

CREDIT OPINION

22 March 2024

New Issue



Send Your Feedback

RATINGS

Alandsbanken Abp

Domicile	MARIEHAMN, Finland
Long Term CRR	A2
Type	LT Counterparty Risk Rating - Fgn Curr
Outlook	Not Assigned
Long Term Debt	Not Assigned
Long Term Deposit	A3
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

Niclas Boheman +46.8.5179.1281
VP-Sr Credit Officer
niclas.boheman@moodys.com

Jonathan Stenbaek +46.851.791.297
Ratings Associate
jonathan.stenbaek@moodys.com

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

Carola Schuler +49.69.70730.766
MD-Banking
carola.schuler@moodys.com

CLIENT SERVICES

Americas 1-212-553-1653

Asia Pacific 852-3551-3077

Alandsbanken Abp

Rating action: Moody's assigns first time A3 deposit ratings to Ålandsbanken

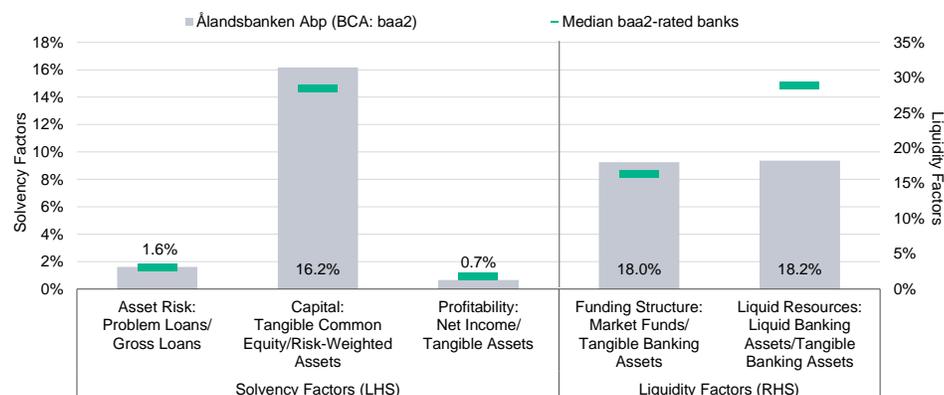
Summary

Moody's has assigned A3/P-2 deposit ratings to Ålandsbanken Abp (Ålandsbanken or Bank of Åland) and a Baseline Credit Assessment (BCA) of baa2. The long-term deposit ratings carry a stable outlook.

The A3 deposit ratings reflect Ålandsbanken's strong franchise focusing on private banking customers in Finland and Sweden, reflected in the baa2 BCA, and two notches of uplift due to the large volumes of junior depositors sharing losses in the case of a failure, as indicated by Moody's Advanced Loss Given Failure (LGF) analysis.

Exhibit 1

Rating Scorecard - Key financial ratios as of year end 2023



These represent our [Banks](#) methodology scorecard ratios, whereby asset risk and profitability reflect the weaker of either the three-year average and the latest annual figure. The capital ratio is the latest reported figure. The funding structure and liquid resource ratios reflect the latest fiscal year-end figures.

Source: Moody's Ratings

Credit strengths

- » Long and solid track record
- » Diversified earnings from banking, investment and wealth management services
- » Improving profitability
- » Low reliance on market funding

Credit challenges

- » Concentrated, less granular than peers, loan book
- » Increasing problem loans to gross loans ratio
- » High share of uninsured deposits

Outlook

- » The stable outlook reflects Moody's view that during the coming 12 to 18 months, Ålandsbanken's fundamentals will remain strong, with limited deterioration in asset quality, a slight strengthening in capitalisation as Swedish mortgages are transferred to Borgo, and a stable profitability while funding structure and liquidity improve moderately.

Factors that could lead to an upgrade

- » Ålandsbanken's ratings could be upgraded if solvency factors are strengthened, including a long-term improvement in capitalisation, and stronger recurring profitability and efficiency. The ratings could also be upgraded if the volumes of loss absorbing liabilities were to increase, triggering a higher uplift in Moody's Advanced LGF.

