Creditreform Covered Bond Rating

Nordea Mortgage Bank Plc.

Mortgage Covered Bond Program (Cover Pool 2)

Creditreform Rating

Rating Object	Rating Information	
Nordea Mortgage Bank Plc., Mortgage Covered Bond Program (Cover Pool 2)	Rating / Outlook : **AAA / Stable**	Type: Initial Rating (unsolicited)
Type of Issuance : Mortgage Covered Bond under Finnish law Issuer : Nordea Mortgage Bank Plc	Rating Date :	16 March 2023
	Rating Renewal until :	Withdrawal of the rating
LT Issuer Rating : AA- (Nordea Mortgage Bank)	Maximum Validity:	01 January 2050
ST Issuer Rating : L1	Rating Methodology :	CRA „Covered Bond Ratings"
Outlook Issuer : Stable		

Program Overview

Nominal value	EUR 2,000 m.	WAL maturity covered bonds	6.32 Years
Cover pool value	EUR 2,359 m.	WAL maturity cover pool	6.25 Years
Cover pool asset class	Mortgages	Overcollateralization (nominal/committed)	17.95%/ 2.00%
Repayment method	Soft Bullet	Min. overcollateralization	2.00%
Legal framework	Act of Mortgage Credit Banks and Covered Bonds	Covered bonds coupon type	Fix (100.00%), Floating (0.00%)

Cut-off date Cover Pool information: 31.12.2022.

Content

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Rating Action

This follow-up report covers our analysis of the mortgage covered bond program (Cover Pool 2) issued under Finnish law by Nordea Mortgage Bank Plc („Nordea Mortgage Bank"). The total covered bond issuance at the cut-off date (31.12.2022) had a nominal value of EUR 2,000.00 m., backed by a cover pool with a current value of EUR 2,358.98 m. This corresponds to a nominal overcollateralization of 17.95%. 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") assigns to the covered bond program an AAA rating. The AAA rating represents the highest level of credit quality and the lowest investment risk.

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 strict cost control paired with increased operating margin and low costs of risk leading to highest net profit in years

\- Special cover pool monitor not independent from the issuer

\- Uncertain market environment of high inflation, bottlenecks in supply chains and war in Eastern Europe

Table1: Overview results

Risk Factor	Result
Issuer rating	AA- (rating as of 02.08.2022)
+ Legal and regulatory framework	+4 Notches
+ Liquidity and refinancing risk	+1 Notch
= Rating after 1st uplift	AAA
Cover pool & cash flow analysis	AAA
+ 2nd rating uplift	+/- 0 Notch
= Rating covered bond program	AAA

Issuer Risk

Issuer

Our rating of Nordea Mortgage Bank Plc. covered bond program (Cover Pool 2) is reflected by our issuer rating opinion of Nordea Bank Abp (Group) (hereinafter: Nordea) due to its group structure.

Nordea is a banking group formed through the mergers and acquisitions of Merita Bank (Finland), Nordbanken (Sweden), Unibank A/S (Denmark) and Christiania Bank (Norway) that took place between 1997 and 2000. All operations of these four banks have been conducted under the brand name of Nordea from 2001. As of 01.10.2018, Nordea completed its redomiciliation from Sweden to Finland and operates under the name Nordea Bank Abp. With approximately 30.000 employees, the Group had total assets of EUR 594.84 billion as of 2022. Nordea has presence in 20 countries, primarily in the Scandinavian region (Sweden, Finland, Norway, and Denmark) as well as in Eastern Europe. Moreover, the Group has an international network with banks across the globe in order to support its international business needs. The Group is divided into four main business areas: Personal Banking, Business Banking, Large Corporates & Institutions and Asset & Wealth Management. In addition, Nordea maintains a Group Functions and Other business unit.

