

# Risk Report 2017Q1

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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

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- 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**

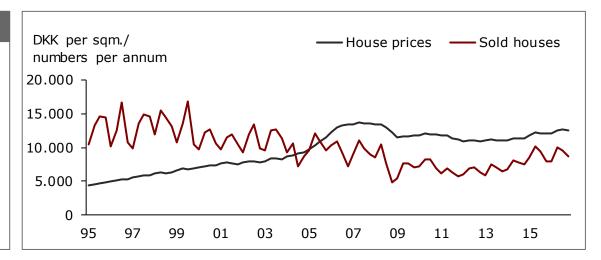
**General Market Information** 



## 1 House Prices and Homeowners Equity

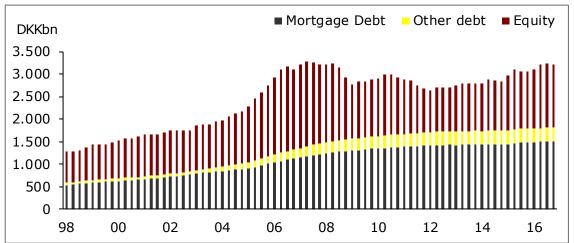
#### **House Price Trends**

- 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 per cent per annum in 2017 and 2018
- Number of houses sold is back to more "normal" levels



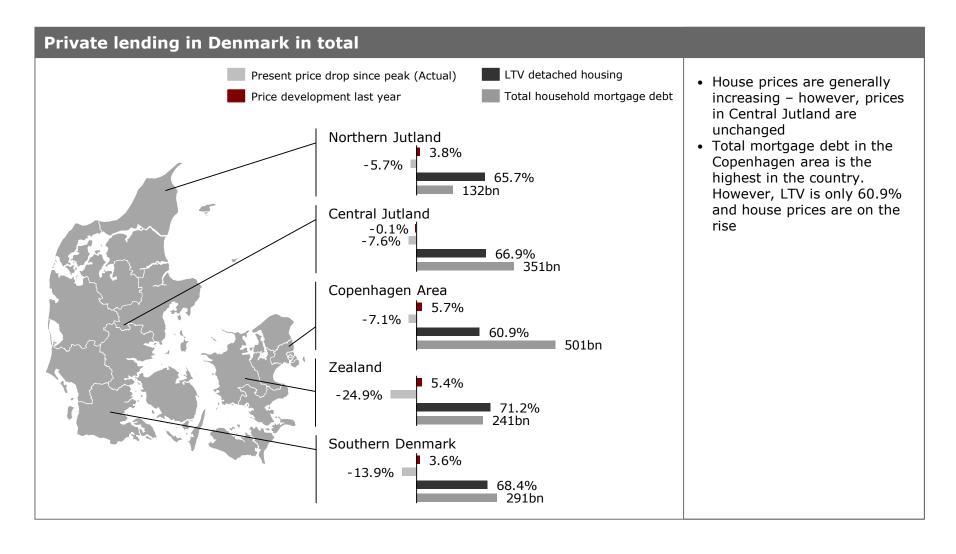
### **Homeowners Equity**

- Homeowners' equity was DKK 1,391bn end 2016Q4
- Since the beginning of 2012 homeowners' equity has risen by DKK 463bn
- In the same period total lending increased by DKK 106bn and thus the total value of the housing stock has increased by DKK 569bn





# 1 Geographical Dispersion

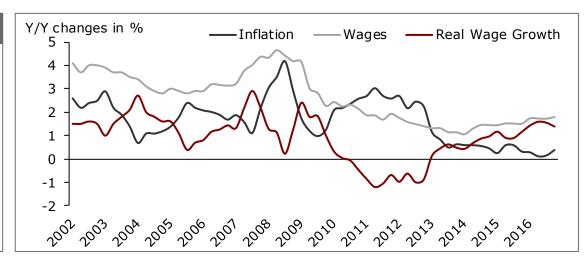




# 1 Unemployment and Real Wage Growth

### **Real Wage Growth**

- Real wage growth in Q4 2016 stood at 1.4%.
- Current real wage growth is now above average



### **Unemployment**

- Gross unemployment rate stood at 4.3 per cent end Q1 2017 up from a historical low of 2.4 per cent in mid 2008
- In a historical perspective unemployment is on a low level



