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

Update to New Issue Report, reflecting data as of June 30, 2018

Ratings

Exhibit 1

Cover Pool (€)	Ordinary Cover Pool Assets	Covered Bonds (€)	Rating
5,488,121,333	Public Sector Loans	4,401,544,426	Aa3 on review, direction uncertain

The ratings address the expected loss posed to investors. Our ratings address only the credit risks associated with the transaction. Other non-credit risks have not been addressed, but may have a significant effect on yield to investors.
Source: Moody's Investors Service

Summary

The covered bonds issued by NORD/LB Luxembourg S.A. Covered Bond Bank (NORD/LB CBB or the issuer) under the public sector covered bond programme (the programme) are full recourse to the issuer and are secured by a cover pool of assets consisting mostly of public sector related receivables (94.4%) with particular concentration in Germany (32.8%), the USA (26.5%) and the UK (18.7%), and substitute assets (5.6%) eligible under the Covered Bond Law.

Credit strengths include the full recourse of the covered bonds to the issuer (counterparty risk (CR) assessment Baa2(cr) on review with direction uncertain) and the support provided by the Luxembourgish covered bond legislation.

Credit challenges include the high level of dependency on the issuer. The market value of these assets may be subject to high volatility in case the issuer ceases to service the payments on the covered bonds.

Our credit analysis takes into account the cover pool's credit quality, which is reflected in the collateral score of 13.1%, and the current over-collateralisation (OC) of 24.7% on a nominal basis as of 30 June 2018.

Credit strengths

» ***Recourse to the issuer***: The covered bonds are full recourse to NORD/LB CBB (Baa2(cr)). (See "Covered bond analysis")

- ***Support provided by the Luxembourgish legal framework***: The covered bonds are governed by the Luxembourgish covered bond law, which provides for the issuer's regulation and supervision and sets certain minimum requirements for the covered bonds and the cover pool. The act requires the issuer to maintain a cover pool with a value of at least 102% of the value of the covered bonds, both on nominal and present value basis. Following an issuer default, the covered bondholders will benefit from a cover pool administrator that acts independently from the issuer's insolvency administrator. The cover pool administrator has a clear mandate to act in the interests of the covered bond holders and considerable flexibility to manage the covered bond programme. (See "Moody's related publications: Covered Bond Legal Frameworks")

- ***Good credit quality of the cover pool***: The covered bonds are supported by a cover pool of highly diversified assets located in very highly rated countries. The majority of the assets are claims against public sector undertakings (*kommunalnahe Unternehmen)* in Germany (17.1%), lending to German states and other public sector entities (12.7%), U.S. municipal bonds (14.6%) and lending to public-private-partnerships (PPP) projects predominantly in the UK (17.3%). The majority of assets are neither direct claims against nor claims guaranteed by central, regional or local governments, but finance public undertakings controlled by such authorities. Such cover pool assets do not comply with Article 129 of the CRR, EU Regulation 575/2013, unlike the cover pool assets in most other European covered bond programmes. The collateral quality is reflected in the collateral score, which is currently 13.1%. (See "Cover pool analysis")

- ***Refinancing risk, while significant, mitigated by structural features and cover pool quality:*** The issuer is obliged to cover potential liquidity gaps over the next 180 days between payments expected to be received under the cover pool assets and payments due under the outstanding covered bonds. By operation of law, following a suspension of payments or liquidation proceeding being imposed on the issuer, the covered bond programme is expected to continue as part of a "bank in limited activity" with the administrator having the ability to issue covered bonds. The issuer reports 52.2% of all the assets as eligible for repurchase programme operations with a central bank. These aspects partially mitigate the refinancing risk resulting from all the bonds being hard bullet bonds and improve the chances that excessive discount rates due to a fire-sale of the cover pool may be avoided. (See "Covered bond analysis")

