

CREDIT OPINION

11 September 2024

Update



RATINGS

Sparebanken Sor

| | |
|-------------------|--|
| Domicile | Kristiansand, Norway |
| Long Term CRR | A1 |
| Type | LT Counterparty Risk Rating - Fgn Curr |
| Outlook | Not Assigned |
| Long Term Debt | (P)A1 |
| Type | Senior Unsecured MTN - Fgn Curr |
| Outlook | Not Assigned |
| Long Term Deposit | A1 |
| Type | LT Bank Deposits - Fgn Curr |
| Outlook | Positive |

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

Paula Jouandet-Dahlen +46.851.791.280

VP-Senior Analyst
paula.jouandetdahlen@moodys.com

Juliana Cerenkova +46.8.5179.1254

Ratings Associate
juliana.cerenkova@moodys.com

Nondas Nicolaidis +357.25.693.006

VP-Sr Credit Officer
nondas.nicolaides@moodys.com

Simon James Robin +44.207.772.5347

Ainsworth
Associate Managing Director
simon.ainsworth@moodys.com

Sparebanken Sor

Update following outlook change to positive

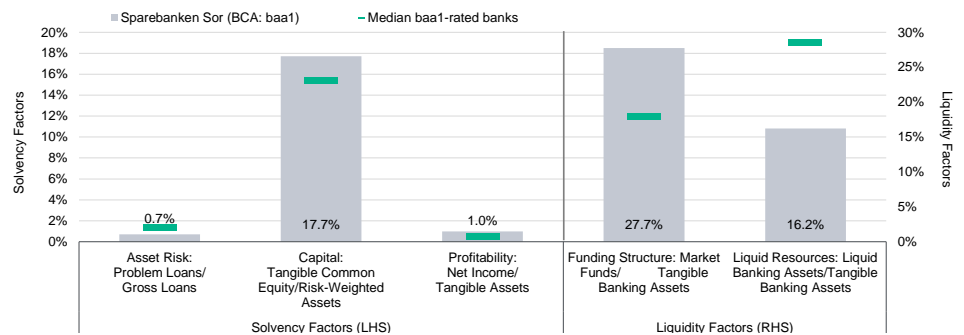
Summary

[Sparebanken Sor's](#) A1 long-term deposit and issuer ratings, and the Baa1 junior senior long-term debt rating are driven by the bank's Baseline Credit Assessment (BCA) of baa1 and the application of our Advanced Loss Given Failure (LGF) analysis. Sparebanken Sor's ratings do not benefit from any government support.

The bank's BCA reflects its strong capital buffers and asset-quality metrics, with nonperforming loans (NPLs)/gross loans of around 0.7% as of June 2024. The bank's corporate book is however exposed to risks stemming from (i) high single-borrower concentration, making it vulnerable in the event of a potential default of one of its large customers, and (ii) the bank's sizable exposure to commercial real estate, where borrowers are particularly exposed to the high rate environment.

Looking ahead, we expect Sparebanken Sor's credit profile to be gradually aligned with that of Sparebanken Vest (Deposits Aa3 stable, BCA of a3), assuming a successful completion of the announced merger with the latter, providing to the merged entity a strengthened geographical footprint and less concentrated loan portfolio.

Exhibit 1
Rating Scorecard- Key financial ratios



These ratios are calculated based on our [Banks Methodology](#) scorecard. The bank's problem loan and profitability ratios are the weaker of the average of the latest three year-end ratios and the latest reported ratio. The bank's capital ratio is the latest reported figure. The bank's funding structure and liquid resources ratios are the latest year-end figures.

