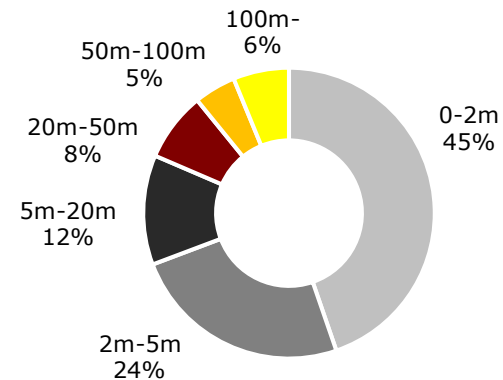
## 2 Collateral Breakdowns — Capital Centre S

### Borrower Segmentation



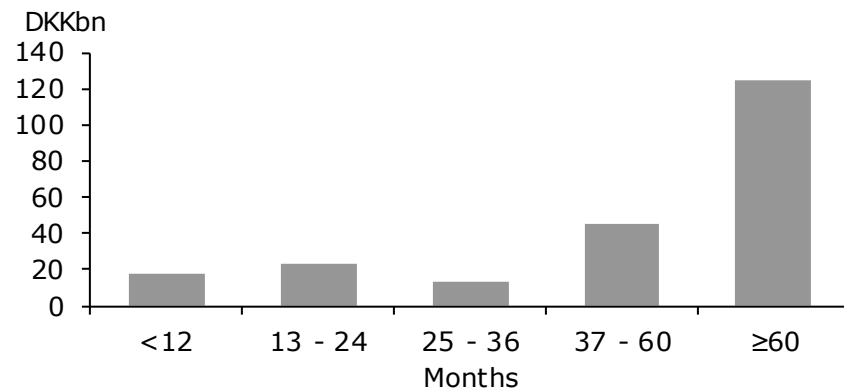
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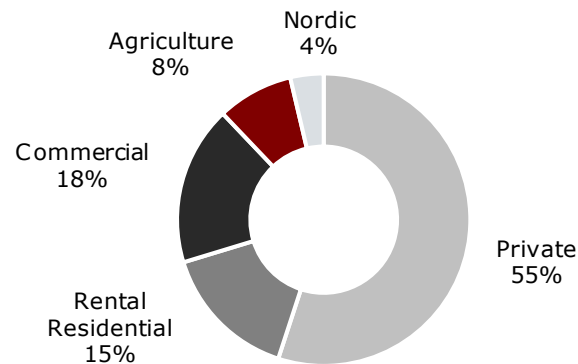
### Outstanding Debt in DKKbn by LTV ratio

Segment	0-20%	20-40%	40-60%	60-80%	>80%	Total DKKbn
Private	51	46	33	16	4	150
Commercial	7	6	4	1	1	20
Agriculture	3	3	2	0	0	7
Rental Residential	22	12	7	3	2	46
Weighted dist.	37%	30%	20%	10%	3%	100%
Total, DKKbn	83	66	45	22	7	223

Average LTV: 62.0%

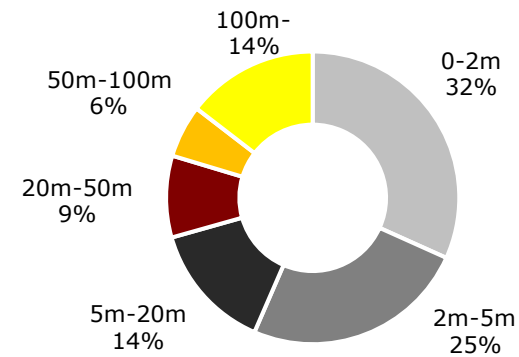
## 2 Collateral Breakdowns — Capital Centre T

