



**RISK AND CAPITAL MANAGEMENT REPORT - IRB UPDATE**

**APRIL 2016**

# RISK

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The logo for 'dlr kred' is displayed in a stylized, lowercase font within an oval shape. The background of the entire page is a grayscale photograph of a modern building with a grid of windows and a textured facade.

DLR received approval in early February 2016 from the Danish FSA (Finanstilsynet) to use the advanced Internal Ratings Based (IRB) approach for its full-time farm portfolio.

As of Q1 2016, DLR has therefore switched to using the IRB approach when calculating its capital requirement for the credit risk on full-time farms.

Using the IRB approach entails revised information requirements pursuant to the CRR Pillar III disclosure requirements (CRR article 431-455). Consequently, we have updated some sections of our Risk and Capital Management Report from February 2016 to take into account DLR's risk and capital position as of 31 March when applying the IRB credit risk calculation method and including the financial results for the period.

Risk management targets and policies described in section 1 of the Risk and Capital Management Report from February 2016, including the Management declarations in section 1.1 page 6, still apply.

Section 1.4 "Calculating total risk exposure" and section 1.5 "IRB" have been updated to incorporate the transition to the IRB approach and the use of credit risk models and ratings.

In addition, section 2.4 "Leverage", together with section 5 "Capital management" and section 6 "Statement of capital" have been updated to reflect the consequences of the transition to IRB as of 31 March 2016.



# 1. RISK MANAGEMENT TARGETS AND POLICIES

## 1.4 Calculating total risk exposure

Under prevailing rules, Danish mortgage credit institutions may apply the standard method or advanced methods when calculating the organisation's risk-weighted assets for credit risk purposes. Regardless of the method chosen, the credit institution must allocate capital for each exposure equivalent to the risk on the exposure.

In 2015, DLR continued to use the standard method for calculating risk-weighted assets for credit risk purposes<sup>1</sup>.

## 1.5 IRB

As well as the standard method, the capital adequacy rules allow two other methods – the IRB (internal ratings based) methods – which differ from the standard method in that each credit institution is required to estimate a series of parameters and variables itself.

The least complex of the IRB approaches – “Foundation IRB” – requires the credit institution to estimate the risk on its loan portfolio based on individually calculated PDs (probability of default), etc. Other variables are determined by regulation. The other and more advanced approach – “Advanced IRB” – requires the credit institution to estimate virtually all variables when calculating its capital requirement, including PDs and LGDs (loss given default).

Using the IRB approach gives credit institutions greater control of their credit risk and thus a better foundation for calculating their capital requirement.

The Danish FSA has approved DLR's transition to the advanced IRB approach for its full-time farm portfolio from Q1 2016. According to the provisions governing the transition to the IRB approach, the capital base (own funds) should always constitute at least 80 pc of the total minimum capital requirement as calculated in accordance with the Basel I rules.

Advanced models for the business portfolio are under development and DLR expects to submit the approval application in 2017.

## 1.5.1 Credit risk models

DLR's models are based on statistics supplemented with 'expert' mathematical corrections. Furthermore, a macroeconomic stress model based on the various rating models has also been developed.

The credit risk models cover the full-time farm loan portfolio. The agriculture portfolio is divided into retail<sup>2</sup>, horticultural and full-time farming. Categorisation as full-time farm assumes, among other things, that one or both of the following criteria are met:

- Total farm holding of more than 40 ha
- Total livestock value of more than DKK 200,000

The models DLR uses to estimate portfolio risk (behavioural score) comprise PD (Probability of Default) and LGD (Loss Given Default). PD is calculated at customer level, while LGD is calculated at the customer-case level (unit of total properties in the collateral pool). The same structure is involved in a loan application situation, though additional components relevant to the application situation are also included. These factors are combined with the current exposure to calculate total risk exposure. Unexercised loan commitments have no current exposure, but DLR uses the conversion factor from the standard method to estimate expected exposure at a future potential default date.

PD is defined as the probability of a customer defaulting on payments and being more than 45 days in arrears within the next 12 months or of an impairment provision being made against the customer's exposure. A high PD reflects a high risk on a customer, whereas a low PD reflects a low risk on a customer.