CRA has upgraded the long-term rating of Nordea Bank Abp to AA- from A+ with a stable outlook in a Rating Update dated 02 August 2022. Nordea's long-term issuer rating upgrade and outlook confirmation were largely driven by the bank's very good economic performance since the outbreak of the COVID-19 crisis. Earnings are now above average due to very good cost discipline, while asset quality continues to improve at a very high level. At the same time, the capital position is very comfort-able despite comparatively high distributions and share buybacks. The new strategic plan envisages further improvements, particularly in the earnings situation. Meanwhile, the targets up to 2025 appear entirely achievable. However, the current inflationary situation worldwide and the ongoing hostilities in Eastern Europe currently harbor considerable risk potential. For a more detailed overview of the issuer rating, please refer to the webpage of Creditreform Rating AG.

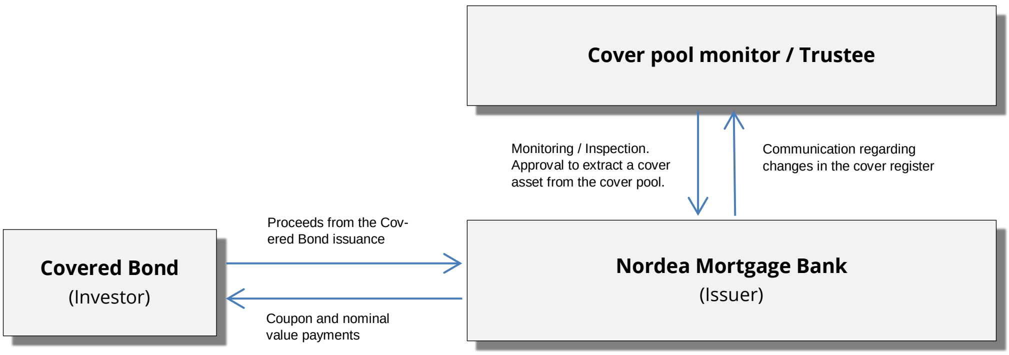
Structural Risk

Transaction structure

Table 2: Overview of all transaction's parties | Source: CRA

Role	Name
Issuer	Nordea Mortgage Bank Plc.
Cover pool monitor	Executed by Finnish Financial Supervisory Authority
Cover pool administrator	Appointed by the Finnish Financial Supervisory Authority

Figure1: Overview of Covered Bond emission | Source: CRA



Legal and regulatory framework

In Finland, the legal framework of covered bonds was recently updated and as of July 08 2022 is regulated by the Act of Mortgage Credit Banks and Covered Bonds (Act 151/2022). The new legislation meets the requirements of the harmonised EU legal framework (EU directive 2019/2162 and EU Regulation 2019/2160). The Finnish Financial Supervisory Authority (FSA) is responsible for the regulatory monitoring of covered bond programs, both off-site as well as on-site, and for the permission of covered bonds. Both universal banks and specialist mortgage banks are permitted to issue mortgage covered bonds in Finland. The process of applying to operate as Mortgage Bank and Covered Bond issuer is clearly defined and based on the EU harmonized legal framework. In order to receive a covered bond issuance license, the covered bond issuer has to present a business plan, show financial stability, expertise in mortgage credit operations, risk management and practices concerning valuation of cover assets. The FSA has to examine the adherence of the law, relevant eligibility criteria and their documentation, the maintenance of coverage tests and other issuing regulations. Furthermore, the FSA controls the quality of cover assets, the exposure to market risk and liquidity risk, as well as operational risks. In case of any violations, the FSA can reprimand the issuer or even disbar the credit institution from issuing covered bonds.

The Finnish legal framework accords with the claims of the UCITS Directive 52(4) and with Article 129 CRR, which results in a 10% risk-weighting of Finnish covered bonds in Finland and most European countries. Finnish Covered Bonds meet the requirements for European Covered Bond (Premium) quality. Furthermore, they are eligible in repo transactions with the central bank.

Regarding the implementation of the BRRD, which features resolution authorities with several particular resolution tools and deals with the failure of financial institutions, Finland has translated the directive - including the bail-in tool - into national law by means of the Resolution Act and the Stability Authority.

