

# Covered Bonds follow-up Rating

Nordea Mortgage Bank Plc.  
Mortgage Covered Bond Program

Rating Object	Rating Information	
<b>Nordea Mortgage Bank Plc., Mortgage Covered Bond Program</b>	Rating / Outlook : <b>AAA / Stable</b>	Type: Rating Update (unsolicited)
Type of Issuance : Mortgage Covered Bond under Finnish law Issuer : Nordea Mortgage Bank Plc	Rating Date : Rating Renewal until : Maximum Validity: Rating Methodology :	10.08.2023 Withdrawal of the rating 01 January 2050 CRA „Covered Bond Ratings“
LT Issuer Rating : AA- (Nordea Mortgage Bank) ST Issuer Rating : L1 Outlook Issuer : Stable		

Program Overview			
Nominal value	EUR 18,117 m.	WAL maturity covered bonds	3.24 Years
Cover pool value	EUR 20,689 m.	WAL maturity cover pool	5.95 Years
Cover pool asset class	Mortgages	Overcollateralization (nominal/committed)	14.20%/ 0.00%
Repayment method	Hard Bullet	Min. overcollateralization	2.00%
Legal framework	Finnish Covered Bonds	Covered bonds coupon type	Fix (52.79%), Floating (47.21%)

Cut-off date Cover Pool information: 31.03.2023.

## Rating Action

### Content

Rating Action .....	1
Issuer Risk .....	2
Structural Risk .....	2
Liquidity- and Refinancing Risk .....	3
ESG Criteria .....	4
Credit and Portfolio Risk .....	4
Cash-Flow Analysis .....	8
Counterparty Risk .....	10
Appendix .....	11

This follow-up report covers our analysis of the mortgages covered bond program (Cover Pool 1) issued under Finnish law by Nordea Mortgage Bank Plc („Nordea Mortgage Bank“). The total covered bond issuance at the cut-off date (31.03.2023) had a nominal value of EUR 18,116.50 m., backed by a cover pool with a current value of EUR 20,689.40 m. This corresponds to a nominal overcollateralization of 14.20%. The cover assets include Finnish mortgages obligations in Finland.

Taking into consideration the issuer rating, our analysis of the regulatory framework, liquidity- and refinancing risks, as well as our cover pool assessment and results of the cash flow analysis, Creditreform Rating AG (“Creditreform Rating” or “CRA”) affirms the covered bond program with an AAA rating. The AAA rating represents the highest level of credit quality and the lowest investment risk.

### Analysts

Philip Michaelis  
Lead Analyst  
p.michaelis@creditreform-rating.de  
+49 2131 109 2157

Qinghang Lin  
Analyst  
q.lin@creditreform-rating.de  
+49 2131 109 1938

Neuss, Germany

## Key Rating Findings

- + Covered Bonds are subject to strict legal requirements
- + Covered Bonds are backed by appropriate cover asset class
- + Covered bondholders have full recourse to the issuer
- + Issuer’s continued, very good earnings quality in challenging market environment
- Special cover pool monitor not independent from the issuer
- Uncertain market environment of high inflation and rapidly increasing interest rates

Europe Table1: Overview results

Risk Factor	Result
Issuer rating	AA- (rating as of 14.06.2023)
+ Legal and regulatory framework	+4 Notches
+ Liquidity and refinancing risk	+1 Notch
= Rating after 1 <sup>st</sup> uplift	AAA
Cover pool & cash flow analysis	BBB-
+ 2 <sup>nd</sup> rating uplift	+/-0 Notch
= Rating covered bond program	AAA

## Issuer Risk

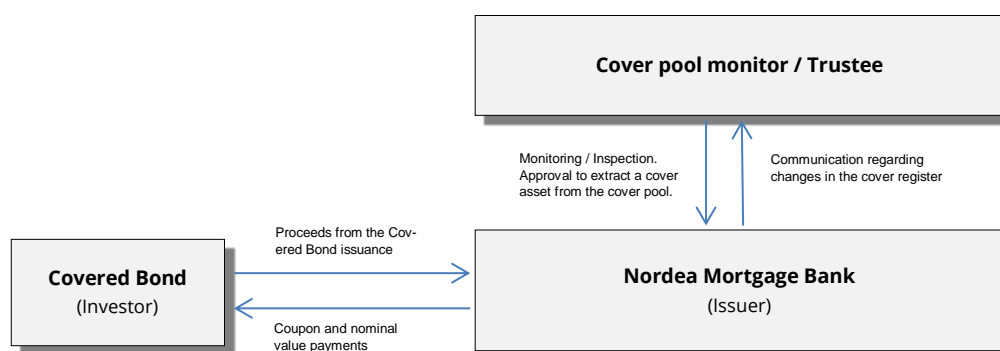
### Issuer

Our rating of Nordea Mortgage Bank Plc. covered bond program is reflected by our issuer rating opinion of Nordea Bank Abp (Group) due to its group structure. CRA has affirmed the long-term rating of Nordea Bank Abp at AA- with a stable outlook in a Rating Update dated 14 June 2023. Nordea's long-term issuer rating and outlook confirmation were largely driven by the bank's continued, very good earnings quality in combination with a further improving, excellent asset quality in challenging market environment. Another positive factor is that Nordea is considered as an Other Systemically Important Institution ("O-SII") and must therefore comply with additional regulatory capital requirements. However, the current uncertain market environment of high inflation and rapidly increasing interest rates currently harbor considerable risk potential. For a more detailed overview of the issuer rating, please refer to the webpage of Creditreform Rating AG.