### Borrower Segmentation



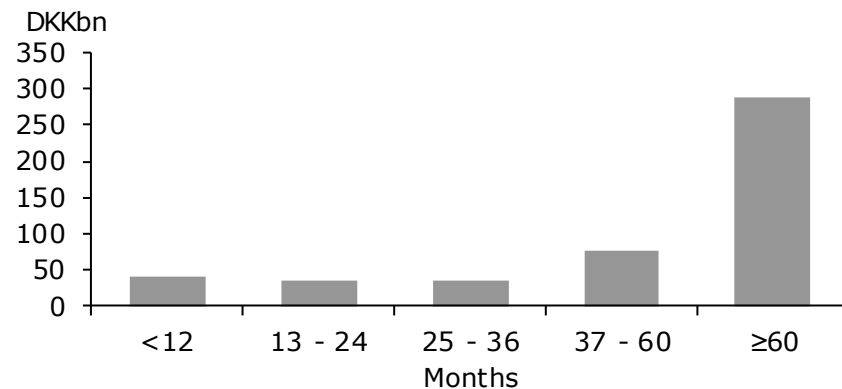
Note: Total lending distributed on segments

### Outstanding Loan Balance



Note: Total lending distributed on outstanding loan balances

### Portfolio Seasoning *defined by duration of customer relationship*



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### Outstanding Debt in DKKbn by LTV ratio

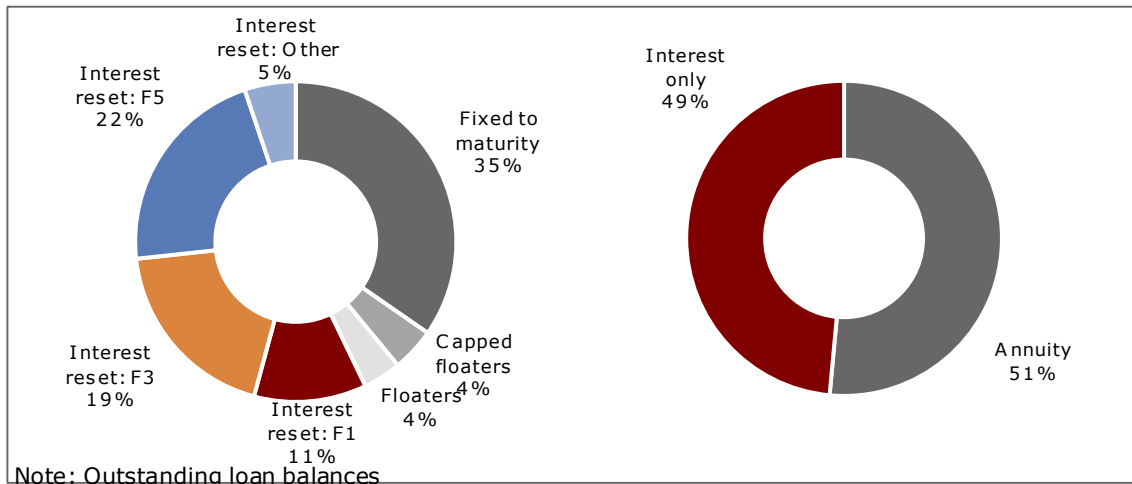
Segment	0-20%	20-40%	40-60%	60-80%	>80%	Total DKKbn
Private	90	77	57	29	9	261
Commercial	41	34	18	4	2	99
Agriculture	16	13	8	3	1	40
Rental Residential	27	22	15	7	4	75
Weighted dist.	36%	31%	21%	9%	3%	100%
Total, DKKbn	173	146	99	42	15	475