- ***Commingling risk mitigated***: There is no provision in the covered bond law dealing with commingling risk. However, the issuer has set up, on a voluntary basis, separate accounts at a highly rated Luxembourgish bank for the collection of cash flows from the cover pool. (See "Covered bond analysis")

Credit challenges

- ***High level of dependency on the issuer:*** As with most covered bonds, before the insolvency of the issuer, the issuer can materially change the nature of the programme. For example, the issuer can add new assets to the cover pool, issue new covered bonds with varying promises, and enter into new hedging arrangements. The dependency on the issuer is magnified as the Luxembourgish covered bond law has a relatively wide definition of public sector assets that includes public undertakings. Issuer's actions could affect the cover pool's credit quality as well as the overall refinancing risk and market risks. The issuer has the ability, but not the obligation, to increase the over-collateralisation in the cover pool. (See "Covered bond analysis")

- ***Significant interest rate and currency risk****:* The programme exhibits significant interest and currency risk. 31.1% of the assets and 16.1% of the liabilities are denominated in U.S. dollar, while euro account for 46.8% of the assets and 77.8% of the covered bonds. The Luxembourgish covered bond legislation does not prescribe specific stress tests in respect of interest or currency risk. The risks are partially mitigated by swaps that the issuer has arranged with its parent entity, Norddeutsche Landesbank Girozentrale (NORD/LB, Baa2(cr) on review with direction uncertain). We have incorporated into our analysis the expectation that the programme will be exposed to significant interest and currency risk mismatches upon an issuer covered bond anchor event. (See "Covered bond analysis")

» ***Investors do not benefit from priority rights in case of non-EEA assets*:** A significant share of the pool (30.8%) consists of assets that are located outside the European Economic Area (EEA). In addition, it is currently unclear how UK assets (17.7% of the pool) would be treated in case the UK executes its decision to leave the European Union. The priority right of covered bond investors over cover pool assets outside the EEA may, in some cases, be lost. For more information on Non-EEA Assets, see our Special Comment published July 2014. The Luxembourg covered bond legislation does not specify limits on the amount of non-EEA assets, leaving the possibility for public sector related receivables from any territorial authority belonging to the Organisation for Economic Cooperation and Development (OECD) forming part of the cover pool without restriction. However, we understand that NORD/LB CBB's new business focus is mainly on EEA countries. (See "Covered bond analysis")

» ***Time subordination****:* After a CB anchor event, later-maturing covered bonds are subject to time subordination. Principal cash collections may be used on a first-come, first-served basis, paying earlier-maturing covered bonds before later-maturing covered bonds. This subordination could lead to the erosion of OC before any payments are made to later-paying covered bonds. (See "Covered bond analysis")

» ***Set-off risk****:* Whilst not excluded by the covered bond law, set-off risk appears limited in scope given that the issuer is a specialist credit institution and is not offering deposit accounts to cover pool debtors. (See "Covered bond analysis")

Key characteristics

Exhibit 2
Covered bond characteristics

Moody's Programme Number:	420
Issuer:	NORD/LB Luxembourg S.A. Covered Bond Bank
Covered Bond Type:	Public Sector Covered Bonds
Issued under Covered Bonds Law:	Yes
Applicable Covered Bonds Law:	Luxembourg Covered Bond Law
Entity used in Moody's TPI analysis:	NORD/LB Luxembourg S.A. Covered Bond Bank
CR Assessment:	Baa2(cr) on review, direction uncertain
CB Anchor:	CR assessment +1 notch
Issuer rating/ LT deposit rating	Baa2 on review, direction uncertain
Total Covered Bonds Outstanding:	€4,401,544,426
Main Currency of Covered Bonds:	EUR (77.8%)
Extended Refinance Period:	No
Principal Payment Type:	Hard bullet (no extension period)
Interest Rate Type:	Fixed rate covered bonds (100.0%)
Committed Over-Collateralisation:	2.0% mandatory minimum OC, on nominal and NPV basis
Current Over-Collateralisation:	24.7% (on a nominal basis)
Intra-group Swap Provider:	Norddeutsche Landesbank GZ
Monitoring of Cover Pool:	Approved Statutory Auditor
Trustees:	PriceWaterhouseCoopers
Timely Payment Indicator:	Probable
TPI Leeway:	1