## Structural Risk

### Transaction structure

Figure1: Overview of Covered Bond emission | Source: CRA



## Legal and Regulatory Framework

In Finland, the covered bond legislation is regulated by the Act of Mortgage Credit Bank Operations (HE 42/2010) since 8/1/2010, which is an updated version of old Act on Mortgage Credit Bank from 1999. Under this framework, both universal banks and specialist mortgage banks are permitted to issue mortgage covered bonds in Finland. The Finnish Financial Supervisory Authority (FSA) is responsible for the regulatory, monitoring and permission of covered bond programs, both off-site as well as on-site.

The covered bondholders have direct recourse to the issuer and a preferential claim over the cover pool assets secured by its cover asset class. The cover assets comprise of mortgage loans, equity stakes in Finnish housing companies public sector loans confined to EEA countries. Non-Finnish cover assets are allowed if the particular jurisdiction complies with specific criteria. However, Finnish covered bond programs only include Finnish cover assets in the cover pools until now.

The Finnish legal framework does not stipulate a special cover pool monitor. The issuer will be then in turn responsible for the cover pool supervision. In case of issuer default or any other crisis with respect to covered bonds, a special administrator guarantees the ongoing management of the cover pool.

In general, we consider the structural framework for Finnish covered bonds as positive as it defines clear rules to mitigate risks in particular regarding insolvency remoteness, investor's special claim vis-à-vis other creditors, among other provisions. Furthermore, it foresees clear defined asset eligibility criteria with soft and hard LTV limits. On the other hand, the Finnish legal framework does not stipulate a special cover pool monitor independent from the issuer. Due to those reasons we have set a rating uplift of four (+4) notches for the regulatory and structural framework for Finnish covered bond programs.

## Liquidity- and Refinancing Risk

According to Finnish covered bond framework, it is compulsory for the covered bond issuers to maintain an overcollateralization (OC) of at least 2% measured on a daily net present value basis. Voluntary OC will be safeguarded. In addition, the statutory liquidity coverage requirement for 12 months is a safeguard mechanism to ensure the servicing of pending principal and interest payments.

The legal framework stipulates to do static and dynamic stress tests on a monthly basis if market values of cover assets decrease. Furthermore, it is obligatory to do stress tests to anticipate interest rate and currency discrepancies.

In case of issuer default, the special cover pool monitor is permitted to transfer covered bond together with underlying cover assets to another issuing credit institution after the FSA's approval. If the coverage tests cannot any longer meet the requirements, the cover pool monitor can accelerate the covered bonds, which would lead to selling cover pool assets.

The European Commission on November 2019 has also adopted the legislative package to provide for enhanced harmonisation of the EU covered bond market. Each of the Member States shall implement the Covered Bond Directive by 8 July 2021 and the national measures shall be

applied at the latest from 8 July 2022. Once fully implemented, the directive might have a potential impact on legal and regulatory framework on the issuer and the covered bonds of each EU member states.

In general, the Finnish Covered Bond legislation and the stipulated risk management processes for liquidity risks constitute a comparatively adequate framework by which they can be effectively reduced. Features as the coverage interest and principal payments test within the next 12 months may temper underlying liquidity risk. Furthermore, Refinancing risks, cannot be structurally completely reduced under hard bullet repayment structures, which in turn can only be cushioned by sufficiently high overcollateralization or other liquid funds. Nevertheless, we assess the overall legal provisions on liquidity management for covered bonds programs issued in Finland and set a rating uplift of only one (+1) notch.

## ESG Criteria

CRA generally takes ESG-relevant factors (environmental, social and governance) into account when assessing Covered Bond ratings. Overall, ESG factors have a significant impact on the current rating of this Covered Bond program. CRA identifies governance factors, in particular, to have a highly significant impact on Covered Bond ratings. Since Covered Bonds are subject to strict legal requirements, regulatory risk plays an important role in assessing the credit rating.

The Finnish covered bond legislation defines clear rules to mitigate risks in particular regarding: insolvency remoteness, asset segregation, investor's special claim vis-à-vis other creditors, clearly defined asset eligibility criteria with soft and hard LTV limits among other provisions. However, the Finnish legislation does not stipulate a special cover pool monitor independent from the issuer. Additionally, Risk management and internal controls as well as the macroeconomic factors such as hedging strategies, interest rates and yield curve are considered to have a highly significant impact on the assessment of the credit rating. Other individual factors with a potential key rating influence were not identified, and therefore did not affect the final rating.

## Credit and Portfolio Risk

### Cover pool analysis

The analysis of the cover pool is based on public information which has been made available by the Issuer, in particular the Harmonised Transparency Template („HTT“) as per regulatory requirements. This information was sufficient according to CRA´s rating methodology “Covered Bond Ratings”.