Average LTV: 63.8%

## 2 Borrower Exposure to Interest Rates

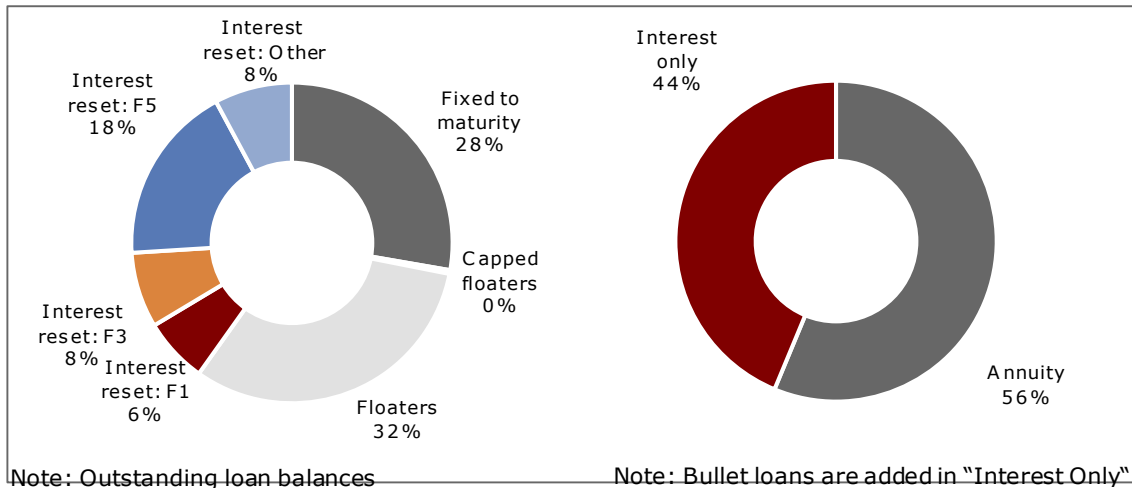
### Private Segment

- 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 57%
- Expectations are for this percentage to decline since 30Y fixed rates are now only 2% 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. is now effective



### Corporate Segments

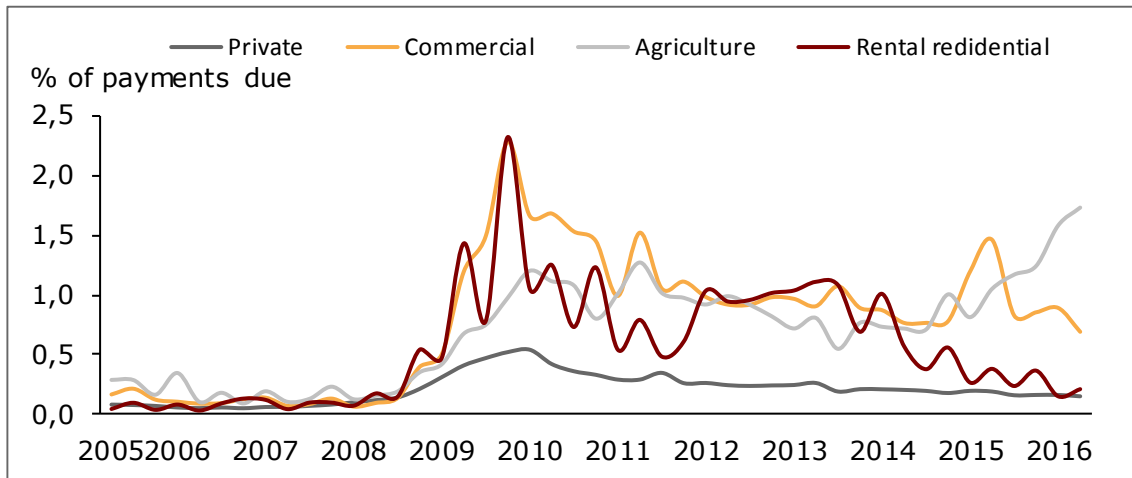
- 28% of all lending in corporate segments is fixed rate to maturity
- 72% are either interest reset (typically, rates are reset every 1, 3 or 5 years) or floating rate (base rates are either 6M CIBOR, 3M EURIBOR or 6M CITA)
- Bullets and Interest only loans make up 44% of corporate lending