Insolvency remoteness and asset segregation

In Finland, the cover assets will not be delegated to another legal entity. They remain on the balance sheet of the issuing credit institution, i.e. the issuer is the originator and owns the cover assets. All eligible cover assets have to be registered in a cover pool register for identification reasons, while the issuing credit institution has to administer the cover register and the FSA has to supervise the bank's operations. In case of an issuer default, the cover pool will be isolated by law from the issuer’s general bankruptcy estate and will be solely dedicated for the claims of the covered bond holders in form of a separate legal estate.

No automatic acceleration of the covered bond takes place when the issuing institution becomes insolvent. Covered bonds will continue to exist and they will be reimbursed at the time of their original contractual maturity. However, the cover pool monitor can accelerate the covered bonds, i.e. sell the cover assets, if the cover tests cannot be maintained. If cover assets are scarce to repay covered bond holders, covered bond holders in addition can file a claim against the general insolvency estate of the issuer and can make use of the dual recourse, while their claims rank pari passu to unsecured creditors.

Trustee

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. Furthermore, she or he must report on a monthly basis the competent authority about the covered bonds programs and its corresponding cover pools (i.e. the surveillance tasks are indirectly granted to the FSA through its supervision labour). Finland fully conforms to the EBA requirement of appointing the cover pool monitor and formulating corresponding duties and powers.

Special administrator

In case of issuer default or any other crisis with respect to covered bonds, the ongoing management of the cover pool is guaranteed by a special administrator. The special administrator is reliable for the monitoring of the revenues from the cover assets as well as the payments to covered bond holders. Furthermore, the special cover pool monitor is permitted to transfer a covered bond together with underlying cover assets to another issuing credit institution after the FSA's approval. Finland fully complies with EBA’s best practice regarding the administration of the covered bond program post the issuer’s insolvency or resolution.

Eligibility criteria

Eligible cover assets are residential mortgage loans, equity stakes in Finnish housing companies, commercial mortgage loans, public sector loans and substitution assets. 90% of the cover pool must be residential mortgage loans, public sector loans or substitution assets, while at most 10% can be allocated to commercial mortgage loans. Exposures in form of intermediate credit to third party credit institutions are allowed provided that they are guaranteed by the just mentioned eligible cover assets. Furthermore, they also have to be registered in the cover pool register. Substitution assets are permitted to amount to 20% of the mortgage cover pool. Substitution assets are cash holdings at the Bank of Finland or non-affiliated deposit banks, bonds or guarantees issued by public authorities or non-affiliated credit institutions, or credit insurances by non-affiliated insurance companies. ABS and MBS are not eligible cover assets.

The geographical scope of legitimate cover pool assets is 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.

Mixed pools with both types of assets are allowed. Thus, mixed asset cover pools are possible, while regulatory limits with respect to the composition need to be adhered to guarantee consistency and solidity in the structure of cover pools.

For residential mortgage loans a LTV limit of 80% of the market value of the residential property is in place, while for commercial mortgage loans the LTV limit lies at 60%. Overall, for a loan to be eligible it may not be equal or higher than the prevailing value of the underlying property, i.e. the hard LTV limit of the original loan lies at 100% and the loan should be excluded at 100%. Once the loan is put in the cover pool, there exists no cap that induces the elimination of the loan from the cover pool. In case of violation of the LTV limit, the fraction of the loan up to the 60%/ 80% limit will be considered as eligible cover, as these LTV limits are soft ones. The fraction that exceeds the limit will be included in the issuer’s general estate and will be reserved for the covered bond holders’ credit, which ranks *pari passu* to other unsecured creditors.

Systemic relevance and external support

Covered bonds outstanding increased significantly in Finland in the aftermath of the financial crisis. While the overall amount was EUR 4.5bn in 2007[1], it was over EUR 47bn in 2021[2]. This increase is solely reflected in mortgage covered bonds outstanding, as Finland only issues mortgage covered bonds. The high outstanding amount is mainly due to the boosted issuance of mortgage covered bonds in the years from 2010 to 2012 and in 2020 and 2021. While the issuance volume was at EUR 1.5bn in 2007 it was at EUR 10bn in 2011. In 2020, an amount of EUR 11bn was issued.