<sup>1</sup> Residential, hobby and part-time farms

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All customers are rated on 3 components that together give a PD score:

- Statistical PD score
- Financial history
- Economic trends correction

Statistical PD is calculated using a number of financial key figures, the customer's payment history and chosen payment channel.

If DLR has no financial data registered for a customer or the data is more than 2 years' old, the customer's earnings and capital will be automatically rated as unsatisfactory and so these customers will receive a high PD.

The customer's financial history is included in the model and is based on financial figures for the past 3-5 years. If DLR does not have at least 3 years of financial data registered, the customer's rating will be calculated as if the financial results of the past 3 years were unsatisfactory.

The model also takes into account particular economic factors for the various types of operation, and financial results are compared with the sector average. Forecasts are used to determine the agricultural sector's earnings outlook, while a prudence principle means the model has been set up so economic factors can only affect a customer's rating negatively.

LGD indicates DLR's financial loss relative to exposure when a customer defaults. The model is based on DLR's experience of impairments and distressed properties.

The overall LGD model consists of a PR (probability of realisation) element, which indicates the likelihood that a default will lead to a realisation of the mortgage collateral, and an LGR element (loss given realisation), which indicates how great a loss realisation would result in for DLR.

The LGR model incorporates the value of the mortgage collateral and the size of the exposure. Defined haircuts (deductions) for a property's individual asset sub-components provide an estimate of the value of the customer's property in the event of a realisation (forced sale or the like), while exposure is calculated as the loan's current position plus an estimate for interest, costs (such as sales costs), etc. for the period until the realisation is completed. As well as haircuts and a general margin of prudence, the realisation value of the collateral is adjusted for the effect of longer-than-normal sales times.

A simplified formula for LGR (%) would be:

$$\frac{\text{Exposure} - \text{collateral realisation value}}{\text{Exposure}} \times 100$$

A positive LGR equates to an expected loss for DLR, while a negative LGR means DLR has a safety margin and can expect to avoid a loss.

As previously stated, the loan application score is based on the PD and LGD behavioural models for risk monitoring supplemented with information and data relevant to the application situation.

The PD element of the application score is identical to the PD behavioural models described above with regard to the statistical model, financial history and the economic trends correction. This is augmented with a customer evaluation based on the customer's solvency following a potential loan approval, a budget assessment and an analysis of operational efficiency. The statistical and historical components are weighted differently in the application score depending on whether the customer is known or unknown to DLR. Another significant factor is whether an investment is being made and the scale of that investment (investment ratio).

The LGD element of the application score is based on the same PR estimate as for behavioural LGD and the same calculation method as for LGR. In

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other words, haircuts on individual sub-components of the property are used to derive an estimate of the value of the collateral in a realisation situation, while exposure is calculated for both existing and new loans. Planned investments are included in the value in the loan application situation.

If DLR is aware of particular factors in individual cases that render the model's result misleading, an override (correction) is performed on the model's output.

### 1.5.2 Rating control mechanisms

DLR regularly monitors portfolio ratings, as credit scores are re-calculated every month. Both the Board of Directors and the Executive Board receive periodical reports on the rating systems and portfolio developments.

Risk Management monitors the rating systems by, for example, performing regular validation and control checks of the models. The department gathers the results, which are subsequently discussed in the Ratings Committee, where the conclusions of the validation and control checks are collated. The Ratings Committee is tasked with ensuring the rating systems function as intended and making recommendations on necessary changes to the rating systems.

The Board of Directors and the Executive Board are regularly updated on developments in the portfolio rating used for overall risk management and to gain insight into the credit and security quality of the portfolio. The results of the regular validation and control checks are also reported to the Board of Directors and the Executive Board so they can determine whether the rating systems are functioning appropriately with respect to the business application.

The Board of Directors and the Executive Board have to approve any significant changes deemed necessary to the rating systems. The Board of Directors receives a semi-annual, abridged and an-

notated validation report that shows how all the models have performed.

A more extensive report is submitted to the Ratings Committee every quarter. This report is based on more tests than the Board of Directors' validation report. The Ratings Committee comprises representatives from the Executive Board, Risk Management and Lending.

