

CREDIT OPINION

7 February 2024

Update

Send Your Feedback

RATINGS

SpareBank 1 Østlandet

Domicile	Hamar, Norway
Long Term CRR	Aa3
Type	LT Counterparty Risk Rating - Fgn Curr
Outlook	Not Assigned
Long Term Debt	Aa3
Type	Senior Unsecured - Fgn Curr
Outlook	Stable
Long Term Deposit	Aa3
Type	LT Bank Deposits - Fgn Curr
Outlook	Stable

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

Fabio Iannò +33.1.5330.3356
VP-Sr Credit Officer
fabio.ianno@moodys.com

Juliana Cerenkova +46.8.5179.1254
Ratings Associate
juliana.cerenkova@moodys.com

Nondas Nicolaidis +357.2569.3006
VP-Sr Credit Officer
nondas.nicolaidis@moodys.com

Simon James Robin +44 207 772 5347
Ainsworth
Associate Managing Director
simon.ainsworth@moodys.com

SpareBank 1 Østlandet

Update to credit analysis

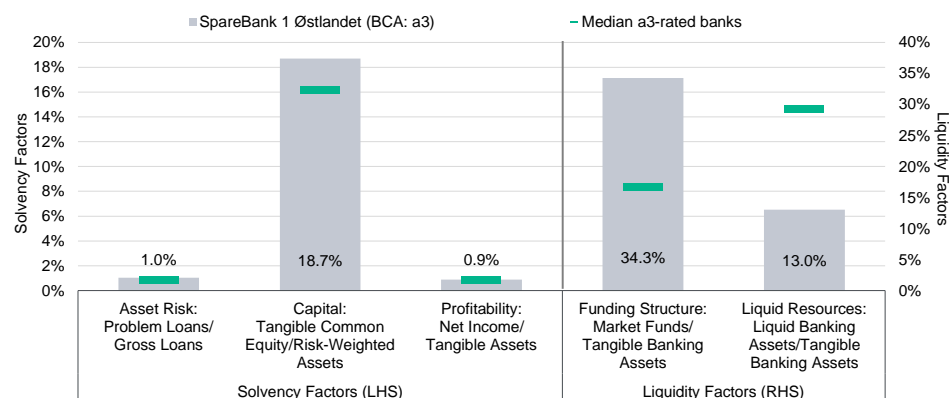
Summary

[SpareBank 1 Østlandet's](#) long-term deposit, issuer and senior unsecured debt ratings of Aa3 reflect the bank's Baseline Credit Assessment (BCA) of a3, our Loss Given Failure (LGF) analysis which leads to three notches of rating uplift from the BCA, and a low probability of Government support resulting in no further uplift.

SpareBank 1 Østlandet's BCA of a3 primarily reflects the bank's solid asset quality, strong capital levels and robust profitability. The bank has a strong capital base with a tangible common equity (TCE) ratio of 18.7%, and solid asset quality with problem loans at 1% of gross loans (including loans transferred to the covered bond companies) as of 30 September 2023. The BCA also reflects the relatively high reliance on market funding, predominantly in the form of covered bonds, a narrow geographic focus, and some credit concentrations towards the commercial real-estate sector, which are common features among savings banks in Norway.

Exhibit 1

Rating Scorecard - Key financial ratios



These are our Banks methodology scorecard ratios. Asset risk and profitability reflect the weaker of either the three-year average or the latest annual figure. Capital is the latest reported figure. Funding structure and liquid resources reflect the latest fiscal year-end figures.

Source: Moody's Financial Metrics

Credit strengths

- » Strong capital levels provide a good loss absorbing buffer.
- » Solid asset quality on the back of a relatively low-risk retail mortgage portfolio.
- » Robust profitability on the back of recurring earnings.

Credit challenges

- » Narrow geographic focus and high credit concentration in commercial real estate (CRE).
- » High reliance on market funding exposes the bank to potential change in investor sentiment.

Outlook

The bank's deposit and debt ratings carry a stable outlook balancing its robust financial performance with risks stemming from its dependence on market funding and real estate and housing prices, especially in the Oslo region. The stable outlook on the issuer and senior unsecured debt ratings also reflects our expectation that the bank will issue sufficient volumes of junior senior debt to support the current rating uplift from the BCA according to our LGF analysis.

Factors that could lead to an upgrade

Upward rating pressure could develop if SpareBank 1 Ostlandet demonstrates a reduction of credit concentrations; stronger earnings generation without an increase in its risk profile, combined with an improved cost-to-income ratio; and more limited use of market funds while maintaining a comfortable liquidity level.