With a market share of approx. 44% outstanding covered bonds in the mortgage covered bonds segment as of 2021, Nordea Mortgage Bank is one of the largest covered bonds issuer in Finland. Likewise, being one of the largest financial institutions in Finland, the positioning of Nordea in the Finnish banking sector is also classified as important.

Summary Structural Risk

In general, the Finnish legal framework 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. Such regular inspection procedures are executed at the moment by the FSA. It involves the recurrent disclosure of reports on the cover asset pool by the issuer.

We assess the structural framework in Finland as positive, accomplishing an adequate set of rules for Finnish covered bonds. Furthermore, we contemplate the importance of the Nordea Mortgage Bank in the Finnish covered market in our analysis. Due to those reasons the rating uplift has assessed set at four (+4) notches, however, the uplift has been set at three (3) notches, since this uplift yielded the maximum rating for the program.

Liquidity- and Refinancing Risk

Minimum overcollateralization

The legal framework stipulates that cover assets in the cover pool should exceed the volume of outstanding covered bonds at any time on a net present value basis and a nominal basis, while the minimum mandatory overcollateralization ratio is set at 2% on a net present value basis. The overcollateralization shall have a value of at least 5 % if the requirements set out in the third subparagraph of Article 129(3a) of the EU Solvency Regulation are not met. *In addition*, the excess collateral shall cover the estimated rundown costs related to the covered bonds. Voluntary overcollateralization will be safeguarded. Overall, Finland is considered to be aligned with EBA's best practice regarding overcollateralization.

Short-term liquidity coverage

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[1] Source: EMF-ECBC (2018), ECBC: European Covered Bond Fact Book 2018, EMF-ECBC

[2] Source: EMF-ECBC (2022), ECBC: European Covered Bond Fact Book 2022, EMF-ECBC

To temper liquidity risk on interest and principal payments, liquidity facilities, natural matching and other contractual methods are used. In addition, the issuer is required to maintain a liquidity buffer to cover, for the next 180 days, the maximum net outflow of funds related to the covered bonds (interest and principal). If a covered bond is issued with extended maturity terms, the issuer may use the extended maturity date for determining the net outflow. The Financial Supervisory Authority may issue more detailed provisions on the calculation of liquidity requirements.

Stress tests and matching

The legal framework stipulates to do static and dynamic stress tests on a monthly basis and if market values of cover assets decrease. It is obligatory to do stress tests to anticipate interest rate discrepancies. Nevertheless, the types of stress tests do not fully comply with the stress tests specified by EBA. Overall, EBA's guidelines are merely partially satisfied.

Asset-Liability Mismatch

Asset-liability mismatches ("ALM") arise with different maturities of cover assets and covered bonds. According to the Finnish Covered Bond Act, natural matching - i.e. the congruence of present values – forms the essential approach to reduce ALM risk. In addition, the statutory liquidity coverage requirement for 12 months is a safeguard mechanism to ensure the servicing of pending principal and interest payments.

Repayment method

The Finnish legislation explicitly allows the issuers to extend the maturity of the covered bonds under certain conditions with the authorization granted by FSA. The prospectus of a covered bond shall specify the contents of the contractual term regarding the extended maturity, permission procedure for the maturity extension, a description of the effect in case of bankruptcy, liquidation, and resolution on the maturity extension, and the duties of the bankruptcy administrator, the liquidator, and the supervisor in the maturity extension.

Refinancing costs

In case of issuer default, the special cover pool monitor is permitted to transfer a covered bond together with underlying cover assets to another issuing credit institution after the FSA's approval. He or she can demand for a loan or increase substitute assets beyond the limit of 20% with the approval of the FSA to increase liquidity.

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. In this case, CRA takes into account related costs of the selling assets in the form of a discount to the nominal value. The quantification of this discount is adjusted following an analysis of relevant market data and will be used in our cash flow analysis.