An in-depth, detailed and annotated report is prepared annually. This report contains relevant types of validation tests, including test descriptions. The report is submitted to the Ratings Committee and Internal Audit. The other validation reports are based on selected tests from this comprehensive validation report.

The data on which the annotated report is based are saved and not overwritten in consideration of the potential need for further analysis or review.

Risk Management prepares all validation reports, and independence between testing and validation is ensured via personnel separation. Risk Management refers to the Executive Board and is independent of the rest of the organisation.

### 1.5.3 Validation of ratings

Validation reports are prepared regularly. All reports have to be pre-approved by the head of Risk Management and are discussed and approved in the Ratings Committee prior to being circulated. If the models do not meet the reports' acceptable levels or other requirements, the Ratings Committee decides which actions would ensure performance returns to a satisfactory level as quickly as possible. The Board of Directors engages via the Risk Committee to provide information and clarification on potential actions in the event of unacceptable performance.

The Executive Board and the Board of Directors can at any time require performance to be improved or acceptance levels tightened regardless of the calculated model performance. Internal Audit

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also conducts an annual review of the models' results and applicable acceptable levels.

In the event of unacceptable model performance, potential actions are considered in light of the general economic conditions and the consequences of the particular underperformance.

The models are recalibrated annually and at the same time updated to reflect recent history. This is done independently of the validation results, so the recalibration is therefore not part of the validation process. However, a series of tests and checks are performed in connection with the recalibration to ensure it does not negatively affect the performance of the models.

Annual ratings spot checks are also carried out on various customers. Spot checks are evaluated by the Lending Department and the results considered in the Ratings Committee.

Validation essentially tests whether the assumptions underlying the input variables are still valid and also the models' ability to rank customers according to PD or LGD (discriminate) plus whether PD and LGD levels are correct (calibrate). Validation also includes testing individual model components. Furthermore, the methods and data underpinning the models are assessed to determine if they are on a par with best practice.

To check this DLR employs a number of tests supplemented with various charts. If possible, acceptance levels are incorporated into the individual tests, but the overall conclusion of the validation consists of both the objective test results and a subjective interpretation of charts and tables.

Tests, methods and assumptions applied to underlying data are reused when possible to ensure consistency over time. Any significant changes made are documented and if possible the impact quantified in the validation.

The Ratings Committee draws the conclusion from a validation. However, the conclusion can be overruled by the Executive Board or the Board of Directors – for example, if the subjective evaluation is assessed to have employed unduly lax requirements.

DLR aims for the receivers of the validation reports to have sufficient information to draw their own conclusions about the performance of the models.

In addition to objective testing and the subjective assessments of various charts and tables, the annual in-depth validation also includes evaluations of the structure, data quality and internal use of the models. The report contains a review and estimate of whether the models still comply with best practice in terms of their structure and underlying theory, plus an evaluation is made of how the models are employed and the data used. The results of this are considered on an equal footing with the other validation tests.

#### **1.5.4 Business use of the IRB approach in DLR**

DLR uses ratings when calculating risk-weighted exposures.

The ratings system has also been used for some time in connection with loan approvals, monitoring and risk management. The models are regularly adjusted and have been developed as both statistical and expert models.

Models and rating systems are fully implemented elements of DLR's ongoing loan application and loan approval process. Models are also used to identify riskier exposures, when calculating individual impairments and to determine risk and administration margin adjustments. The rating system is also used for portfolio monitoring and in several management reports.

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Ratings are an important element in the overall credit score in the loan approval process. Both behavioural score models and application score models are actively employed in loan application processing. The use of ratings in the loan approval process has for many years been an important element in assessing the risk on both loans to new customers and when extending existing exposures. A customer's rating also influences the organisational processing of the loan application.

For now, DLR is only using the IRB approach for its full-time farm portfolio. Mortgaging full-time farms is often quite complicated and may include mortgaging several properties with different positions in the order of priorities, etc. This requires a detailed

manual review of the loan case. DLR therefore does not expect the loan approval process to become fully automated, but the rating system is nevertheless a useful and important tool that increases the focus on riskier loan cases.