## 2 Arrears and Repossessions

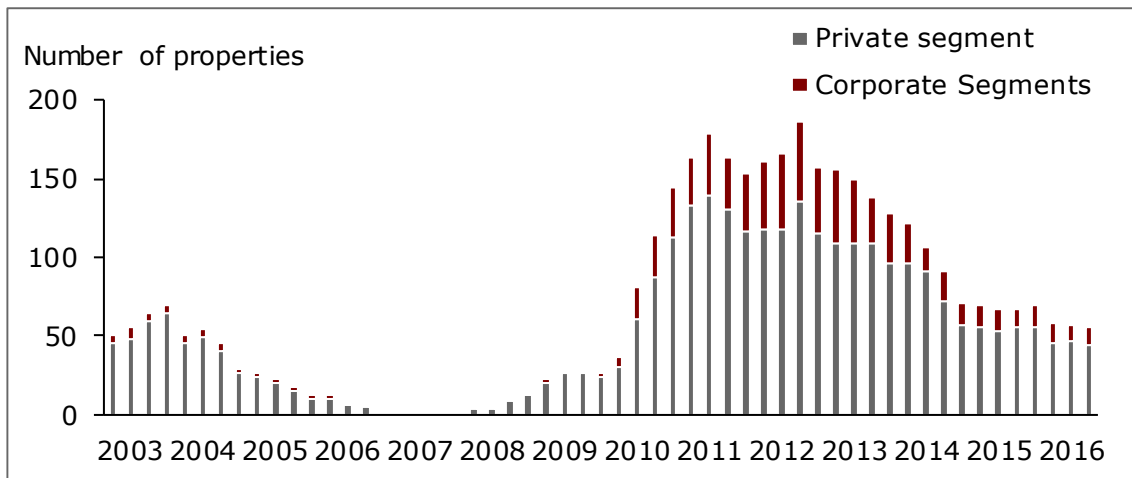
### Arrears (3 months)

- Total arrears stood at 0.30% end Q2 2016
- Arrears are rather volatile in the Rental residential segment. However, arrears are down considerably from Q4 2009
- Arrears in the Commercial segment is now 0.69%. The peak in Q2 2015 was due to a few individual loans
- Arrears in the Private segments have been rather stable around a level below 0.15% for the last year



### Repossessions

- The stock of repossessed properties stood at 56 end Q2 2016 — down by 1 since Q1 2016
- This compares to a total stock of mortgage collateral of 478,698

