

## CREDIT OPINION

21 February 2017

Update

Rate this Research >>

### RATINGS

#### Co-Operative Bank Plc

Domicile	United Kingdom
Long Term Debt	Ca
Type	Senior Unsecured - Dom Curr
Outlook	Developing
Long Term Deposit	Caa2
Type	LT Bank Deposits - Fgn Curr
Outlook	Developing

Please see the [ratings section](#) at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

### Contacts

**Irakli Pipia** 44-20-7772-1690  
 VP-Senior Credit Officer  
 irakli.pipia@moodys.com

**Maija Sankauskaite** 44-20-7772-1092  
 Associate Analyst  
 maija.sankauskaite@moodys.com

**Laurie Mayers** 44-20-7772-5582  
 Associate Managing Director  
 laurie.mayers@moodys.com

**Nick Hill** 33-1-5330-1029  
 Managing Director - Banking  
 nick.hill@moodys.com

## Co-Operative Bank Plc

Update following the recent downgrade of the BCA to ca

### Summary Rating Rationale

On 15 February 2017 we affirmed Co-operative Bank Plc's long-term deposit rating at Caa2, and downgraded the bank's long-term senior unsecured debt ratings to Ca from Caa2. The bank's short-term ratings were affirmed at Not Prime. We also downgraded the bank's standalone baseline credit assessment (BCA) to ca from caa2. At the same time the bank's long-term Counterparty Risk Assessment (CR Assessment) was downgraded to Caa1(cr) from B2(cr), the short-term CR Assessment was affirmed at Not Prime(cr). The outlook on the bank's deposit and senior debt ratings was changed to developing from positive.

The rating action followed the announcements made by the bank that its common equity tier 1 ratio will fall below 10% and remain below its Individual Capital Guidance in the medium term and that, in light of its difficulty in generating capital organically, its board has agreed to commence a sale process to external parties, as well as considering other options to build capital, such as equity injections by existing shareholders and/or a liability management exercise upon existing debt obligations.

The downgrade of Co-operative Bank's BCA to ca reflects our view that the bank's standalone creditworthiness is increasingly challenged and that the bank will not be able to restore its declining capital position without external assistance. In particular, the BCA incorporates (1) the challenges the bank faces to implement a sustainable business model; (2) the weak asset quality, driven by a relatively high level problem loans within the non-core portfolio; (3) our expectation of net losses continuing until at least 2018, eroding the bank's capital position; and (4) the potential for additional conduct remediation costs that could also have a negative effect on the bank's capital position; but also accounts for the fact that the bank has so far maintained its (1) relatively stable funding position; and (2) sufficient liquid resources.

The downgrade of the senior unsecured debt rating to Ca reflects our view that senior unsecured bond holders could experience losses in case of a bank failure or as part of a standalone liability management exercise. The rating agency believes that if such losses were to arise, they would likely be in the range of 35%-65%.

The affirmation of the long-term deposit rating at Caa2 is based on our expectation that junior deposits are unlikely to incur losses at the same level as senior unsecured bond holders if they are included in a liability management exercise. The Caa2 rating is consistent with an expectation of losses of up to 20% of principal in the event of the bank's default.

The developing outlook on the bank's deposit and senior debt ratings reflects our expectation that the bank's efforts to address its solvency challenges may result in a range of different

outcomes. We believe that a sale of the whole bank to strategic investors willing to recapitalise it would be positive for the bank's creditworthiness, but, in our view, completion of a sale of the bank either as a whole or in part is not certain. In terms of additional options considered by the bank to restore solvency, we would consider a liability management exercise, resulting in a diminished value relative to a debt obligation's original promise, to be a default.

### Credit Strengths

- » Stable funding profile supported by a large depositor base;
- » Sufficient liquidity levels.

### Credit Challenges

- » Weak asset quality driven by a large non-core portfolio;
- » Deteriorating capital position with ratios below the bank's total capital requirements;
- » Negative profitability due to high cost base and legacy issues.

