

## CREDIT OPINION

20 May 2025

Update



Send Your Feedback

### RATINGS

#### Ziklo Bank AB

Domicile	Gothenburg, Sweden
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	Negative

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

Tom Ogden +46.8.5179.1294  
Analyst  
tom.ogden@moodys.com

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

Edoardo Calandro +44.20.7772.1097  
VP-Sr Credit Officer  
edoardo.calandro@moodys.com

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

## Ziklo Bank AB

Update to credit analysis following outlook change to negative

### Summary

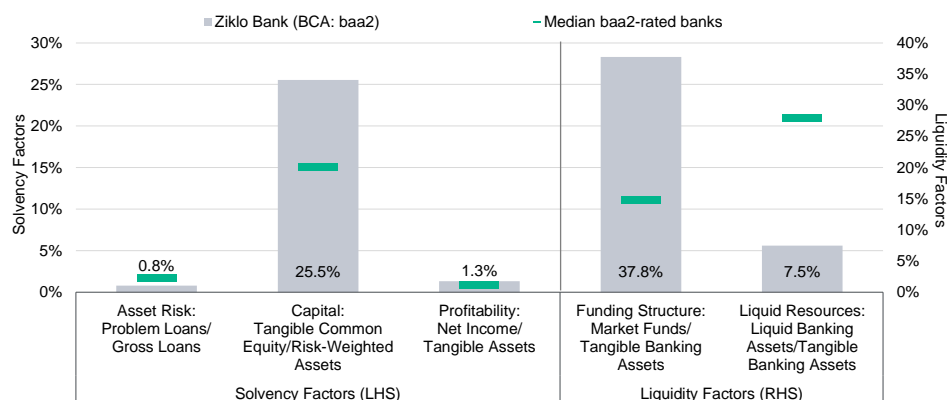
The A3 long-term deposit and issuer ratings of [Ziklo Bank AB](#) (Ziklo Bank) reflect the bank's standalone creditworthiness, as expressed by baa2 Baseline Credit Assessment (BCA), and very low loss-given-failure, which results in a two-notch uplift to its deposit ratings under our advanced Loss Given Failure (LGF) analysis. Low probability of support from the [Government of Sweden](#) (Aaa, outlook stable), does not result in any further uplift.

Ziklo Banks' baa2 BCA reflects its strong solvency, including its consistently strong asset quality, very strong capitalisation, and stable recurring profitability. This is balanced against a reliance on market funding and tightly managed liquidity.

The outlook on Ziklo Bank's deposit and issuer rating is negative, reflecting the interlinks with its part owner [Volvo Car AB](#) (Volvo Car, Corporate Family Rating Ba1, outlook negative).

Exhibit 1

### Rating Scorecard - Key financial ratios



These represent our [Banks](#) methodology scorecard ratios, whereby asset risk and profitability reflect the weaker of either the latest reported or the average of the last three year-end and latest reported ratios. Capital is the latest reported figure. Funding structure and liquid resources ratios reflect the latest year-end figures.

Source: Moody's Ratings

## Credit strengths

- » Stable asset quality and low level of loan losses
- » High regulatory capital ratios
- » Stable recurring profitability
- » Tightly managed liquidity

## Credit challenges

- » Highly concentrated loan book in the automotive sector
- » Interlinkages with Volvo Car
- » High reliance on market funding
- » No permanent access to central bank liquidity

## Outlook

The outlook on Ziklo Bank's long-term deposit and issuer ratings is negative, aligned with the negative outlook on its part owner, Volvo Car. The negative outlook of Volvo Car's is driven by our expectation that amid a challenging macroeconomic environment, the automaker's profitability will remain subdued and it will be difficult to improve profitability and cash flow to levels commensurate with Volvo Car's Ba1 rating.

In our view, a deterioration in Volvo Car's creditworthiness could have a spillover effect on the bank's financing volumes, profitability, or ability to fund itself. Additionally, a weaker performance of the automaker could impact the operating performance of Volvo dealers, which provide loan and lease residual guarantees for Ziklo's lending portfolio. These risks are balanced by the significant share of financed vehicles being non-Volvo, including those in its fleet business and affiliated Volvo dealers.