Factors that could lead to a downgrade

- » Ålandsbanken's ratings could be downgraded if credit quality significantly deteriorates; if capitalisation declines unexpectedly; if recurring profitability is weakened; or if the banks funding sources are materially affected, thus weakening its liquidity. Furthermore, if the banks share of junior deposits declines, the ratings could be downgraded as per Moody's Advanced LGF.

Key indicators

Exhibit 2

Ålandsbanken Abp

	12-23 ²	12-22 ²	12-21 ²	12-20 ²	12-19 ²	CAGR/Avg. ³
Total Assets (EUR Million)	5 340.0	5 896.8	6 633.1	6 033.6	5 605.8	(1.2) ⁴
Total Assets (USD Million)	5 898.9	6 293.3	7 516.1	7 382.4	6 292.5	(1.6) ⁴
Tangible Common Equity (EUR Million)	287.0	270.0	277.9	265.3	231.6	5.5 ⁴
Tangible Common Equity (USD Million)	317.0	288.1	314.9	324.6	260.0	5.1 ⁴
Problem Loans / Gross Loans (%)	1.6	1.6	1.2	0.9	0.8	1.2 ⁵
Tangible Common Equity / Risk Weighted Assets (%)	16.2	13.9	14.1	15.9	14.6	14.9 ⁶
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	20.4	24.1	20.2	14.0	13.7	18.5 ⁵
Net Interest Margin (%)	1.8	1.1	1.0	1.0	1.0	1.2 ⁵
PPI / Average RWA (%)	3.4	2.1	2.9	2.8	2.3	2.7 ⁶
Net Income / Tangible Assets (%)	0.9	0.4	0.6	0.5	0.5	0.6 ⁵
Cost / Income Ratio (%)	69.5	76.8	70.6	70.9	73.2	72.2 ⁵
Market Funds / Tangible Banking Assets (%)	18.0	16.0	22.3	20.5	20.5	19.4 ⁵
Liquid Banking Assets / Tangible Banking Assets (%)	18.2	20.2	22.2	20.7	20.2	20.3 ⁵
Gross Loans / Due to Customers (%)	107.9	103.4	118.0	113.0	118.6	112.2 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

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.

Profile

Ålandsbanken Abp (Ålandsbanken) is a Finnish bank that was originally established in 1919 on the Åland Islands, an autonomous region of Finland. The bank provides personal banking, business banking, wealth management, and investment services. Ålandsbanken has a subsidiary, Crosskey Banking Solutions (Crosskey), which provides IT-solutions for banks and other financial companies.

In Finland and Sweden, the main focus is Private/Premium Banking, wealth management and investment services with offices located in the larger urban areas. On the Åland Islands, the bank offers a full product range of banking services. Ålandsbanken has a market share of above 50% on the Åland Islands for banking, as well as <5% of Private Banking in Sweden and >5% of Private Banking in Finland.

Recent developments

June 2019: Ålandsbanken together with Ikano Bank, ICA Banken, Soderberg & Partners founded [Borgo AB](#) (Baa2 Negative, baa3), a Swedish mortgage company.

Detailed credit considerations

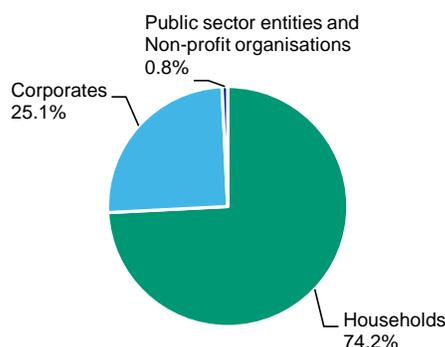
Low asset risk with concentration toward affluent households and their companies

Ålandsbanken has a history of strong asset quality, with loan portfolios dominated by mortgages in the Åland Islands, Finland and Sweden. The problem loans/gross loans ratio was 1.6% as of year end 2023, unchanged from year end 2022.