### Rating Outlook

The outlook on Co-operative Bank's long-term ratings is developing, reflecting our expectation that efforts to address the current challenges in terms of solvency may lead to one of a number of outcomes with different credit implications for the bank's creditors. In case of a successful sale or equity raising, restoring its capital without affecting debt holders, the long-term debt and deposit ratings would likely be upgraded. Conversely, a failure to raise capital, higher than expected losses on debt and deposits, or an increased likelihood of formal resolution proceedings may lead to rating downgrades.

### Factors that Could Lead to an Upgrade

The Co-operative Bank's BCA could be upgraded if the bank demonstrates further progress in improving its capitalisation on a sustainable basis without resorting to a liability management exercise. A positive change in the BCA would likely lead to an upgrade in all ratings.

### Factors that Could Lead to a Downgrade

Given the low standalone BCA, scope for further downgrade is limited, but would be likely in the event that current attempts to restore the bank's solvency prove unsuccessful and the authorities place the bank into a resolution process. This or the prospect of larger-than-expected losses on senior unsecured debt or deposits would likely result in lower ratings.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on [www.moody's.com](http://www.moody's.com) for the most updated credit rating action information and rating history.

## Key Indicators

Exhibit 1

### Co-Operative Bank Plc (Consolidated Financials) [1]

	6-16 <sup>2</sup>	12-15 <sup>2</sup>	12-14 <sup>2</sup>	12-13 <sup>2</sup>	12-12 <sup>3</sup>	Avg.
Total Assets (GBP million)	28,195.9	29,028.3	37,582.9	43,383.8	49,772.8	-13.2 <sup>4</sup>
Total Assets (EUR million)	33,927.7	39,386.1	48,428.9	52,146.5	61,366.5	-13.8 <sup>4</sup>
Total Assets (USD million)	37,692.0	42,784.9	58,601.5	71,854.8	80,905.1	-17.4 <sup>4</sup>
Tangible Common Equity (GBP million)	1,060.9	1,130.3	1,792.7	1,625.2	1,444.6	-7.4 <sup>4</sup>
Tangible Common Equity (EUR million)	1,276.6	1,533.6	2,310.1	1,953.5	1,781.1	-8.0 <sup>4</sup>
Tangible Common Equity (USD million)	1,418.2	1,666.0	2,795.3	2,691.8	2,348.2	-11.8 <sup>4</sup>
Problem Loans / Gross Loans (%)	4.4	4.8	9.2	10.8	11.0	8.0 <sup>5</sup>
Tangible Common Equity / Risk Weighted Assets (%)	14.7	15.2	14.2	10.8	8.1	13.7 <sup>6</sup>
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	68.6	69.9	103.5	131.1	178.7	110.4 <sup>5</sup>
Net Interest Margin (%)	0.7	0.9	0.9	0.7	1.2	0.9 <sup>5</sup>
PPI / Average RWA (%)	-6.1	-3.6	-2.3	-1.7	1.6	-3.4 <sup>6</sup>
Net Income / Tangible Assets (%)	-1.3	-1.8	-0.4	-3.0	-0.7	-1.4 <sup>5</sup>
Cost / Income Ratio (%)	259.4	197.5	167.5	150.6	61.2	167.2 <sup>5</sup>
Market Funds / Tangible Banking Assets (%)	13.4	12.6	12.6	17.7	19.2	15.1 <sup>5</sup>
Liquid Banking Assets / Tangible Banking Assets (%)	25.4	27.4	25.5	22.6	25.0	25.2 <sup>5</sup>
Gross loans / Due to customers (%)	89.6	87.4	87.8	94.7	92.4	90.4 <sup>5</sup>

[1] All figures and ratios are adjusted using Moody's standard adjustments [2] Basel III - fully-loaded or transitional phase-in; IFRS [3] Basel II; IFRS [4] IFRS reporting periods have been used for average calculation [5] Compound Annual Growth Rate based on IFRS reporting periods [6] Basel III - fully-loaded or transitional phase-in & IFRS reporting periods have been used for average calculation