At the cut-off-date 31.03.2023, the pool of cover assets consisted of 275,809 debt receivables, of which 100.00% are domiciled in Finland. The total cover pool volume amounted to EUR 20,689.40 m. in residential (100.00%), commercial (0.00%) and others (0.00%) loans.

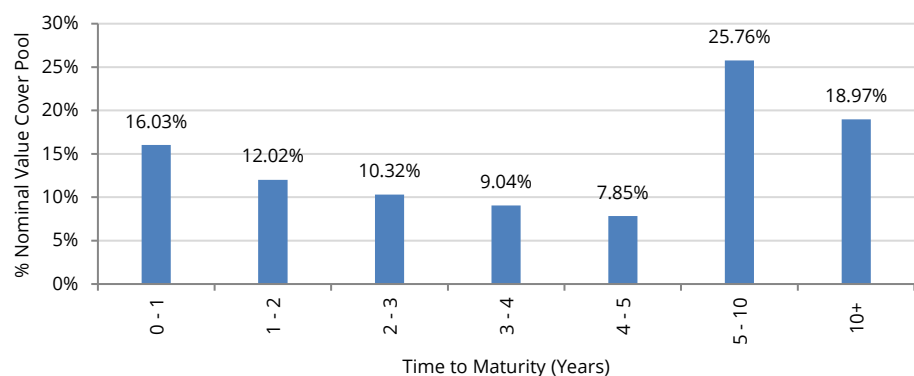
The residential cover pool consists of 275,809 mortgage loans having an unindexed weighted average LTV of 52.88%. The non-residential cover pool does not have any mortgage loans. The ten largest debtors of the portfolio total to 0.12%. Table 2 displays additional characteristics of the cover pool:

Table 2: Cover pool characteristics | Source: Nordea Mortgage Bank

Characteristics	Value
Cover assets	EUR 20,689 m.
Covered bonds outstanding	EUR 18,117 m.
Substitute assets	EUR 0.00 m.
Cover pool composition	
Mortgages	99.66%
Substitute assets	0.00%
Other / Derivative	0.00%
Number of debtors	NR
Mortgages Composition	
Residential	100.00%
Commercial	0.00%
Other	0.00%
Average asset value (Residential)	EUR 74.76 k.
Average asset value (Commercial)	EUR 0.00 k.
Non-performing loans	0.00%
10 biggest debtors	0.12%
WA seasoning	65.53 Months
WA maturity cover pool (WAL)	5.95 Years
WA maturity covered bonds (WAL)	3.24 Years

We have listed an extended view of the composition of the cover pool in the appendix section “Cover pool details”. The following chart displays the maturity profile of the cover assets at the cut-off date 31.03.2023 (see figure 2):

Figure 2: Distribution by remaining time to maturity | Source: Nordea Mortgage Bank



## Maturity profile

The following charts present the cash flow profile of the Issuer (see figure 3 and figure 4):

Figure 3: Cover asset congruence | Source: Nordea Mortgage Bank

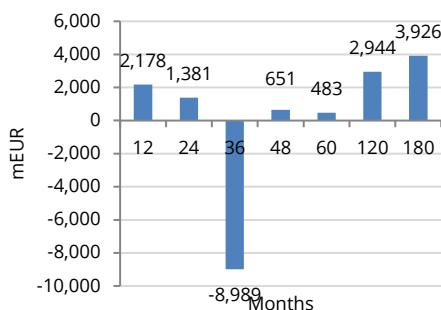
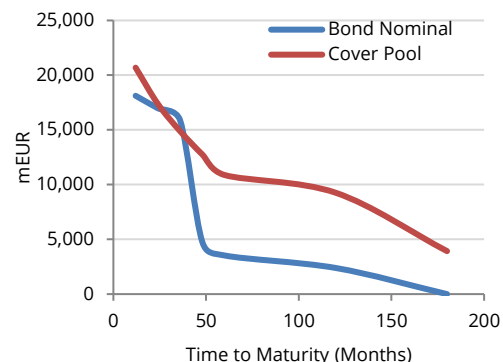


Figure 4: Amortization profile | Source: Nordea Mortgage Bank



During its cash flow modelling, CRA has taken into consideration the maturity structure of cover assets and liabilities. This structure was an integral part of the cash flow analysis.