## Factors that could lead to an upgrade

While unlikely given the negative outlook on its long-term deposit and issuer ratings, Ziklo Bank's ratings could be upgraded following higher liquidity buffers and permanent central bank liquidity access, provided that also Volvo Car's ratings are upgraded (unlikely at present given the negative outlook), or provided that Ziklo Bank further diversifies the cars it finances away from Volvo Car and it reduces its interdependencies with Volvo Car and the Volvo brand.

## Factors that could lead to a downgrade

The ratings could be downgraded if the BCA is downgraded or if there is a substantial reduction in the volume of deposits compared to its tangible banking assets, resulting in higher loss severity for deposits in the event of the bank's failure. The BCA could be downgraded following a significant deterioration in profitability and asset quality, or a lack of access to market funding, which would put pressure on liquidity.

Furthermore, a downgrade of Volvo Car's ratings could lead to a downgrade of Ziklo Bank's ratings, particularly if we believe that a deterioration in Volvo Car's creditworthiness impacts Ziklo Bank's financing volumes, the performance of Volvo dealers in Sweden, or its ability to fund itself in wholesale markets.

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

### Ziklo Bank AB (Unconsolidated Financials) [1]

	12-24 <sup>2</sup>	12-23 <sup>2</sup>	12-22 <sup>2</sup>	12-21 <sup>2</sup>	12-20 <sup>2</sup>	CAGR/Avg. <sup>3</sup>
Total Assets (SEK Million)	58,059.9	49,791.8	46,920.1	45,112.0	44,142.4	7.1 <sup>4</sup>
Total Assets (USD Million)	5,254.6	4,940.7	4,503.1	4,986.4	5,375.0	(0.6) <sup>4</sup>
Tangible Common Equity (SEK Million)	8,146.2	6,388.4	5,778.7	5,251.9	4,608.6	15.3 <sup>4</sup>
Tangible Common Equity (USD Million)	737.3	633.9	554.6	580.5	561.2	7.1 <sup>4</sup>
Problem Loans / Gross Loans (%)	0.8	0.8	0.6	0.6	0.8	0.7 <sup>5</sup>
Tangible Common Equity / Risk Weighted Assets (%)	25.5	23.3	23.8	23.7	21.6	23.6 <sup>6</sup>
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	4.8	5.1	4.0	4.1	6.2	4.8 <sup>5</sup>
Net Interest Margin (%)	2.2	2.5	1.9	1.6	1.6	2.0 <sup>5</sup>
PPI / Average RWA (%)	3.7	4.4	3.8	3.2	3.0	3.6 <sup>6</sup>
Net Income / Tangible Assets (%)	1.3	1.6	2.8	1.8	1.0	1.7 <sup>5</sup>
Cost / Income Ratio (%)	43.1	38.1	39.3	41.4	44.8	41.3 <sup>5</sup>
Market Funds / Tangible Banking Assets (%)	37.8	29.8	29.5	31.5	30.4	31.8 <sup>5</sup>
Liquid Banking Assets / Tangible Banking Assets (%)	7.5	7.4	6.9	8.5	8.6	7.8 <sup>5</sup>
Gross Loans / Due to Customers (%)	198.0	174.3	173.1	177.5	169.0	178.4 <sup>5</sup>

[1] All figures and ratios are adjusted using Moody's standard adjustments. [2] Basel III - fully loaded or transitional phase-in; IFRS. [3] 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

Ziklo Bank AB (previously - Volvofinans Bank AB), established in 1959, offers financial services to private and corporate customers who purchase or lease vehicles, mainly through the Volvo dealers in Sweden. In recent years, Ziklo Bank has expanded its offerings by collaborating with more partners and brands within the automotive and mobility industry. To support its multi-brand strategy, the bank rebranded as Ziklo Bank in March 2024, while retaining the Volvofinans name for its deposit products and Volvo related offerings.