By end of year 2023, the loan book consisted of 55% mortgages, 25% corporate loans, and 20% other household lending. Ålandsbanken historically had a larger exposure to real estate lending in Sweden, but began reducing this exposure in 2018 and 2019.

Exhibit 3

Ålandsbanken's loan book breakdown as of year end 2023



Source: Company reports and Moody's Ratings

During 2022 and 2023 Ålandsbanken transferred a majority of its Swedish mortgage portfolio to Borgo, a mortgage bank created, and jointly owned by, Ålandsbanken and several other Swedish banks. The transfer of mortgages amounted to SEK 10.4 billion in 2022 and SEK 5.8 billion in 2023. These transfers of low risk loans partly drove an increase in the share of problem loans to remaining gross loans (1.6% at end of 2023, up from 0.9% in 2020), as the remaining loans left on balance sheet, largely comprised of lending to corporates comprised a higher proportion of problem loans.

The process of granting mortgages differs in Sweden and Finland for Ålandsbanken. In Sweden, the bank grants mortgages up to 85% loan-to-value (LTV) and maximum five times debt to income.

In Finland and the Åland Islands, mortgages are granted up to 70% LTV, which is meaningfully lower than the regulatory cap of 90%. Higher LTV's may be approved if additional collaterals or guarantees are provided.

Due to the focus on affluent individuals and their companies, there is a higher concentration risk compared with similarly sized banks, with lower granularity in the loan exposures. Although affluent customers will have very strong balance sheets, the concentration risk implies that if customers with larger exposures default, it will have a visible deterioration in Ålandsbanken's loan performance.

We expect Ålandsbanken's loan quality to deteriorate modestly over the next 12-18 months due to our forecast of a continued mild contraction in Swedish and Finnish economies during 2024 and gradually increasing unemployment. The assigned asset risk score of baa2, incorporates four negative adjustments, reflecting sector concentration and expected deterioration.

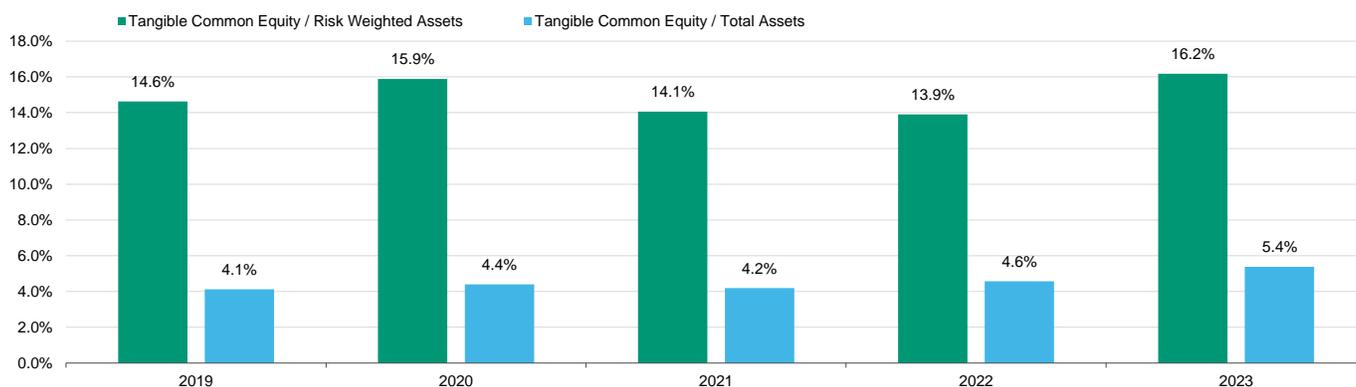
Stronger capitalisation due to lower risk weighted assets and high earnings

Ålandsbanken ended 2023 with a strong capital position, reporting tangible common equity (TCE) to risk-weighted assets ratio of 16.2%, improving from 13.9% in prior year, largely due to transferring mortgages to Borgo and strong internal capital generation.