DLR's rating system is also used in combination with a manual review when calculating individual impairments.

DLR regularly monitors portfolio ratings, as credit scores are recalculated every month. DLR's Board of Directors and the Executive Board receive periodical reports on the rating systems and portfolio developments.



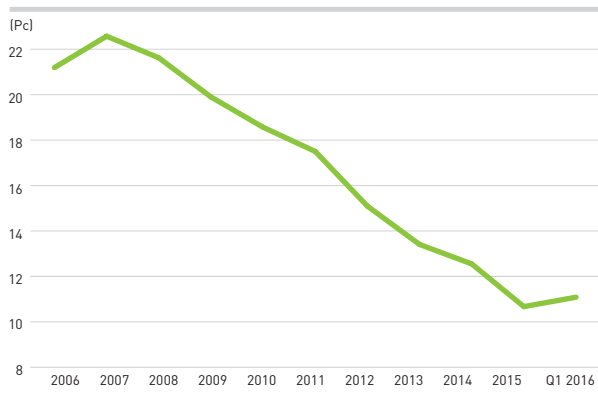
## 2. CREDIT RISK

### 2.4 Leverage

Figure 1 below shows developments in DLR's leverage in terms of loans to equity.

DLR's leverage ratio has fallen significantly from almost 23 pc in 2007 to 11.1 pc at the end of Q1 2016. The decline is a result of the ongoing consolidation process and several share issues combined with limited lending growth over the period. The current low leverage ratio is positive for DLR's aggregate risk.

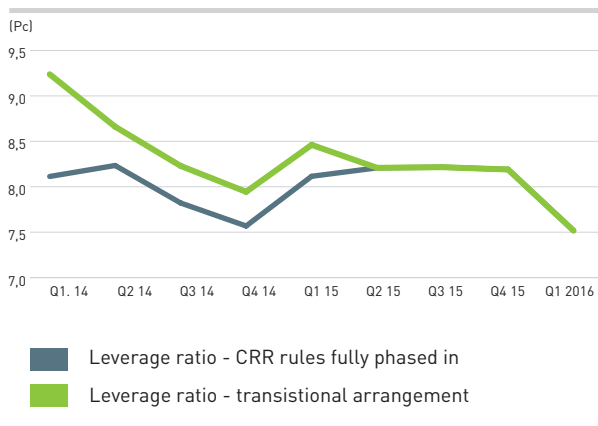
Figure 1: Developments in DLR's Leverage (lending as a pc of equity)



Source: DLR's Annual Reports

Applying the current CRR definition of leverage ratio, where leverage is calculated as total exposure relative to core capital, DLR's leverage ratio was 7.5 pc at the end of Q1 2016; cf. figure 2 and table 1.

Figure 2: DLR's leverage ratio



Source: DLR's internal calculations

Table 1. DLR's leverage ratio according to CRR, end-Q1 2016

(DKKm)	
Total assets	148,676.5
Off-balance-sheet items, loan offers, etc.	4,132.2
Core capital deductions (sector equities, etc.)	679.8
Total exposure for leverage ratio calculations	152,808.7
Core capital, transitional arrangement	11,454.9
Core capital, CRR rules fully implemented	11,454.9
Leverage ratio, transitional arrangement	7.5%
Leverage ratio, CRR rules fully phased in	7.5%

DLR's Board of Directors has set a lower leverage limit of 5 pc (CRR definition).

Pursuant to CRR/CRD IV, the EU Commission has to determine whether legislation should be proposed to introduce a binding leverage ratio. Hence, an expert panel was set up in October 2014 to assess the need for a leverage requirement in Denmark.

The expert panel presented its recommendations in December 2015. The panel supports a leverage requirement of 3 pc and the requirement not being implemented in advance in Denmark.

Hence, we can conclude that DLR's current leverage ratio of 7.5 pc provides a significant capital surplus relative to both the Board of Directors' requirement of 5 pc and the likely regulatory requirement of 3 pc.