Factors that could lead to a downgrade

Downward rating pressure could arise if SpareBank 1 Ostlandet's problem loan ratio and impairments increase significantly above its similarly rated peers; if financing conditions became more difficult, impairing its ability to raise low-cost market funding; if the bank increased exposures to volatile sectors; or if the macroeconomic environment deteriorated, leading to adverse developments in the Norwegian real-estate market and operating environment.

The senior unsecured debt ratings could also be downgraded should the bank issue significantly lower-than-expected volumes of junior-senior instruments.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on <https://ratings.moody's.com> for the most updated credit rating action information and rating history.

Key indicators

Exhibit 2

SpareBank 1 Ostlandet (Consolidated Financials) [1]

	09-23 ²	12-22 ²	12-21 ²	12-20 ²	12-19 ²	CAGR/Avg. ³
Total Assets (NOK Billion)	238.7	228.4	207.9	191.8	177.6	8.2 ⁴
Tangible Common Equity (NOK Billion)	18.1	17.8	16.7	15.7	14.7	5.7 ⁴
Problem Loans / Gross Loans (%)	1.0	0.4	0.4	0.3	0.3	0.5 ⁵
Tangible Common Equity / Risk Weighted Assets (%)	18.7	19.5	19.7	19.5	18.9	19.3 ⁶
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	10.8	4.0	3.8	3.0	3.0	4.9 ⁵
Net Interest Margin (%)	1.6	1.4	1.3	1.4	1.5	1.4 ⁵
PPI / Average RWA (%)	3.2	2.5	2.4	2.3	2.4	2.5 ⁶
Net Income / Tangible Assets (%)	0.9	0.8	1.0	0.8	1.1	0.9 ⁵
Cost / Income Ratio (%)	41.4	48.2	49.6	50.8	51.4	48.3 ⁵
Market Funds / Tangible Banking Assets (%)	33.2	34.3	32.7	32.7	33.4	33.3 ⁵
Liquid Banking Assets / Tangible Banking Assets (%)	13.4	13.0	12.4	12.1	11.2	12.4 ⁵
Gross Loans / Due to Customers (%)	189.5	191.0	188.4	188.4	192.0	189.9 ⁵

[1] All figures and ratios are adjusted using Moody's standard adjustments. [2] Basel III - fully loaded or transitional phase-in; IFRS. [3] May include rounding differences because of the scale of reported amounts. [4] Compound annual growth rate (%) based on the periods for the latest accounting regime. [5] Simple average of periods for the latest accounting regime. [6] Simple average of Basel III periods.

Sources: Moody's Investors Service and company filings

Profile

SpareBank 1 Ostlandet is a leading Norwegian regional savings bank that provides retail and corporate financial products and services, from loans and deposit facilities to insurance, pension, payment, leasing, real estate brokerage and accounting services. As of 30 September 2023, it had consolidated assets (including loans transferred to covered bond companies) of NOK239 billion (or around €21.1 billion).

Recent developments

On 3 January 2024, SpareBank 1 Ostlandet announced that it intends to merge with Totens Sparebank. The aim of the merger is to contribute to an increased focus on the Inland region of Norway, with strengthened local presence, proximity to customers and growth capacity. As a result of the transaction, the merged bank will be part of the SpareBank 1 Alliance. The banks' boards approved the merger plan for the banks on 15 January 2024. The merger will be subject to the banks' general meeting/supervisory board approvals in late February 2024, and to regulatory approvals before it can be finalised.

Detailed credit considerations

Norway's Very Strong- macro profile is supportive of the bank's standalone credit profile

SpareBank 1 Ostlandet operates only in Norway, and thus its operating environment is reflected through the Very Strong - macro profile we assign for Norway. Norwegian banks benefit from operating in a wealthy, developed country with very high economic, institutional and government financial strength, and very low susceptibility to adverse events.

The main risks to the banking system stem from its extensive use of market funding, and from Norway's increased household debt and high real estate prices. However, the household sector's strong debt servicing ability, the Norwegian government's well-coordinated monetary and regulatory policies, and the country's sizeable sovereign wealth fund, which supports the economy during crises, mitigate these risks. Furthermore, CRE prices have declined only marginally so far and rental agreements are linked to inflation. Also, exposures in individual banks' balance sheets are manageable compared with their core capitalisation. A significant decrease in either CRE prices or house prices could potentially strain Norway's macro profile.