Ålandsbanken has an internal target to maintain a CET1 ratio buffer 1.75-3 percentage points above its regulatory requirements. At end of 2023, the CET1 ratio was 5.2 percentage points above its 8.5% requirement, however excess capital will reduce during 2024 as the bank expects requirements to increase to 10.3%, largely due to the reintroduction of systemic risk buffers in Finland. Thus we expect that CET1 ratio will stabilise between 13% and 14%. The bank's pillar 2 requirement was 1.1% at end of 2023.

Exhibit 4

Development of Ålandsbanken's capital metrics



Source: Moody's Ratings

Ålandsbanken's long term dividend policy targets a minimum 60% payout ratio. For 2023 they aim to pay out 75% of earnings in an ordinary dividend and an additional 8% as an extra dividend, totaling 83% of earnings.

Ålandsbanken's leverage, measured as TCE to tangible assets, improved to 5.4% in year end 2023 from 4.6% a year earlier.

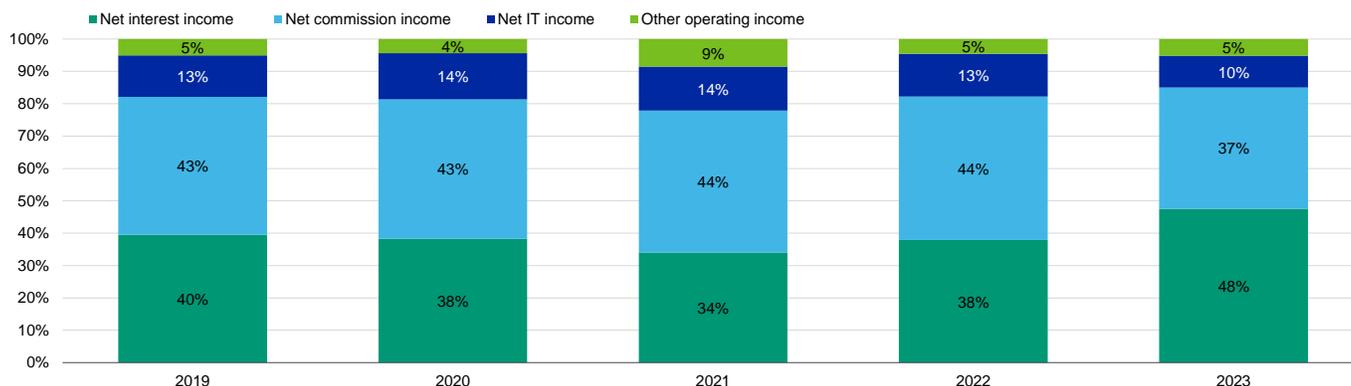
Capitalisation may strengthen temporarily during 2024 due to the last carve out of Swedish mortgages being transferred to Borgo. However, we expect that the long term leverage ratio to hover around 5%, leading to negative adjustments in the assigned capital score as per Moody's Banks methodology.

Our assigned Capital score of a1 incorporates two negative adjustments to reflect the bank's capital targets and nominal leverage.

Diversified revenues and higher net interest income drive earnings

Ålandsbanken has diversified revenues due to its focus on both lending and asset management, but also selling IT services to other banks (see exhibit below). Net income to tangible assets ratio was a strong 0.9% in 2023, increasing from 0.5% a year earlier. We expect earnings to come back down in coming years as margins stabilise. However, as IT service revenues increase over time, recurring profitability could improve.

Exhibit 5

Ålandsbanken's profitability breakdown by income class

Source: Company reports and Moody's Ratings

Ålandsbanken's robust profitability is due to its diversification despite its limited size, both by geography and product line. 43% of revenue comes from Finland, 33% of revenue from Sweden and 24% from the Åland Islands. Of these revenues, 35% was attributable to deposits and daily banking services, 30% from investment services and 19% from financing services. IT Services stood for 14% of revenue, comprising of revenue from the subsidiary Crosskey.