Other liquidity risks

Issuing banks are allowed to use derivative instruments in the cover pool to hedge market risks, like interest rate and currency risks. In case of issuer default, the specific provisions of the individual derivative contracts in the cover pool regulate the proceedings of the derivative instruments. The geographical scope of legitimate derivative contracts is confined to EEA countries. Derivative instruments, which are allowed in the cover pool, rank pari passu to covered bond holders. The treatment of derivatives fully conforms to EBA's best practice, as the legal framework requires that derivative instruments are permitted in the covered bond program solely for risk hedging purposes, while contracts in the cover pool cannot be cancelled upon the issuer's bankruptcy

Non-performing loans will not be considered for the cover tests. The same accounts for non-eligible cover assets, though they can be comprised in the cover pool and used for further over-collateralization. According to the legal framework, cover assets have to be of equal currency as the covered bonds. Hence, no currency risk arises.

The legislation includes public transparency of the mortgage bank operation as legal requirements in line with the Covered Bond Directive whereas it has been currently been voluntary or recommended by the regulatory authorities.

Summary Liquidity and Refinancing Risk

Compared to other jurisdictions, the Finnish Covered Bond Act and the stipulated risk management processes for liquidity risks constitute a comparatively adequate framework by which they can be effectively reduced. Features as the liquidity buffer for the next 180 days may temper underlying liquidity risk. Furthermore, Refinancing risks can be structurally reduced under soft bullet repayment structures in combination with a sufficiently high overcollateralization, short-term cash availability, and other liquid funds to bridge the asset-liability mismatches in the portfolio.

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, however, the uplift has been set at zero (0) notches, since this uplift yielded the maximum rating for the program.

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 31.12.2022, the pool of cover assets consisted of 24,225 debt receivables and one public sector exposure, of which 100.00% are domiciled in Finland. The total cover pool volume amounted to EUR 2,358.98 m. in residential (99.65%), commercial (0.00%) and public sector (0.35%) loans.

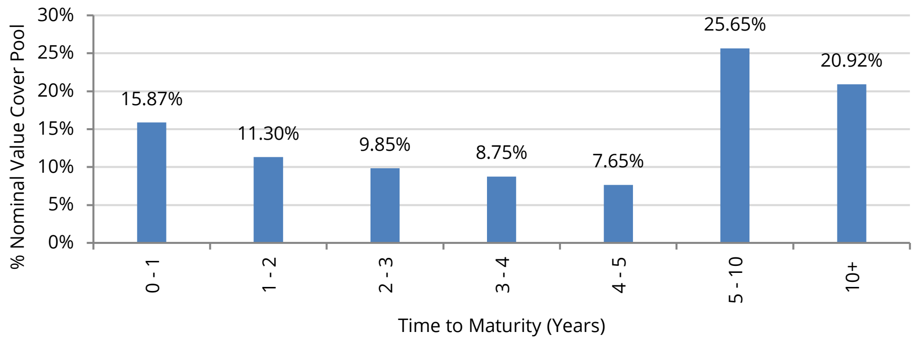
The residential cover pool consists of 24,225 residential mortgage loans having an unindexed average LTV of 59.53%. The ten largest debtors of the portfolio total to 0.70%. Table 3 displays additional characteristics of the cover pool:

Table 3: Cover pool characteristics | Source: Nordea Mortgage Bank

Characteristics	Value
Cover assets	EUR 2,359 m.
Covered bonds outstanding	EUR 2,000 m.
Substitute assets	EUR 0.00 m.
Cover pool composition	
Mortgages	99.65%
Public Sector	0.35%
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 97.04 k.
Average asset value (Commercial)	EUR 0 k.
Non-performing loans	0.00%
10 biggest debtors	0.70%
WA seasoning	48.90 Months
WA maturity cover pool (WAL)	6.25 Years
WA maturity covered bonds (WAL)	6.32 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 31.12.2022 (see figure 2):

Figure 2: Distribution by remaining time to maturity I 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