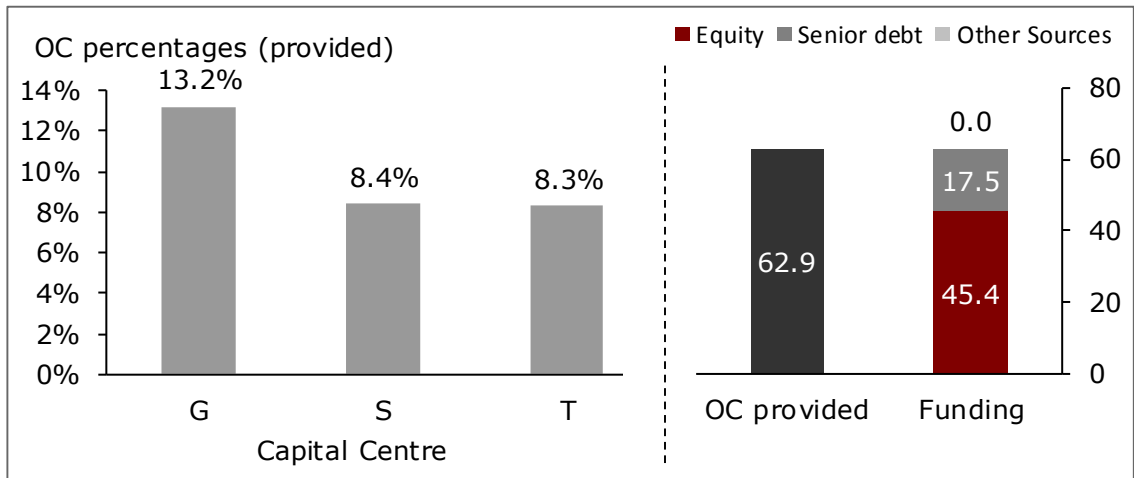




## 2 Over Collateralization and Capitalization

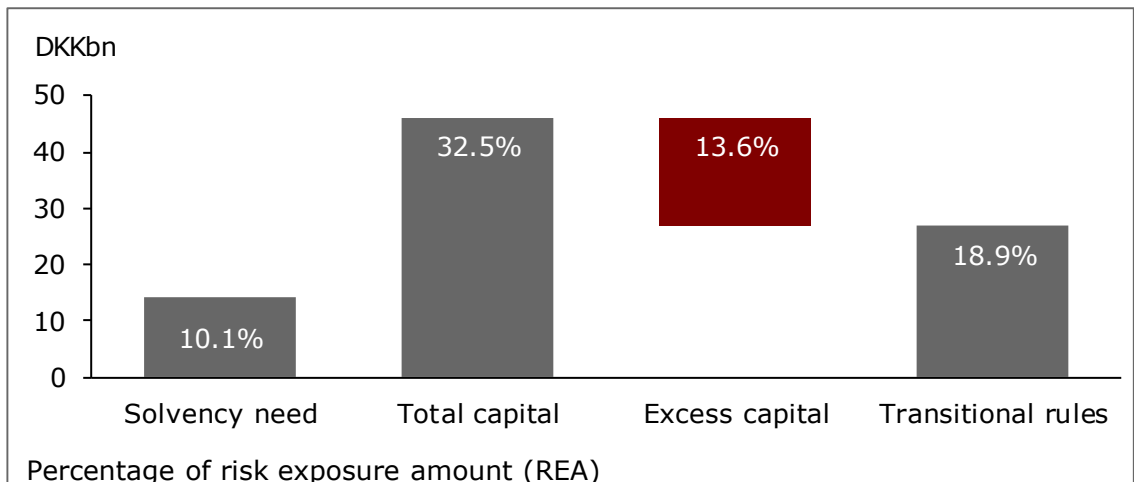
### Over Collateralisation

- 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

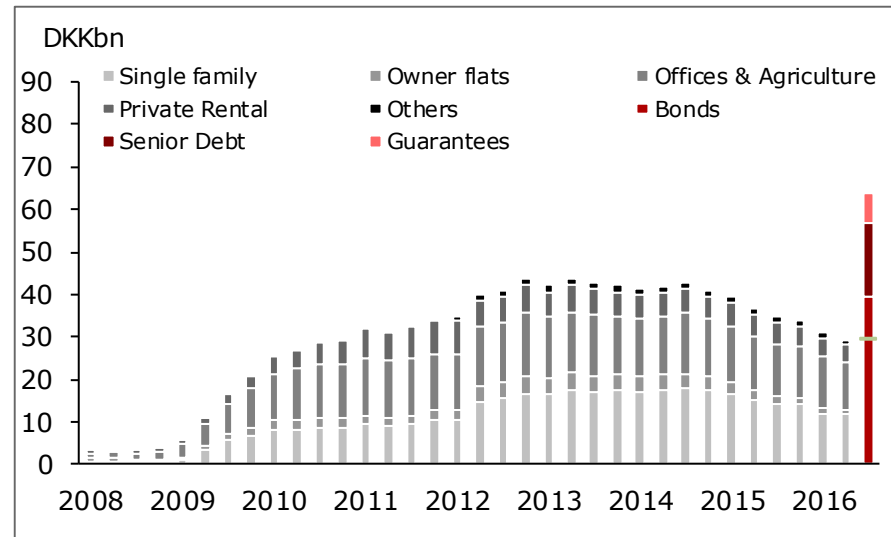
- End Q2 2016, Realkredit Danmark's solvency need was calculated at 14.3bn
- Calculated on the basis of the transitional rules, the capital need was 26.8bn
- With total capital of 46.1bn, Realkredit Danmark had 19.3bn in excess of the requirement according to the transitional rules



# Supplementary Collateral — Total in S and T

## Buffer in Capital Centres S and T

- End Q2 total OC provided was DKK 57.0bn in Capital Centres S and T of which 17.5bn was funded by Senior debt
- Supplementary Collateral of DKK 29.3bn is required end Q2 2016 in Capital Centres S and T
- Loss Guarantees of DKK 6.7bn are utilised
- Buffer for further growth in need for supplementary Collateral in Capital Centres S and T is DKK 34.4bn
- 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