## 5. CAPITAL MANAGEMENT

DLR Kredit's capital structure should provide an adequate capital surplus to serve as the foundation for running a sound business and thus securing bond sales. Moreover, the capital structure should be based on having the largest possible equity given the cost of other capital components, including hybrid core capital and supplementary capital. DLR must also have sufficient surplus to ensure continual LTV compliance with respect to covered bond (SDO) loans, and to meet OC requirements from the rating agencies and requirements concerning the accumulation of a debt buffer.

Implementing the CRD IV/CRR capital requirement places increased demands on both the quantity and quality of capital. In recent years, DLR has increased its common equity tier 1 capital significantly. DLR is therefore expected to comply with the requirements when they are fully implemented in 2019.

Liquidity Coverage Ratio (LCR) rules, which have been fully phased in for SIFIs, together with the forthcoming Net Stable Funding Ratio (NSFR) also place more stringent demands on the mortgage credit institutions. Among other initiatives, DLR has brought forward its December refinancing auctions so they mostly fall in November. In addition, DLR has launched ARM short (RT-Kort), a new loan product that will extend the funding period and at the same time satisfy S&P's requirement that DLR changes its funding structure to maintain its existing rating. Going forward, DLR expects to successfully alter its funding structure to comply with both NSFR and rating requirements.

CRD IV also includes a number of additional requirements that financial institutions must comply with. DLR estimates that complying with these will generally not present any significant challenges.

### 5.1 Capital targets

DLR has maintained a continuous focus on the changing requirements introduced by CRD IV/CRR with regard to the composition of capital. DLR's

Board of Directors therefore decided in 2012 to devise a strategic plan for DLR's capital position going forward to 2019. The contents of the capital plan have been subsequently updated and the plan extended.

The capital plan includes targets for DLR's capital base to meet new requirements regarding the quality and quantity of the company's capital base, etc. The capital plan takes into account the new requirements stemming from CRD IV/CRR as well as DLR's Board of Directors' aim of increased equity financing. Pursuant to the capital plan, DLR's share capital has been increased on several occasions, while DKK 4.8bn in hybrid core capital raised from the Danish government in 2009 and EUR 100m in private hybrid core capital raised in 2005 have been repaid.

CRR coming into force on 1 January 2014 resulted in both regulatory tightening and easing in relation to DLR's capital position. At that time, DLR only used the standard method to calculate risk-weighted assets for credit risk purposes.

The overall effect of the above changes to capital requirements, etc. has been positive for DLR's solvency, as the regulatory easing, cf. CRR article 501, outweighed the impact of the other factors.

From end-Q1 2016, DLR has begun to use the IRB approach to calculate risk-weighted assets for credit-risk purposes for DLR's full-time farm portfolio.

### 5.2 Capital plan 2020

DLR's capital plan going forward to 2020 builds on the following expected capital initiatives:

- Consolidation of future excess earnings to increase the share of equity in DLR's capital base. DLR is thus presumed not to pay a dividend.
- Gradual roll-out of the IRB approach to cover retail farms and corporate lending.
- Securing an LTV buffer against not insubstantial falls in property prices, including via the uptake of senior debt (SSB).

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- Issuance of capital to meet the requirement of a debt buffer of 2 pc of total unweighted lending
  - Ongoing implementation of DLR's new guarantee concept to cover the entire portfolio.

## 6. STATEMENT OF CAPITAL

### 6.1 Capital base

The individual components of DLR's capital base as of 31 March 2016 are shown in table 2 below.

Table 2. Developments in DLR's capital base

(DKK)m	Q1 2016	2015	2014
Equity:			
- Distributable reserves	8,497	8,865	8,281
- Non-distributable reserves	2,338	2,338	2,338
- Hybrid core capital (2012)	1,300	1,300	1,300
Total equity	12,135	12,503	11,919
Subordinated capital injections:			
- Hybrid core capital (2005) <sup>1)</sup>	-	-	604
Total Subordinated capital injections	-	-	604
Capital base after deductions	11,455	12,485	12,521
RWA	76,430	97,032	102,092
Solvency requirement	6,114	7,763	8,167
DLRs total capital ratio <sup>2)</sup>	15.0	12.9	12.3

1) Hybrid core capital of EUR 100m covered by transitional rules in CRR regulation 575/2013 from 26 June 2013 and therefore only 80 pc included in capital base in 2014

2) Incl. financial result for the period

Source: DLR's internal calculations

DLR's risk-weighted assets at the end of Q1 2016 totalled DKK 76,430m <sup>2</sup>.