Source: Moody's Investors Service, issuer data

Exhibit 3
Cover pool characteristics

Size of Cover Pool:	€ 5,488,121,333
Main Collateral Type in Cover Pool:	Public-sector loans (94.4%), Supplementary assets (5.6%)
Main Asset Location of Ordinary Cover Assets:	Germany (32.8% by debtor location, 46.0% by guarantor location)
Main Currency:	Euro (46.8%)
Loans Count:	353 Public Sector Loans
Number of Borrowers:	197 Public Sector Assets, 12 Supplementary Assets
Concentration of 10 Biggest Borrowers:	26.5% Public Sector Assets
Interest Rate Type:	Fixed rate assets (68.9%), floating rate assets (31.1%)
Collateral Score:	13.1%
Cover Pool Losses:	27.1%
Further Cover Pool Details:	See Cover pool analysis
Pool Cut-off Date:	30/06/2018

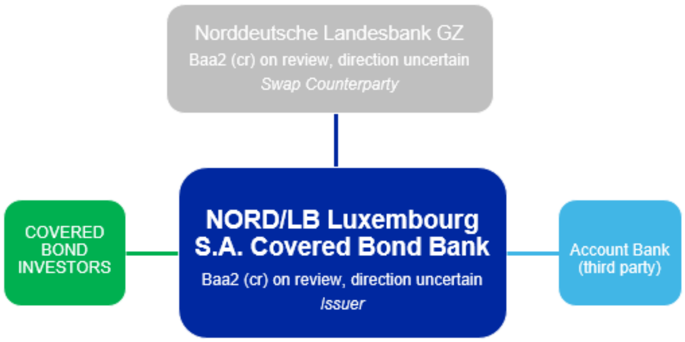
Source: Moody's Investors Service, issuer data

Covered bond description

The covered bonds issued under the public sector covered bond programme of NORD/LB CBB are full recourse to the issuer. Upon a CB anchor event, covered bondholders would have access to a cover pool of public sector related receivables and substitute assets. A CB anchor event occurs when the issuer, or another entity in the issuer group that supports the issuer, ceases to service the payments on the covered bonds.

Structural diagram

Exhibit 4



Source: Issuer

Structure description

The bonds

All outstanding covered bonds have a bullet repayment at maturity, without any extension period for the repayment of the bonds.

Issuer recourse

The covered bonds are full recourse to the issuer. Therefore, the issuer is obliged to repay principal and pay interest on the covered bonds.

Recourse to cover pool and over-collateralisation

If the issuer becomes insolvent, the covered bondholders would have priority claims over a pool of assets (cover pool). (See “Cover pool description” for the cover pool characteristics and “Cover pool analysis” for our analysis of the pool)

As of 30 June 2018, the level of OC in the programme was 24.7% on a nominal basis and 26.4% on a NPV basis.

The issuer has publicly stated since 2015 to maintain at least an OC level of 22.0% on a nominal and net present value basis. We do not consider this public statement as “committed” OC under our methodology. We consider for our analysis the 2.0% minimum OC as per the Luxembourgish covered bond legislation as “committed”.

The minimum OC level consistent with the Aa3 rating is 8.5%, of which the issuer should provide 0.0% in a “committed” form to be given full value (numbers on a nominal basis). These numbers show that Moody's is currently relying on “uncommitted” OC in its expected loss analysis.

Although the issuer has the ability to increase the OC in the cover pool should the collateral quality deteriorate or market risks rise, the issuer does not have any obligation to do so. The failure to increase OC following a deterioration of the collateral could lead to a negative rating action.

All numbers in this section are based on the Performance Overview report based on data as per 30 June 2018, published on 1 November 2018.