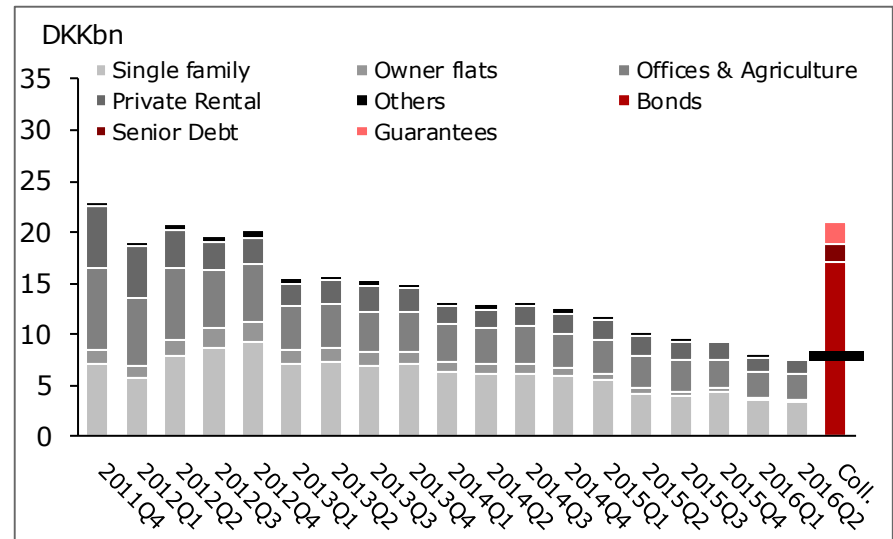
## Supplementary Collateral requirements

- 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

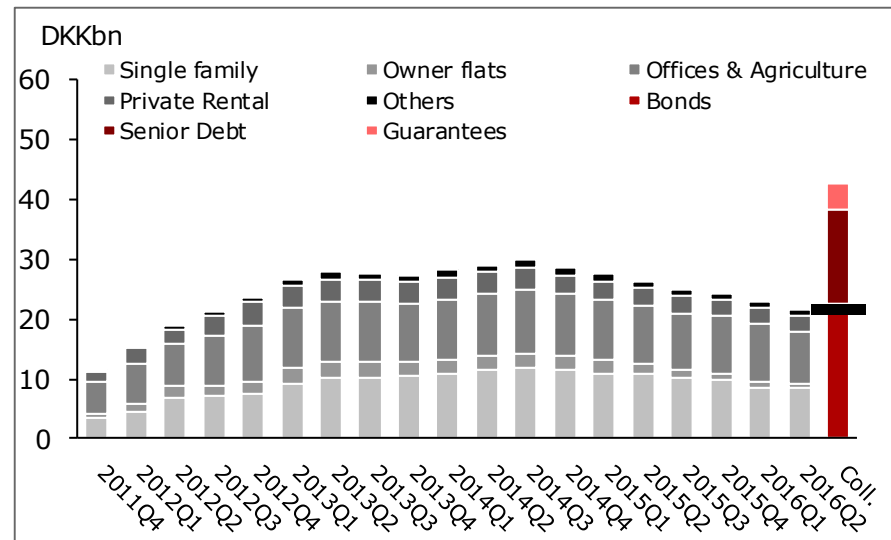
- End Q2 2016 total OC provided was DKK 18.8bn in Capital Centre S of which 1.8bn was funded by Senior debt
- Supplementary Collateral of DKK 7.8bn is required end Q2 2016 in Capital Centre S
- Loss Guarantees of DKK 2.2bn are utilised
- Buffer for further growth in need for supplementary Collateral in Capital Centre S is DKK 13.2bn
- 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