Source: Moody's Financial Metrics

## Detailed Rating Considerations

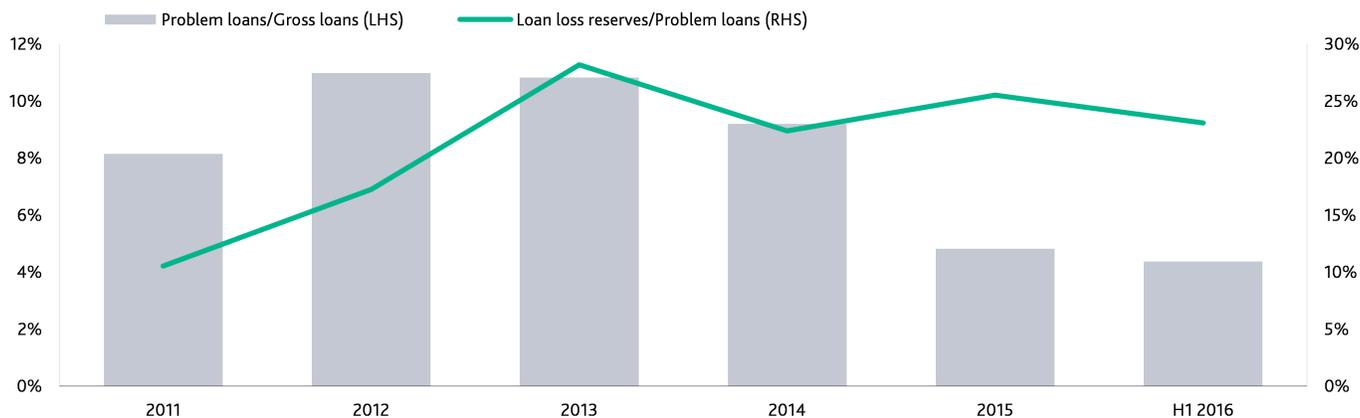
### Weak asset quality, driven by a large non-core portfolio

The main reason for Co-operative Bank's weak asset quality is its non-core portfolio, which accounted for about 21% of gross lending at June 2016. This portfolio includes corporate, Commercial Real Estate (CRE) and Optimum (residential mortgages) loans and is being run down. The non-core corporate book is concentrated with a relatively small number of borrowers and 36% of the portfolio is CRE loans. As of June 2016, the book had a problem loan ratio of 15.6%, with 36% of impaired balances covered by provisions. Optimum, a closed book of residential mortgages with 85% interest-only mortgages and an average LTV of 65% is more vulnerable to economic downturn compared to the core portfolio. As at June 2016, 11.2% of Optimum loans were impaired. In contrast, the core residential mortgage book had 1.3% of loans impaired and an average LTV of 49.8% as at June 2016.

Co-operative Bank announced in April 2016 that it had agreed an updated turnaround plan with the Prudential Regulation Authority (PRA), which included suspending the deleveraging of the remaining Optimum assets. In this context, the improvements in the bank's asset quality slowed down significantly. The bank's problem loan ratio only marginally decreased to 4.4% as of June 2016 from 4.8% as of December 2015.

Impairment write-backs decreased to £4.6 million in the first half of 2016 from £44.6 million in the same period of 2015 owing primarily to lower levels of deleveraging. We expect the bank's impairment charges to pick up amid the more challenging operating environment in the UK which we anticipate as the country negotiates its exit from the EU. Co-operative Bank's total coverage ratio at 23% as of June 2016 is significantly below the level of its UK peers.

Exhibit 2

**The bank's asset quality is weighed down by the non-core assets; provision coverage remains below that of peers**

Source: Moody's Banking Financial Metrics

We assign an Asset Risk score of caa1 to reflect: (1) the downside risks in the non-core portfolio; (2) pressures from the weakening operating environment; and (3) execution risks inherent in the bank's currently ongoing transformation plan.

