Creditreform Covered Bond Rating

Nordea Mortgage Bank Plc.
Mortgage Covered Bond Program

Creditreform Rating
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Rating Object	Rating Information	
Nordea Mortgage Bank Plc., Mortgage Covered Bond Program	Rating / Outlook : **AAA / Stable**	Type: Initial Rating (unsolicited)
Type of Issuance : Mortgage Covered Bond under the Finnish law Issuer : Nordea Mortgage Bank	Rating Date : 11.02.2019 Rating Renewal : Withdrawal of the rating	
LT Issuer Rating: AA- (Nordea Bank) ST Issuer Rating: L1 Outlook Issuer: Stable	Rating Methodology : CRA „Covered Bond Ratings"	

Program Overview

Nominal value	EUR 16.681 m.	WAL maturity covered bonds	3,86 (Years)
Cover pool value	EUR 19.760 m.	WAL maturity cover pool	5,28 (Years)
Cover pool asset class	Mortgages	Overcollateralization (nominal/committed)	18,46%/ 2,00%
Repayment method	Hard Bullet	Min. overcollateralization	2%
Legal framework	Finnish Covered Bonds	Covered bonds coupon type	Fix (98,24%), Floating (1,76%)

Cut-off date Cover Pool information: 31.12.2018.

Content

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Summary

This rating report covers our analysis of the mortgages covered bond program issued under the Finnish law by Nordea Mortgage Bank („Nordea Bank"). The total covered bond issuance at the cut-off date (31.12.2018) had a nominal value of EUR 16.680,69 m, backed by a cover pool with a current value of EUR 19.759,81 m. This corresponds to a nominal overcollateralization of 18,46%. The cover assets mainly 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") has assigned 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 the appropriate cover asset class
+ Covered bond holders have recourse to the issuer
- Issuers profitability deteriorated slightly in comparison to the previous year
- Special cover pool monitor not independent from the issuer.

Table1: Overview results

Risk Factor	Result
Issuer rating	AA- (rating as of 27.04.2018)
+ 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	+3
= Rating covered bond program	**AAA**

Issuer Risk

Issuer

Our rating of Nordea Mortgage Bank PLC is reflected by our rating opinion of Nordea Bank AB (Group) due to its group structure. Therefore, we refer to our rating of Nordea Bank Abp (Group).

Nordea Bank Abp (publ.) (hereinafter: 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 re-domiciliation from Sweden to Finland and operates under the name Nordea Bank Abp. With 30.399 employees (full-time equivalents - end of year 2017), the Group serves approximately 10 million personal customers as well as 677.000 corporate customers and had total assets of EUR 581.6 billion as of 2017. Nordea has presence in 17 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.

In 2017, Nordea Bank Abp had a stable year of performance; however, the Group's profitability deteriorated slightly in comparison to the previous year. The low-interest environment in Europe still puts pressure on Nordea's main income source - interest income. Nonetheless, Nordea still convinces based on its outstanding asset quality. Noteworthy is the Groups' very low NPL ratio in comparison to its peers. Moreover, Nordea has a very diversified business model with operations in a variety of industries as well as in economically strong countries, both within and outside the Scandinavian region. Furthermore, Nordea has very competitive regulatory capital ratios, especially in comparison to banks in the Eurozone. The liquidity situation of Nordea is satisfactory.

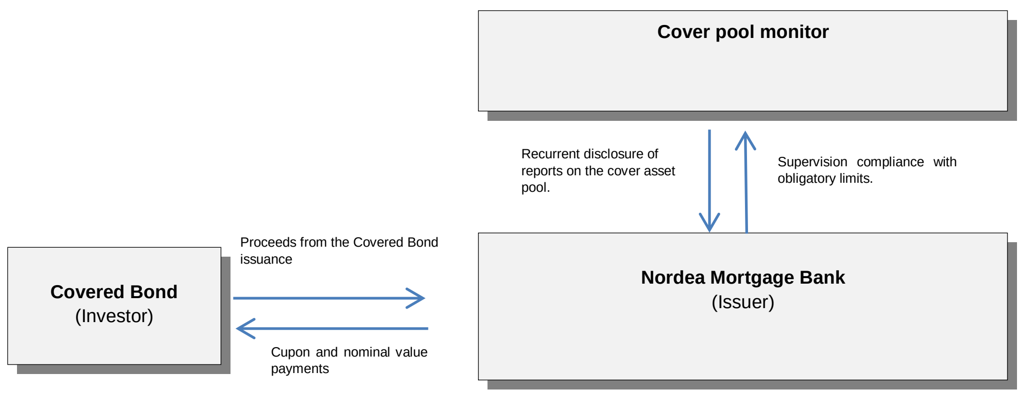
Structural Risk

Transaction structure

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

Role	Name
Issuer	Nordea Mortgae Bank, Plc., Finland
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 is regulated by the Act of Mortgage Credit Bank Operations (HE 42/2010) since 8.1.2010, which is an update of the old Act on Mortgage Credit Bank from 1999. 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. While the universal banks need a license, the specialist mortgage banks can issue covered bonds from the beginning of their foundation. 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. 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. Finland also issues soft-bullet covered bonds, i.e. an extension period of 12 months will grant additional time to pay back principal and interest payments of covered bonds to mitigate liquidity risk.

