

Covered Bonds follow-up Rating

NORD/LB Luxembourg S.A. Covered Bond Bank
Public Sector Covered Bond Program

Rating Object	Rating Information	
NORD/LB Luxembourg S.A. Covered Bond Bank, Public Sector Covered Bond Program	Rating / Outlook : A+ / Stable	Type: Rating Update (unsolicited)
	Type of Issuance : Public Sector Covered Bond under Luxembourgish law Issuer : NORD/LB Luxembourg S.A. Covered Bond Bank	Rating Date : 25 September 2020 Rating Renewal until : Withdrawal of the rating Maximum Validity: 01 January 2050 Rating Methodology : CRA „Covered Bond Ratings“
LT Issuer Rating : BBB- (NORD/LB CBB) ST Issuer Rating : L3 Outlook Issuer : Stable		

Program Overview			
Bonds nominal value	EUR 4,191 m.	WAL maturity covered bonds	6.38 Years
Cover pool value	EUR 5,159 m.	WAL maturity cover pool	6.72 Years
Cover pool asset class	Public Sector	Overcollateralization (nominal/committed)	23.09%/ 0.00%
Repayment method	Hard Bullet	Min. overcollateralization	2,00%
Legal framework	Financial Sector Act	Covered bonds coupon type	Fix (97.29%), Floating (0.00%) Others (2.71%)

Cut-off date Cover Pool information: 30 June 2020

Rating Action

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This follow-up report covers our analysis of the public sector covered bond (*“Lettres de Gage publiques”*) program issued under Luxembourgish law by NORD/LB Luxembourg S.A. Covered Bond Bank („NORD/LB CBB“). The total covered bond issuance at the cut-off date (30 June 2020) had a nominal value of EUR 4,190.98 m, backed by a cover pool with a current value of EUR 5,158.61 m. This corresponds to a nominal overcollateralization of 23.09%. The cover assets mainly include German public sector assets as well as obligations of regional and local authorities in Germany.

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”*) lowers the rating of the covered bond program to A+ from AA-. This is due to the overall negative impact of declining overcollateralization, higher foreign currency and interest rate mismatches on the cover pool analysis. However, the A+ rating represents a high level of credit quality and low investment risk.

Key Rating Findings

- + Covered Bonds are subject to strict legal framework for covered bonds
- + Full recourse of the covered bond holders to the issuer
- + Covered bonds are backed by appropriate cover asset class
- +/- Covid-19 can lead to sustained changes in the cover pool or the issuer rating
- Continued negative net annual result of NORD/LB. Shrinking net interest margin and macroeconomic uncertainties may lead to net losses in the coming years as well
- The covered bond program final rating is limited to the issuer rating

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Table1: Overview results

Risk Factor	Result
Issuer rating	BBB- (rating as of 15 September 2020)
+ Legal and regulatory framework	+4 Notches
+ Liquidity and refinancing risk	+1 Notch
= Rating after 1 st uplift	A+
Cover pool & cash flow analysis	BBB-
+ 2 nd rating uplift	+/-0 Notch
= Rating covered bond program	A+

Issuer Risk

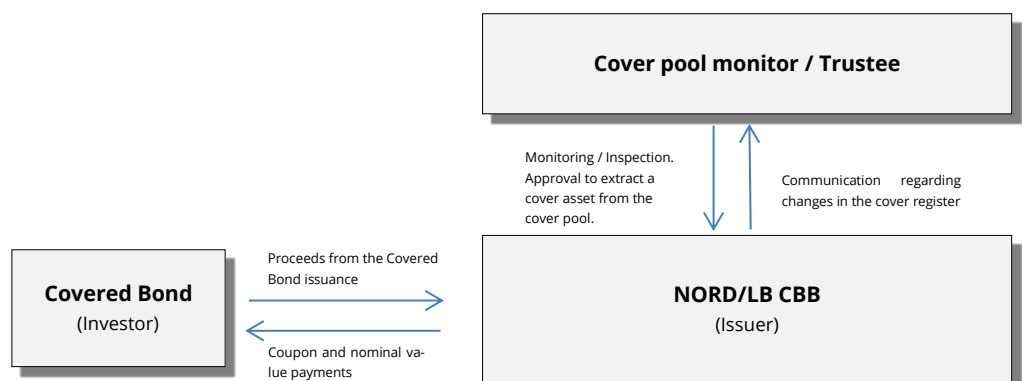
Issuer

Our rating of NORD/LB CBB covered bond program is reflected by our issuer rating opinion of NORD/LB (Group) due to its group structure. CRA has affirmed the Long-term rating of NORD/LB at BBB- in a Rating Update dated 15 September 2020. Responsible for this decision were significant improvement of equity base due to the capital increase and continuous reduction of the NPL ship portfolio. However, the net annual result remained negative and the declining business volume in a persistently low interest rate environment as well as macroeconomic uncertainties may lead to net losses in the coming years as well. 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