Source: Moody's Banking Financial Metrics

Credit strengths

- » Resilient asset quality, with two-thirds of lending to private mortgage borrowers and close to zero exposure to the oil and offshore sectors
- » Strong capital levels with a robust leverage ratio

Credit challenges

- » Some single borrower and sector loan concentrations, which increase asset risk
- » Reliance on market funding, which renders the bank vulnerable to fluctuations in investor sentiment

Rating outlook

The outlook for Sparebanken Sor's deposit and issuer ratings is positive reflecting our view that the bank's credit profile and ratings would be gradually aligned with those of Sparebanken Vest, should the acquisition and subsequently the anticipated legal merger successfully conclude.

Factors that could lead to an upgrade

The ratings on Sparebanken Sor could be upgraded following the successful completion of the merger with Sparebanken Vest.

Factors that could lead to a downgrade

Given the positive long-term deposit and issuer ratings outlook, we are unlikely to downgrade Sparebanken Sor's ratings during the outlook period. However, failure to proceed with the merger would likely result in Sparebanken Sor's ratings outlook reverting to stable. The ratings could also be downgraded as result of a reduction in the volumes of loss absorbing liabilities protecting depositors and creditors in case of failure.

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.com> for the most updated credit rating action information and rating history.

Key indicators

Exhibit 2

Sparebanken Sor (Consolidated Financials) [1]

| | 06-24 ² | 12-23 ² | 12-22 ² | 12-21 ² | 12-20 ² | CAGR/Avg. ³ |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|------------------------|
| Total Assets (NOK Billion) | 165.7 | 155.7 | 157.4 | 144.2 | 142.1 | 4.5 ⁴ |
| Tangible Common Equity (NOK Billion) | 15.5 | 15.6 | 14.6 | 13.5 | 12.6 | 6.0 ⁴ |
| Problem Loans / Gross Loans (%) | 0.7 | 0.8 | 0.5 | 0.7 | 0.9 | 0.7 ⁵ |
| Tangible Common Equity / Risk Weighted Assets (%) | 17.7 | 18.4 | 18.3 | 17.1 | 16.2 | 17.5 ⁶ |
| Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%) | 5.8 | 6.6 | 4.2 | 5.5 | 7.7 | 6.0 ⁵ |
| Net Interest Margin (%) | 2.0 | 1.9 | 1.6 | 1.3 | 1.3 | 1.6 ⁵ |
| PPI / Average RWA (%) | 2.8 | 2.6 | 1.9 | 1.7 | 1.7 | 2.1 ⁶ |
| Net Income / Tangible Assets (%) | 1.3 | 1.1 | 0.8 | 0.8 | 0.7 | 0.9 ⁵ |
| Cost / Income Ratio (%) | 36.0 | 38.0 | 42.9 | 43.7 | 42.8 | 40.7 ⁵ |
| Market Funds / Tangible Banking Assets (%) | 28.2 | 27.7 | 29.7 | 27.9 | 31.4 | 29.0 ⁵ |
| Liquid Banking Assets / Tangible Banking Assets (%) | 19.0 | 16.2 | 18.8 | 16.9 | 17.8 | 17.7 ⁵ |
| Gross Loans / Due to Customers (%) | 178.0 | 184.7 | 189.4 | 185.4 | 187.2 | 184.9 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 Ratings and company filings

Profile

Sparebanken Sor is a regional Norwegian bank, with consolidated assets of NOK165.7 billion (€14.5 billion) as of June 2024, providing retail and corporate banking services to individuals, companies and public authorities, mainly in southern Norway. Its products include financing, savings facilities, placements, insurance, pensions and payment facilities. It was the ninth-largest bank in Norway in terms of consolidated assets as of year-end 2023.

Recent developments

On 28 August, [Sparebanken Sor](#) announced the agreement to merge with [Sparebanken Vest](#) (Aa3 stable, a3) in forming the largest savings bank in Norway. The all-share merger is subject to approvals from the general assemblies of both banks and regulatory authorities, including the Norwegian FSA and Competition Authority, with an aim to complete the legal merger by the end of the second quarter of 2025. The combination of the two savings banks would create the largest savings bank in Norway with a pro forma gross lending book of NOK429 billion across retail (56%), Bulder (13%), a digital retail bank, and corporates (31%), at end June 2024. The announcement continues the ongoing consolidation trend among the Norwegian savings banks that has taken place in recent years, largely driven by increased regulatory demands and complexity.