In addition to car and truck financing (55% and 14% of lending, respectively, as of end-December 2024), the bank provides fleet financing solutions (28%) and credit card services (4%). The bank's automotive-oriented franchise is underpinned by its widely recognised brand name and a leading market share in the car financing segment in Sweden.

## Detailed credit considerations

### Highly concentrated loan book in the automotive sector and interlinkages with Volvo Car constrain the BCA

Similar to other automotive financing banks, Ziklo Bank's derives the majority of its revenue from consumer and automotive finance operations in Sweden, exposing it to the cycles within the automotive industry. The bank's BCA of baa2 is, therefore, one notch below its baa1 Financial Profile because its monoline business model prevents it from having other income streams to fall back on to help absorb any unexpected shocks.

Ziklo Bank's baa2 BCA is constrained at two notches above Volvo Car's Ba1 Corporate Family Rating due to Volvo Car's substantial ownership stake in Ziklo Bank (50%) and the commercial connection through the Volvofinans brand, as well as being a significant financier of Volvo vehicles. However, the two-notch difference is greater than that of auto captives, reflecting the lower level of interlinkages between Ziklo Bank and Volvo Car.

### Stable asset quality and low level of loan losses

The bank's asset quality has remained resilient despite the challenging operating environment experienced during the past years with high inflation, in addition to high fuel and commodity costs and higher interest rates. Problem loans have remained low in the last five years (Exhibit 3).

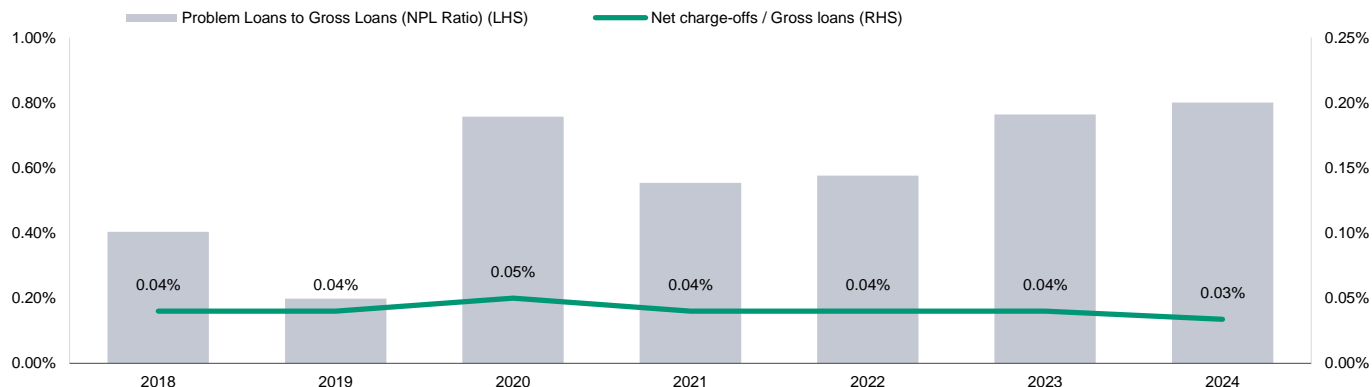
We expect problem loans to remain stable during the next 12-18 months and credit losses will remain minimal with a large portion of the bank's exposures protected through recourse agreements with its Volvo dealers. The Swedish Volvo dealers have an obligation to

cover the loan losses arising from the loans they have originated. In addition, Volvo dealers are obliged to buy back problem loans from the bank.

Exhibit 3

**Low levels of problem loans**

**Problem loans and net charge-offs as a share of gross loans and leases**



Source: Moody's Ratings

These recourse agreements with its Swedish Volvo dealers cover two-thirds of the bank's lending book (sales finance cars and sales finance trucks), which require dealers to cover losses arising from the loans they have originated. In addition, Volvo dealers are obliged to buy back problem loans from the bank. Consequently, the bank will recognise a loan loss only if the end-customer suspends payments; the dealership is unable to service the missed customer payments; and the market value of the vehicle is less than the residual value of the loan. As a result, Ziklo Bank's loan losses are very low and well below its peers, equivalent to only 3 basis points of gross outstanding loans as of end of December 2024. Likewise, of the SEK291 million in loan and leasing receivables more than 90 days overdue or defaulted, SEK288 million are protected by recourse agreements. The bank also has SEK23 million of credit cards related impaired receivables as of end of December 2024.