Trustee

The Finish 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. Overall, residential mortgage loans, equity stakes in housing firms and commercial mortgage loans that comprise more than 10% of the entire cover pool are not considered as eligible assets. 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.

Under the old law, primary asset classes were either mortgage loans or public sector loans, i.e. public sector loans and mortgage loans could not be comprised in one cover pool. Under the new law, 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 70% 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%/ 70% 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, it was almost EUR 35bn in 2017[1]. 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. While the issuance volume was at EUR 1.5bn in 2007 it reached to EUR 10bn in 2011. In 2017, a total volume of EUR 5.6bn was issued.

With a market share of approx. 51% outstanding covered bonds in the mortgage covered bonds segment as of 2017, 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 finish banking sector is also classified as important.

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

Summary Structural Risk

In general, the Finish 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 Finish 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 pool assets by the issuer.

We assess the structural framework in Finland as positive, accomplishing an adequate set of rules for Finish covered bonds. Furthermore, we contemplate the importance of the Nordea Mortgage Bank in the Finish covered market in our analysis. Due to those reasons the rating uplift has been assessed 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. Voluntary overcollateralization will be safeguarded. Overall, Finland is considered to be aligned with EBA's best practice regarding overcollateralization.

Short-term liquidity coverage

To temper liquidity risk on interest and principal payments, liquidity facilities, natural matching and other contractual methods are used. According to the Covered Bond Act, the sum of incoming interest payments from cover assets within the next 12 months must be higher than the interest payments to covered bond holders and payments to derivative counter-parties within the next 12 months, while the test must withstand an absolute change of 1%. The coverage calculations have to be conducted on a daily basis. If cover assets do not suffice pursuant to the Covered Bond Act, the FSA should grant additional time within which the issuer should add more cover assets to the cover pool to achieve compliance with the law. Finland is considered to be aligned with EBA's best practice of coverage principles.

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

In Finland, both hard-bullet covered bonds as well as soft-bullet covered bonds are issued. While failure to pay causes default in the first case, in the second case the 12 months prolongation period provides additional time to repay the liabilities of the covered bonds.

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 overcollateralization. According to the legal framework, cover assets have to be of equal currency as the covered bonds. Hence, no currency risk arises.

Summary Liquidity and Refinancing Risk

Compared to other jurisdictions, the Finish 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 coverage interest and principal payments test within the next 12 months may temper underlying liquidity risk. Furthermore, Refinancing risks, cannot be structurally reduced under hard bullet repayment structures, which in turn can only be cushioned by sufficiently high overcollateralization, short-term cash availability, or other liquid funds to bridge the asset-liability mismatches in the portfolio. It is our understanding that the main attenuator for such risk is the high overcollateralization level.

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. Moreover, the rating uplift conferred zero (0) notch as the maximum rating for this program has already been achieved.

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”.

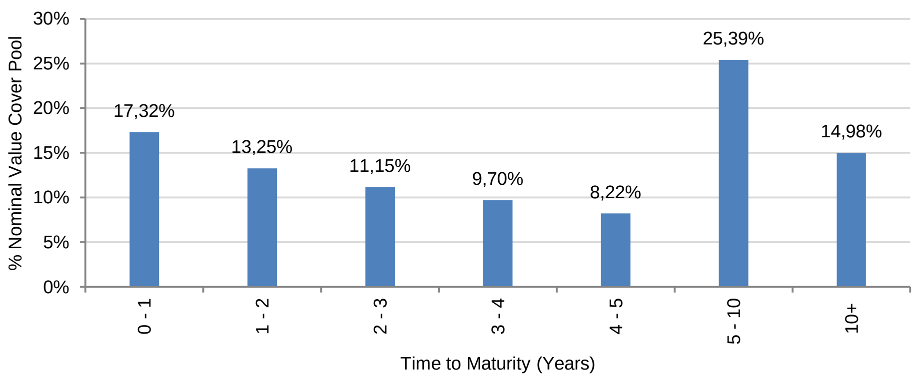
At the cut-off-date 31.12.2018, the pool of cover assets consisted of 311.316,00 debt receivables, of which 100% are domiciled in Finland. The total cover pool volume amounted to EUR 19.759,81 m in residential (100,00%), commercial (0,00%) and others (0,00%). The ten largest debtors of the portfolio total 0,13%. Table 3 displays additional characteristics of the cover pool:

Table 3: Cover pool characteristics | Source: Nordea Bank

Characteristics	Value
Cover assets	EUR 19.760 m.
Covered bonds outstanding	EUR 16.681 m.
Substitute assets	EUR 0,00 m.
Cover pool composition	
Mortgages	99,23%
Public Sector	0,77%
Substitute assets	0,00%
Other / Derivative	0,00%
Number of debtors	NA
Mortgages Composition	
Residential	100,00%
Commercial	0,00%
Other	0,00%
Average asset value (Residential)	EUR 62,98 k.
Average asset value (Commercial)	EUR 0,00 k.
Non-performing loans	0,0%
10 biggest debtors	0,13%
WA seasoning	NA
WA maturity cover pool (WAL)	5,28 Years
WA maturity covered bonds (WAL)	3,86 Years

We have listed an extended view of the composition of the cover pool in the appendix section "Cover pool details", with, for example, a detailed regional distribution. The following chart displays the maturity profile of the cover assets at the cut-off date 31.12.2018 (see figure 2):

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

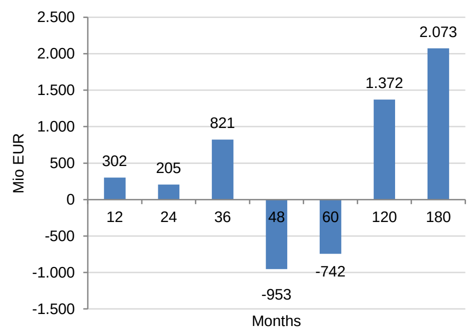
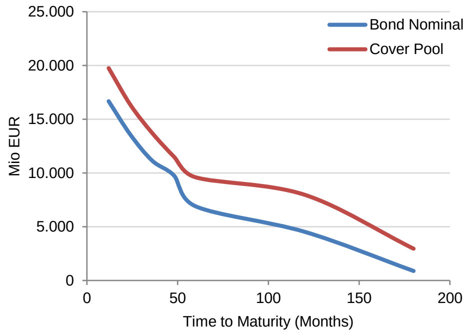


Figure 4: Amortization profile | Source: Nordea Bank



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

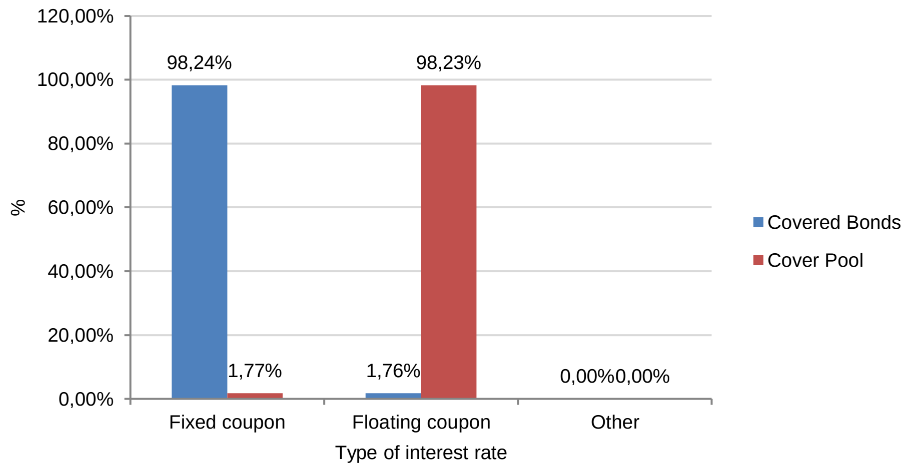
In order to reduce the exposure to the interest rate and currency risks, derivative contracts can be used to hedge these risks. In addition, according to the legal framework, cover assets have to be of equal currency as the covered bonds. Furthermore, the Finish Covered Bond Act stipulates on a monthly basis stress testing to anticipate interest rate discrepancies. Currency risk, regardless that, is limited for this program as 100,00% of the cover pool assets and 99,30% of the cover bonds are denominated in euro. As the available documentation does not reveal the derivatives agreements to the full extent, CRA assumes that the issuer has entered into partial interest rate and currency swaps to mitigate these risks. In spite of that, we have applied interest rate and foreign exchange stresses on the cash flows for each rating level according to our methodology. The overall rating impact of interest rate and currency mismatches was negligible for this program, which has been presented in our 'Overcollateralization Break-Even Analysis' segment.