The enlarged bank would hold consolidated assets of NOK517 million (on a pro forma basis at end June 2024), including the financing company Brage Finans, which will be majority-owned by the new entity. Ownership in other product companies in Frendegruppen would also increase.

The two banks estimate annual cost reductions in the range of NOK350-400 million by 2028, primarily related to natural attrition of staff, scale advantages in procurement and IT related costs. In addition, while capital requirements for the merged entity will likely rise as a larger and systemically important bank, capital synergies are also likely to emerge resulting from the application of Sparebanken Vest's Internal ratings-based (IRB) model to Sparebanken Sor's portfolio (currently under the standardised approach).

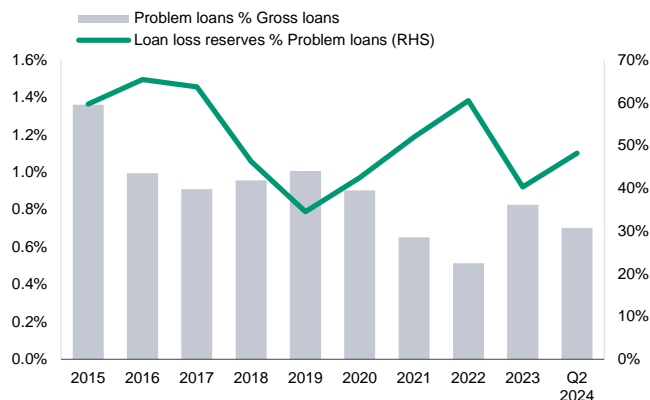
Detailed credit considerations

Resilient asset quality metrics, but the loan book is exposed to risks stemming from high credit concentrations and sizable commercial real estate exposures

Sparebanken Sor's problem loans (Moody's definition) were 0.7% of gross loans as of June 2024, decreasing slightly from 0.8% as of December 2023 (with a nominal decrease of NOK133 million over the first six months of 2024). The ratio is in line with other large Norwegian savings banks and lower than the average of 1.6% of banks globally with a BCA of baa1. The level of problem loans has been relatively stable over the past seven years (see Exhibit 3).

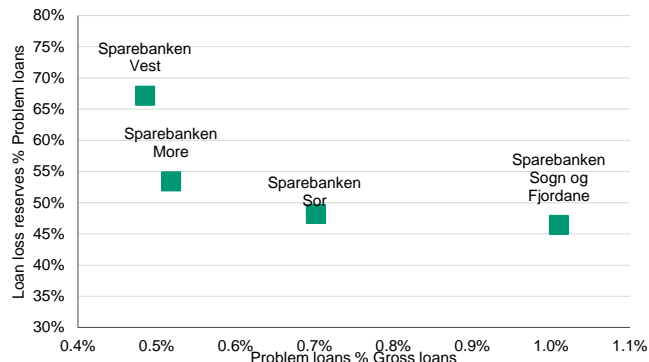
Sparebanken Sor's allowance for loan losses was NOK445 million as of June 2024 (December 2023: NOK426 million) and total provisioning coverage increased to 48.2% from 40.3% as of December 2023 reducing the risks to the bank's earnings and capital from its existing stock of problem loans (see Exhibit 4).

Exhibit 3
Sparebanken Sor's problem loan ratio has remained consistently below 1% over the past years



Sources: Sparebanken Sor's disclosures and Moody's Ratings

Exhibit 4
...and is well positioned among similarly rated regional peers
Data as of June 2024



Source: Banks' disclosures, Moody's Ratings

Sparebanken Sor's loan book is dominated by retail mortgages, representing around 64% of the gross loan book as of June 2024, which has been resilient historically with low default levels. We consider the bank's low average loan-to-value (LTV) of around 56% for mortgages a mitigating factor to a potential fall in house prices.