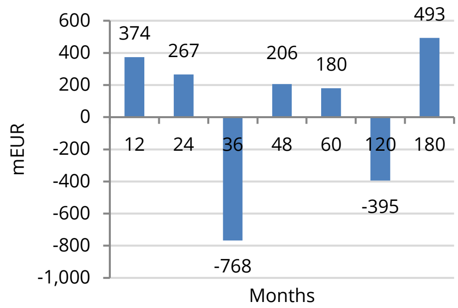
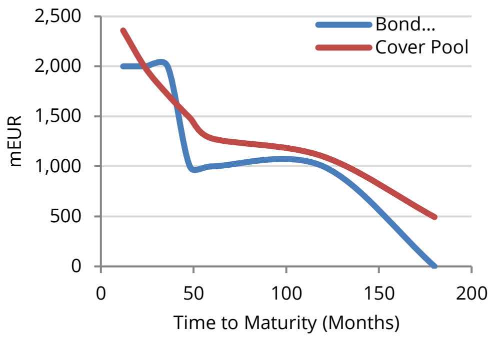


Figure 4: Amortization profile | Source: Nordea Mortgage Bank



During its cash flow modelling, CRA has taken into consideration the maturity structure of cover assets and liabilities, including the soft bullet maturities of the outstanding covered bonds. This structure was an integral part of the cash flow analysis.

Interest rate and currency risk

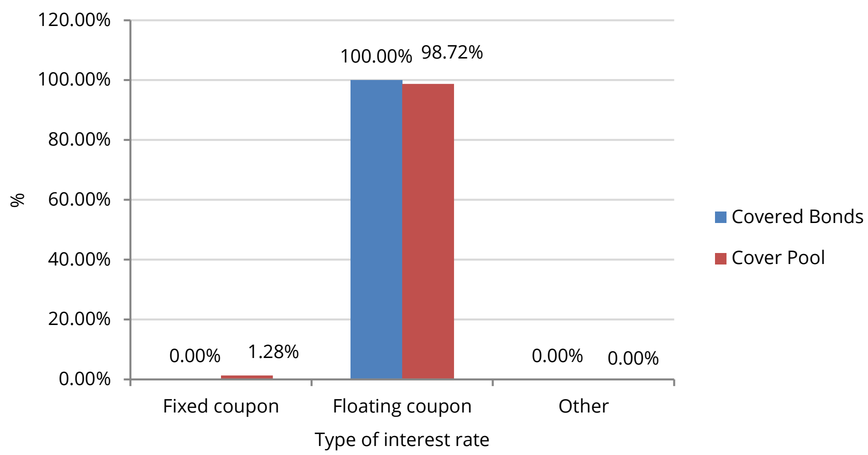
In order to reduce the exposure to the interest rate and currency risks, derivative contracts can be used to hedge these risks. In addition, according to the legal framework, cover assets have to be of equal currency as the covered bonds. Based on the available information, CRA assumes that the issuer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

Table 4: Program distribution by currency | Source: Nordea Mortgage Bank

Currency	Volume	Share (%)
Cover Pool		
EUR	2.359 m.	100,00%
Covered Bond		
EUR	2.000 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. 0.35% of the covered pools value. Summarizing, for the Nordea Mortgage Bank it has been assumed an expected default rate of 0.70% for the LHP. Furthermore, CRA has considered a 15.00% correlation to define the LHP distribution. Table 5 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 5):

Table 5: Cover Pool Base case assumptions | Source: CRA

Rating	Default Rate (%)	Recoveries (%)	Expected Loss (%)
AAA	**31.84%**	**91.47%**	**2.72%**
AA+	29.52%	92.07%	2.34%
AA	25.07%	93.42%	1.65%
AA-	21.82%	94.50%	1.20%
A+	20.45%	94.77%	1.07%
A	20.44%	94.77%	1.07%
A-	19.68%	94.92%	1.00%

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.

Asset-Sale Discount

In our model, short-term liquidity needs and liquidity needs due to asset-liability mismatches will be met with a sale of cover assets available for monetization. Based on secondary market data, CRA assumes a rating-level haircut on the asset value („Asset-Sale Discount“) which represents additional costs of disposal and market risks during the sale of cover assets. (see Table 6).