### Interest rate and currency risk

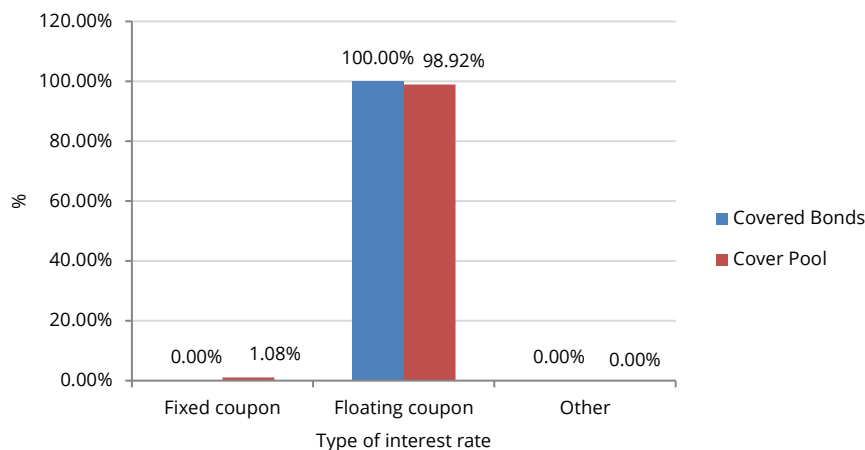
In order to reduce the exposure to the interest rate and currency risks, derivative contracts can be used to hedge these risks. In addition, according to the legal framework, cover assets have to be of equal currency as the covered bonds. Furthermore, the Finish Covered Bond Act stipulates on a monthly basis stress testing to anticipate interest rate discrepancies. Based on the available information, CRA assumes that the issuer has entered into cross-currency swap agreements and intra-group interest rate derivative agreements, and therefore does not apply any currency or interest rate stress.

Table 3: Program distribution by currency | Source: Nordea Mortgage Bank

Currency	Volume	Share (%)
<i>Cover Pool</i>		
EUR	20.689 m	100.00%
<i>Covered Bond</i>		
EUR	18.117 m	100.00%

Figure 5 shows the types of interest rate used in this program.

Figure 5: Type of interest rate | Source: Nordea Mortgage Bank



## Credit Risk

The credit risk assessment for Mortgage Covered Bond have been determined in accordance with CRA rating methodology for Covered Bonds by means of historical data and particular parameters from the Covered Bonds.

Due to the high granularity of mortgage pools we have characterized these portfolios as big enough and with a homogeneous composition i.e. ("Large Homogeneous Portfolio", LHP). Furthermore, under that premise we have assumed that it is possible to derive a loss distribution. CRA has used the issuer's historical NPL ratios to derivate a conservative default rate proxy for the approximation through the LHP distribution. On the other hand, for the assessment in public sector assets, due to insufficient information, CRA has assumed that such assets are in default i.e. approx. 0.34% of the covered pools value. Summarizing, for the Nordea Mortgage Bank it has been assumed an expected default rate of 0.95% for the LHP. Furthermore, CRA has considered a 15.00% correlation to define the LHP distribution. Table 4 disclosed the expected default rate for each relevant rating level.

In order to derive recovery and loss-severity base case assumption, CRA has used historical data from mortgage price indexes. To determine loan-level recovery assumptions the resulting stressed recoveries assumptions were compared with the portfolio's existing loan-to-value ratios (LTVs).

Based on the default rates and taking into account the recovery assumptions, the following loss assumptions were determined for the current cover pool (see Table 4):

Table 4: Cover Pool Base case assumptions | Source: CRA

Rating	Default Rate (%)	Recoveries (%)	Expected Loss (%)
A-	18.66%	98.85%	0.21%
BBB+	17.39%	98.95%	0.18%
BBB	16.05%	99.00%	0.16%
<b>BBB-</b>	<b>14.84%</b>	<b>99.05%</b>	<b>0.14%</b>
BB+	13.03%	99.14%	0.11%
BB	11.45%	99.22%	0.09%

BB-	9.64%	99.33%	0.06%
-----	-------	--------	-------

## Cash-Flow Analysis

### Model Assumptions

Based on public information and using the base case loss assumptions, we implement a scenario-based cash flow model. This model aims to test the ability of the structure to service all covered bonds according to their payment profile in diverse stress scenarios. The CRA cash flow analysis assumes that the Issuer has defaulted, i.e. all obligations will be met using cash flows from the cover pool assets only. We also assume that no additional assets will be added to the cover pool during the wind-down phase.

The cash-flow analysis considers, among other factors, asset value haircuts (“asset-sale discount”), and the possible positive yield spread between covered assets and covered bonds (“yield spreads”). To derive the asset-sale discount, CRA assumes, based on secondary market data, a rating level haircut on the asset value. Furthermore, CRA, using available public information (i.e. issuer’s annual accounts), has derived estimations for yield spreads (see table 5):

Table 5: Cash-Flow Model assumptions | Source: CRA

Rating level	Asset-Sale Discount	Yield Spread
A-	52.72%	0.95%
BBB+	49.72%	0.96%
BBB	46.81%	0.97%
<b>BBB-</b>	<b>43.76%</b>	<b>0.98%</b>
BB+	40.46%	0.98%
BB	36.81%	1.00%
BB-	33.05%	1.01%

### Rating Scenarios

In our cash flow model rating scenarios have been tested considering several central input parameters, such as:

- Portfolio composition (diversification, concentration, granularity)
- Probability of default of cover assets
- Correlations of cover assets and systematic risk factors
- Recoveries
- Maturity profile of covered bonds and cover assets (ALM)

Within a BBB- rating scenario, the cash flow model showed that obligations can be paid fully and in a timely manner. Overall, the cash flow analysis revealed that the portfolio, given all used information as of 31.03.2023, may ensure the repayment of bonds’ nominal capital notwithstanding the occurrence of the presented stressed scenarios.