However, the bank has also significant concentration in the real estate and construction sectors, at around 23.5% of gross loans as of June 2024 (property management accounting for 17.5%, real estate development for 4.2%, and building and construction for 1.8%). This poses risks to future loan book performance in the scenario of any significant reduction in property prices in the region. Most of the bank's outstanding impairments relate to its corporate exposures, of which over half relate to property management, development and construction sectors, all of which are particularly sensitive to the current high rate environment.

Furthermore, the bank's corporate book has certain single-borrower concentration, especially to commercial real estate (CRE) clients, making it vulnerable in the event of a potential default of one of its large customers.

Our downward adjustment to the bank's Asset Risk score to baa2 captures these concentration risks, in addition to the limited geographical diversification compared with larger Nordic commercial banks, as Sparebanken Sor is mainly exposed to southern Norway.

In anticipation of the developments around the merger with Sparebanken Vest, we estimate that the resulting entity's asset quality will improve compared with that of Sparebanken Sor as the problem loans ratio will decrease slightly and the retail portfolio will take up a larger part of the gross loans at 69% (including Bulder). We further acknowledge the improved geographical footprint of the combined entity.

Strong capital levels with a robust leverage ratio

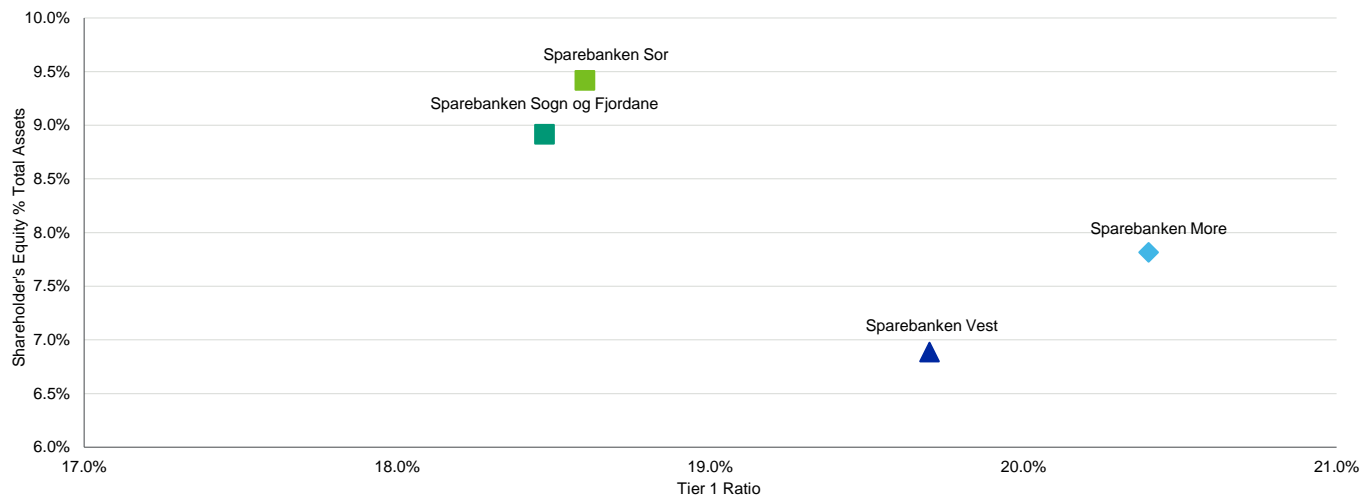
Sparebanken Sor's capitalisation is strong relative to its risk profile, with a Common Equity Tier 1 ratio of 16.7% as of June 2024, well above its regulatory minimum of 14.9%, and above its target of 16.2% as of June 2024. It has one of the highest leverage ratio among Norwegian savings banks, at 9.2% in June 2024.