Asset risk metrics are strong on the back of a relatively low credit risk retail mortgage portfolio

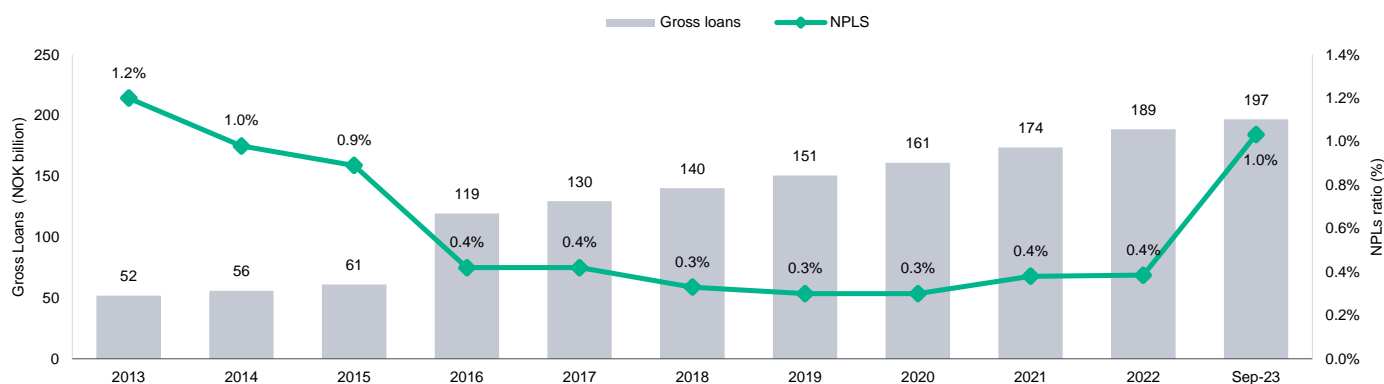
We assign an asset risk score of a3, two notches below the initial score to reflect moderate geographic and sector concentration. The CRE sector accounts for around 14% of gross loans (including covered bond loans), and around 3% of gross loans was concentrated in the building and construction sector as of 30 September 2023. Geographical concentration is in its regional home market in the

Innlandet county (following the merger between the counties of Hedmark and Oppland on 1 January 2020) and in the Oslo-Akershus region.

SpareBank 1 Ostlandet's asset quality is strong, with problem loans accounting for 1% of gross loans as of September 2023 (Exhibit 3). The ratio increased from 0.4% at end-2022 reflecting some moderate deterioration mostly in the building and construction sector, but is in line with the median problem loans ratio of similarly rated peers.

The bank's total loan book is geared towards retail borrowers, mostly residential mortgages, accounting for around 71% of gross loans, including loans transferred to the covered bond companies, with no exposure to the oil sector as of 30 September 2023. This supports the bank's asset quality, limiting the risks from credit impairments, given the traditionally very low loss rates for residential mortgages in Norway. Around 96% of its book has an LTV below 70%, compared with 85% maximum LTV allowed by the mortgage regulation and 75% LTV legal requirement for a covered bond pool.

Exhibit 3
SpareBank 1 Ostlandet's asset-risk metrics

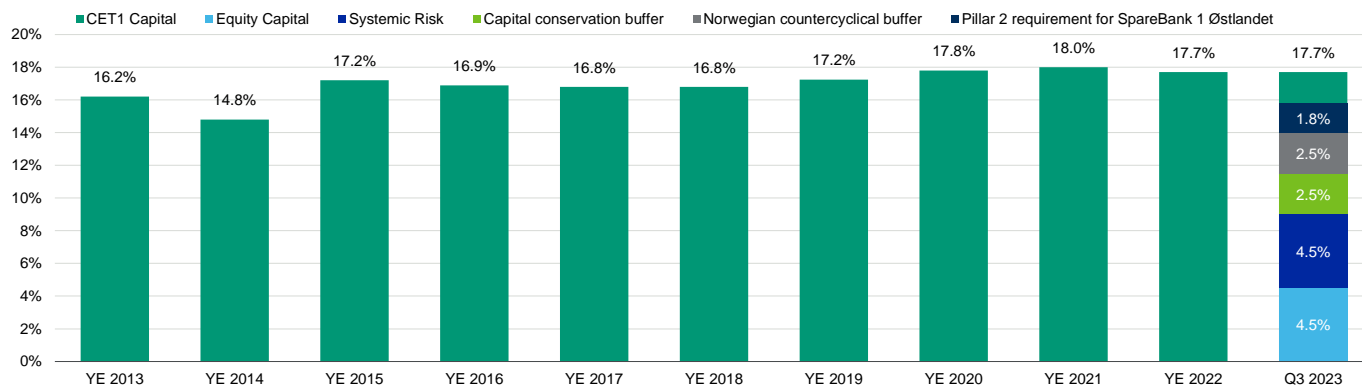


Gross loans include covered bond loans.
Sources: Company reports and Moody's Financial Metrics