Given its business model, Ziklo Bank's concentration in automotive financing is very high compared with the industry concentrations of other Swedish banks and can be sensitive to shifts in residual values. Hence, the bank's financial performance is more correlated with the performance of the Swedish automotive industry than that of many other Swedish banks. Although the bank's credit card business adds some diversification, card lending volumes remained low at around 4% of total lending as of the end of December 2024 and they're higher risk, forming the bank's main source of loan losses.

In November 2024, Ziklo Bank acquired a portfolio of leasing contracts from Volvo Car Sweden going under the name Care by Volvo, which was a leasing and car subscription service. The acquisition was of 8745 cars valued at 2.7 billion. The customers were both private and corporates, and their leasing contracts were transferred to Ziklo Bank after the acquisition. Hence, out of the SEK6.6 billion growth in lending for Ziklo Bank in 2024, SEK2.7 billion was a result of this acquisition.

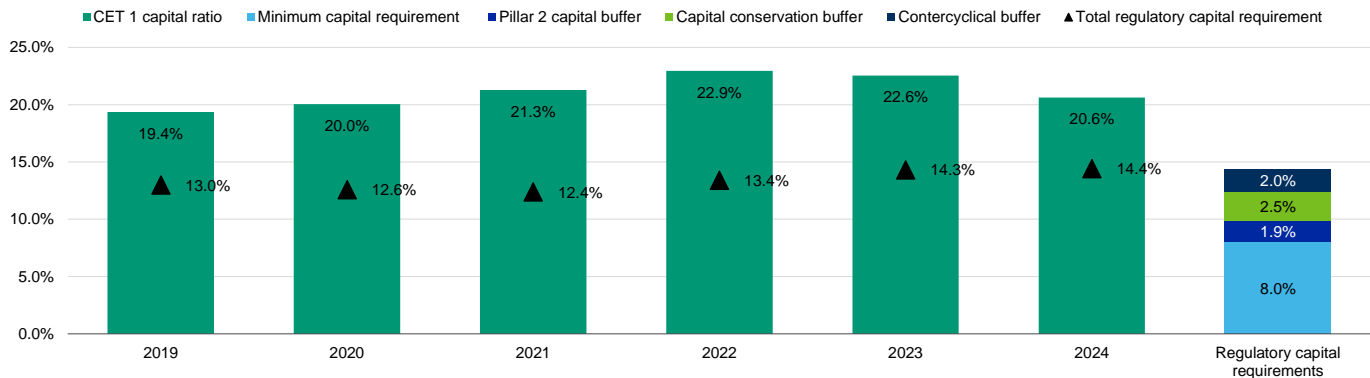
The bank's concentrated exposure to automotive financing, which we consider significantly riskier than, for example, residential mortgage lending, is reflected in the assigned a2 Asset Risk score; this is three notches below the aa2 Macro Adjusted score.

**High regulatory capital ratios**

The bank maintains a conservative capital management policy underpinned by very high capital levels, solid recurring profitability and a modest dividend payout policy. As of December 2024, Ziklo Bank reported a 20.6% Common Equity Tier 1 (CET1) capital ratio and a 20.6% total capital ratio, lower from year-end 2023 but still well-above its regulatory requirements (Exhibit 4). Ziklo Bank has a strong reported leverage ratio of 11.9% as of end-December 2024 which reflects its exposure to automotive financing which carries higher risk-weights.