**Deteriorating capital position**

Our assigned Capital score of ca reflects our assessment that Co-operative Bank will unlikely be able to restore its capital levels to required regulatory levels on a sustainable basis without recourse to external support or imposing losses on bondholders.

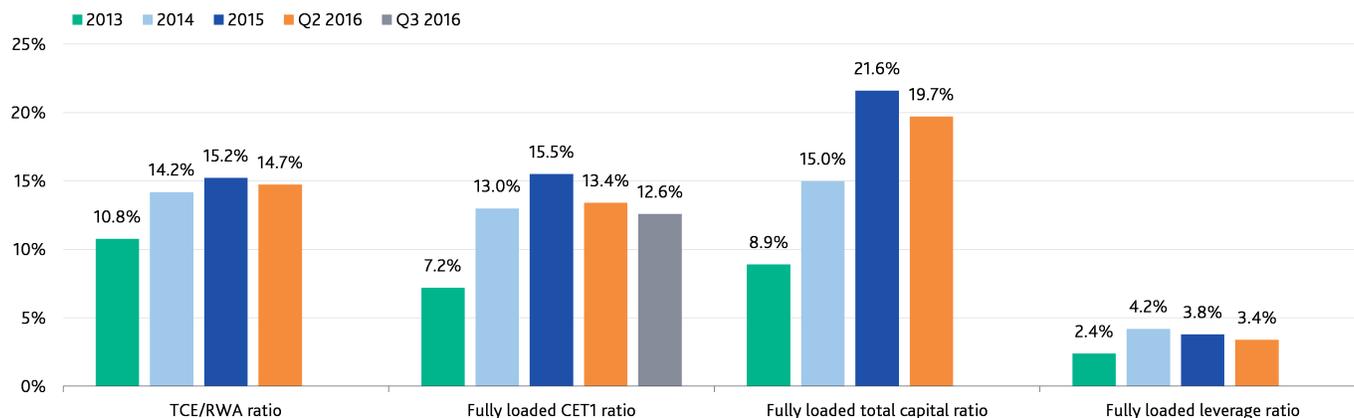
On 26 January 2017 the bank updated its previous capital guidance stating that it now expects its CET1 ratio to fall and remain below 10% over the medium term. The bank also confirmed that it will unlikely be able to meet its Individual Capital Guidance (ICG) until 2020. Previously the bank had guided to a Common Equity Tier 1 (CET1) ratio above 10% throughout its planning period to 2020.

The announcements highlight the ongoing challenges the Co-operative Bank is facing in its efforts to rebuild a sustainable business model. The bank is unable to generate capital organically due to sizable investments in IT infrastructure and operational restructuring costs, subdued income amid the low interest rate environment and a number of losses and charges related to legacy issues. In addition, Co-operative bank's capital position is weighed down by inflated risk-weighted assets (RWA), driven by a large non-core portfolio and an associated high level of problem loans. Therefore we continue to view Co-operative Bank's capital position as extremely vulnerable and expect its capital metrics to further deteriorate.

The bank has been benefitting from regulatory forbearance for a sustained period of time particularly relating to the expectation of not being able to consistently comply with its ICG and capital buffer requirements, non-compliance with internal credit risk modelling requirements and the need to upgrade IT infrastructure to comply with applicable standards. The bank's total ICG requirement as at 30 September 2016 amounted to 23.35% (by far the highest among UK banks) and was composed of a Pillar 1 requirement of 8%, Pillar 2a requirement of 14.1% and a capital conservation buffer of 1.25%. Of the total requirement, 13.65% of RWA must be met with CET1 capital.