The C/I-ratio was 69.5% which is higher than peers', and reflects the high costs related to Crosskey which is an IT-company. As the company gains scale through growing partnerships, the C/I ratio will likely improve, with better earnings as a result.

We assign a Profitability score of baa3. We believe this reflects the fact that profitability will likely peak in 2023 or 2024 due to interest rate rises of the past few years starting to reverse, partly offset by increasing revenues from Crosskey.

Deposit funded but with concentration in depositors

Ålandsbanken mainly relies on deposit funding representing 74% of funding excluding equity. Private banking customers may be represented both as private and corporate depositors, which creates a concentration risk for Ålandsbanken. Due to the nature of the private banking franchise, the share of uninsured deposits is large at 60% of total deposits. Uninsured deposits are typically more volatile, and exhibit a higher likelihood of flowing out of the bank in case of reputational damage. However, Ålandsbanken's strong record of attracting deposits during times of market volatility reflects the bank's focus on building strong relationships with its customers and the trust they place in the bank.

Ålandsbanken also uses covered bonds to finance its mortgage portfolio. We consider this type of funding to have lower refinancing risk than unsecured bonds due to the liquidity in the market during times of stress.

Ålandsbanken has no unsecured bonds outstanding. During the pandemic Ålandsbanken borrowed money from the ECB. We believe Ålandsbanken will repay their ECB loans in the coming 12-18 months.

Ålandsbanken's funding structure score of baa3 reflects the market funds to tangible banking assets ratio is 18.0% and negative adjustments for depositor concentration.

Ample volumes of high quality liquid assets to meet shifts in deposit flows.

Ålandsbanken has a prudent approach to asset liability management and has ample liquid resources to meet shifts in deposit flows, including large volumes of unencumbered mortgages that can be used to place as collateral in covered bonds to use in repo transactions with the European Central Bank (ECB).

Ålandsbanken's liquid banking assets / tangible banking assets as of year end 2023 was 18.2%. They had a liquidity reserve amounting to €1,264 million, consisting of Aaa rated covered bonds, cash including deposits at central banks, sovereign and sub-sovereign bonds as well as retained covered bonds. The liquidity reserve consists of 95% High Quality Liquid Assets (HQLA), which results in an HQLA/TBA ratio of 23.2%, up from 19.26% in year end 2022.

Ålandsbanken's NSFR ratio was 109% in year end 2023, up from 108% in year end 2022. The LCR ratio had gone up to 156% in year end 2023 from 138% in year end 2022. These ratios are above regulatory and internal requirements, however we consider that the NSFR is narrowly managed due to the depositor concentration.

Ålandsbanken's ALM strategy aims to match a significant part of both assets and liabilities on a floating rate. They can use derivatives to swap fixed interest to floating for their assets and liabilities. To manage the FX risk that arise by holding assets and liabilities in both Euro and SEK, they use different FX swaps, forwards and spots. The FX risk mainly occurs in SEK through activities via the Swedish branch.

The Liquidity score of baa3, reflects the ample volumes of liquid assets and one negative adjustment due to relatively tightly managed NSFR given our view on the volatile nature of unsecured deposits.