Exhibit 4

### High capital buffers demonstrates a conservative capital management approach Capitalisation and minimum regulatory capital requirements



Source: Company reports

The bank's regulatory capital is comprised entirely of CET1, with the bulk of this equity located in an untaxed reserve on the balance sheet. This balance sheet entry increases as a result of accelerated depreciation, which, in turn, reduces the bank's tax bill. Untaxed reserves essentially consist of profit that has not yet been taxed. To calculate our TCE ratio, we deduct taxes from the untaxed reserves and treat the net balance as equity.

Ziklo Bank is privately owned by the Volvo dealers (via their holding company, AB Volverkinvest) and Volvo Personvagnar AB, and therefore does not have the same type of access to capital as a publicly traded bank. The bank's limited access to capital against its very strong capitalisation results in a one-notch negative adjustment to the aa2 assigned Capital score.

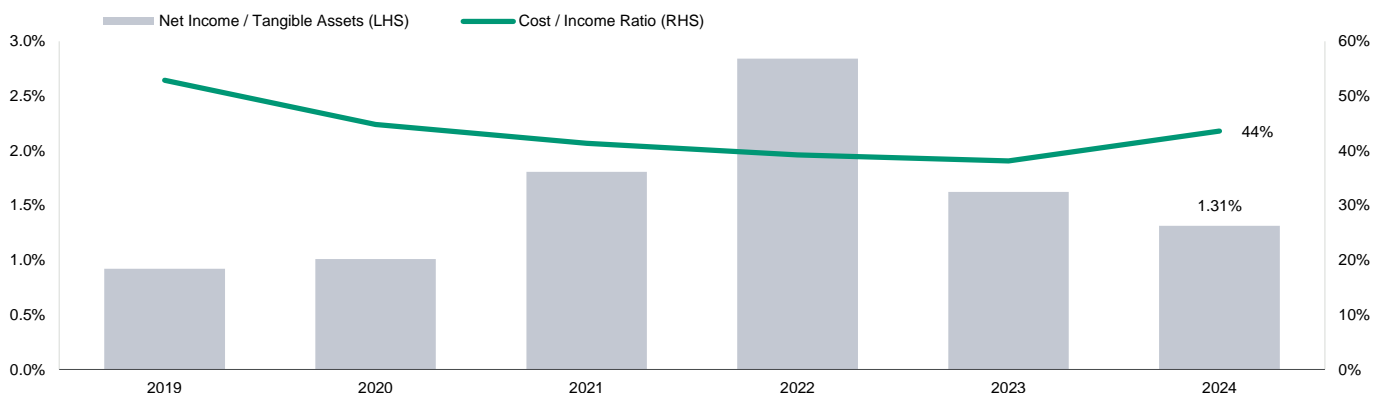
### Stable recurring profitability

The bank's high recurring profitability is supported by sound margins and good operational efficiency with a modest reported cost-to-income ratio of 44% for 2024, up from 38% in 2023. Its track record of stable financial performance reflects the leading market presence of Volvo cars in Sweden as well as its strategy to diversify the automotive brands that it finances.

Ziklo Bank's earnings remained high during 2024, with a net income to tangible assets ratio of 1.31% due to elevated net interest margins (NIM), and as solid origination volumes from corporate customers offset waning private customers originations (Exhibit 5). Looking ahead, we expect a moderation in the bank's NIM, driven by low growth of new car registrations and weak used car prices to lead to a moderation in its profitability.

Exhibit 5

### Ziklo Bank's ROA has moderated from a record high in 2022 yet remains strong Profitability metrics



Moody's adjusted figures

Source: Moody's Ratings

Ziklo Banks' earnings structure benefits from very low credit losses, with its loan loss provisions to pre-provision income being one of the lowest among the Swedish banks that we rate, supported by its loan recourse agreements with Volvo dealers. For 2024, loan loss provisions amounted to SEK 24.2 million, compared to SEK 12.4 million in 2023.

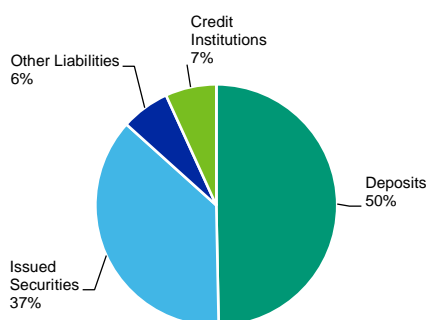
The Profitability score of a3 reflects the bank's high profitability and good efficiency ratios. The assigned score is one notch below the Macro Adjusted score to reflect our expectations that the bank's profitability will marginally reduce.