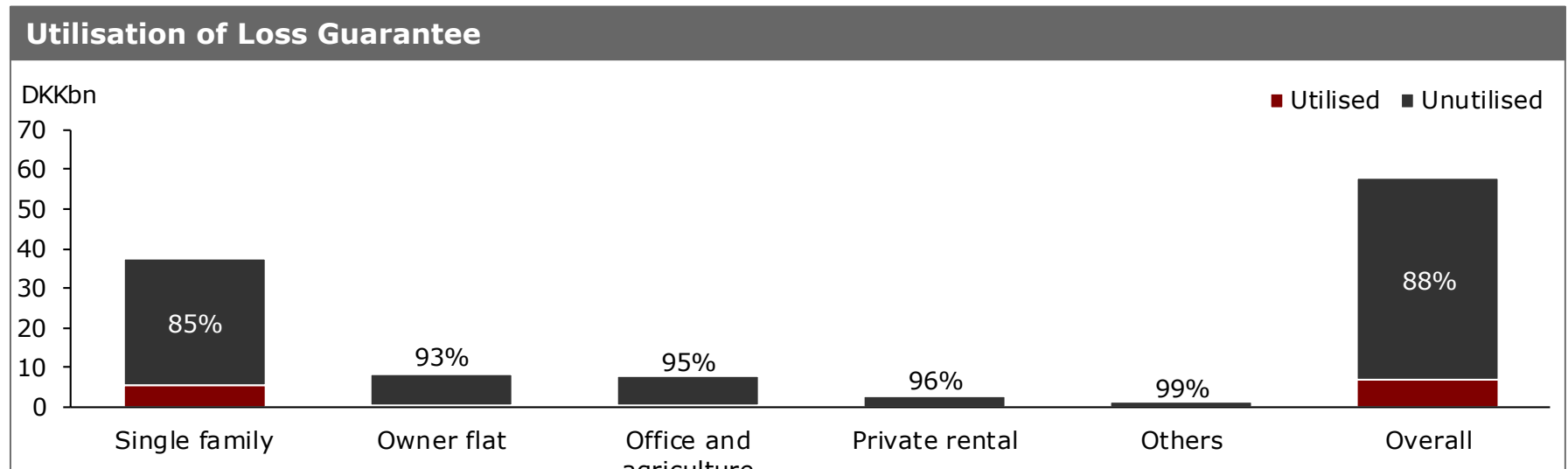
# Supplementary Collateral — T

## Buffer in Capital Centre T

- End Q2 2016 total OC provided was DKK 38.2bn in Capital Centre T of which 15.7bn was funded by Senior debt
- Supplementary Collateral of DKK 21.5bn is required end Q2 2016 in Capital Centre T
- Loss Guarantees of DKK 4.5bn are utilised
- Buffer for further growth in need for supplementary Collateral in Capital Centre T is DKK 21.2bn
- 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