Yield Spread

Since cover assets often have a positive yield spread against the covered bonds issued, CRA uses available public information (i.e. issuers´ annual accounts) to size this assumed spread („Yield Spread“) (see Table 6):

Table 6: Cash-Flow Model assumptions | Source: CRA

Rating level	Asset-Sale Discount	Yield Spread
AAA	**72.93%**	**0.89%**
AA+	67.35%	0.91%
AA	63.75%	0.92%
AA-	60.33%	0.93%
A+	57.70%	0.94%
A	55.54%	0.94%
A-	52.72%	0.95%

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 an AAA 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 31.12.2022, 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 7.

Table 7: Breakeven Analysis | Source: CRA

Rating Level	Break-Even OC
AAA	**13.61%**
AA+	12.65%
AA	11.62%
AA-	10.80%
A+	10.36%
A	10.08%
A-	9.65%

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 11 notches (see Table 8):

Table 8: Covered Bond Program Sensitivity: Credit Quality und Recovery Rates | Source: CRA

Recovery / Defaults	Base Case	-25%	-50%
Base Case	AAA	AA	BBB+
+25%	AAA	AA-	BB+
+50%	AAA	A+	BB

Summary Cash-Flow Analysis

Based on public information and using the base case loss assumptions, the analysis showed that obligations can be paid in full and in a timely manner. Overall, the cash flow analysis revealed that the portfolio, given the used information, may ensure the repayment of bonds' nominal capital notwithstanding the occurrence of the presented stressed scenarios. Therefore, the rating of the cover pool within our covered bond program rating has been set at AAA. Since the rating has already reached the highest level after the first rating uplift, the secondary rating uplift was set at zero (+/-0) notches.

Counterparty Risk

Transaction parties

Table 9: Participant counterparties | Source: Nordea Mortgage Bank

Role	Name	Legal Entity Identifier
Issuer	Nordea Mortgage Bank	7437001LESKGLAEOEU84
Account Bank	Nordea Bank ABp	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

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	16.03.2023	22.03.2023	AAA / Stable

Details Cover Pool

Table 11: Characteristics of Cover Pool | Source: Nordea Mortgage Bank

Characteristics	Value
Cover Pool Volume	EUR 2.359 m.
Covered Bonds Outstanding	EUR 2.000 m.
Substitute Assets	EUR 0 m.
Share Derivatives	0.00%
Share Other	100.00%
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%
US	0.00%
Other	0.00%
Cover Pool Composition	
Mortgages	99.65%
Public Sector	0.35%
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)	98.50%
Second home	1.50%
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 97 k.
Average asset value (Commercial)	EUR 0 k.
Share Non-Performing Loans	0.00%
Share of 10 biggest debtors	0.70%
WA Maturity (months)	246,50
WAL (months)	131.83
Distribution by Country (%)	
Finland	100.00
Distribution by Region (%)	
Aland Islands	0.25
Central Finland	3.15
Central Ostrobothnia	0.37
Etela-Savo	0.80
Kainuu	0.27
Kanta-Hame	1.10
Kymenlaakso	1.16
Lapland	1.55
North Karelia	0.84
North Ostrobothnia	4.11
Ostrobothnia	1.28
Paijat-Hame	2.11
Pirkanmaa	9.95

Pohjois-Savo	2.20
Satakunta	1.08
South Karelia	0.68
South Ostrobothnia	1.45
Uusimaa	60.77
Varsinais-Suomi	6.91