The European Parliament and Council's regulation (EU) No. 575/2013 of 26 June 2013, the Danish Financial Business Act and the Danish Executive Order on the Determination of Risk Exposures, Own Funds and Solvency Need, etc., together with the capital targets determined by DLR's Board of Directors comprise the foundation for DLR's capital management. DLR complies with the three regulatory pillars consisting of the minimum capital requirement (Pillar I), the capital adequacy requirement (Pillar II) and the disclosure requirements (Pillar III). The Board of Directors and the Executive Board are responsible for ensuring that DLR's capital structure is appropriate and that solvency and core capital ratios comply with regulatory requirements.

<sup>2</sup> Risk-weighting determined by legislation.

DLR has strengthened its capital base in recent years via earnings and by increasing its share capital several times. Moreover, DLR has not paid a dividend during the period. Share issues and the issuance of hybrid core capital have formed the basis for repaying the government hybrid core capital from 2009, with the final instalment paid in May 2014.

At the end of Q1 2016, DLR's equity totalled DKK 12,135m compared to DKK 12,503m at the end of 2015. Equity comprised share capital of nominal DKK 570m, revaluation reserves of DKK 43m and retained earnings of DKK 7,884m, plus non-distributable reserves amounting to DKK 2,338m. On top of this comes hybrid core capital of DKK 1,300m issued to PRAS in 2012. When calculating the capital base, a deduction of DKK 21m in all is made for a deferred tax asset and measurement uncertainty. A further DKK 659m is deducted from the capital base due to the difference between the expected loss as measured by the IRB approach and actual impairments.

The decline in DLR's capital base between year-end 2015 and the end of Q1 2016 was due to DLR's transition to using the IRB approach for calculating risk-weighted assets for credit risk purposes, as the figure includes the above-mentioned deductions. Furthermore, DLR bought back shares from government-owned Finansiel Stabilitet (the Financial Stability Company) for DKK 542m in Q1 2016.

As of the end of Q1 2016, DLR's subordinated debt comprised DKK 1,300m in the form of hybrid core capital raised in 2012. The issue complies with CRR requirements and thus has, for example, perpetual maturity and the option of a payment stop, write-downs, etc. in accordance with applicable legislation. The trigger level of the issue is set at 7 pc.

Developments in DLR's capital base are shown in table 3.

Table 3. Developments in DLR's capital base

(DKK 1,000 kr.)	Q1 2016	2015	2014
Core capital	10,834,737	11,203,254	10,575,944
Share capital	569,964	569,964	569,964
Issuance premium	0	0	0
Non-distributable reserves	2,337,913	2,337,913	2,337,913
Retained earnings	7,753,739	7,711,154	7,052,133
Profit for the year	173,121	584,223	615,934
Core capital primary deductions	-679,829	-18,093	-2,468
Core cap. after primary deductions	10,154,908	11,185,161	10,573,476
Hybrid core capital	1,300,000	1,300,000	1,904,051
Core cap. incl. hybrid core cap. after deductions	11,454,908	12,485,161	12,477,527
Other deductions	0	0	0
Core cap incl. hybrid core cap.	11,454,908	12,485,161	12,477,527
Supplementary capital	0	0	43,087
Included supplementary capital	0	0	43,087
Capital base before deductions	11,454,908	12,485,161	12,520,614
Deductions in capital base	0	0	0
Capital base after deductions	11,454,908	12,485,161	12,520,614

Source: DLR's internal calculations

## 6.2 Capital adequacy rules and designation as SIFI

CRR/CRD IV regulations governing the capital base of mortgage credit institutions have led to requirements for more and better capital and the introduction of a number of capital buffers (capital conservation buffer, company-specific counter-cyclical capital buffer and systemic risk buffer) that have to be filled with common equity tier 1 capital (CET1 capital).