### Overcollateralization Break-Even Analysis

CRA also performed a break-even OC analysis taking into considerations the following drivers: ALM, Loss level, Interest rate spreads, foreign currency mismatches and Recoveries. Performing the break-even OC analysis, we took rating-level specific stressed outcomes into account. Based



on these analyses, the maximum OC required for each relevant rating level during the whole period has been presented in table 6.

Table 6: Breakeven Analysis | Source: CRA

Rating Level	Break-Even OC
<b>BBB-</b>	<b>13.39%</b>
BB+	12.41%
BB	11.31%
BB-	10.14%
B+	8.98%
B	7.73%
B-	5.18%

## Sensitivity Analysis

CRA also evaluates the sensitivity of the structure and program with respect to important input parameters. In particular, the following factors have been varied:

- Credit quality of cover assets
- Recoveries

The following table presents the rating impact of a decline in recoveries and an increase in the credit risk of single debtors. Starting from the best-case, which is represented by our base case assumptions, the analysis reveals the sensitivity of the rating with respect to recovery rates and credit risk. The worst-case scenario, in which we reduce recoveries by 50% and increase credit risk by 50%, the impact can be seen by a change in the implied rating scenario of 5 notches (see Table 7):

Table 7: Covered Bond Program Sensitivity: Credit Quality und Recovery Rates | Source: CRA

Recovery Defaults	Base Case	-25%	-50%
Base Case	BBB-	BB	B+
+25%	BBB-	BB-	B
+50%	BBB-	BB-	B

In general, based on the presented cash flow analysis results, the rating of the cover pool within our covered bond program rating has been set at BBB-. Consequently, the secondary rating uplift was set at Zero (0) notch.

## Counterparty Risk

### Derivatives

Based on the available information, CRA assumes that the issuer has entered into cross-currency swap agreements and intra-group interest rate derivatives agreements.

### Commingling

In the event of issuer's bankruptcy, in order to avoid commingling of funds, the Finnish Covered Bond legislation stipulates that the cover assets should be isolated from the general bankruptcy estate (insolvency-free assets) and a special cover pool administrator will be appointed to manage the cover pool. Under that mandate the cover pool administrator will have first priority on the upcoming cash flows from the cover pool assets, which in turn should be used to cover interest and principal payments of the covered bond holders in event of the Issuer's insolvency.

## Appendix

### Rating History

Event	Rating Date	Publication Date	Result
Initial Rating	11.02.2019	20.02.2019	AAA / Stable
Rating Update	21.02.2020	26.02.2020	AAA / Stable
Monitoring	24.03.2020	28.03.2020	AAA / Watch Negative
Rating Update	22.09.2020	28.09.2020	AAA / Stable
Monitoring	05.07.2021	06.07.2021	AAA/ Watch UNW
Rating Update	16.09.2021	21.09.2021	AAA / Stable
Rating Update	19.09.2022	23.09.2022	AAA / Stable
Rating Update	10.08.2023	15.08.2023	AAA / Stable

### Details Cover Pool

Table 8: Characteristics of Cover Pool | Source: Nordea Mortgage Bank

Characteristics	Value
Cover Pool Volume	EUR 20.689 m.
Covered Bonds Outstanding	EUR 18.117 m.
Substitute Assets	EUR 0 m.
Share Derivatives	0.00%
Share Other	0.00%
Substitute Assets breakdown by asset type	
Cash	0.00%
Guaranteed by Supranational/Sovereign agency	0.00%
Central bank	0.00%
Credit institutions	0.00%
Other	0.00%
Substitute Assets breakdown by country	
Issuer country	0.00%
Eurozone	0.00%
Rest European Union	0.00%
European Economic Area	0.00%
Switzerland	0.00%
Australia	0.00%
Brazil	0.00%
Canada	0.00%
Japan	0.00%
Korea	0.00%
New Zealand	0.00%
Singapore	0.00%

# Creditreform Covered Bond Rating

Nordea Mortgage Bank Plc.

Mortgage Covered Bond Program

**Creditreform**   
**Rating**

US	0.00%
Other	0.00%
Cover Pool Composition	
Mortgages	99.66%
Total Substitute Assets	0.00%
Other / Derivatives	0.00%
Number of Debtors	NR
Distribution by property use	
Residential	100.00%
Commercial	0.00%
Other	0.00%
Distribution by Residential type	
Occupied (main home)	97.31%
Second home	2.69%
Non-owner occupied	0.00%
Agricultural	0.00%
Multi family	0.00%
Other	0.00%
Distribution by Commercial type	
Retail	0.00%
Office	0.00%
Hotel	0.00%
Shopping center	0.00%
Industry	0.00%
Land	0.00%
Other	0.00%
Average asset value (Residential)	EUR 52.88 k.
Average asset value (Commercial)	EUR 0.00 k.
Share Non-Performing Loans	0.00%
Share of 10 biggest debtors	0.12%
WA Maturity (months)	223.57
WAL (months)	71.46
Distribution by Country (%)	
Finland	100.00
Distribution by Region (%)	
Aland Islands	0.64
Central Finland	4.11
Central Ostrobothnia	0.74
Etela-Savo	1.45
Kainuu	0.55
Kanta-Hame	2.25
Kymerlaakso	2.11