Figure 6: Arrears Distribution | Source: Nordea Mortgage Bank

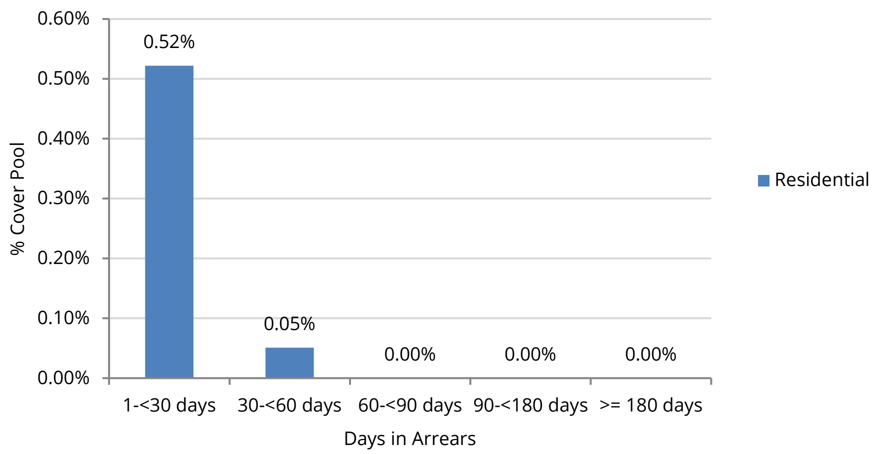


Figure 7: Program currency mismatches | Source: Nordea Mortgage Bank

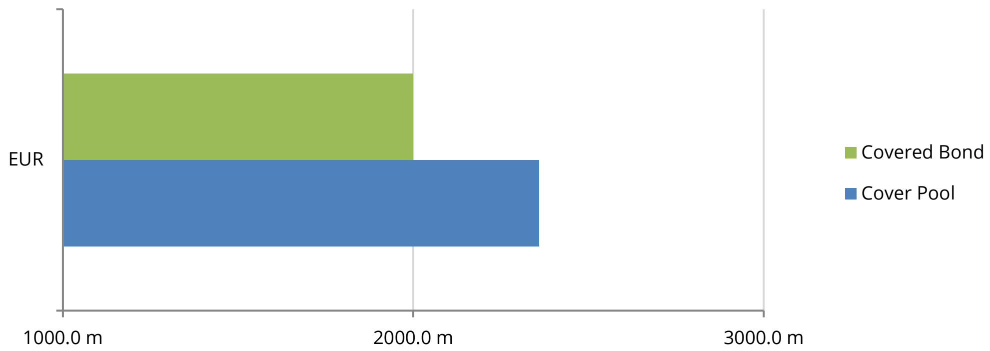
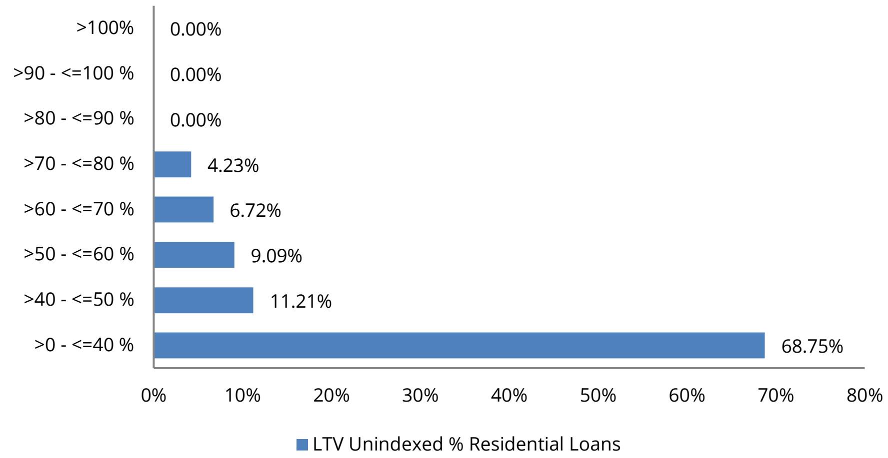


Figure 8: Unindexed LTV breakdown - residential pool | Source: Nordea Mortgage Bank



Key Source of Information

Documents (Date: 31.12.2022)
Issuer ▪ Rating Update as of 02 August 2022 ▪ Audited consolidated annual reports of the parent company Nordea Bank Abp (Group) 2018-2022 ▪ 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 31.12.2022 ▪ Base Prospectus of Nordea Mortgage Bank Mortgage Cover Bond Program dated 16 August 2022 ▪ Market data Mortgage Cover Bond Program

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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 (v1.1, April 2022) 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 16 March 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 16 March 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.

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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.

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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".

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