The bank is the only one of the large regional banks in Norway that still applies the standard method in its RWA calculations and is process to apply to the Financial Supervisory Authority for an approval to use the Internal Ratings-Based (IRB) approach to calculate RWA, but the process is lengthy.

The planned merger is viewed as advantageous for the combined entity, supported by capital synergies generated by applying Sparebanken Vest's Internal ratings-based (IRB) model to Sparebanken Sor's portfolio (currently under the standardised approach). The banks have identified net NOK2 billion of capital synergies in addition to NOK2.1 billion stemming from the implementation of Basel IV. However, as the merger creates a larger and systemically important financial institution, capital requirements are likely to rise.

Exhibit 5

Sparebanken Sor's capital levels are comparable with its similarly rated peers



Based on Q2 2024 Moody's-adjusted data, Sparebanken Sor and Sparebanken Sogn og Fjordane use the standard method, while Sparebanken More use Internal Ratings-Based (foundation) and Sparebanken Vest use the advanced Internal Ratings-Based approach for their risk-weighted assets and capital calculation.

Source: Moody's Financial Metrics

Our assigned Capital score is aa2 which reflects both the bank's strong leverage ratio and risk-adjusted capital ratios but also the bank's low level of equity certificates (EC) in the capital structure. However, the EC ratio is in line with most domestic peers.

Improved profitability on the back of strong net interest margin and efficient cost structure

Sparebanken Sor relies predominantly on stable interest income from lending, but earnings diversification is limited compared to peers, with net interest income representing around 86% of its net revenue in Q2 2024. The bank reported an annualized net interest margin of 2.81% for retail loans and 3.18% for corporate loans in June 2024, up from 2.76% and 3.18%, respectively, the year before, reflecting the increase in interest rate and somewhat offset by increased competition among its peers. Over the next 12-18 months, we expect margin to remain strong, combined with stable loan growth (4.6% year on year as of June 2024).

The bank's cost-efficient structure and set-up, despite spending on digitalisation and channel interaction, should continue to support its core pre-provision income and bottom-line also during times of stress. The bank has reported a cost-to-income ratio of 35.5% (excluding net income from financial instruments) for the six months of 2024, lower than the reported ratio of 37.0% a year earlier and well within the bank's 40% target.

Reliance on market funding renders the bank vulnerable to fluctuations in investor sentiment

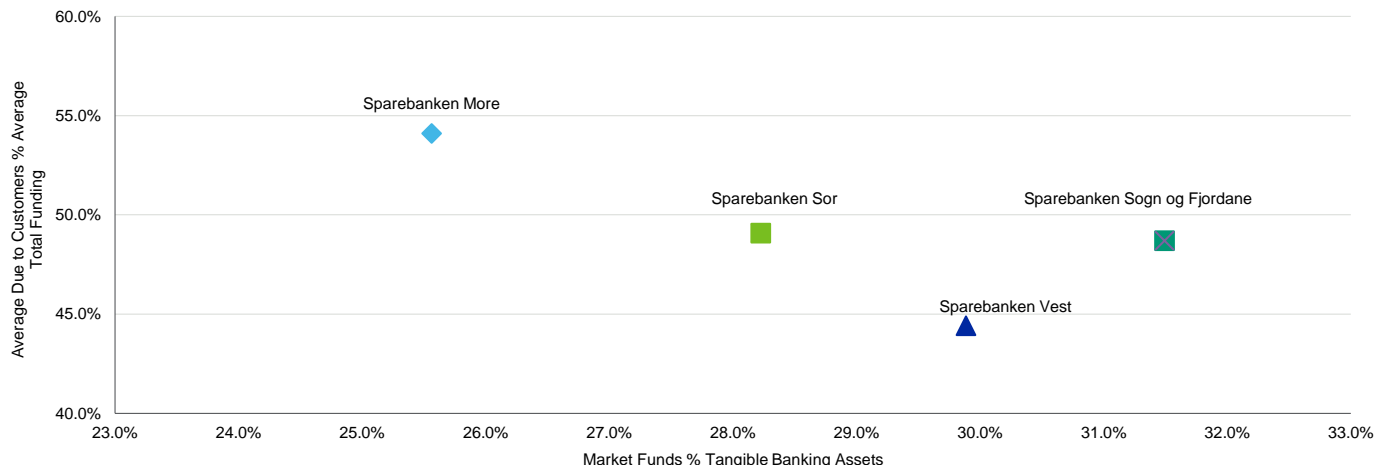
Sparebanken Sor's funding is underpinned by a strong deposit base, which amounts to roughly 49% of non-equity funding. Nevertheless, a large part of its sizeable deposit base are deposits from corporates and municipalities (31% and 22% respectively), which are more sensitive to market confidence and pricing as they are typically larger and uninsured, although deposits from municipalities benefit from multi-years agreements enhancing their stickiness. The bank also remains reliant on market funding, which accounted for 28% of tangible banking assets as of June 2024, and which renders the bank susceptible to changes in investor sentiment.