### High reliance on market funding

Ziklo Bank is primarily funded via deposits, which account for 50% of its reported total liabilities (non-equity funding) as of end-December 2024 (Exhibits 6 and 7). While its share of retail deposits, generally a less volatile funding source, is considerably higher than other automotive financing banks it still remains reliant on a significant portion of wholesale funding, largely domestic senior unsecured funding. To date, deposits have been a relatively cheap and a stable source of funding for the bank. However, the bank does not provide current accounts, which may affect the stickiness of the deposits.

Exhibit 6

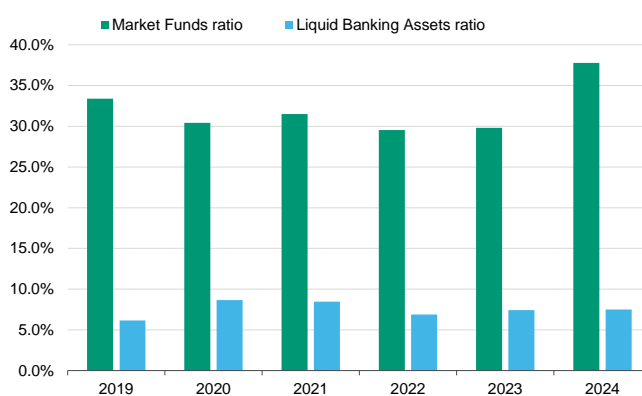
**Ziklo Bank remains dependent on wholesale funding**  
Non-equity funding sources as a percentage of total liabilities (as of 31 December 2024)



Source: Moody's Ratings

Exhibit 7

**The acquisition of Care by Volvo led to an increased reliance on wholesale funding in 2024**  
Funding and liquidity metrics



Source: Moody's Ratings

As a small Swedish bank, Ziklo Bank has a debt investor base that is smaller than that of larger Swedish banks that issue debt in multiple currencies and geographies and to a diversified investor base. The lack of such a deep and diversified investor pool places Ziklo Bank at a disadvantage to those banks if markets were to shrink.

The share of market funding has increased in the past years, from 29.8% as of year-end 2023 to 37.8% by year-end 2024. The increase was largely driven by the acquisition of SEK1.8 billion of leases from Volvo Car Sweden in October 2024. We however don't expect this increase to continue as we believe deposits will become a larger share of total funding in the coming 12-18 months.

The Funding Structure score of ba2 is positioned in line with the Macro Adjusted score, reflecting the bank's high reliance on market funding.

### Tightly managed liquidity but no permanent access to central bank liquidity

The bank's Liquid Banking Assets / Tangible Banking Assets (TBA) ratio was a low 7.5% as of year-end 2024. Its high-quality liquid assets and due from financial institutions as a share of TBA was slightly higher at 9.8%. The bank does have access to additional credit facilities and could draw down on a total of SEK3.8 billion from leading financial institutions. In addition, much of the bank's lending is related to cars and has shorter terms than those of banks that focus on mortgage lending, lowering its asset-liability mismatch. Ziklo Bank had an NSFR ratio of 120% as of December 2024, compared to 119% by year end 2023. The LCR ratio was a strong 248%, up from 246% since year-end 2023.

Our assessment on liquidity also takes into account Ziklo Bank lack of permanent access to central bank liquidity as a monetary policy counterparty, which reduces the available liquidity sources during severe market stress. The bank was granted temporary access during

the pandemic between 2020-22, however, their status stands out compared to other Swedish banks with permanent access to the central bank as the lender of last resort. While the bank does not have the same intraday liquidity needs as banks that offer current accounts, there is still a risk of accelerated deposit outflows and limited access to capital markets during times of high volatility.