Source of facts and figures cited in this report

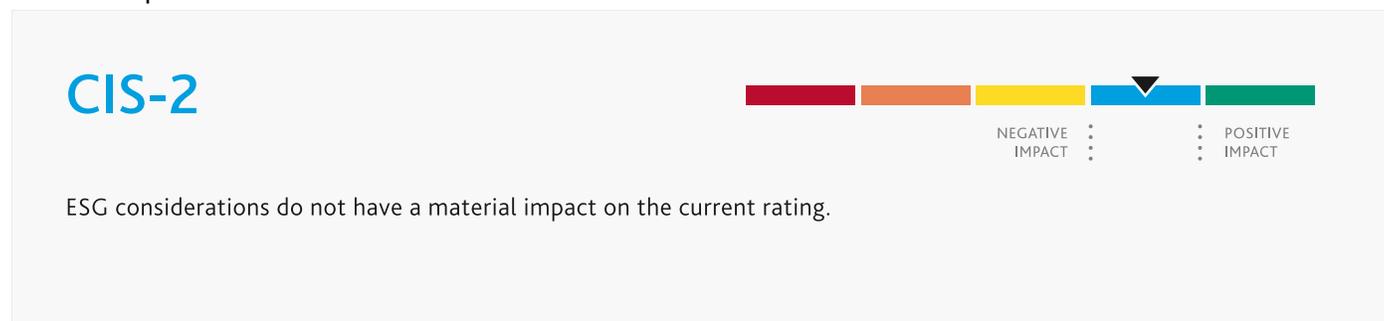
Unless noted otherwise, the bank-specific figures originate from the bank's reports and Moody's Banking Financial Metrics. All figures are based on our own chart of accounts and may be adjusted for analytical purposes. Please refer to the document [Financial Statement Adjustments in the Analysis of Financial Institutions](#), published on 9 August 2018.

ESG considerations

Ålandsbanken Abp's ESG credit impact score is CIS-2

Exhibit 6

ESG credit impact score



Source: Moody's Ratings

Ålandsbanken's Credit Impact Score of **CIS-2** reflects the limited credit impact of ESG considerations on the ratings.

Exhibit 7

ESG issuer profile scores



Source: Moody's Ratings

Environmental

Ålandsbanken faces moderate environmental risks primarily because of its portfolio exposure to carbon transition risk as a diversified bank. In line with its peers, the bank is facing mounting business risks and stakeholder pressure to meet broader carbon transition goals. In response, Ålandsbanken is developing its climate risk and portfolio management capabilities. It is proactively engaging with customers and stakeholders to reduce their footprint by initiating the Åland index.

Social

Ålandsbanken faces moderate industry-wide social risks related to regulatory and litigation risks, requiring high compliance standards. These risks are mitigated by the bank's developed policies and procedures. High cyber and personal data risks are mitigated by the bank's strong IT framework. As retail bank providing services to clients in Sweden and Finland, Ålandsbanken has moderate exposure to customer relations risks. Ålandsbanken's focus on affluent and wealthy clients highlights the importance of customer relations and reputational risks. Data security and customer privacy are critical for banks, particularly in the retail segment because they access large amounts of personal data. Fines and reputational damage as a result of product mis-selling, misrepresentation and other types of misconduct are also key social risks. Continued investments in technology and the bank's long track record of handling sensitive customer data, as well as appropriate culture and governance and compliance functions that ensure adherence to regulatory standards, help to manage the associated credit risk.

Governance

Ålandsbanken faces low governance risks and its risk management, policies and procedures are in line with industry best practices. Ålandsbanken is a regional bank with niche focus on affluent customers which creates some concentration risks in depositors but has a strong track record of good risk management and financial strategy. The bank has a clear and simple organisational structure. The bank has some concentration in ownership with the largest owner controlling 29.8% of votes, however, the bank's board of directors has a majority of independent directors.

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

Ålandsbanken's A3 deposit ratings reflect the baa2 BCA and two notches of uplift as per Moody's Advanced LGF. Ålandsbanken is subject to the EU Bank Recovery and Resolution Directive, which Moody's considers an Operational Resolution Regime. For this analysis, Moody's assumes that equity and losses stand at 3% and 8%, respectively, of tangible banking assets in a failure scenario. The ratings agency also assumes a 25% run-off of "junior" wholesale deposits and a 5% run-off in preferred deposits. Moreover, Moody's assigns a 25% probability to junior deposits being preferred to senior unsecured debt. For Ålandsbanken, Moody's assesses a 26% proportion of junior deposits over total deposits. These are in line with the rating agency's standard assumptions.

In line with the Advanced LGF analysis, Ålandsbanken's junior depositors are likely to face very low loss given failure, because of the substantial buffer of loss-absorbing obligations protecting depositors.

The minimum requirements of own funds and eligible liabilities (MREL) do not currently oblige Ålandsbanken to issue MREL eligible debt and therefore do not affect the Advanced LGF analysis.