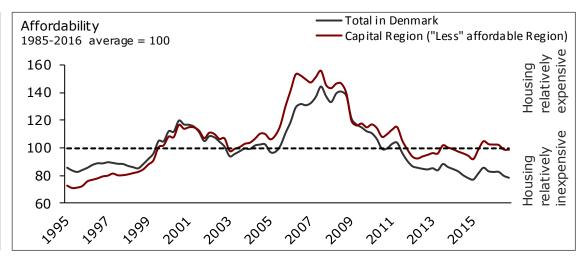
<sup>1.</sup> Gross unemployment rate defined as net unemployment plus persons in activation schemes



# 1 Homeowner Affordability and Foreclosures

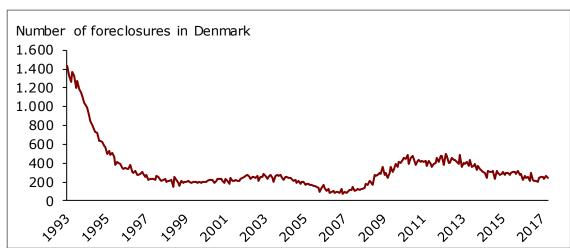
#### **Homeowner Affordability**

- Housing remains affordable compared to a 30 year average. However, the Capital region is very close to average (index 100)
- Recent house price inflation is off-set by low interest rates
- The likely impact of interest rate hikes would be a downward trend in house prices.



### **Foreclosures**

- The number of foreclosed properties in Denmark in March 2017 was 262
- 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 Euro Zone	2016		2017		2018	
GDP	1.3	1.7	1.7	1.6	1.7	1.6
Private Consumption	1.9	1.9	2.0	1.4	2.1	1.1
Fixed investments	5.2	2.5	4.2	1.8	3.5	3.6
Export	1.7	2.7	4.4	3.8	2.7	3.6
Unemployment %	4.2	10.0	4.3	9.4	4.2	8.8

### Danish Economy Outlook

- The growth in the Danish and European economy is expected to be 1.7 and 1.6 per cent, respectively, in 2017
- Interest rates are a key element in the household economy
- Certificates of deposit rate currently stands at -0.65% p.a.
- We expect very low interest rates in the near future

Source: Danske Bank, December 2016

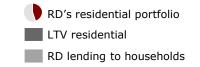


# **Key Collateral Indicators**

Realkredit Danmark Specific Information

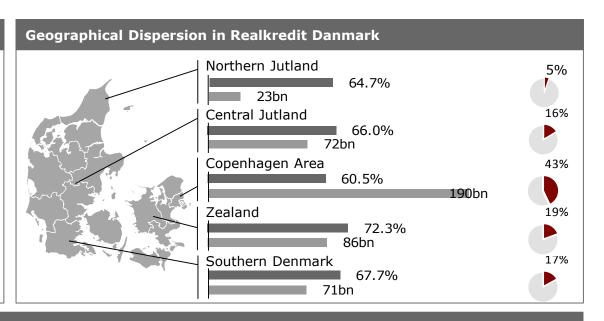


## 2 Dispersion and Loan to Value Ratios



#### Dispersion of RD's residential portfolio

- RD's loan portfolio is concentrated in the Copenhagen area and on Zealand
- 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 now very close to index 100



#### **Loan To Value Ratios**

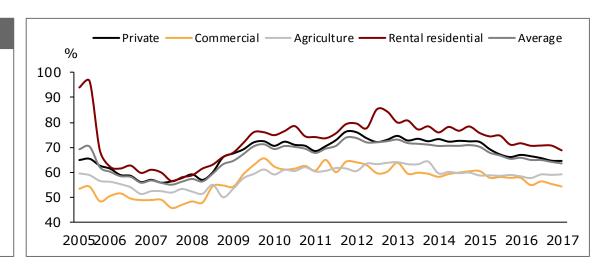
- Covered bonds are secured by a first claim on the mortgage collateral and the reserves of the issuer
- LTV ratios of the mortgage collateral are maximised by legislation at 80% in residential segments and 60% in commercial segments (70% if the outmost 10% are secured by additional collateral). Lending 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
- 38% of mortgage collateral securing covered bonds issued by Realkredit Danmark has a current LTV ratio of 20% or less. More than 68% 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 64% in Q1 2017 compared to 66% in Q1 2016
- LTV's for Commercial and Agriculture are based on few observations to confirm correct price levels