Legal framework

The covered bonds are governed by Luxembourg's covered bond law (articles 12-1 to 12-12 of the law of 5 April 1993 on the financial sector, as amended). Comparing Luxembourg's covered bond legislation to other typical covered bond frameworks, we identify the following aspects as relative strengths:

» The issuer is regulated and supervised by the financial services authority of Luxembourg (*Commission de Surveillance du Secteur Financier* or *CSSF*). The CSSF has appointed an independent Approved Statutory Auditor (ASA) that performs cover pool monitor functions.

» The law stipulates a minimum 2.0% OC required on a nominal and present value basis. In addition, the issuer must ensure that the overall interest income must at any time cover the overall amount of interest on the covered bonds.

» The law requires issuers to cover potential liquidity gaps over the next 180 days between payments expected to be received from the cover pool receivables and payments due under the outstanding covered bonds.

» Upon a suspension of payments or liquidation proceeding being imposed on the issuer, the same will be divided by operation of law into two parts: (i) a solvent part, the so-called bank "in limited activity", containing the (different categories of) covered bonds which, together with their cover pools, constitute as many separate and distinct patrimonial compartments; the purpose of the bank in limited activity is the management of the compartments and the full repayment at maturity of the covered bonds; and (ii) an insolvent part containing the remaining estate related to the accessory activity of the bank, to which the suspension of payments or liquidation proceeding would apply.

» Court appointed administrator(s) in charge of the management of the bank in limited activity – which we understand would be a different person than the insolvency administrator – can take all necessary acts of management in the interest of full repayment of the covered bonds at maturity including: (i) issuing new covered bonds; (ii) subject to CSSF's approval, outsourcing to a EU/EEA/OECD licensed and supervised bank the management of the covered bond programme and the realization of the cover assets; (iii) subject to CSSF's approval, transfer all covered bonds with their respective cover pool to a bank similar in nature and subject to equivalent supervision as a Luxembourgish bank;

We consider the following items as relative weaknesses from a credit perspective:

» The cover pool eligibility criteria of Luxembourg's Lettres de Gage Publiques goes beyond direct claims and claims guaranteed by central, regional or local governments and includes other commitments made by public entities. This includes public undertakings, which means any undertaking over which a state or other territorial authority may directly or indirectly exercise a dominant influence by virtue of their ownership of it, their financial participation therein or the rules which govern it. A dominant influence shall be presumed when a state or other territorial authorities, directly or indirectly in relation to an undertaking: (i) hold the major part of the undertaking's subscribed capital, (ii) control the majority of the votes attached to the shares issued by the undertaking, or (iii) can appoint more than half of the members of the undertaking's administrative, managerial or supervisory body.

» Foreign assets are eligible for the cover pool if located in a country which is part of the European Union (EU), the European Economic Area (EEA), the Organisation for Economic Cooperation and Development (OECD) or, subject to the conditions below, that is not part of the OECD. Specifically, the cover pool can contain 50% non-OECD assets, if a rating agency registered with ESMA grants a rating of the first credit quality step to these assets, and 10%, if the rating is of the second credit quality step. Non-OECD exposure may be on a public sector related entity (collectivité de droit public) of such non-OECD member state in the cover pool for public sector bonds.

» The legislation does not prescribe any specific stress test in respect of interest rate or currency risk.

» The covered bond law does not exclude set-off in relation to cover pool assets and we understand that set-off risk may arise under the general principles of Luxembourg law, should the issuer enter into transactions with borrowers outside the cover pool (e.g. deposits, bonds, derivative contracts).

» No provision of the covered bond legislation deals with commingling risk. Prior to an issuer default, payments made from the cover assets are collected on a cash account, but not necessarily all cash flows on cover assets are separated from all other cash collections made by the issuer. Upon the insolvency of the issuer, the administrator would have to separate these cash flows before payment is made to covered bondholders.