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

Currency	Volume	Share (%)
Cover Pool		
EUR	19.760 m	100,00%
Covered Bond		
EUR	16.565 m	99,30%
CHF	116 m	0,70%

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

Figure 5: Type of interest rate | Source: Nordea 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 historical issuer's NPL ratio 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. 0,77% of the covered pools value. Summarizing, it has been assumed for the Nordea Bank a combined expected default rate of 1,75% 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). On top of that, the recovery and loss-severity assumptions for the public sector participation have been determined in accordance with CRA rating methodology. This includes a differentiation of sovereign- and sub-sovereign credits in terms of loss severities.

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	44,38%	97,91%	0,93%
AA+	40,93%	98,07%	0,79%
AA	36,22%	98,30%	0,62%
AA-	31,87%	98,52%	0,47%
A+	30,18%	98,62%	0,42%
A	30,09%	98,64%	0,41%
A-	28,83%	98,72%	0,37%

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 assumed that no additional assets will be added to the cover pool during the wind-down phase. Furthermore, CRA has assumed that the public sector assets are in default due to insufficient information.

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	69,06%	0,59%
AA+	63,51%	0,60%
AA	59,93%	0,61%
AA-	56,52%	0,62%
A+	53,90%	0,63%
A	51,75%	0,63%
A-	48,95%	0,64%

Rating Scenarios

Scenarios that have been tested in our cash flow model rely on the variation of 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. In total, the cash flow analysis revealed that the portfolio, given all information available as of 31.12.2018, could be sufficient to repay bond nominal capital notwithstanding the occurrence of extraordinary events. On this basis, the rating of the cover pool within our covered bond program rating has been set at AAA.

Overcollateralization Break-Even Analysis

CRA also performed a break-even OC analysis. Such OC levels should bear the corresponding losses for a given rating scenario. Main drivers of the analysis are:

- ALM

- Loss level
- Interest rate spreads
- Foreign currency mismatches
- 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 7Table 7.

Table 7: Breakeven Analysis | Source: CRA

Rating Level	Break-Even OC
AAA	**7,30%**
AA+	6,71%
AA	6,23%
AA-	5,81%
A+	5,53%
A	5,33%
A-	5,04%

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. Based on the base case, there is a high sensitivity of rating in terms of decreased recovery (rating reduced up to 6 notches). In the worst-case scenario, i.e. a 50% decrease in the base case assumptions leads to a reduction in the base-case rating of 11 notches (see Table 8):

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

Recovery / Default	Base Case	-25%	-50%
Base Case	**AAA**	AAA	BBB+
+25%	AAA	AA	BB+
+50%	AAA	AA-	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. This ensures a maximum possible rating uplift of three (+3) notches for this program, however, the secondary rating uplift has been set at zero (0) notch as the maximum rating for this program has already been achieved.

Counterparty Risk

Transaction parties

Table 9: Participant counterparties | Source: Nordea Bank

Role	Name	Legal Entity Identifier
Issuer	Nordea Bank Plc.	7437001LESKGLAEOEU84
Servicer	Not applicable for the jurisdiction	Not applicable for the jurisdiction
Account Bank	Not applicable for the jurisdiction	Not applicable for the jurisdiction
Sponsor	Not applicable for the jurisdiction	Not applicable for the jurisdiction

Derivatives

Based on the available information, CRA assumes that the issuer has entered into partial derivative agreements in the form of intra-group cross-currency swaps.

Commingling

Incoming cash flows generated from the cover pool will normally be transferred to the Issuer and will be forwarded to the covered bond holders according to the payment terms and conditions. Should the issuer become bankrupt, there is a risk ("commingling risk") that funds may not be returned and commingled with the insolvency estate of the issuer. In order to avoid such risk, the Finish Covered Bond Act 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 up-coming cash flows from the cover pool assets. These cash flows 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	Initial Rating
Result	AAA
Rating Date	11.02.2019
Publication Date	20.02.2019

Details Cover Pool

Table 10: Characteristics of Cover Pool | Source: Nordea Bank

Characteristics	Value
Cover Pool Volume	EUR 19.760 mm
Covered Bond Outstanding	EUR 16.681 mm
Substitute Assets	EUR 0 mm
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%
US	0,00%
Other	0,00%
Cover Pools' Composition	