#### **Borrower Classifications**

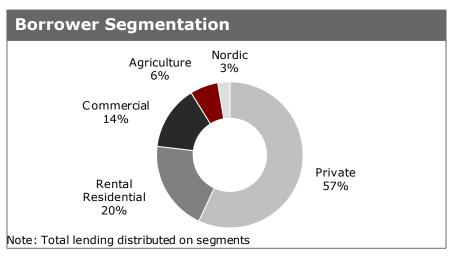
- Borrowers' financial strength is classified on a scale from 1 to 11, 1 being the highest score
- Approx. 4bn of total lending is secured by mortgages above the 80% LTV limit for which the borrowers' financial strength is classified 8-11 — equivalent to less than 1% of the portfolio

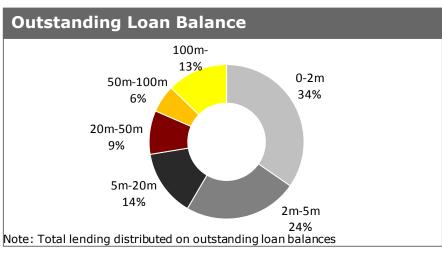
DKKbn	Rating Category (Scaled 1-11)							
LTV	1-3	4-7	8-11	Total				
0-20 %	71	206	15	292				
20-40 %	47	173	14	235				
40-60 %	27	118	12	157				
60-80 %	11	49	7	66				
> 80 %	6	14	4	24				
Total	162	560	53	775				

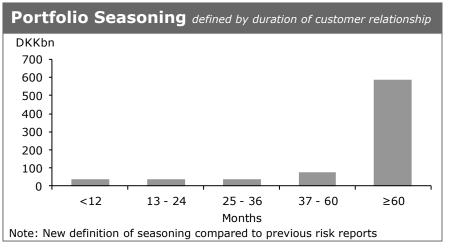
Note: RD total



# 2 Collateral Breakdowns — Total portfolio



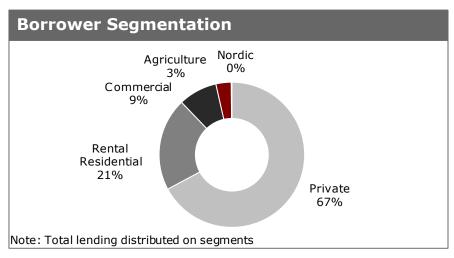


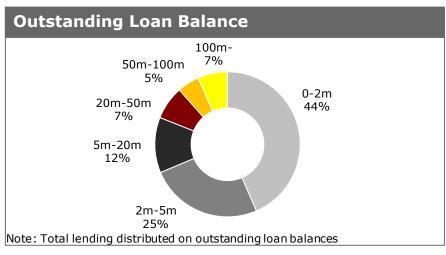


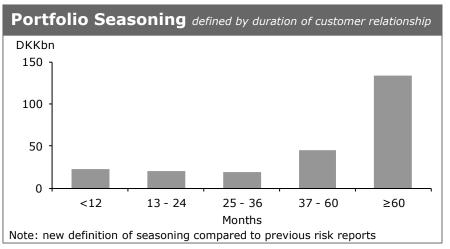
Outstanding Debt in DKKbn by LTV ratio								
Segment	0-20%	20- 40%	40- 60%	60- 80%	>80%	Total DKKbn		
Private	157	134	95	45	11	442		
Commercial	52	43	25	5	3	128		
Agriculture	18	16	10	3	1	48		
Rental Residential	65	43	27	13	10	157		
Weighted dist.	38%	30%	20%	9%	3%	100%		
Total, DKKbn	292	235	157	66	24	775		
Average LTV: 63.6%								