Solid capital levels provide a good loss absorption buffer

We assign a capital score of aa2 to reflect the bank's strong capitalisation, with a TCE ratio of 18.7% and a reported Common Equity Tier 1 (CET1) ratio of 17.7% in September 2023 with good buffer above its CET1 requirement of 15.8%, including a 2.5% countercyclical buffer and a 1.8% Pillar 2 requirement (see Exhibit 4). SpareBank 1 Østlandet also reported a leverage ratio of 7.3% as of 30 September 2023, above the internal target of 6%.

Exhibit 4
SpareBank 1 Ostlandet's CET1 capital ratio evolution



Source: Company reports and presentations

We expect the bank to maintain its strong capital position, supported by good retained earnings. Sparebankstiftelsen Hedmark (savings bank foundation) is the largest stakeholder of the bank through a 52% ownership of the total equity capital certificates (ECC). Once the merger with Totens Sparebank is finalised, bank foundation Totens Sparebankstiftelse will have an ownership stake of 8.6% in the combined entity.

We believe that the bank has strong capital buffers relative to its peers, which allows it to grow its balance sheet and leverage opportunities in the Oslo-Akershus region where it is currently expanding. Our assigned capital score also reflects this strength compared with similarly rated global peers.

Robust profitability driven by growth in net interest income

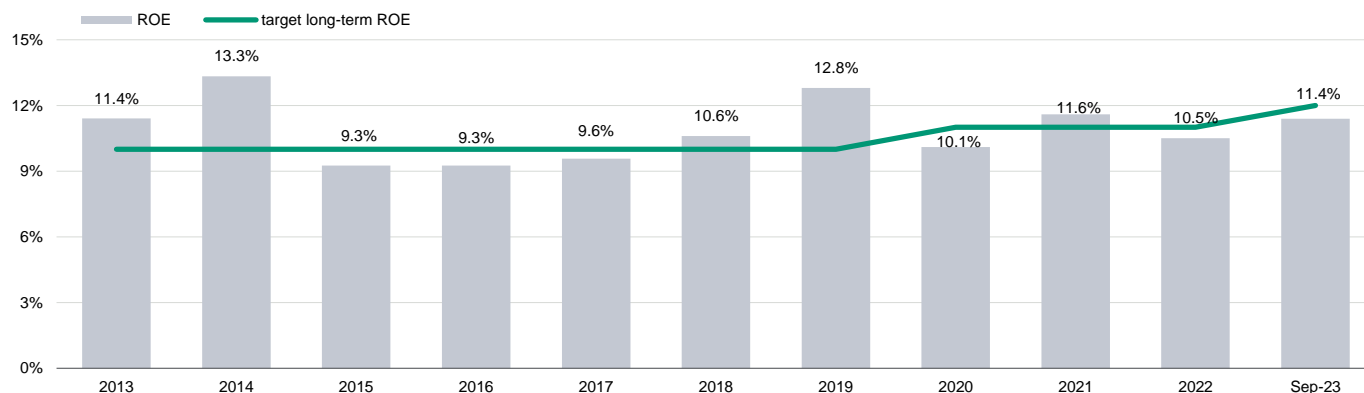
SpareBank 1 Ostlandet's reported profit after tax increased to NOK1,649 million in the first nine months of 2023 with a Moody's-adjusted return on tangible assets of 0.9%, compared to NOK1,326 million in the same period of 2022. The improvement was driven by a combination of stronger net interest and commission income following the strengthening in margins in the high interest rate environment, and growth in lending, while higher operating expenses and increased provisions for loans had a negative impact.

The bank's reported cost-to-income ratio as of the end of September 2023 decreased to 41% from 49% in the year earlier. SpareBank 1 Ostlandet reported a return on equity (RoE) of 11.4% in September 2023, and the bank has increased its long-term RoE target to 12% in 2023 from the previous target of 11% (see Exhibit 5).