The bank reported a fully loaded CET1 ratio of 12.6% as of 30 September 2016 and now expects the ratio to fall and remain below 10% in the medium term. At the same time, the bank expects to report a CET1 ratio above 10% and a total capital ratio of approximately 17% as at 31 December 2016, which is substantially lower than its ICG requirement. The bank's fully loaded total capital ratio stood at 19.7% at 30 June 2016, down from 21.6% as of 31 December 2015.

Exhibit 3

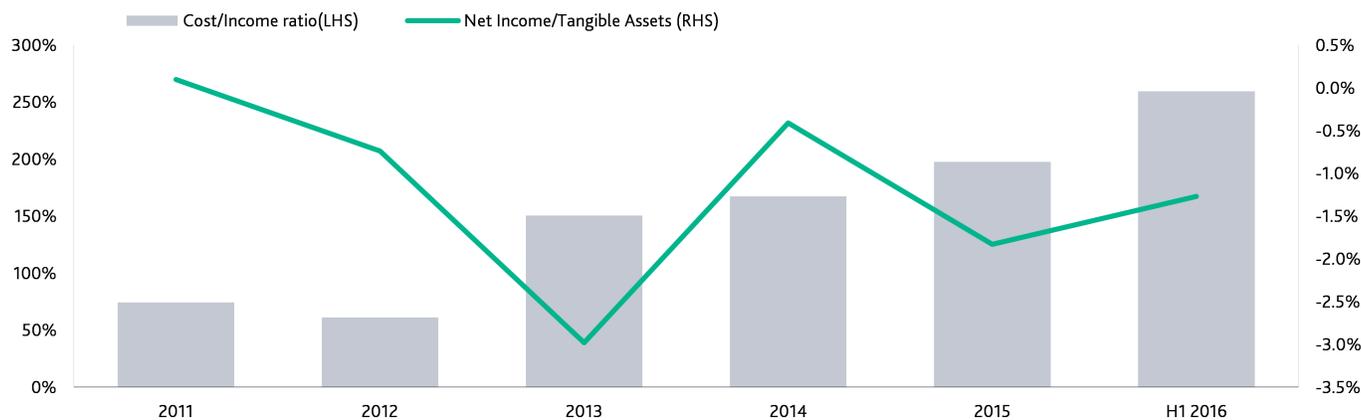
**Co-operative Bank's capital metrics will see further deterioration**

Source: Moody's Banking Financial Metrics and the bank's financial reports

**Profitability is negative and we expect the bank to remain loss-making**

We believe the bank is unlikely to return to profitability until at least 2018 due to low interest margins, an exceptionally high cost base and potential further impairment losses and conduct remediation charges. In the first half of 2016 Co-operative Bank reported a loss before tax of £177 million, compared to the £204.2 million pre-tax loss reported in the same period of 2015. A better result was primarily driven by gains on the sale of the bank's equity holdings in Visa Europe and profits on sale of investment securities, as well as lower provisions for customer redress and smaller losses on asset sales. At the same time, net interest income fell substantially and the bank saw a material decrease in write-backs of loan loss provisions. We calculate a net income to tangible assets ratio of -1.3% for the first six months of 2016.

Exhibit 4

**High cost base impedes Co-operative Bank's profitability**

Source: Moody's Banking Financial Metrics

A decrease in the asset base and a change in the mix and pricing of customer deposits led to a 10 basis points increase in net interest margin (NIM) to 1.42% in H1 2016, as reported by the bank. Nevertheless, the ratio is still significantly below that of peers. Co-operative Bank is expected to face further margin pressures following the UK's decision to leave the EU with rates now likely to stay lower for longer. In addition, lower credit demand could adversely affect business volumes. Amid weak interest income the bank will also see impediments to fee and commissions income, negatively affected by industry-wide lower card interchange rates, and significantly lower Link commission income following the disposals in the ATM estate. Impairment write-backs, which were supporting the profitability in the past couple of years, fell sharply by £40 million to £4.6 million in the first half of 2016, and will likely reverse to impairments charges, driven by the expected weakening of the economic environment.