# 2 Collateral Breakdowns — Capital Centre S



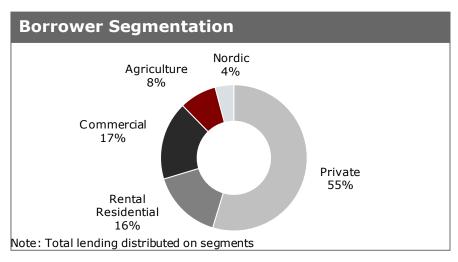


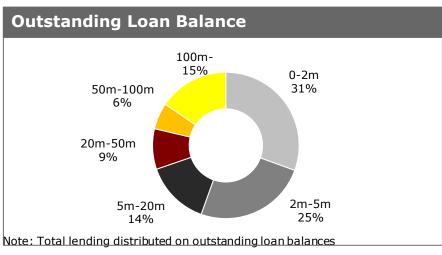


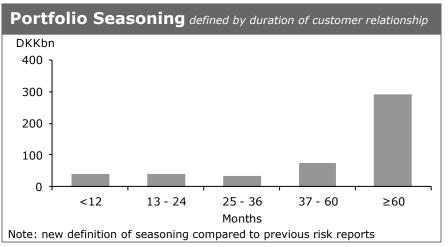
Outstanding Debt in DKKbn by LTV ratio							
Segment	0-20%	20- 40%	40- 60%	60- 80%	>80%	Total DKKbn	
Private	57	50	35	17	3	162	
Commercial	8	7	5	1	1	21	
Agriculture	3	3	2	1	0	8	
Rental Residential	24	13	7	3	4	50	
Weighted dist.	38%	30%	20%	9%	3%	100%	
Total, DKKbn	91	72	49	22	8	241	
Average LTV: 61.3%							



# 2 Collateral Breakdowns — Capital Centre T







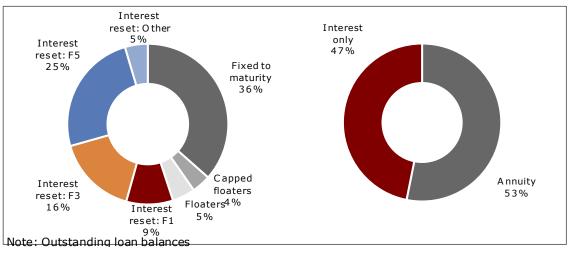
Outstanding Debt in DKKbn by LTV ratio							
Segment	0-20%	20- 40%	40- 60%	60- 80%	>80%	Total DKKbn	
Private	92	79	57	27	7	261	
Commercial	42	34	19	3	1	100	
Agriculture	15	13	8	3	1	39	
Rental Residential	28	22	16	7	4	77	
Weighted dist.	37%	31%	21%	8%	3%	100%	
Total, DKKbn	178	148	100	40	13	478	
Average LTV: 62.2%							



## 2 Borrower Exposure to Interest Rates

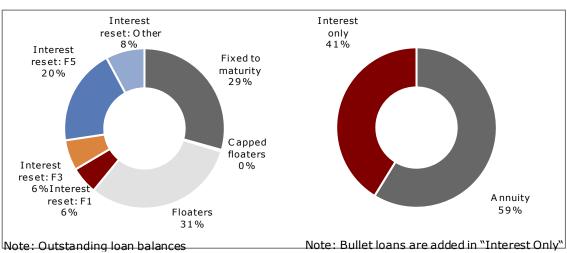
### **Private Segment**

- 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 55%
- 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 to F3 – and some floaters' floor of 0% p.a. is now effective



### **Corporate Segments**

- 29% of all lending in corporate segments is fixed rate to maturity
- 70% 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 41% of corporate lending

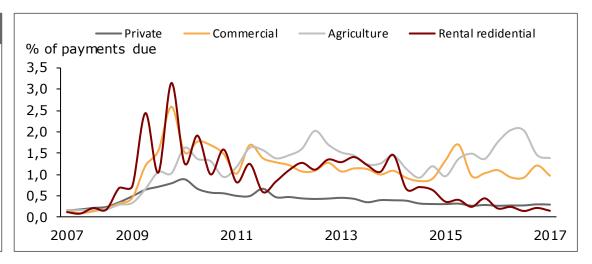




## 2 Arrears and Repossessions

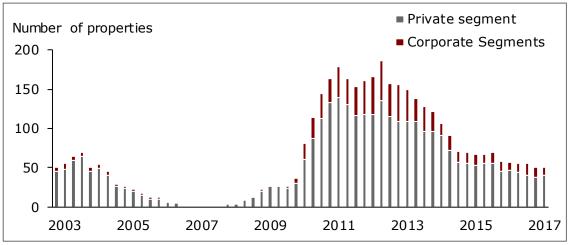
#### Arrears (3 months)\*

- Total arrears stood at 0.46% end Q1 2017
- Arrears are rather volatile in the Rental residential segment. However, down considerably from Q4 2009
- Arrears in the Commercial segment is now 0.97%. The increase in Q4 2016 was due to a few individual loans
- Arrears in agriculture has declined to 1.38% in Q1 2017 due to payments
- The Private segment has been rather stable around a level below 0.30%