Net interest income (NII) increased by 37% in the first nine months of 2023 from the year-earlier period benefiting from higher interest rates, resulting in a net interest margin (NIM) of 1.5% for the first nine months of 2023. SpareBank 1 Ostlandet raised interest rates on its floating rate loans multiple times in 2023. We expect the bank's NII to continue to be strong in 2024, but the benefits on profitability will be somewhat offset by higher operating and provisioning costs, resulting from high inflation and moderate asset quality deterioration.

Exhibit 5

SpareBank 1 Ostlandet's return on equity (RoE)



2017 and onwards are based on consolidated financials, including results from Bank 1 Oslo Akershus. From 2019, RoE is as reported by the bank, prior figures are Moody's-adjusted ratios. Sources: Company reports and Moody's Financial Metrics

Relatively high reliance on market funding

We assign a funding score of baa3, reflecting SpareBank 1 Ostlandet's relatively high reliance on market funding accounting for around 33% of total tangible banking assets as of September 2023, mainly driven by the issuance of covered bonds. This funding structure is similar to that of other Norwegian savings banks. Our market funding ratio includes a 50% standard adjustment to reflect the relative stability of covered bonds compared with other sources of market funding.

SpareBank 1 Ostlandet uses covered bond funding through specialised companies it jointly owns, together with the other members of SpareBank 1 Alliance (SpareBank 1 Boligkreditt for residential mortgages and SpareBank 1 Næringskreditt for commercial mortgages). As of 30 September 2023, SpareBank 1 Ostlandet had transferred retail mortgages worth NOK63.0 billion to SpareBank 1 Boligkreditt

and NOK1.0 billion commercial mortgages to SpareBank 1 Næringskreditt (that is, equivalent to around 33% of total gross loans, including loans transferred to covered bond companies).

The bank's funding position is also underpinned by a substantial deposit base, which accounts for around 44% of total funding (including covered bonds issued through SpareBank 1 Boligkreditt and SpareBank 1 Næringskreditt), and 57% of the bank's deposits are from the retail sector. For its senior funding, the bank participates in the jointly owned SpareBank 1 Alliance's €10 billion Euro Medium-Term Note (EMTN) programme with euro-denominated bond issues, contributing to a more diversified funding profile.

Sound liquidity

We assign a liquidity score of baa2 reflecting SpareBank 1 Ostlandet's sound liquidity position, with liquid assets/total tangible banking assets at around 13%. This ratio understates the core liquidity of the bank, given that it does not take into account the liquid assets held by SpareBank 1 Boligkreditt and SpareBank 1 Næringskreditt. Accordingly, we incorporate a positive adjustment in the assigned Liquid Resources score to reflect the additional source of liquidity stemming from the covered bond companies.

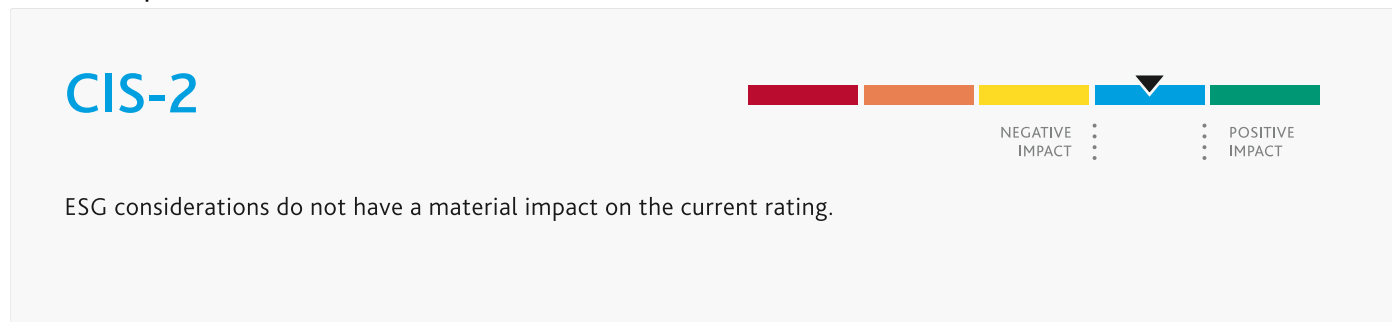
The liquidity reserves consist of cash and deposits with the central bank, senior bonds, government guaranteed bonds, covered bonds (mostly rated Aaa) and limited equity investments. The holdings are mostly Norwegian securities, which could be a source of vulnerability from a concentration risk point of view, but are positive in terms of currency risk. In addition, the bank reported a high liquidity coverage ratio (LCR) of 174% as of 30 September 2023 compared with the 100% requirement.