The legal regulations governing covered bonds in Luxembourg (“Lettres de Gage”), which was introduced on the financial sector law on 1993, was firstly implemented on 1997 and last amended on 2018. Under this framework, credit institutions with specialized banking license can issue covered bonds backed by pool of mortgages, public sector exposures, movable assets, i.e. mortgage loans on ships, aircrafts, trains or other classes of movable assets, assets issued by credit institutions and lending for renewable energy projects.

The covered bondholders have direct recourse to the issuer and a preferential claim to the cover pool assets secured by its cover asset class. For public sector covered bonds (“Lettres de Gage publiques”), the cover assets comprise of exposures to public sector entities, credit institutions and PPI where public sector cash flows are conditional.

The cover assets including substitution assets can be acquired globally with restriction in form of credit quality steps and percentage for Non-EU, EEA or OECD countries.

The issuer has to nominate a special cover pool monitor approved by the supervisory authority CSSF. Among others, a special auditor is responsible for controlling the cover pool and the respective cover register and the outstanding covered bonds. The issuers are required to publish information on the structure of the cover pool, the covered bonds and the issuers as well.

If an issuer defaults, one or more special administrators different from the general bankruptcy administrator are approved by the court, who have direct access to the cover pool assets.

In general, we considered the structural framework for covered bonds in Luxembourg as positive, as it defines clear rules to mitigate risks in particular regarding: insolvency remoteness, asset segregation, investor's special claim vis-à-vis other creditors, the roll and appointment of a special administrator, among other provisions. Due to those reasons we have set a rating uplift of four (+4) notches for the legal and regulatory framework for the covered bond programs in Luxembourg.

Liquidity and Refinancing Risk

The legal framework requires a mandatory minimum overcollateralization of 2% on both a nominal and a net present value basis. The amendments of the Lettre de Gage law in June 2018 also included the introduction of a liquidity buffer of 180 days for hard bullet covered bonds. Issuers must perform regular cover tests (internal: daily, trustee: weekly, CSSF: monthly) to monitor the cover pool for minimum cover.

Covered bond issuers are not obliged to perform particular covered bond stress tests on their covered bond programs. However, they execute voluntary stress tests on their own and are compelled to common supervisory monitoring. In order to reduce the exposure to market risk, such as interest rate and currency risk, derivative contracts can be made to hedge these risks.

In the event of the issuer's insolvency, the legislation stipulates that the special administrator can sell assets of the cover pool or use them as a guarantee for liquidity operations if liquidity shortfalls are foreseeable.

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 regulatory requirements for liquidity and risk management for Luxembourgish covered bonds are relatively strong. However, the legislation does not describe specific stress tests for interest rate and currency risk. In addition, refinancing risks cannot be structurally reduced due to the hard bullet repayment structure, which 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 under the Luxembourg's covered bond legislation as positive and set a rating uplift of only one (+1) notch.

For a more comprehensive overview of the regulatory framework for Luxembourgish covered bond programs, please refer to our initial rating reports of NORD/LB CBB published on 2019.

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 Luxembourgish 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, the roll and appointment of a special administrator, among other provisions. 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".

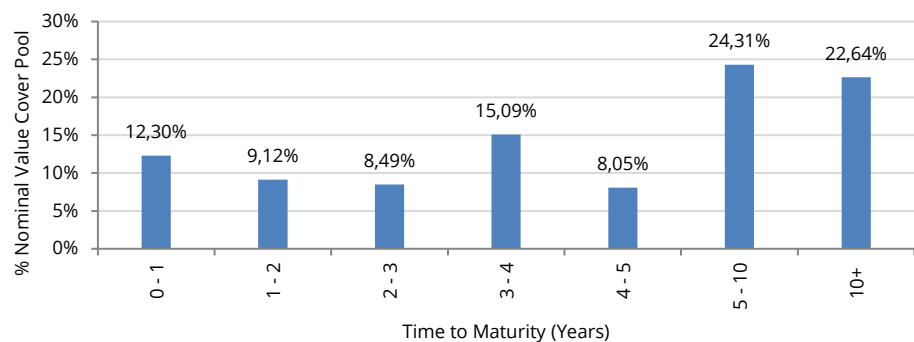
At the cut-off-date 30 June 2020, the pool of cover assets consisted of 374 debt receivables from 211 debtors, of which 41.10% are domiciled in Germany. The total cover pool volume amounted to EUR 5,158.61 m in bonds (36.80%), loans (63.20%) and others (0.00%) which have been lent to the central government, regional authorities and entities, and other debtors. The ten largest debtors of the portfolio total to 23.09%. Table 2 displays additional characteristics of the cover pool:

Table 2: Cover pool characteristics | Source: NORD/LB CBB

Characteristics	Value
Cover assets	EUR 5,159 m.
Covered bonds outstanding	EUR 4,191 m.
Substitute assets	EUR 192 m.
Cover pool composition	
<i>Public Sector</i>	96.28%
<i>Substitute assets</i>	3.72%
<i>Other / Derivative</i>	0.00%
Number of debtors	211
<i>Bonds</i>	36.80%
<i>Loans</i>	63.20%
<i>Other</i>	0.00%
Average asset value	EUR 13,793 k.
Non-performing loans	0.0%
10 biggest debtors	23.09%
WA seasoning	88.3 Months
WA maturity cover pool (WAL)	6.72 Years
WA maturity covered bonds (WAL)	6.38 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 30 June 2020 (see figure 2):

Figure 2: Distribution by remaining time to maturity | Source: NORD/LB CBB



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: NORD/LB CBB

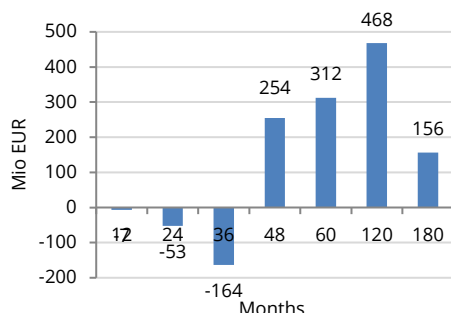
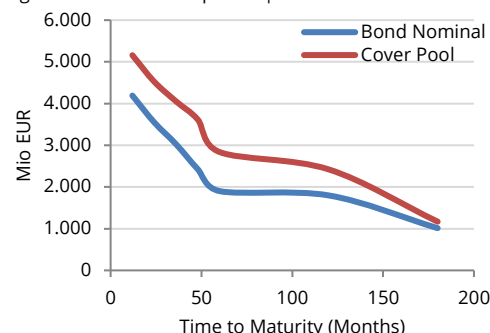


Figure 4: Amortization profile | Source: NORD/LB CBB



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

The program exhibits significant currency risks as 57,24% of the cover assets and 18,47% of the covered bonds are denominated in currencies other than euros. On the other hand, 56,02% of cover pool assets and 97,29% covered bond pay a fixed-rate which create interest rate mismatches.

The legal framework does not provide for obligatory stress tests to be conducted to hedge interest rate- and currency risks. Although 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. As we assume that the covered bond program will be exposed to the significant interest rate and currency risks, we have applied interest rate and currency stresses on the cash flows for each rating level according to the methodology.

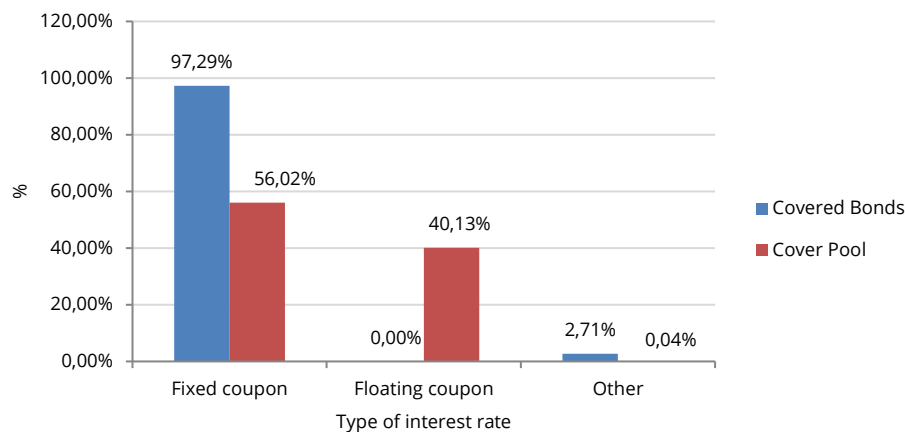
Table 3: Program distribution by currency (before hedging) | Source: NORD/LB CBB