#### Repossessions

- The stock of repossessed properties stood at 50 end Q1 2017 — down by 1 since Q1 2017
- This compares to a total stock of mortgage collateral of 473,598



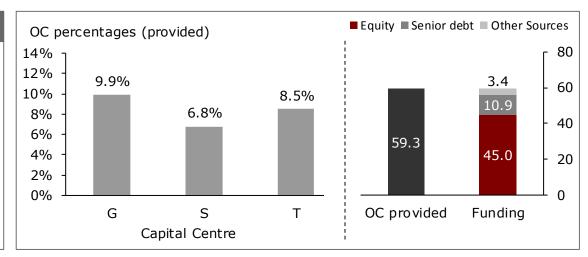
Note: arrears are defined as 90 days arrears. In earlier reports the definition included a longer period - leading to a lower number of arrears.



# 2 Over Collateralization and Capitalization

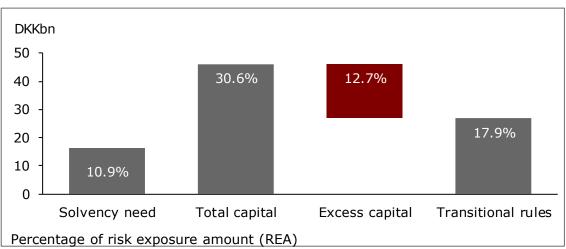
### **Over Collateralisation**

- 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 Q1 2017, Realkredit Danmark's solvency need was calculated at 16.4bn
- Calculated on the basis of the transitional rules, the capital need was 27.0bn
- With total capital of 46.2bn, Realkredit Danmark had 19.2bn in excess of the requirement according to the transitional rules

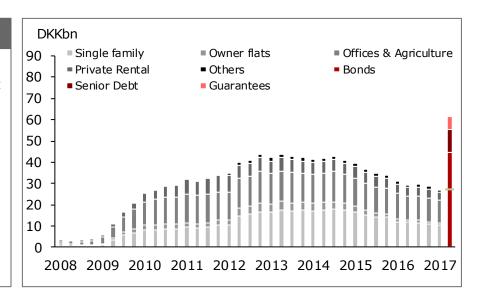




# Supplementary Collateral — Total in S and T

#### **Buffer in Capital Centres S and T**

- End Q1 total OC provided was DKK 55.6bn in Capital Centres S and T of which 10.9bn was funded by Senior debt
- Supplementary Collateral of DKK 27.0n is required end Q1 2017 in Capital Centres S and T
- Loss Guarantees of DKK 5.7bn are utilised
- Buffer for further growth in need for supplementary Collateral in Capital Centres S and T is DKK 34.3bn
- 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**

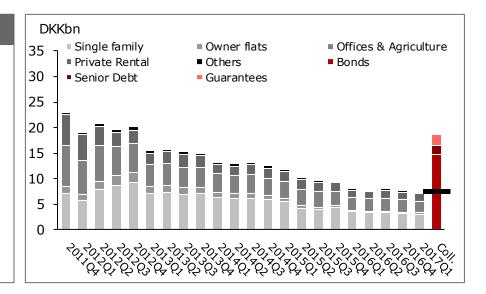
- If LTV limits are breached during the term of the loan the mortgage loan will only be eligible with the part that comply with the LTV limits. If eligible collateral is insufficient, Supplementary Collateral must be provided
- Increased need for Supplementary Collateral is due to
  - House price deflation
  - 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 Q1 2017 total OC provided was DKK 16.5bn in Capital Centre S of which 1.8bn was funded by Senior debt
- Supplementary Collateral of DKK 7.3bn is required end Q1 2017 in Capital Centre S
- Loss Guarantees of DKK 2.1bn are utilised
- Buffer for further growth in need for supplementary Collateral in Capital Centre S is DKK 11.2bn
- 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