Operating expenses fell by 15% to £223 million in the first half of 2016, driven by the reduction in the branch network and staffing levels and digital enhancement. Despite the operating costs savings achieved, the bank is incurring substantial project expenses related to the bank's restructuring: the project costs accounted for £126 million in the first six months of 2016. Combined with subdued operating income, this resulted in the bank's cost to income ratio soaring to 260% in H1 2016 from 198% in H1 2015, according to our calculations. In addition to the transitory project costs, the bank's profitability continues to be affected by the unwind of the fair value adjustments associated with the merger with Britannia Building Society with £97.2 million incurred in the first half of 2016. Conduct and legal charges (£21.1 million in H1 2016, largely related to additional provisions for Payment Protection Insurance claims) also had a negative impact on the bank's results.

Given our expectation of a more challenging operating environment as the UK negotiates its exit from the EU and some unresolved legacy issues, we think that profitability metrics will see little improvement in the near term. We therefore assign a Profitability score of caa3.

### **The bank's reliance on wholesale funding is relatively low and current liquidity levels are sufficient**

Customer deposits continue to be Co-operative Bank's primary source of funding - 87% of total funding as of June 2016. The bank's loan-to-deposit ratio remains broadly stable at around 90% at June 2016 (gross customer loans as a percentage of customer deposits). Retail deposit balances were managed down by £0.7 billion in the first half of 2016 to match the reduction in the balance sheet. Total customer deposits decreased to £22.1 billion from £22.8 billion in the same period.

The reliance on wholesale funding is relatively low, as reflected in the market funds over tangible banking assets ratio of 13.4% as at 30 June 2016, according to our calculations. But, given the negative impact of the recent announcement on the capital guidance as well as the uncertainties related to the commencement of the sale process, we believe Co-operative Bank has a very limited wholesale market access. We therefore assign a Funding Structure score of ba3.

Co-operative Bank maintains an ample stock of liquid assets, which is a relative strength, as reflected in the assigned Liquid Resources score of a2. The bank's liquid banking assets to tangible banking assets ratio was 25.4% at June 2016. The primary liquidity was further managed down during the first half of 2016 by almost £1 billion to £3.6 billion as at June 2016. Total liquidity resources reduced to £8.9 billion, and, proportionate to the balance sheet, the amount remains sufficient (31% of total assets).

### **Increased focus on mortgage lending and past control failures drive our qualitative adjustments**

Co-operative Bank's resulting financial profile score is ca.

We apply a negative qualitative adjustment reflecting expected lack of business diversification since Co-operative Bank has announced that going forward it will primarily focus on its retail franchise. We believe that on a forward looking basis, as the bank disposes of its corporate and commercial assets, its business model will be characterized by the following mono-line characteristics:

85% or more of the loan book is made of residential mortgages;

80% or more of revenues comes from one source.

We also apply a two-notch negative adjustment for Corporate Behaviour. While we believe that the previous management team had developed a realistic de-risking and restructuring plan, the institution is burdened by a number of legacy issues given past control failures. This is evident from the results of the investigation by the Prudential Regulation Authority and the Financial Conduct Authority into the bank's management activities over the period from mid-2009 to end-2013, released on 11 August 2015. The regulator identified that during this period the bank was in breach of Principle Three of the Principles for Businesses which requires a firm to have an adequate and effective risk management framework. Co-operative Bank failed to design, maintain and oversee appropriately its three lines of defence risk management model. In addition to risk management and control failures, the bank failed to act in a transparent and co-operative manner with the regulator and did not provide timely disclosures on important changes in the bank's senior management. We, however, acknowledge these areas are in the process of remediation as part of the bank's restructuring plan and expect that they will continue to be a major focus of the new management team, which has been in place since Q3 2016.

The scorecard-calculated BCA range is ca-c. We assign a BCA of ca to the bank, reflecting that recent developments suggest a high risk that the bank will be unable to restore its capital levels to required regulatory levels on a sustainable basis without recourse to external support or imposing losses on bondholders.