NORDLB/CBB voluntarily manages the programme tighter than required by the Luxembourg covered bond legislation. Set-off risk is limited as the issuer is a specialist credit institution, not offering deposit accounts or borrower-level swap arrangements to cover pool debtors. Commingling risk is addressed as the issuer maintains separate accounts at a third-party Luxembourgish bank for all cover pool related cash in- and outflows.

Covered bond analysis

Our credit analysis of the covered bonds primarily focuses on the issuer's credit quality, refinancing risk, interest rate risk and currency risk, as well as the probability that payments on the covered bonds would be made in a timely fashion following a CB anchor event, which we measure using the Timely Payment Indicator (See "Timely Payment Indicator").

Primary analysis

Issuer analysis - Credit quality of the issuer

NORD/LB CBB is a wholly-owned subsidiary of Norddeutsche Landesbank Girozentrale (NORD/LB; deposits Baa2; adjusted baseline credit assessment ba3; CR assessment Baa2(cr), all these ratings on review with direction uncertain), one of seven "Landesbanks" in Germany. NORD/LB is a German federal state bank. It functions as a state bank in the two federal states of Lower Saxony and Saxony-Anhalt, and as a central bank for the savings banks in these states. The largest shareholder is the State of Lower Saxony with a 59% stake. (For a description of the issuer's rating drivers, see Credit Opinion, published August 2018 and Moody's press release detailing the rationale for the rating review, published on 18 December 2018.)

The issuer's CR assessment is Baa2(cr) on review direction uncertain, reflecting its high integration into the NORD/LB group. NORD/LB CBB is tasked with the origination and funding of public sector related assets that do not qualify for NORD/LBs German public sector Pfandbrief programme.

The rating we base our analysis on is what we call the "CB anchor," which for covered bond programmes under an EU covered bond law is the CR assessment plus one notch.

Issuer analysis - Dependency on the issuer's credit quality

The credit quality of the covered bonds is primarily dependent on the credit quality of the covered bonds issuer. Should the issuer's credit strength deteriorate, there would be a greater risk that a CB anchor event would occur, leading to refinancing risk for the covered bonds; consequently the credit quality of the covered bonds would deteriorate unless other credit risks decrease.

In case of deterioration of the CB anchor, the issuer would have the ability, but not obligation, to increase the OC in the cover pool. Failure to increase the level of OC under these circumstances could lead to negative rating actions.

Reasons for the high level of linkage of the covered bonds with the issuer also include exposure to decisions made by the issuer in its discretion as manager of the covered bond programme. For example, before a CB anchor event, the issuer may add new assets to the cover pool, issue further bonds and enter new hedging arrangements. Such actions could negatively affect the value of the cover pool.

Refinancing risk

The weighted average life of the assets is 6.1 years and of the liabilities is 7.1 years, so relatively close. However, the asset maturity profile is not matching the maturity profile of the hard bullet bonds, leaving the risk that liquidity gaps materialize following a CB anchor event.

Following a CB anchor event, the "natural" amortisation of the cover pool assets alone cannot be relied on to repay principal. We assume that funds must be raised against the cover pool at a discount if covered bondholders are to receive timely principal payment. Where the portion of the cover pool that is potentially exposed to refinancing risk is not contractually limited, our expected loss analysis typically assumes that this amount is in excess of 50% of the cover pool.

After a CB anchor event, the market value of these assets may be subject to certain volatility. Examples of the stressed refinancing margins we use for different types of prime-quality assets are published in our Rating Methodology (see Moody's Approach to Rating Covered Bonds, November 15, 2018).

The refinancing-positive factors are balanced with the negative ones. Refinancing-positive aspects of this covered bond programme include:

» Upon issuer default, a cover pool administrator will take over management responsibility of the covered bond programme with a view to protect covered bond investors. The administrator has, inter alia, the ability to realize the cover assets and transfer the covered bonds.