# Creditreform Covered Bond Rating

Nordea Mortgage Bank Plc.  
Mortgage Covered Bond Program



Lapland	2.27
North Karelia	1.24
North Ostrobothnia	4.97
Ostrobothnia	2.03
Paijat-Hame	3.19
Pirkanmaa	9.25
Pohjois-Savo	2.17
Satakunta	2.12
South Karelia	1.20
South Ostrobothnia	1.82
Uusimaa	50.80
Varsinais-Suomi	7.06

Table 9: Participant counterparties | Source: Nordea Mortgage Bank

Role	Name	Legal Entity Identifier
Issuer	Nordea Mortgage Bank	7437001LESKGLAEOEU84
Account Bank	Nordea Bank AB	6SCPQ280AIY8EP3XFW53
Paying Agent	Citibank	549300U8H3KN0K301B23

Table 10: Interest rate and Swap counterparties | Source: Nordea Mortgage Bank

Name	Legal Entity Identifier	Agreement Type
Nordea Bank Abp	6SCPQ280AIY8EP3XFW53	Intra-group Interest rate swap
Nordea Bank Abp	6SCPQ280AIY8EP3XFW53	Intra-group currency rate swap

Figure 6: Arrears Distribution | Source: Nordea Mortgage Bank

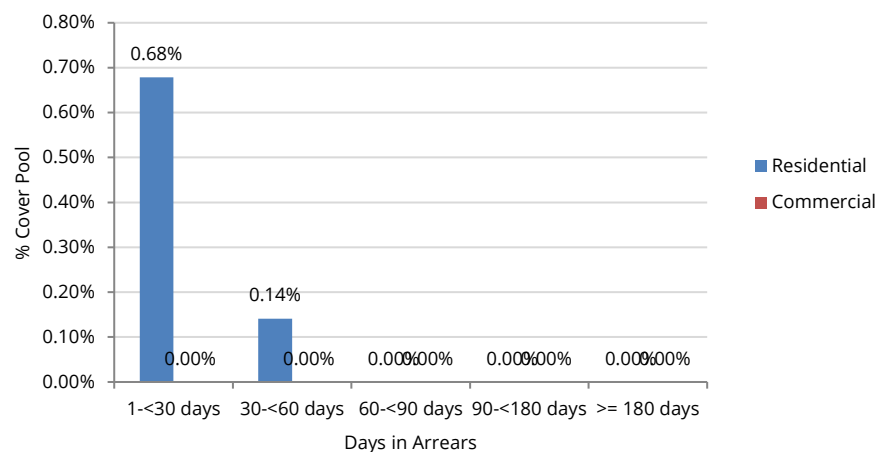


Figure 7: Program currency mismatches | Source: Nordea Mortgage Bank

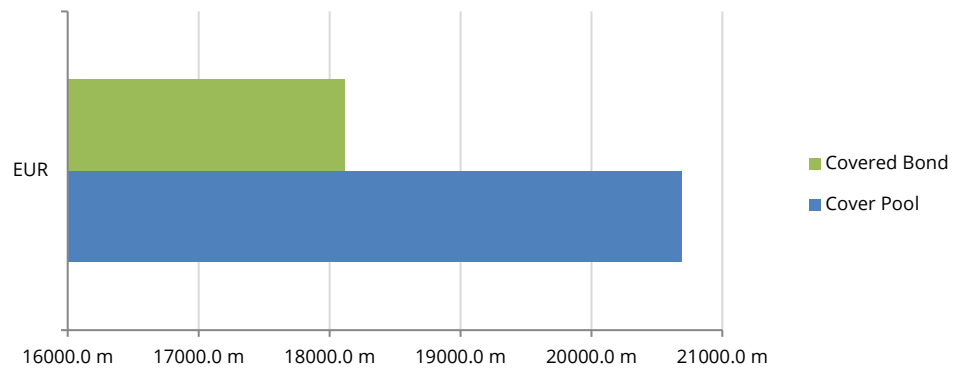


Figure 8: Unindexed LTV breakdown - residential pool | Source: Nordea Mortgage Bank