A sizeable and growing portion of market funds is in the form of covered bonds, which provide the bank with an important source of funding. Using our methodology for banks, we reflect the stability of covered bonds relative to unsecured market funding through an

adjustment to the bank's market funds/tangible assets ratio. Nonetheless, our Funding Structure score reflects our view that the bank's overall funding profile remains a weakness relative to the other scorecard metrics.

Exhibit 6

Reliance on market funding remains a fundamental weakness for the bank, a common attribute of Norwegian banks



Based on Q2 2024 Moody's-adjusted data.
 Source: Moody's Financial Metrics

Sparebanken Sor also maintains sizeable buffers of high-quality liquid assets. As of June 2024, liquid assets accounted for around 19% of tangible banking assets, comprising cash and deposits with the central bank and the securities portfolio that consists in a vast majority of Aaa-rated instruments in the form of Norwegian covered bonds and bonds from the government and other public entities.

These holdings are mostly Norwegian securities and covered bonds of other local banks, which could be a source of vulnerability from a concentration risk perspective and in case of a systemic liquidity crunch, but, at the same time, these holdings reduce the bank's currency exposure. The bank reported a consolidated liquidity coverage ratio (LCR) of 170% as of June 2024, well above the regulatory requirement and mitigating to a some extent the market funding dependence concerns that we have.

Source of facts and figures cited in this report

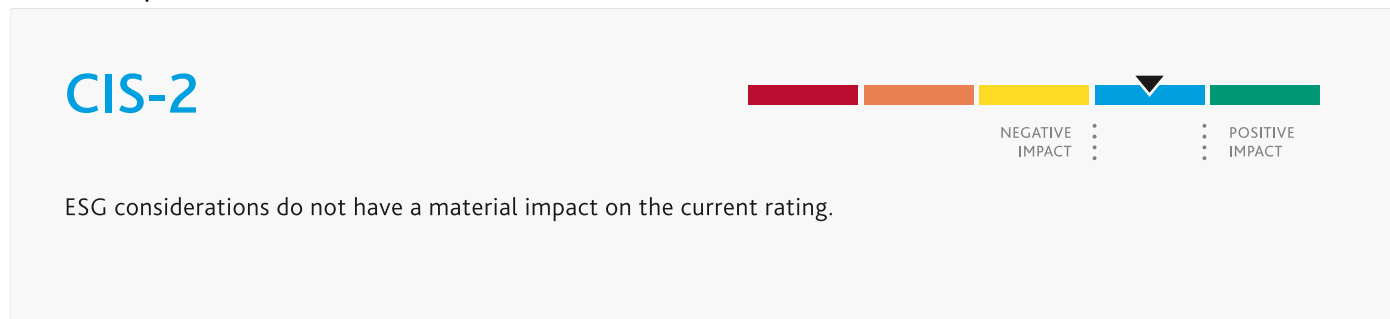
Unless noted otherwise, we have sourced data relating to systemwide trends and market shares from the central bank. Bank-specific figures originate from banks' reports and Moody's Banking Financial Metrics. All figures are based on our own chart of accounts and may be adjusted for analytical purposes. Please refer to the document [Financial Statement Adjustments in the Analysis of Financial Institutions](#) published on 8 April 2024.