ESG considerations

SpareBank 1 Ostlandet's ESG credit impact score is CIS-2

Exhibit 6

ESG credit impact score

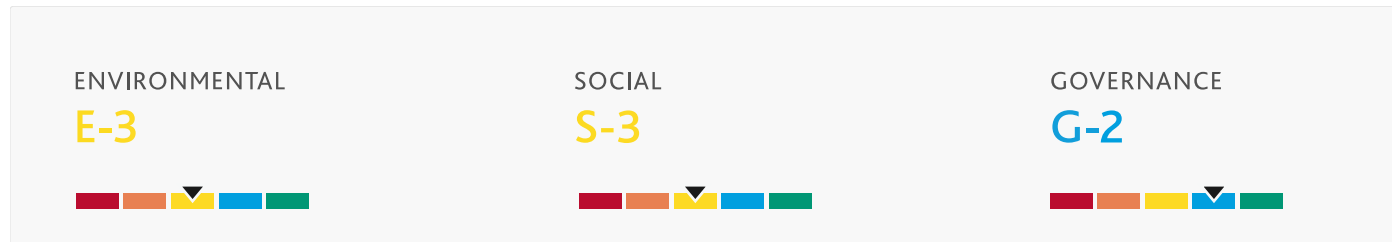


Source: Moody's Investors Service

SpareBank 1 Ostlandet's **CIS-2** indicates that ESG considerations do not have a material impact on current ratings. This reflects the limited credit impact of environmental and social risk factors on the ratings to date, and the low governance risks.

Exhibit 7

ESG issuer profile scores



Source: Moody's Investors Service

Environmental

SpareBank 1 Ostlandet faces moderate environmental risks primarily because of its portfolio exposure to carbon transition. These risks are primarily related to its corporate portfolio through the commercial real estate sector. In line with its peers, the bank is facing mounting business risks and stakeholder pressure to meet broader carbon transition goals. In response, the bank is developing its climate risk and portfolio management capabilities.

Social

SpareBank 1 Ostlandet faces moderate social risks related to regulatory and litigation risks, requiring high compliance standards. The exposure to customer relation risks is lower than its international peers, given the bank's untarnished customer conduct track record supported by the social mandate of the Savings Bank's model. SpareBank 1 Ostlandet is a digitally advanced bank in Norway, with a robust IT infrastructure and strong capabilities to mitigate cyber and personal data risks, supported by its cooperation within the SpareBank 1 Alliance.

Governance

SpareBank 1 Ostlandet's governance risks are low. Despite sectoral and geographical concentrations, due to its limited reach, the bank benefits from strong underwriting standards which mitigate some of these concerns. The bank has a track record of sound capital and liquidity management and earnings stability while losses have been low, even at times of market turbulence. Being a regional savings bank, 30% is owned by the community in the bank's market area, typically referred to as community capital, and 70% of the equity capital is owned by equity certificate (EC) holders. The Hedmark savings bank foundation is the largest shareholder with 52% of the ECs. Other owners are private investors which hold listed equity certificates, with the Norwegian confederation of trade unions being the largest. After the announced merger with Totens Sparebank is finalised, bank foundation Totens Sparebankstiftelse will have an ownership stake of 8.6% in the combined entity. The bank's Supervisory Board comprises of representatives of EC holders, the foundation, and employees. Related governance risks are however mitigated by Norway's developed institutional framework.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moody's.com. In order to view the latest scores, please click [here](#) to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

Support and structural considerations

Loss Given Failure (LGF) analysis and additional notching

The EU Bank Recovery and Resolution Directive (BRRD) came into force on 1 January 2019 in Norway, which confirms our current assumptions regarding our LGF analysis. In our advanced LGF analysis, we assume residual TCE of 3% and losses post-failure of 8% of tangible banking assets, a 25% run-off in "junior" wholesale deposits, a 5% run-off in preferred deposits, and assign a 25% probability to deposits being preferred to senior unsecured debt. These metrics are in line with our standard assumptions.

The ratings take into account our forward-looking LGF analysis of the combined entity's volume of deposits and senior unsecured debt, as well as the volume of securities subordinated to them. The analysis takes into account the Norwegian Financial Supervisory Authority's (FSA) revised approach to calculating MREL subordination requirements, following the expected implementation of the amended BRRD2 into Norwegian law, as well as the bank's need to hold buffers above the minimum requirements. This assumption leads to three notches of rating uplift for the bank's senior debt ratings, which is the same uplift afforded for the bank's deposit ratings.