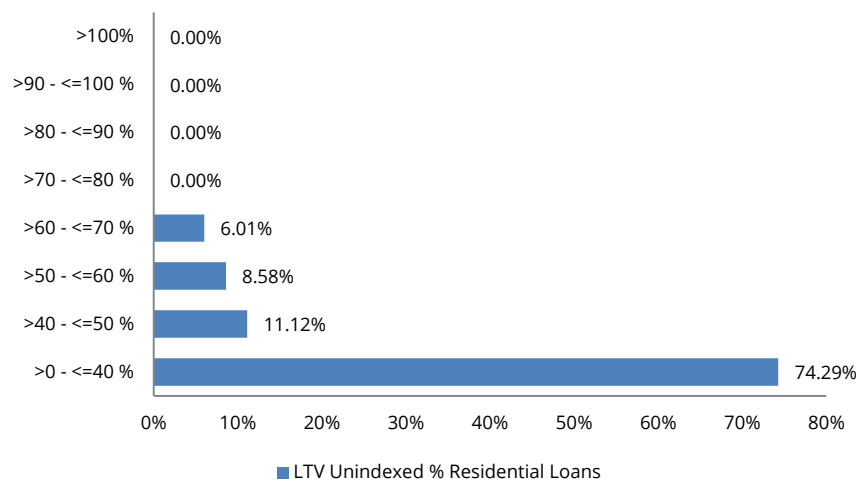
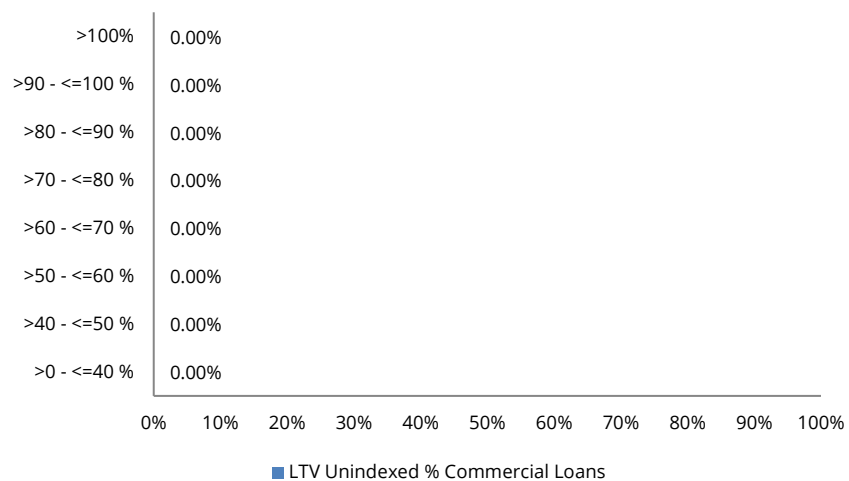


Figure 9: Unindexed LTV breakdown - commercial pool | Source: Nordea Mortgage Bank



## Key Source of Information

### Documents (Date: 31.03.2023)

#### Issuer

- Rating Update as of 14 June 2023
- Audited consolidated annual reports of the parent company Nordea Bank Abp (Group) 2019-2022
- Miscellaneous Investor Relations Information and Press releases
- Other rating relevant data from the CRA/eValueRate Database

#### Covered Bond and Cover Pool

- HTT Reporting from Nordea Mortgage Bank as of 31.03.2023
- Base Prospectus of Nordea Mortgage Bank Mortgage Cover Bond Program dated 16 August 2022
- Market data Mortgage Cover Bond Program

## Regulatory and Legal Disclosures

Creditreform Rating AG was neither commissioned by the rating object nor by any other third parties for the rating. The analysis took place on a voluntary basis by Creditreform Rating AG and is to be described in the regulatory sense as an unsolicited rating. The rating was conducted on the basis of Creditreform Rating's "[Covered Bond Ratings" methodology \(v1.2, July 2023\)](#) and "[Technical Documentation Portfolio Loss Distributions" \(v.1.0, July 2018\)](#) in conjunction with Creditreform's basic document "[Rating Criteria and Definitions" \(v1.3, January 2018\)](#). On the subject of ESG (environment, social and governance), Creditreform Rating AG has published the basic document "[The Impact of ESG Factors on Credit Ratings" \(March 2020\)](#).

### Unsolicited Credit Rating

With Rated Entity or Related Third Party Participation	NO
With Access to Internal Documents	NO
With Access to Management	NO

The rating is based on publicly available information and internal evaluation methods for the rated bank and program. The issuer's quantitative analysis is based mainly on the latest annual accounts, interim reports, other information of the bank pertaining to investor relations, and key figures calculated by eValueRate/CRA. The cover pool's quantitative analysis for the rated Covered Bond Program was based on the "Harmonised Transparency Template" (HTT) published by the Nordea Mortgage Bank.

Information on the meaning of a rating category, definition of default and sensitivity analysis of relevant key rating assumptions can be found at "Creditreform Rating AG, Rating Criteria and Definitions":

<https://www.creditreform-rating.de/en/about-us/regulatory-requirements.html>

This rating was carried out by analysts Philip Michaelis (Senior Analyst) und Qinghang Lin (Analyst) both based in Neuss/Germany. On 10.08.2023, the rating was presented to the rating committee by the analysts and adopted in a resolution. The function of Person Approving Credit Ratings (PAC) was performed by Artur Kapica (Senior Analyst).

On 10 August 2023, the rating result was communicated to Nordea Mortgage Bank, and the preliminary rating report was made available. The Issuer and all relevant parties examined the rating report prior to publication and were given at least one full working day to appeal the

rating committee decision and provide additional information. The rating decision was not amended following this examination.

The rating is subject to one-year monitoring from the creation date (see cover sheet). Within this period, the rating can be updated. After one year at the latest, a follow-up is required to maintain the validity of the rating.