## Notching Considerations

### Loss Given Failure (LGF)

Co-operative Bank is subject to the UK implementation of the EU Bank Resolution and Recovery Directive (BRRD), which we consider to be an Operational Resolution Regime. We assume residual tangible common equity of 3% and losses post-failure of 8% of tangible banking assets, a 25% run-off in "junior" wholesale deposits, and a 5% run-off in preferred deposits. These are in line with our standard assumptions. Particular to Co-operative Bank and other retail funded banks in the UK, we assume the proportion of deposits considered junior at 10%, relative to our standard assumption of 26%, due to largely retail-oriented depositor base of the bank.

We apply an expected loss approach to the bank's senior obligations.

The senior unsecured debt rating of Ca reflects our view that senior unsecured bond holders could experience losses in case of a bank failure or as part of a standalone liability management exercise. The rating agency believes that if such losses were to arise, they would likely be in the range of 35%-65%. We believe the remaining GBP 456 million of subordinated debt (unrated) outstanding as of June 2016 is unlikely to be sufficient by itself to address the capital shortfall and shield senior unsecured debt-holders from losses.

The bank's long-term deposit ratings at Caa2 are based on our expectation that junior deposits are unlikely to incur losses at the same level as senior unsecured bond holders if they are included in a liability management exercise. The Caa2 rating is consistent with an expectation of losses of up to 20% of principal in the event of the bank's default.

### Government Support

The implementation of the BRRD has caused us to reconsider the potential for government support to benefit certain creditors. In the case of the Co-operative Bank, whose systemic importance has reduced, we now expect a low probability of support for deposits and senior unsecured, resulting in no uplift from the PRA.

### Counterparty Risk Assessment

CR Assessments are opinions of how counterparty obligations are likely to be treated if a bank fails and are distinct from debt and deposit ratings in that they (1) consider only the risk of default rather than both the likelihood of default and the expected financial loss suffered in the event of default and (2) apply to counterparty obligations and contractual commitments rather than debt or deposit instruments. The CR assessment is an opinion of the counterparty risk related to a bank's covered bonds, contractual performance obligations (servicing), derivatives (e.g., swaps), letters of credit, guarantees and liquidity facilities.

The Co-operative Bank's CR Assessment is positioned at Caa1(cr)/NP(cr), three notches above the Adjusted BCA of ca, based on the cushion against default provided to the senior obligations represented by the CR Assessment by more subordinated instruments - including junior deposits and senior unsecured debt. The main difference with our Advanced LGF approach used to determine instrument ratings is that the CR Assessment captures the probability of default on certain senior obligations, rather than expected loss, therefore we focus purely on subordination and take no account of the volume of the instrument class.

The CR Assessment does not benefit from any additional notches of uplift due to government support, in line with our assumptions of a low probability of UK Government support for Co-Operative Bank's senior obligations in the event of failure.

### About Moody's Scorecard

Our Scorecard is designed to capture, express and explain in summary form our Rating Committee's judgment. When read in conjunction with our research, a fulsome presentation of our judgment is expressed. As a result, the output of our Scorecard may materially differ from that suggested by raw data alone (though it has been calibrated to avoid the frequent need for strong divergence). The Scorecard output and the individual scores are discussed in rating committees and may be adjusted up or down to reflect conditions specific to each rated entity.