ESG considerations

Sparebanken Sor's ESG credit impact score is CIS-2

Exhibit 7

ESG credit impact score

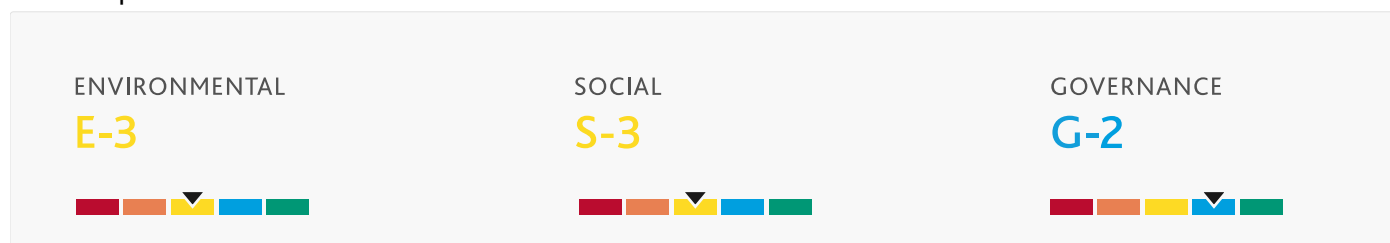


Source: Moody's Ratings

Sparebanken Sor's **CIS-2** reflects that ESG considerations do not have a material impact on the current ratings.

Exhibit 8

ESG issuer profile scores



Source: Moody's Ratings

Environmental

Sparebanken Sor faces moderate environmental risks 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

Sparebanken Sor faces moderate social risks related to customer relations and associated 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. Sparebanken Sor is a digitally advanced bank in Norway, with a robust IT infrastructure and strong capabilities to mitigate cyber and personal data risks.

Governance

Sparebanken Sor faces not material governance risks, and its risk management, policies and procedures are in line with industry practices. 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, 26% of the bank is owned by the community foundation, in the form of listed equity certificates. 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 Moodys.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)

Norway implemented the EU's Bank Recovery and Resolution Directive (BRRD) on 1 January 2019, and BRRD2 was incorporated into Norwegian law on 1 June 2022, which results in lower subordination requirements for non-preferred senior volumes. For our resolution analysis, we apply our advanced Loss Given Failure (LGF) analysis, using our standard assumptions for a bank operating in an operational resolution regime (ORR) country.

Our Advanced LGF analysis includes a forward-looking approach on the bank's near-term bail-in-able debt issuance and indicates a very low loss given failure for junior depositors and senior unsecured creditors, resulting in a three-notch uplift of the relevant ratings from the bank's baa1 Adjusted BCA. These ratings incorporate our forward-looking view on expected future debt issuance.

Government support

Following the implementation of the BRRD law in Norway on 1 January 2019, we assume a low probability of government support for the bank's senior debt and deposits, resulting in no rating uplift.