In 2011 Creditreform Rating AG was registered within the European Union according to EU Regulation 1060/2009 (CRA-Regulation). Based on the registration Creditreform Rating AG (CRA) is permitted to issue credit ratings within the EU and is bound to comply with the provisions of the CRA-Regulation.

## Endorsement

Creditreform Rating did not endorse the rating according Article 4 (3), CRA-Regulation.

## Conflict of Interests

No conflicts of interest were identified during the rating process that might influence the analyses and judgements of the rating analysts involved or any other natural person whose services are placed at the disposal or under the control of Creditreform Rating AG and who are directly involved in credit rating activities or approving credit ratings and rating outlooks.

In the event of provision of ancillary services to the rated entity, CRA will disclose all ancillary services in the rating report of the issuer.

## Rules on the Presentation of Credit Ratings and Rating Outlooks

The approval of credit ratings and rating outlooks follows our internal policies and procedures. In line with our policy "Rating Committee," all credit ratings and rating outlooks are approved by a rating committee based on the principle of unanimity.

To prepare this credit rating, CRA has used following substantially material sources:

1. Transaction structure and participants
2. Transaction documents
3. Issuing documents
4. Other rating relevant documentation

There are no other attributes and limitations of the credit rating or rating outlook other than displayed on the CRA website. Furthermore, CRA considers satisfactory the quality and extent of information available on the rated entity. In regard to the rated entity, Creditreform Rating AG regarded available historical data as sufficient.

Between the disclosure of the credit rating to the rated entity and the public disclosure no amendments were made to the credit rating.

The rating report and/or the press release indicate the principal methodology or version of methodology that was used in determining the rating, with a reference to its comprehensive description.



In cases where the credit rating is based on more than one methodology, or where reference only to the principal methodology might cause investors to overlook other important aspects of the credit rating, including any significant adjustments and deviations, Creditreform Rating AG explains this fact in the credit rating and indicates how the different methodologies and other aspects are taken into account in the credit rating. This information is integrated in the credit rating report.

The meaning of each rating category, the definition of default or recovery, and any appropriate risk warning, including a sensitivity analysis of the relevant key rating assumptions, such as mathematical or correlation assumptions, accompanied by worst-case scenario credit ratings as well as best-case scenario credit ratings, are explained.

The date at which the credit rating was released for distribution for the first time and when it was last updated including any rating outlooks, is indicated clearly and prominently in the rating report and/or the press release as a "Rating action"; first release is indicated as "initial rating", other updates are indicated as an "update", "upgrade or downgrade", "not rated", "confirmed", "selective default" or "default".

In the case of a rating outlook, the time horizon is provided during which a change in the credit rating is expected. This information is available within the rating report and/or the press release.

In accordance to Article 11 (2) EU-Regulation (EC) No 1060/2009 registered or certified credit rating agency shall make available in a central repository established by ESMA information on its historical performance data, including the ratings transition frequency, and information about credit ratings issued in the past and on their changes. Requested data are available at the ESMA website: <https://cerep.esma.europa.eu/cerep-web/statistics/defaults.xhtml>.

An explanatory statement of the meaning of Creditreform`s default rates are available in the credit rating methodologies disclosed on the website.

## Disclaimer

Any rating performed by Creditreform Rating AG is subject to the Creditreform Rating AG Code of Conduct which has been published on the web pages of Creditreform Rating AG. In this Code of Conduct, Creditreform Rating AG commits itself – systematically and with due diligence – to establish its independent and objective opinion as to the sustainability, risks and opportunities concerning the enterprise or the issue under review.

Future events are uncertain, and forecasts are necessarily based on assessments and assumptions. This rating is therefore no statement of fact, but an opinion. For this reason, Creditreform Rating AG cannot be held liable for the consequences of decisions made on the basis of any of their ratings. Neither should these ratings be construed as recommendations for investors, buyers or sellers. They should only be used by market participants (entrepreneurs, bankers, investors etc.) as one factor among others when arriving at corporate or investment decisions. Ratings are not meant to be used as substitutes for one's own research, inquiries and assessments.

We have assumed that the documents and information made available to us by the client are complete and accurate and that the copies provided to us represent the full and unchanged contents of the original documents. Creditreform Rating AG assumes no responsibility for the true and fair representation of the original information.

This report is protected by copyright. Any commercial use is prohibited without prior written permission from Creditreform Rating AG. Only the full report may be published in order to prevent distortion of the report's overall assessment. Excerpts may only be used with the express consent of Creditreform Rating AG. Publication of the report without the consent of Creditreform Rating AG is prohibited. Only ratings published on the Creditreform Rating AG web pages remain valid.

## Contacts

### **Creditreform Rating AG**

Europadamm 2-6  
D - 41460 Neuss

Fon +49 (0) 2131 / 109-626  
Fax +49 (0) 2131 / 109-627  
E-Mail [info@creditreform-rating.de](mailto:info@creditreform-rating.de)  
Internet [www.creditreform-rating.de](http://www.creditreform-rating.de)

CEO:  
Dr. Michael Munsch  
Chairman of the board:  
Michael Bruns

HRB 10522, Amtsgericht Neuss