- We expect that, following a CB anchor event, the covered bond programme will continue as part of a “bank in limited activity”. This entity may preserve its banking license, a requirement to access central bank funding. 52.2% of all the assets are reported as eligible for repurchase programme operations with a central bank. Further, the administrator has the ability to issue covered bonds.

- The good credit quality of the cover pool, which is reflected in the collateral score (13.1%). A higher credit quality of the cover pool will lead to a lower write-off for losses and lower refinancing margins applied, all other variables being equal. 29.1% of the issuer's public sector related receivables and the substitute assets are classified by the issuer as to qualify for German Pfandbrief programmes. Besides, the good credit quality of the assets improves the likelihood to find suitors that are willing to take over assets from the cover pool even though the assets do not qualify for cover pools of German Pfandbrief programmes.

- The law requires the issuer to adheres to a 180 day liquidity cover following the concept of the German Pfandbrief regulation. As such, the issuer covers potential liquidity gaps over the next 180 days between payments expected to be received under the cover pool assets and the payments due under the outstanding covered bonds.

Refinancing-negative aspects of this covered bond programme include:

- The programme does not benefit from any contractual provisions to allow for an extension of a principal refinancing period. All covered bonds issued under this programme will have a hard bullet repayment with no extension period.

- The lack of depth of the Luxembourgish's covered bond market implies that the likelihood of government and financial market support is lower than in other markets where covered bonds form an integral part of the banks' funding system. The number of banks focused on originating the same type of public sector related receivables funded by covered bonds is limited, limiting the number of alternative covered bond banks that would take over the covered bond programme as a whole.

- 68.9% of the assets are with fixed interest rate arrangements. During the entire life of the receivable, an administrator of the cover pool may not be able to change the rate charged to the underlying debtors. The weighted average life of the fixed rate assets is 5.7 years.

Interest rate and currency risk

As with the majority of European covered bonds, there is potential for interest rate and currency risks, which could arise from the different payment promises and durations made on the cover pool and the covered bonds.

Exhibit 5

Overview of assets and liabilities

	WAL Assets (Years)	WAL Liabilities (Years)	Assets (%)	Liabilities (%)
Fixed rate	5.7	6.1	68.9%	100.0%
Variable rate	10.3	n/a	31.1%	0.0%

WAL: weighted average life
n/a: not applicable
Source: Moody's Investors Service, issuer data

The issuer has entered interest rate and currency swaps into the cover pool register of its public sector covered bonds. The swaps are provided by the issuer's parent bank as swap counterparty (“internal swaps”). The swaps are based on English law (ISDA) documentation.

The swap documentation is based on ISDA Master Agreement which incorporates a collateral posting requirement in the form of a Credit Support Annex in case the swap counterparty's credit quality is assessed below A3(cr). Consequently, the swap counterparty is currently posting collateral (in form of cash, deposited at a highly rated third-party bank) to secure its obligations to the issuer in accordance with the mark-to-market calculation under the swap documentation. The issuer is exempt from collateral posting obligations under EMIR regulation, EU Regulation 2016/2251 as long as the swap counterparty is its parent, as is the case currently.

We see a significant risk that the swaps will not be transferred to a third party as swap counterparty in case the parent bank's credit quality deteriorates, and hence expect that the covered bond programme will be exposed to significant market risks following an issuer

CB anchor event. This is because the cover pool assets for this programme do not comply with Article 129 of the CRR, EU Regulation 575/2013, unlike most other European covered bond programmes. Therefore, should the swaps be transferred to a third-party as swap counterparty, the issuer would be required to post collateral under the margining rules, as it would not be able to rely on either an intra-group exemption or covered bond exemption under EMIR regulation.

In the case of issuer insolvency, we currently do not assume that the cover pool administrator will always be able to efficiently manage any natural hedge between the cover pool and the covered bonds. Therefore, following a CB anchor event, our model separately assesses the impact of increasing and decreasing interest rates on the expected loss of the covered bonds, taking the path of interest rates that leads to the worst result. The interest and currency stressed rates used over different time horizons are published in our Rating Methodology (see Moody's Approach to Rating Covered Bonds).