Government support considerations

SpareBank 1 Ostlandet is the fourth-largest savings bank in Norway, with presence now in the most important and economically developed region of Oslo-Akershus. In particular, the bank is a vital intermediary in financing the small and medium-sized enterprise sector, especially in the agricultural and forestry sectors that are central for the Hedmark region.

Following the implementation of the BRRD law in Norway on 1 January 2019, we assume a low probability of government support for debt and deposits, resulting in no additional notches of rating uplift above their Preliminary Rating Assessment (PRA), positioning them at Aa3.

Counterparty Risk Assessment (CR Assessment)

We assign a Aa3(cr) long-term and P-1(cr) short-term CR Assessment to SpareBank 1 Ostlandet

SpareBank 1 Ostlandet's Aa3(cr)/Prime-1(cr) CR Assessment is three notches above the bank's Adjusted BCA of a3, based on the substantial buffer against default provided to the senior obligations represented by the CR Assessment by subordinated instruments. 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.

Counterparty Risk Ratings (CRRs)

SpareBank 1 Ostlandet's CRRs are Aa3/Prime-1

The Aa3 CRR is three notches above the Adjusted BCA of a3, reflecting the extremely low loss given failure from the high volume of instruments that are subordinated to CRR liabilities.

About Moody's Bank Scorecard

Our scorecard is designed to capture, express and explain in summary form our Rating Committee's judgement. When read in conjunction with our research, a fulsome presentation of our judgement 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 8

SpareBank 1 Ostlandet

Macro Factors

Weighted Macro Profile **Very Strong -** **100%**

Factor	Historic Ratio	Initial Score	Expected Trend	Assigned Score	Key driver #1	Key driver #2
Solvency						
Asset Risk						
Problem Loans / Gross Loans	1.0%	aa2	↔	a3	Geographical concentration	Sector concentration
Capital						
Tangible Common Equity / Risk Weighted Assets (Basel III - transitional phase-in)	18.7%	aa1	↔	aa2	Expected trend	
Profitability						
Net Income / Tangible Assets	0.9%	baa1	↑	a3	Expected trend	
Combined Solvency Score		aa3		a1		
Liquidity						
Funding Structure						
Market Funds / Tangible Banking Assets	34.3%	baa3	↔	baa3		
Liquid Resources						
Liquid Banking Assets / Tangible Banking Assets	13.0%	baa3	↔	baa2	Stock of liquid assets	
Combined Liquidity Score		baa3		baa3		
Financial Profile						
				a3		
Qualitative Adjustments				Adjustment		
Business Diversification				0		
Opacity and Complexity				0		
Corporate Behavior				0		
Total Qualitative Adjustments				0		
Sovereign or Affiliate constraint				Aaa		
BCA Scorecard-indicated Outcome - Range				a2 - baa1		
Assigned BCA				a3		
Affiliate Support notching				0		
Adjusted BCA				a3		

Balance Sheet	in-scope (NOK Million)	% in-scope	at-failure (NOK Million)	% at-failure
Other liabilities	84 383	35.4%	94 979	39.8%
Deposits	103 880	43.6%	93 284	39.1%
Preferred deposits	76 871	32.2%	73 028	30.6%
Junior deposits	27 009	11.3%	20 257	8.5%
Senior unsecured bank debt	31 091	13.0%	31 091	13.0%
Junior senior unsecured bank debt	9 500	4.0%	9 500	4.0%
Dated subordinated bank debt	1 400	0.6%	1 400	0.6%
Preference shares (bank)	1 000	0.4%	1 000	0.4%
Equity	7 152	3.0%	7 152	3.0%
Total Tangible Banking Assets	238 406	100.0%	238 406	100.0%

Debt Class	De Jure waterfall		De Facto waterfall		Notching		LGF Notching Guidance vs. Adjusted 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 Rating	29.5%	29.5%	29.5%	29.5%	3	3	3	3	0	aa3
Counterparty Risk Assessment	29.5%	29.5%	29.5%	29.5%	3	3	3	3	0	aa3 (cr)
Deposits	29.5%	8.0%	29.5%	21.0%	2	3	2	3	0	aa3
Senior unsecured bank debt	29.5%	8.0%	21.0%	8.0%	2	2	2	3	0	aa3
Junior senior unsecured bank debt	8.0%	4.0%	8.0%	4.0%	0	0	0	0	0	a3
Dated subordinated bank debt	4.0%	3.4%	4.0%	3.4%	-1	-1	-1	-1	0	baa1