Currency	Volume	Share (%)
<i>Cover Pool</i>		
EUR	2,206 m.	42.76%
USD*	1,655 m.	32.08%
GBP	1,209 m.	23.43%
CAD	86 m.	1.68%
CZK	3 m.	0.05%
<i>Covered Bond</i>		
EUR	3,417 m.	81.53%
USD	580 m.	13.85%
NOK	147 m.	3.50%
CHF	47 m.	1.12%

* including 'Other' currency

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

Figure 5: Type of interest rate | Source: NORD/LB CBB



Credit Risk

In Covered Bond Public Sector programs, CRA assesses the credit risk of the cover assets primarily through an assessment of the creditworthiness of the obligors and their future ability to meet all payment obligations. In order to derive a base case assumption for credit risk, CRA uses the CRA Sovereign Ratings of all obligors in the portfolio, which will be taken into account pro-rata. The rating reports of relevant sovereigns can be accessed at www.creditreform-rating.de. Using all portfolio information available (number of debtors, sovereign – sub-sovereign, maturity profile, regional diversification etc.), CRA has modelled the cover asset portfolio and, using Monte Carlo simulations, derived a distribution of defaults which can be used to elicit rating-level dependent default assumptions.

Recovery and loss-severity assumptions have been determined in accordance with CRA rating methodology. This includes a differentiation of sovereign- and sub-sovereign credits in terms of loss severities, which is included using the current portfolio composition to determine a weighted average recovery rate.

Using both rating-level dependent default and recovery assumptions, the following loss assumptions have been derived for the current cover pool (see Table 4)

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

Rating	Default Rate (%)	Recoveries (%)	Expected Loss (%)
A-	16.07%	40.51%	9.56%
BBB+	14.68%	42.18%	8.49%
BBB	13.32%	43.84%	7.48%
BBB-	12.43%	45.51%	6.77%
BB+	11.13%	47.18%	5.88%
BB	10.04%	48.84%	5.14%
BB-	8.73%	50.51%	4.32%

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-	8.41%	0.20%
BBB+	7.73%	0.24%
BBB	7.06%	0.29%
BBB-	6.36%	0.33%
BB+	5.61%	0.38%
BB	4.77%	0.44%
BB-	3.91%	0.50%

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 available information as of 30 June 2020, 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
A-	29.90%
BBB+	27.06%
BBB	24.37%
BBB-	22.08%
BB+	19.09%
BB	16.28%
BB-	13.19%

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 (sovereigns). 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 the implied rating. Based on the base case, there is a sensitivity of rating in terms of decreased recovery rates and increased defaults. In the worst-case scenario, i.e. a 50% decrease in the base case assumptions leads to a reduction in the base-case rating by 3 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+	BB+
+25%	BB+	BB	BB
+50%	BB	BB	BB-

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-. This, however, does not ensure any secondary rating uplift which was set at zero (0) notch. Consequently, the final rating of the covered bond program was confirmed as A+.

However, it is worth mentioning that, the ongoing Covid-19 crisis could have a potential impact on the cover pool. It remains to be seen how serious the effects of the lockdown, among other things, will be. Should there be any changes to the cover pool and the issuer rating in the future, we will include them during our monitoring process.

Counterparty Risk

Derivatives

Based on the available information, CRA assumes that the issuer has entered into partial derivative agreements in the form of cross-currency and interest rate swaps with its parent company NORD/LB Girozentrale.

Commingling

In order to avoid commingling of funds, the Luxembourg's covered bond legislation stipulates that the cover assets should be isolated from the general bankruptcy estate (insolvency-free assets) and one or more special cover pool administrator/s will be appointed to manage the cover pool. Under that mandate the cover pool administrator/s will have the 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	Rating Date	Publication Date	Result
Initial Rating	11.02.2019	21.02.2019	AA- / Stable
Monitoring	18.12.2019	23.12.2019	AA- / Watch Unknown
Monitoring	24.03.2020	28.03.2020	AA- / Watch Negative
Rating Update	25.09.2020	01.10.2020	A+ / Stable