## Rating Methodology and Scorecard Factors

Exhibit 5

### Co-Operative Bank Plc

#### Macro Factors

<b>Weighted Macro Profile</b>	<b>Very Strong -</b>	<b>100%</b>
-------------------------------	----------------------	-------------

#### Financial Profile

Factor	Historic Ratio	Macro Adjusted Score	Credit Trend	Assigned Score	Key driver #1	Key driver #2
Solvency						
Asset Risk						
Problem Loans / Gross Loans	7.3%	baa3	← →	caa1	Quality of assets	Operational risk
Capital						
TCE / RWA	14.7%	aa3	↓↓	ca	Stress capital resilience	Expected trend
Profitability						
Net Income / Tangible Assets	-1.6%	caa3	← →	caa3	Return on assets	Earnings quality
Combined Solvency Score		baa3		ca		
Liquidity						
Funding Structure						
Market Funds / Tangible Banking Assets	12.6%	a1	← →	ba3	Lack of market access	
Liquid Resources						
Liquid Banking Assets / Tangible Banking Assets	27.4%	a2	← →	a2	Stock of liquid assets	
Combined Liquidity Score		a1		baa3		
Financial Profile						
Business Diversification				-1		
Opacity and Complexity				0		
Corporate Behavior				-2		
Total Qualitative Adjustments				-3		
Sovereign or Affiliate constraint:				Aa1		
Scorecard Calculated BCA range				ca-c		
Assigned BCA				ca		
Affiliate Support notching				0		
Adjusted BCA				ca		

Balance Sheet	in-scope (GBP million)	% in-scope	at-failure (GBP million)	% at-failure
Other liabilities	4,263	15.2%	5,809	20.7%
Deposits	22,085	78.7%	20,539	73.2%
Preferred deposits	19,877	70.8%	18,883	67.3%
Junior Deposits	2,209	7.9%	1,656	5.9%
Senior unsecured bank debt	405	1.4%	405	1.4%
Dated subordinated bank debt	460	1.6%	460	1.6%
Equity	842	3.0%	842	3.0%
Total Tangible Banking Assets	28,055	100%	28,055	100%

Debt class	De jure waterfall		De facto waterfall		Notching		LGF notching guidance versus BCA	Assigned LGF notching	Additional notching	Preliminary Rating Assessment
	Instrument volume + Subordination	Sub-ordination	Instrument volume + Subordination	Sub-ordination	De jure	De facto				
Counterparty Risk Assessment	12.0%	12.0%	12.0%	12.0%	3	3	3	3	0	caa1 (cr)
Deposits	12.0%	4.6%	12.0%	6.1%	0	1	0	2	0	caa2
Senior unsecured bank debt	12.0%	4.6%	6.1%	4.6%	0	-1	0	0	0	ca

Instrument class	Loss Given Failure notching	Additional Notching	Preliminary Rating Assessment	Government Support notching	Local Currency Rating	Foreign Currency Rating
Deposits	2	0	caa2	0	Caa2	Caa2
Senior unsecured bank debt	0	0	ca	0	Ca	--

Source: Moody's Financial Metrics

## Ratings

Exhibit 6

Category	Moody's Rating
<b>CO-OPERATIVE BANK PLC</b>	
Outlook	Developing
Bank Deposits	Caa2/NP
Baseline Credit Assessment	ca
Adjusted Baseline Credit Assessment	ca
Counterparty Risk Assessment	Caa1(cr)/NP(cr)
Senior Unsecured -Dom Curr	Ca
Commercial Paper -Dom Curr	NP
Other Short Term -Dom Curr	(P)NP

Source: Moody's Investors Service

© 2017 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MOODY'S PUBLICATIONS MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL, FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. CREDIT RATINGS AND MOODY'S PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS NOR MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS OR MOODY'S PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER. ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing the Moody's publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any rating, agreed to pay to Moody's Investors Service, Inc. for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at [www.moody.com](http://www.moody.com) under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657 AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors. It would be reckless and inappropriate for retail investors to use MOODY'S credit ratings or publications when making an investment decision. If in doubt you should contact your financial or other professional adviser.

Additional terms for Japan only: Moody's Japan K.K. ("MJJK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJJK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJJK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJJK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJJK or MSFJ (as applicable) have, prior to assignment of any rating, agreed to pay to MJJK or MSFJ (as applicable) for appraisal and rating services rendered by it fees ranging from JPY200,000 to approximately JPY350,000,000.

MJJK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER 1055365