Government support

Due to Ålandsbanken's limited market share in Finnish deposits of 1.2%, Moody's assesses the probability of government support in case of failure to be low, providing no further uplift in the ratings.

Counterparty Risk Ratings (CRRs)

The CRRs of Ålandsbanken are A2/Prime-1

The CRR of A2 reflects the Adjusted BCA of baa2 and three notches of uplift, reflecting the extremely low loss given failure from the high volume of instruments that are subordinated to CRR liabilities. The short-term CRR is P-1.

Counterparty Risk (CR) Assessment

The CR Assessment of Ålandsbanken is A2(cr)/Prime-1(cr)

The CR Assessment of Ålandsbanken is positioned at A2(cr), three notches above the Adjusted BCA of baa2, based on the buffer against default provided to the senior obligations. In addition, the low probability of government support does not result in any uplift. The short-term CR Assessment is P-1(cr).

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

Ålandsbanken Abp

Macro Factors

Weighted Macro Profile **Strong +** **100%**

Factor	Historic Ratio	Initial Score	Expected Trend	Assigned Score	Key driver #1	Key driver #2
Solvency						
Asset Risk						
Problem Loans / Gross Loans	1.6%	a1	↔	baa2	Geographical concentration	Sector concentration
Capital						
Tangible Common Equity / Risk Weighted Assets (Basel III - transitional phase-in)	16.2%	aa2	↓	a1	Expected trend	Nominal leverage
Profitability						
Net Income / Tangible Assets	0.7%	baa2	↔	baa3	Expected trend	
Combined Solvency Score		a1		baa1		
Liquidity						
Funding Structure						
Market Funds / Tangible Banking Assets	18.0%	a3	↔	baa3	Deposit quality	
Liquid Resources						
Liquid Banking Assets / Tangible Banking Assets	18.2%	baa2	↔	baa3	Stock of liquid assets	
Combined Liquidity Score		baa1		baa3		
Financial Profile				baa2		
Qualitative Adjustments				Adjustment		
Business Diversification				0		
Opacity and Complexity				0		
Corporate Behavior				0		
Total Qualitative Adjustments				0		
Sovereign or Affiliate constraint				Aa1		
BCA Scorecard-indicated Outcome - Range				baa1 - baa3		
Assigned BCA				baa2		
Affiliate Support notching				0		
Adjusted BCA				baa2		

Balance Sheet	in-scope (EUR Million)	% in-scope	at-failure (EUR Million)	% at-failure
Other liabilities	1 240	23.3%	1 634	30.7%
Deposits	3 863	72.6%	3 469	65.2%
Preferred deposits	2 858	53.7%	2 715	51.0%
Junior deposits	1 004	18.9%	753	14.2%
Dated subordinated bank debt	31	0.6%	31	0.6%
Preference shares (bank)	27	0.5%	27	0.5%
Equity	160	3.0%	160	3.0%
Total Tangible Banking Assets	5 321	100.0%	5 321	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	18.3%	18.3%	18.3%	18.3%	3	3	3	3	0	a2
Counterparty Risk Assessment	18.3%	18.3%	18.3%	18.3%	3	3	3	3	0	a2 (cr)
Deposits	18.3%	4.1%	18.3%	4.1%	2	2	2	2	0	a3

Instrument Class	Loss Given Failure notching	Additional notching	Preliminary Rating Assessment	Government Support notching	Local Currency Rating	Foreign Currency Rating
Counterparty Risk Assessment	3	0	a2 (cr)	0	A2(cr)	
Deposits	2	0		0	A3	A3

[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 9

Category	Moody's Rating
ALANDBANKEN ABP	
Outlook	Stable
Counterparty Risk Rating	A2/P-1
Bank Deposits	A3/P-2
Baseline Credit Assessment	baa2
Adjusted Baseline Credit Assessment	baa2
Counterparty Risk Assessment	A2(cr)/P-1(cr)

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 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