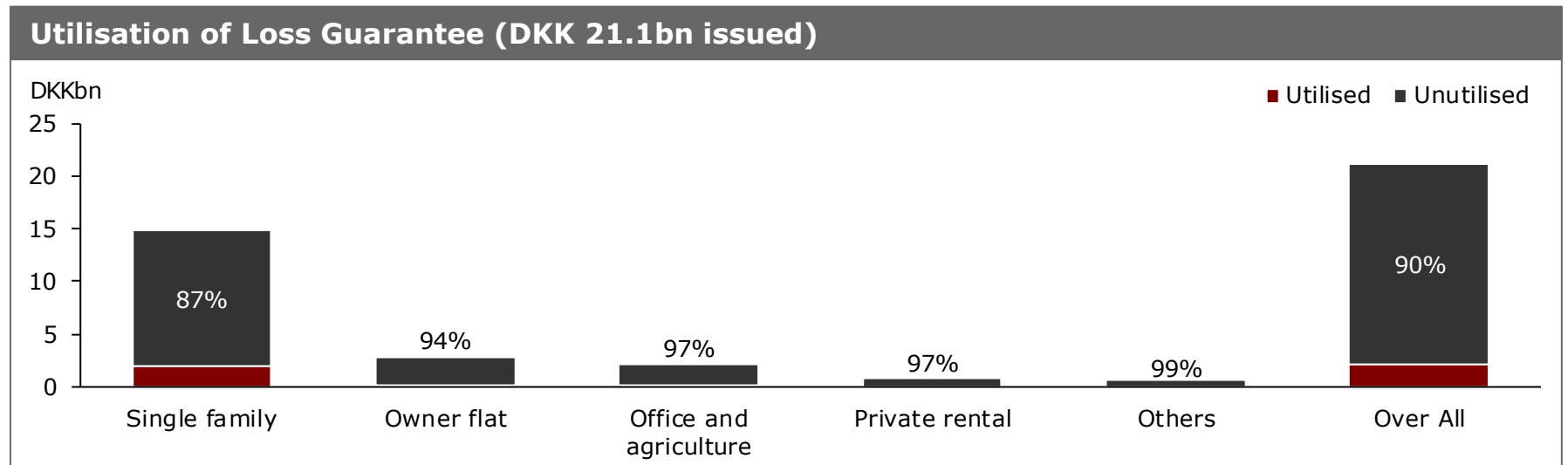
# Guarantees — Total



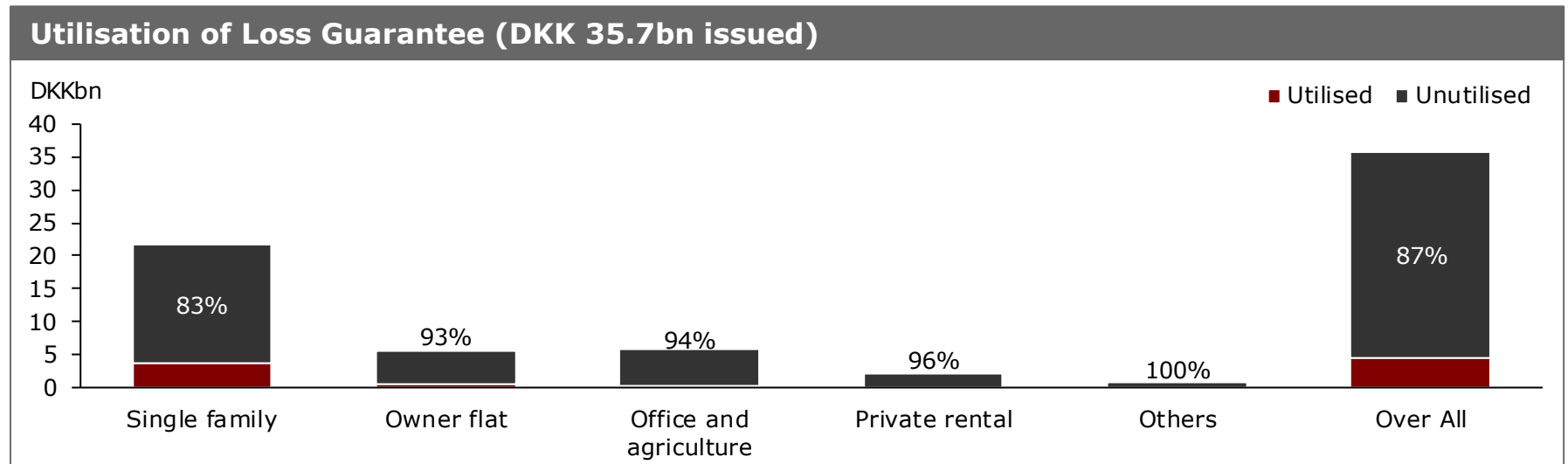
## Loss Guarantees issued by Danske Bank (DKK 57.7bn)

- 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



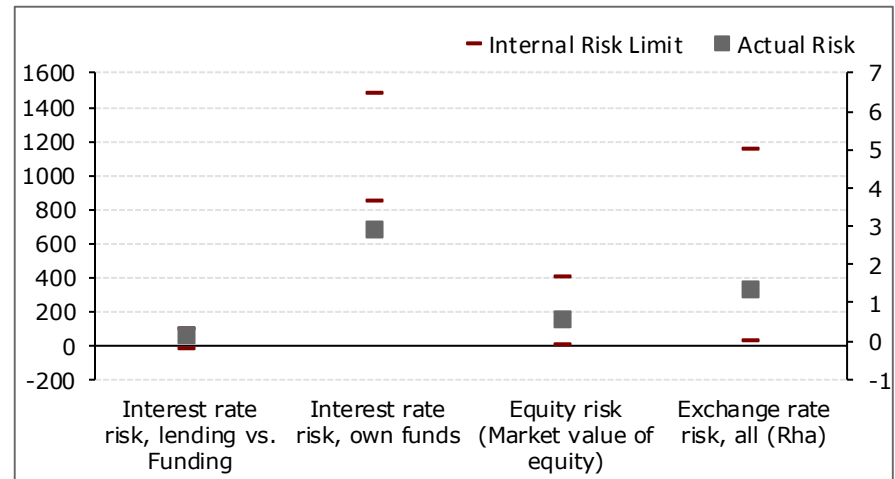
# Guarantees — T



## 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 Q2 2016 interest rate risk on lending vs. funding stood at DKK 39.5m
- Derivatives are not employed for hedging imbalances on lending and funding





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