Instrument Class	Loss Given Failure notching	Additional notching	Preliminary Rating Assessment	Government Support notching	Local Currency Rating	Foreign Currency Rating
Counterparty Risk Rating	3	0	aa3	0	Aa3	Aa3
Counterparty Risk Assessment	3	0	aa3 (cr)	0	Aa3(cr)	
Deposits	3	0	aa3	0	Aa3	Aa3
Senior unsecured bank debt	3	0	aa3	0	Aa3	Aa3
Junior senior unsecured bank debt	0	0	a3	0	A3	
Dated subordinated bank debt	-1	0	baa1	0		(P)Baa1

[1] Where dashes are shown for a particular factor (or sub-factor), the score is based on non-public information.

Source: Moody's Investors Service

Ratings

Exhibit 9

Category	Moody's Rating
SPAREBANK 1 OSTLANDET	
Outlook	Stable
Counterparty Risk Rating	Aa3/P-1
Bank Deposits	Aa3/P-1
Baseline Credit Assessment	a3
Adjusted Baseline Credit Assessment	a3
Counterparty Risk Assessment	Aa3(cr)/P-1(cr)
Issuer Rating	Aa3
Senior Unsecured	Aa3
Junior Senior Unsecured -Dom Curr	A3
Subordinate MTN	(P)Baa1

Source: Moody's Investors Service

© 2024 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 CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED OR OTHERWISE MADE AVAILABLE BY MOODY'S (COLLECTIVELY, "MATERIALS") MAY INCLUDE SUCH CURRENT OPINIONS. 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 OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S MATERIALS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S MATERIALS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES OR OTHERWISE MAKES AVAILABLE ITS MATERIALS 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, ASSESSMENTS, OTHER OPINIONS, AND MATERIALS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR MATERIALS 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. FOR CLARITY, NO INFORMATION CONTAINED HEREIN MAY BE USED TO DEVELOP, IMPROVE, TRAIN OR RETRAIN ANY SOFTWARE PROGRAM OR DATABASE, INCLUDING, BUT NOT LIMITED TO, FOR ANY ARTIFICIAL INTELLIGENCE, MACHINE LEARNING OR NATURAL LANGUAGE PROCESSING SOFTWARE, ALGORITHM, METHODOLOGY AND/OR MODEL.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

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 credit rating process or in preparing its Materials.

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 CREDIT RATING, ASSESSMENT, 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 credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service, Inc. and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody's.com under the heading "Investor Relations — Corporate Governance — Charter Documents - Director and Shareholder Affiliation Policy."

Moody's SF Japan K.K., Moody's Local AR Agente de Calificación de Riesgo S.A., Moody's Local BR Agência de Classificação de Risco LTDA, Moody's Local MX S.A. de C.V., I.C.V., Moody's Local PE Clasificadora de Riesgo S.A., and Moody's Local PA Clasificadora de Riesgo S.A. (collectively, the "Moody's Non-NRSRO CRAs") are all indirectly wholly-owned credit rating agency subsidiaries of MCO. None of the Moody's Non-NRSRO CRAs is a Nationally Recognized Statistical Rating Organization.

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 657AFSL 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.

Additional terms for India only: Moody's credit ratings, Assessments, other opinions and Materials are not intended to be and shall not be relied upon or used by any users located in India in relation to securities listed or proposed to be listed on Indian stock exchanges.

Additional terms with respect to Second Party Opinions (as defined in Moody's Investors Service Rating Symbols and Definitions): Please note that a Second Party Opinion ("SPO") is not a "credit rating". The issuance of SPOs is not a regulated activity in many jurisdictions, including Singapore. JAPAN: In Japan, development and provision of SPOs fall under the category of "Ancillary Businesses", not "Credit Rating Business", and are not subject to the regulations applicable to "Credit Rating Business" under the Financial Instruments and Exchange Act of Japan and its relevant regulation. PRC: Any SPO: (1) does not constitute a PRC Green Bond Assessment as defined under any relevant PRC laws or regulations; (2) cannot be included in any registration statement, offering circular, prospectus or any other documents submitted to the PRC regulatory authorities or otherwise used to satisfy any PRC regulatory disclosure requirement; and (3) cannot be used within the PRC for any regulatory purpose or for any other purpose which is not permitted under relevant PRC laws or regulations. For the purposes of this disclaimer, "PRC" refers to the mainland of the People's Republic of China, excluding Hong Kong, Macau and Taiwan.

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454