Details Cover Pool

Table 8: Characteristics of Cover Pool | Source: NORD/LB CBB

Characteristics	Value
Cover Pool Volume	EUR 5,159 m
Covered Bonds Outstanding	EUR 4,191 m
Substitute Assets	EUR 192 m
Share Derivatives	0.00%
Share Other	100.00%
Substitute Assets breakdown by asset type	
Cash	100.00%
Guaranteed by Supranational/Sovereign agency	0.00%
Central bank	0.00%
Credit institutions	100.00%
Other	0.00%
Substitute Assets breakdown by country	
Domestic (Country of Issuer)	0.00%
Eurozone	35.42%
Rest of European Union (EU)	64.58%
European Economic Area (not member of EU)	0.00%
Cover Pool Composition	
Public Sector	96.28%
Total Substitute Assets	3.72%
Other / Derivatives	0.00%
Number of Debtors	211
Distribution by debtor type	
Central Government	3.77%
Regional authorities	16.53%
Municipal authorities	15.37%
Other	64.33%
Distribution by asset type	
Loans	63.20%
Bonds	36.80%
Other	0.00%
Average asset value	EUR 13,793 k

Covered Bonds follow-up Rating

NORD/LB Luxembourg S.A. Covered Bond Bank
Public Sector Covered Bond Program

Share of Non-Performing Loans	0.00%
Share of 10 biggest debtors	23.09%
WA Maturity (months)	117.2
WAL (months)	80.06
Distribution by Country (%)	
Austria	2.21
Czech Republic	0.39
Denmark	0.91
Finland	1.46
France	0.36
Germany	41.10
Netherlands	2.54
Ireland	1.09
Luxembourg	2.95
Poland	1.19
Sweden	2.25
United Kingdom	21.64
Canada	4.08
Japan	0.27
Korea	0.50
New Zealand	0.08
US	13.24
Other	3.73

Table 9: Participant counterparties | Source: NORD/LB CBB

Role	Name	Legal Entity Identifier
Issuer	NORD/LB CBB	CAF7KSNT1N0CTA93RI98
Servicer	Not relevant for the issuer and/or CB programme at the present time	Not relevant for the issuer and/or CB programme at the present time
Account Bank	Banque et Caisse d'Epargne de l'Etat	R7CQUF1DQM73HUTV1078
Sponsor	Not relevant for the issuer and/or CB programme at the present time	Not relevant for the issuer and/or CB programme at the present time

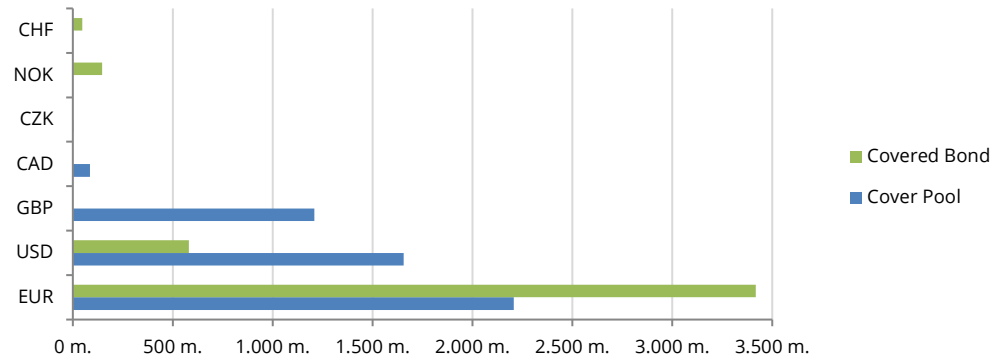
Table 10: Interest rate and Swap counterparties | Source: NORD/LB CBB

Name	Legal Entity Identifier	Agreement Type
Norddeutsche Landesbank Girozentrale	DSNHHQ2B9X5N6OUJ1236	Cross-Currency, Interest Rate

Covered Bonds follow-up Rating

NORD/LB Luxembourg S.A. Covered Bond Bank
Public Sector Covered Bond Program

Figure 6: Program currency mismatches | Source: NORD/LB CBB



Key Source of Information

Documents (Date: 30 June 2020)

Issuer

- Audited consolidated annual reports of NORD/LB (Group) 2016-2019
- Rating file 2020
- Final Rating update as of 15 September 2020
- Miscellaneous Investor Relations Information and Press releases
- Peergroup-Data und other data from the CRA/ eValueRate databank

Covered Bond and Cover Pool

- HTT Reporting from NORD/LB CBB as of 30 June 2020
- Market data of Public Sector 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 \(v1.0, July 2017\)](#) 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 CRA/ eValueRate subject to a peer group analysis of 24 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 NORD/LB CBB.

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 AFM Kamruzzaman (Analyst) and Qinghang Lin (Analyst) both based in Neuss/Germany. On 25 September 2020, 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 Stephan Giebler (Senior Analyst).

On 25 September 2020, the rating result was communicated to NORD/LB CBB, 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.

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 credit rating report.

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.

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