Methodology and scorecard

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 9

Rating Factors

| 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 | 0.7% | aa1 | ↔ | baa2 | Geographical concentration | Sector concentration | |
| Capital | | | | | | | |
| Tangible Common Equity / Risk Weighted Assets (Basel III - transitional phase-in) | 17.7% | aa2 | ↔ | aa2 | Access to capital | | |
| Profitability | | | | | | | |
| Net Income / Tangible Assets | 1.0% | baa1 | ↔ | baa2 | Earnings quality | | |
| Combined Solvency Score | | aa3 | | a3 | | | |
| Liquidity | | | | | | | |
| Funding Structure | | | | | | | |
| Market Funds / Tangible Banking Assets | 27.7% | baa2 | ↔ | baa3 | | | |
| Liquid Resources | | | | | | | |
| Liquid Banking Assets / Tangible Banking Assets | 16.2% | baa2 | ↔ | baa2 | | | |
| Combined Liquidity Score | | baa2 | | baa3 | | | |
| Financial Profile | | | | | | | |
| 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 | | | | a3 - baa2 | | | |
| Assigned BCA | | | | baa1 | | | |
| Affiliate Support notching | | | | 0 | | | |
| Adjusted BCA | | | | baa1 | | | |
| Balance Sheet | | | | | | | |
| | | in-scope (NOK Million) | % in-scope | at-failure (NOK Million) | % at-failure | | |
| Other liabilities | | 69 732 | 42.1% | 77 186 | 46.6% | | |
| Deposits | | 73 083 | 44.1% | 65 629 | 39.6% | | |
| Preferred deposits | | 54 081 | 32.7% | 51 377 | 31.0% | | |
| Junior deposits | | 19 002 | 11.5% | 14 251 | 8.6% | | |
| Senior unsecured bank debt | | 7 050 | 4.3% | 7 050 | 4.3% | | |
| Junior senior unsecured bank debt | | 7 100 | 4.3% | 7 100 | 4.3% | | |
| Dated subordinated bank debt | | 2 000 | 1.2% | 2 000 | 1.2% | | |
| Preference shares (bank) | | 1 672 | 1.0% | 1 672 | 1.0% | | |
| Equity | | 4 968 | 3.0% | 4 968 | 3.0% | | |
| Total Tangible Banking Assets | | 165 605 | 100.0% | 165 605 | 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 | 22.4% | 22.4% | 22.4% | 22.4% | 3 | 3 | 3 | 3 | 0 | a1 |
| Counterparty Risk Assessment | 22.4% | 22.4% | 22.4% | 22.4% | 3 | 3 | 3 | 3 | 0 | a1 (cr) |
| Deposits | 22.4% | 9.5% | 22.4% | 13.8% | 3 | 3 | 3 | 3 | 0 | a1 |
| Senior unsecured bank debt | 22.4% | 9.5% | 13.8% | 9.5% | 3 | 2 | 3 | - | - | - |
| Junior senior unsecured bank debt | 9.5% | 5.2% | 9.5% | 5.2% | 0 | 0 | 0 | 0 | 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 | a1 | 0 | A1 | A1 |
| Counterparty Risk Assessment | 3 | 0 | a1 (cr) | 0 | A1(cr) | |
| Deposits | 3 | 0 | a1 | 0 | A1 | A1 |
| Senior unsecured bank debt | - | - | - | 0 | (P)A1 | (P)A1 |
| Junior senior unsecured bank debt | 0 | 0 | baa1 | 0 | Baa1 | |

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

Source: Moody's Ratings

Ratings

Exhibit 10

| Category | Moody's Rating |
|---------------------------------------|----------------|
| SPAREBANKEN SOR | |
| Outlook | Positive |
| Counterparty Risk Rating | A1/P-1 |
| Bank Deposits | A1/P-1 |
| Baseline Credit Assessment | baa1 |
| Adjusted Baseline Credit Assessment | baa1 |
| Counterparty Risk Assessment | A1(cr)/P-1(cr) |
| Issuer Rating | A1 |
| Senior Unsecured MTN | (P)A1 |
| Junior Senior Unsecured -Dom Curr | Baa1 |
| SPAREBANKEN SOR BOLIGKREDIT AS | |
| Outlook | Positive |
| Counterparty Risk Rating | A1/P-1 |
| Counterparty Risk Assessment | A1(cr)/P-1(cr) |
| Issuer Rating | A1 |

Source: Moody's Ratings

© 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 Calificadora 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.