Mortgages	99,23%
Public Sector	0,77%
Total Substitution Assets	0,00%
Other / Derivatives	0,00%
Number of Debtors	NA
Distribution by property use	
Residential	100,00%
Commercial	0,00%
Other	0,00%
Distribution by Residential type	
Occupied (main home)	97,44%
Second home	2,56%
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	100,00%
Average asset value (Residential)	EUR 63 k
Average asset value (Commercial)	EUR 0 k
Share Non-Performing Loans	0,00%
Share 10 biggest debtor	0,13%
WA Maturity (months)	NA
WAL (months)	63,41
Distribution by Country (%)	
Finland	100,00
Distribution by Region (%)	
Aland Islands	0,64
Central Finland	4,94
Central Ostrobothnia	0,82
Etela-Savo	1,70
Ita-Uusimaa	1,80
Kainuu	0,68

Kanta-Hame	2,74
Kymenlaakso	2,63
Lapland	2,43
North Karelia	1,57
North Ostrobothnia	5,11
Ostrobothnia	2,53
Paijat-Hame	3,49
Pirkanmaa	9,60
Pohjois-Savo	2,68
Satakunta	2,56
South Karelia	1,34
South Ostrobothnia	2,46
Uusimaa	43,20
Varsinais-Suomi	7,08

Figure 6: Program currency mismatches | Source: Nordea Bank

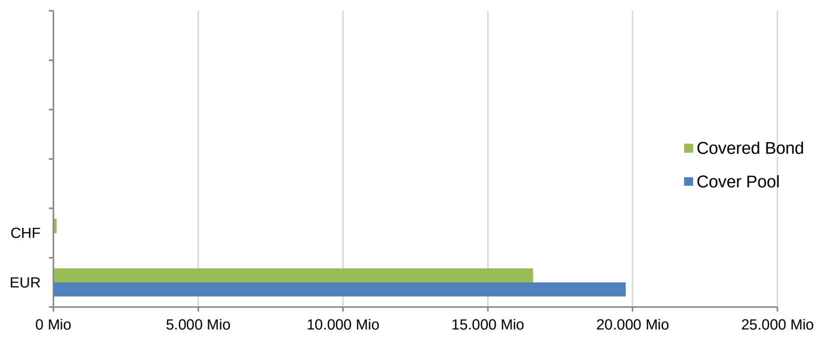
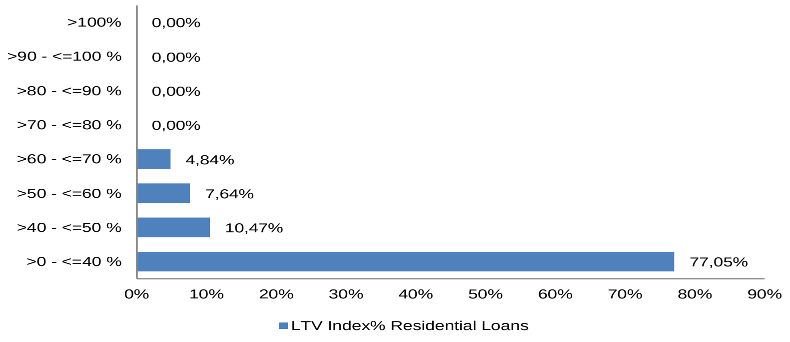


Figure 7: Unindexed LTV breakdown - residential pool | Source: Nordea Bank



Key Source of Information

Documents (Date: 31.12.2018)
Issuer ▪ Audited consolidated annual reports of the parent company Nordea Bank AB (Group) 2014-2017 ▪ Final Rating report as of 27.04.2018 ▪ Rating file 2017 ▪ Miscellaneous Investor Relations Information and Press releases ▪ Peergroup-Data and other data from the S&P Global Market Intelligence Database
Covered Bond and Cover Pool ▪ HTT Reporting from Nordea Bank (31.12.2018) ▪ 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 in conjunction with Creditreform`s basic document "Rating Criteria and Definitions".

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 S&P Global Market Intelligence subject to a peer group analysis of 38 competing institutes. The cover pool's quantitative analysis for the rated Covered Bond Program was based on the "Harmonised Transparency Template" (HTT) published by the Nordea Bank.

A complete description of Creditreform Rating´s rating methodologies and Creditreform`s basic document "Rating Criteria and Definitions" is published on the following internet page:

www.creditreform-rating.de/en/regulatory-requirements/

This rating was carried out by analysts Edsson Rodriguez und AFM Kamruzzaman both based in Neuss/Germany. On 11.02.2019, the rating was presented to the rating committee by the analysts and adopted in a resolution.

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

1. Transaction structure and participants
2. Transaction documents
3. Issuing documents

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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 "Basic data" card 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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