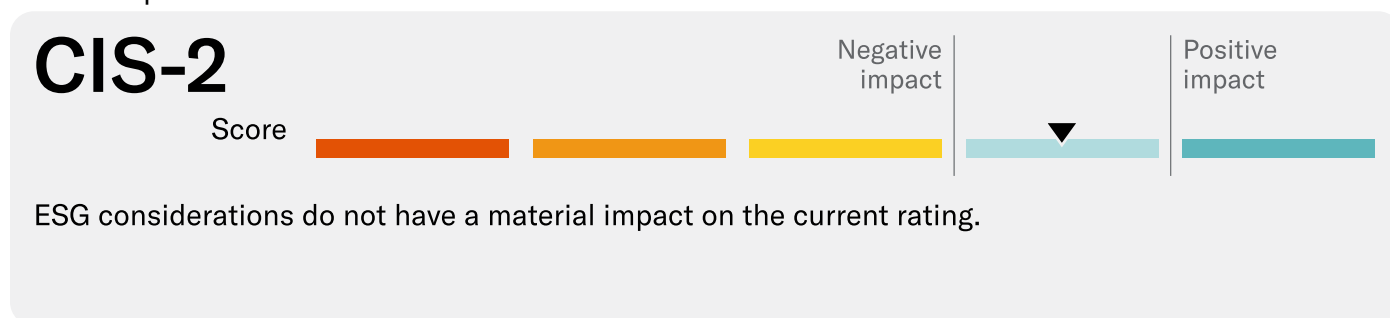
The assigned Liquid Assets score of b2, one notch below the Macro Adjusted score, reflects the bank's tightly managed liquidity but also its lack of permanent access to central bank liquidity.

## ESG considerations

### Ziklo Bank AB's ESG credit impact score is CIS-2

Exhibit 8

#### ESG credit impact score



Source: Moody's Ratings

Ziklo Bank's **CIS-2** reflects our view that environmental, social and governance risks have no material impact on the ratings.

Exhibit 9

#### ESG issuer profile scores



Source: Moody's Ratings

## Environmental

Ziklo Bank faces environmental risks primarily because of its portfolio exposure to carbon transition risks in its auto lending business. The bank is subject to the same shift in demand characteristics for their product offering in the same way that auto manufacturers are. These risks are addressed by the bank's active climate risk management strategy and portfolio management capabilities, which is reflected in its growing share of financed electric and plug-in hybrid electric vehicles.

## Social

Ziklo Bank faces 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.

## Governance

Ziklo Bank faces low governance risks. It has a track record of sound capital management and earnings stability while losses have been low, even at times of market turbulence. The lack of permanent access to central bank liquidity as a monetary policy counterparty increases the bank's liquidity risk compared to other Swedish banks. Ziklo Bank is 50:50 jointly owned by the Swedish Volvo dealers through AB Volverkinvest and the car manufacturer Volvo Personvagnar AB, leading to moderately negative risks with respect to board structures and policies. Its seven-member board of directors includes three independent directors, two members appointed

by Volvo Personvagnar, and two members appointed by the Volvo dealers. The minority of representation by either of the large owners supports board independence and effective oversight. Ziklo Bank benefits from a degree of strategic, operational and financial independence, which makes its credit profile less correlated with its automotive-manufacturer parent than is typically observed with captive automotive financing banks.

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) analysis

We apply our Advanced LGF analysis to Ziklo Bank because the bank is based in Sweden, which we consider an operational resolution regime. For this analysis, we assume that equity and losses are at 3% and 8%, respectively, of tangible banking assets in a failure scenario. We also assume a 25% runoff of junior wholesale deposits and a 5% runoff in preferred deposits. Moreover, we assign a 25% probability to junior deposits being preferred over senior unsecured debt. These are in line with our standard assumptions. We also assume that the share of junior deposits is 10%, in line with our view that retail oriented banks will have a low share of large corporate deposits.