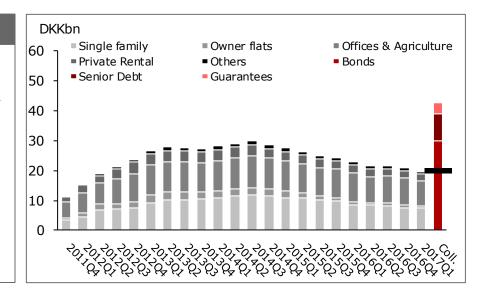




# Supplementary Collateral — T

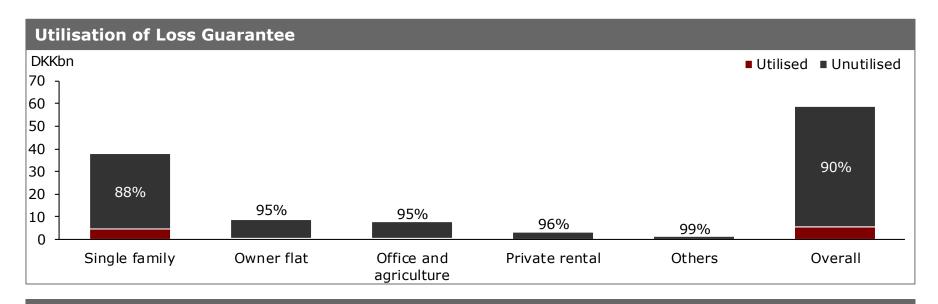
#### **Buffer in Capital Centre T**

- End Q1 2017 total OC provided was DKK 39.1bn in Capital Centre T of which 9.1bn was funded by Senior debt
- Supplementary Collateral of DKK 19.7bn is required end Q1 2017 in Capital Centre T
- · Loss Guarantees of DKK 3.6bn are utilised
- Buffer for further growth in need for supplementary Collateral in Capital Centre T is DKK 23.0bn
- 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

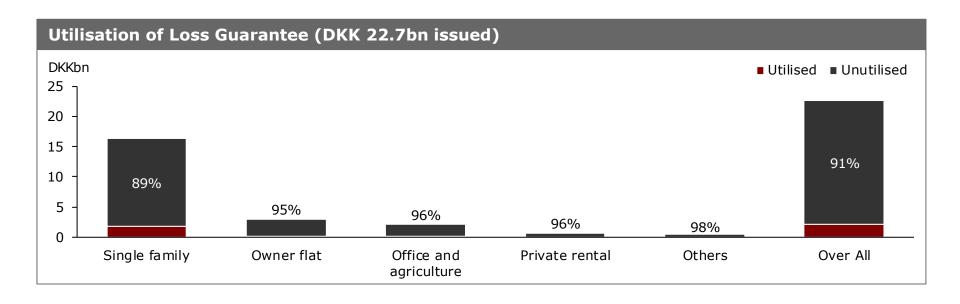


### Loss Guarantees issued by Danske Bank (DKK 58.9bn)

- 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

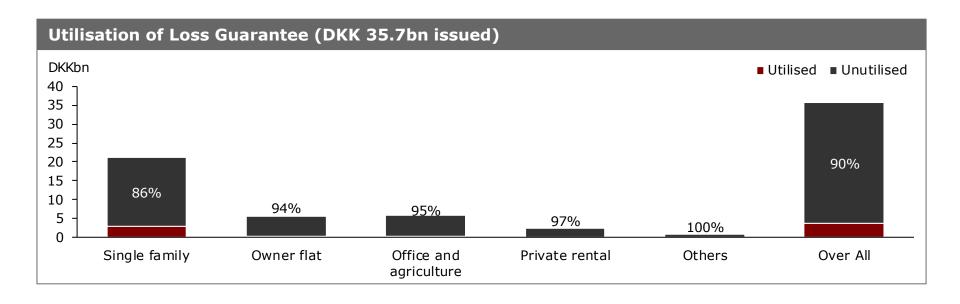


## Guarantees — S





## Guarantees — T

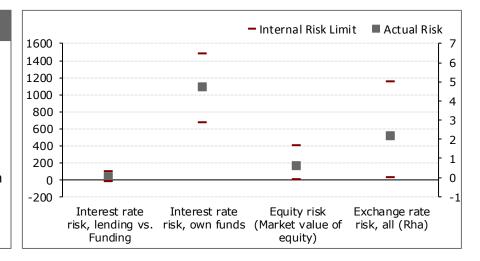




## 2 Market Risk Exposure and Liquidity

### **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 Q1 2017 interest rate risk on lending vs. funding stood at DKK 17.4m
- Derivatives are not employed for hedging imbalances on lending and funding





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