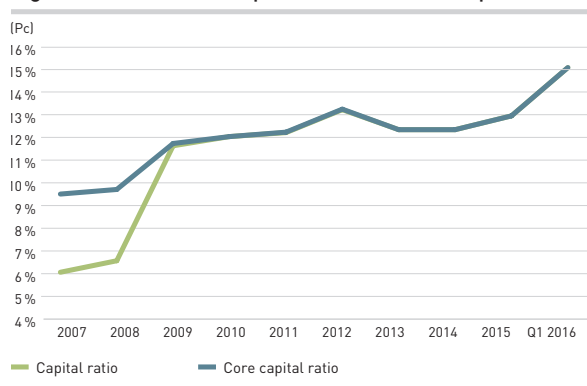
The capital conservation buffer generally comprises 2.5 pc of the total risk exposure, while the counter-cyclical buffer ranges between 0-2.5 pc, depending on economic conditions in the country and may be increased further if the situation requires. The economic buffer is currently set at 0 pc, while the capital conservation buffer is fixed at 0.625 pc from 1 January 2016.

DLR is a designated SIFI institution, as DLR's total lending comprises more than 6.5 pc of Denmark's GDP. Because of this, DLR must maintain a SIFI buffer, which will be gradually phased in going forward to 2019, when the requirement will be 1 pc of total risk exposure. In 2016, the requirement is 0.4 pc of total risk exposure.

## 6.4 Total capital ratio

DLR's total capital ratio was 15.0 pc (incl. the financial result for the period) at the end of March 2016; cf. figure 3, with the full-time farm portfolio calculated in accordance with the IRB approach to credit risk and the rest of the portfolio calculated according to the standard method.

Figure 3: DLR's total capital ratio and core capital ratio



Source: DLR's Annual and Quarterly Reports

In recent years, DLR has used surplus capital above 12 pc to repay hybrid core capital using own funds. Going forward, DLR will also need to regularly consolidate in order to meet future capital requirements.

## 6.5 REA and solvency requirement

Table 4 shows DLR's risk exposure amount (REA) and the solvency requirement at 31 March 2016 for each exposure category. The IRB approach has been applied to DLR's full-time farm portfolio and the standard method to the remainder of DLR's portfolio. Note that all DLR's loans are secured by mortgages on real property.



Table 4. DLR's risk-weighted components and capital requirements end-Q1 2016

(DKK 1.000)	Risk-weighted exposure*	Solvency requirement (8 pc of exp.)
Institutions	4,183,611	334,689
Business	55,344,828	4,427,586
Retail exposures	67,558	5,405
Exposures secured by mortgages on real property	7,485,364	598,829
Exposures in arrears or overdrawn	3,368,676	269,494
Covered bonds	9,378	750
Equities	55,345	4,428
Other exposures, etc.	314,763	25,181
	70,829,524	5,666,362

Note: \*Not adjusted for collective impairment provisions  
Source: DLR's internal calculations

Table 5 shows DLR's risk exposure and solvency requirement for market risks.

Table 5. DLR's risk exposure and solvency requirement for market risk end-Q1 2016

(DKK 1.000)	Risk-weighted exposure	Solvency requirement (8 pc of exp.)
Debt instruments	2,520,957	201,677
Equities	0	0
Collective invest. schemes	0	0
Exchange rate risk	830,952	66,476
Total weighted components with market risk	3,351,909	268,153

Source: DLR's internal calculations

## 6.6 Adequate capital base and solvency need

DLR's Board of Directors discusses and approves the determination of DLR's adequate capital base (own funds) and the individual solvency need (ratio) on a quarterly basis. Discussions are based on a recommendation from DLR's Executive Board. DLR's Risk Committee evaluates adequate own

funds prior to the Board of Directors' deliberations. In addition, the Board of Directors discusses in detail at least annually the methods, etc. used to calculate DLR's solvency need (ratio), including the risk areas and benchmarks that should be taken into account.

Determination of DLR's adequate capital base and solvency need is based on the "credit-reservation method" (the "8+ method"), the method officially used by the Danish FSA since 2013. The 8+ method comprises the risk types assessed to require capital coverage. Generally, these include credit risk, market risk and operational risk as well as a number of sub-categories of these. The assessment is based on DLR's risk profile, capital position and any relevant forward looking factors, including budgets, etc.