Our LGF analysis indicates that Ziklo Bank's deposits and senior unsecured debt are likely to face very low loss given failure because of the loss absorption provided by the volume of deposits and senior debt themselves. This results in a two-notch uplift for the long-term deposit and issuer ratings from the bank's Adjusted BCA.

### Government support considerations

We believe that Ziklo Bank is not a systemic institution. As such, the bank's ratings do not include uplifts for government support, reflecting of our assessment of a low probability of support from the Swedish government.

## 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 10

### Rating Factors

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	0.7%	aa2	↔	a2	Sector concentration		
Capital							
Tangible Common Equity / Risk Weighted Assets (Basel III - transitional phase-in)	31.2%	aa1	↔	aa2	Access to capital		
Profitability							
Net Income / Tangible Assets	1.5%	a2	↓	a3	Expected trend		
Combined Solvency Score		aa2		a1			
Liquidity							
Funding Structure							
Market Funds / Tangible Banking Assets	37.8%	ba2	↔	ba2	Extent of market funding reliance		
Liquid Resources							
Liquid Banking Assets / Tangible Banking Assets	7.5%	b1	↔	b2	Additional liquidity resources		
Combined Liquidity Score		ba3		ba3			
Financial Profile		a3		baa1			
Qualitative Adjustments				Adjustment			
Business Diversification				-1			
Opacity and Complexity				0			
Corporate Behavior				0			
Total Qualitative Adjustments				-1			
Sovereign or Affiliate constraint				baa2			
BCA Scorecard-indicated Outcome - Range				baa1 - baa3			
Assigned BCA				baa2			
Affiliate Support notching				0			
Adjusted BCA				baa2			
Balance Sheet		in-scope (SEK Million)	% in-scope	at-failure (SEK Million)	% at-failure		
Other liabilities		12,805	21.9%	14,507	24.8%		
Deposits		24,320	41.6%	22,618	38.6%		
Preferred deposits		21,888	37.4%	20,794	35.5%		
Junior deposits		2,432	4.2%	1,824	3.1%		
Senior unsecured bank debt		19,640	33.6%	19,640	33.6%		
Equity		1,756	3.0%	1,756	3.0%		
Total Tangible Banking Assets		58,521	100.0%	58,521	100.0%		

Debt Class	De Jure waterfall		De Facto waterfall		Notching		LGF	Assigned	Additional	Preliminary
	Instrument volume + subordination	Sub-ordination	Instrument volume + subordination	Sub-ordination	De Jure	De Facto	Notching Guidance vs. Adjusted BCA	LGF notching		
Counterparty Risk Rating	39.7%	39.7%	39.7%	39.7%	3	3	3	3	0	a2
Counterparty Risk Assessment	39.7%	39.7%	39.7%	39.7%	3	3	3	3	0	a2 (cr)
Deposits	39.7%	3.0%	39.7%	36.6%	2	3	2	2	0	a3
Senior unsecured bank debt	39.7%	3.0%	36.6%	3.0%	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 Rating	3	0	a2	0	A2	A2
Counterparty Risk Assessment	3	0	a2 (cr)	0	A2(cr)	
Deposits	2	0	a3	0	A3	A3
Senior unsecured bank debt	2	0	a3	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 11

Category	Moody's Rating
<b>ZIKLO BANK AB</b>	
Outlook	Negative
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)
Issuer Rating	A3
ST Issuer Rating	P-2

Source: Moody's Ratings

© 2025 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 Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it. MCO and all MCO entities that issue ratings under the "Moody's Ratings" brand name ("Moody's Ratings"), also maintain policies and procedures to address the independence of Moody's Ratings' 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 [ir.moody.com](http://ir.moody.com) under the heading "Investor Relations — Corporate Governance — Charter and Governance 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 61 003 399 657 AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

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 and Net Zero Assessments (as defined in Moody's Ratings Rating Symbols and Definitions): Please note that neither a Second Party Opinion ("SPO") nor a Net Zero Assessment ("NZA") is a "credit rating". The issuance of SPOs and NZAs is not a regulated activity in many jurisdictions, including Singapore. JAPAN: In Japan, development and provision of SPOs and NZAs 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