DLR follows the directions in the Executive order on Calculation of Risk Exposures, Own Funds and Solvency Need, etc and the Danish FSA guidelines regarding the "8+ method" – most recently updated in December 2015 – supplemented with DLR's own stress tests, including an evaluation of DLR's resilience in the event of severe loss scenarios based on historical observations.

DLR's resilience is evaluated via a series of stress tests covering a number of different scenarios.

The calculation is further supported by management estimates. DLR's risks in the main areas listed below are assessed. Within each main area, risks are assessed in a number of sub-areas. An estimate is also made of whether an add-on to DLR's adequate capital base is needed to cover other circumstances.

- A. Credit risk
  - Earnings and growth
  - Credit risk for large customers
  - Other credit risks
  - Counterparty risk (financial counterparties)
  - Credit risk concentration
- B. Market risk, including

- Interest rate risk
- Equity market risk
- Exchange rate risk
- Liquidity risk
- C. Operational risk
- D. Leverage

In DLR's opinion, the risk factors included in the evaluation comprise all the risk areas that Danish law requires the management of DLR to take into account in determining the adequate capital base and solvency need as well as the risks management believes DLR has assumed. Relevant departments are also involved in determining DLR's adequate capital base and solvency need. This is also the case for the initial and subsequent discussions of stress tests, etc. for the respective business areas.

Credit risk is DLR's largest risk area, to which the bulk of the solvency need can be attributed; cf. table 6. DLR therefore has considerable focus on this area. DLR uses the IRB approach to calculate risk-weighted assets in connection with credit risk for DLR's full-time farm portfolio, while the standard method is used for DLR's other portfolios.

Market risk is another important category for DLR. DLR sets aside capital equivalent to 8 pc of the RWAs in the market risk category. Moreover, DLR also assesses whether it is exposed to additional risk that requires a capital allocation above the 8 pc. DLR's market risk is estimated to be limited due to the balance principle.

Operational risk is the risk of direct or indirect loss caused by inadequate or faulty processes, systems etc. Given DLR's simple business model, focus on internal processes, etc., this risk is estimated to be limited.

DLR employs the Basic Indicator Approach (BIA) to calculate the operational risk capital requirement.

As well as the above-mentioned factors, management regularly assesses if additional factors should be included in the adequate capital base and individual solvency need calculations.

DLR thus allocates the statutory 8 pc capital requirement for each risk area and then assesses whether further capital should be set aside; for example due to large exposures, the general credit quality of the portfolio, elevated market risk, etc. Determination of the need for a potential add-on is based on either the stress tests defined in Danish FSA guidelines, DLR's own stress tests or by a management assessment of whether individual business areas require an add-on.

Table 6. DLR's adequate capital base and solvency need as of 31 March 2016

Risk area (DKK 1,000)	Adequate capital base	Solvency need
Credit risk	6,136,953	8.03%
Market risk	268,153	0.35%
Operational risk	179,915	0.24%
Other factors	0	0
Internally calculated solvency need	6,585,020	8.62%
Add-ons (special risks)	0	0
<b>Total</b>	<b>6,585,020</b>	<b>8.62%</b>

Source: Internal calculation of adequate capital base and solvency need at <http://www.dlr.dk/financial-statements>

DLR's adequate capital base was calculated as DKK 6,585m at the end of Q1 2016; cf. table 6 and 7. As DLR's total risk exposure amount (REA) was DKK 76,430m, this equates to a solvency need of 8.6 pc.

In accordance with CRR article 92, DLR has calculated its excess with respect to its solvency need as 6.4 percentage points or DKK 4.9bn at the end of Q1 2016; cf. table 7. DLR considers this excess adequate.

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**Table 7. DLR's adequate capital base and solvency need as of 31 March 2016**

Current key figures	Amount
Capital base after deductions, DKK 1,000	11,454,908
Adequate capital base, DKK 1,000	6,585,020
Excess, DKK 1,000	4.869.888
Total capital ratio, pc	15.0%
Individual solvency need, pc	8.62%
Excess, percentage points	6.4%

Source: Internal calculation of adequate capital base and solvency need at <http://www.dlr.dk/financial-statements>