Aspects of this covered bond programme that are market-risk-negative include:

» The cover pool assets are denominated in six different currencies (euro 46.8%, U.S. dollar 31.1%, British pound 17.7%, Canadian dollar, Japanese yen, Czech krona) while the bonds are denominated in four currencies (euro 77.8%, U.S. dollar 16.1%, Swiss franc, Norwegian krona). Albeit there is some natural hedging as the same currency pair is on the asset and liability side, the resulting market risks are significant given the duration mismatches.

» As of 30 June 2018, 68.9% of assets pay a fixed-rate. A potential sale of fixed-rate assets (in order to meet due payments on covered bonds following a CB anchor event) could lead to a crystallisation of mark-to-market losses caused by interest-rate movements upon issuer default.

» The exposure to currency risk will remain in the medium term: While the amount of U.S. liabilities may reduce from currently $825 million to $175 million upon maturity of a U.S. denominated bond in February 2021, the weighted average life of the U.S. denominated assets is around eight years. We understand that the issuer's new business activities focus is mainly on EEA countries.

» We see a significant risk that the swaps will not be transferred to a third party as swap counterparty in case the parent bank's credit quality deteriorates, and hence expect that the covered bond programme will be exposed to significant market risks following an issuer CB anchor event.

Aspects of this covered bond programme that are market-risk-positive include:

» The issuer hedges the largest part of the interest and currency risk. It is the issuer's current practice to hedge currency risks via swaps to a very high degree. The hedging is provided via internal swap arrangements with the parent entity, NORD/LB (deposits Baa2; adjusted baseline credit assessment ba3; CR assessment Baa2(cr), each on review with direction uncertain).

» The exposure to market risk is reduced as the issuer voluntarily adheres to the significant market risk stress tests prescribed in the German Pfandbrief law in case that the interest or currency risk is not hedged via the internal swap arrangements. The issuer follows the static stress test approach, which includes a parallel shift of the interest curve by +/- 250bps, a 10% stress for the currencies of EEA states and Switzerland, a 20% stress for the U.S.A., Canada and Japan and at least 25% for other currencies.

» The swap documentation incorporates a one-sided collateral posting requirement for the benefit of the issuer in case the swap counterparty's credit quality is assessed below A3(cr).

Timely Payment Indicator

Our Timely Payment Indicator (TPI) assesses the likelihood that timely payments will be made to covered bondholders following a CB anchor event, and thus determines the maximum rating a covered bond programme can achieve with its current structure while allowing for the addition of a reasonable amount of OC. We have assigned a TPI of Probable to these covered bonds.

Based on the current TPI of Probable, the TPI leeway for this programme is one notch. This one-notch leeway implies that we might downgrade the covered bonds' rating because of a TPI cap if we were to lower the CB anchor by more than one notch, all other variables being equal.

TPI-positive aspects of this covered bond programme include:

» The strength of the Luxembourgish Covered Bond Law, including:

  – At the time of issuer's bankruptcy, the cover pool administrator will take over management responsibility of the covered bond programme with a view to protect the interest of covered bond investors. The cover pool administrator will act independently from the issuer's insolvency administrator. Having an independent cover pool administrator may reduce potential conflicts of interest between the covered bondholders and other creditors.

  – We do not expect a moratorium affecting the covered bonds upon a CB anchor event as the "bank in limited activity" is not subject to a suspension of payment.

» The good quality of the cover pool including the over-collateralisation, the high share of assets eligible for central bank repurchase operations and the ability of the covered bond administrator to issue covered bonds improves the likelihood of timely payments.

» The issuer covers on an ongoing basis potential liquidity gaps over the next 180 days between payments expected to be received under the cover pool assets and payments due under the outstanding covered bonds.

» Commingling risk is mitigated as the issuer voluntarily maintains separate accounts for the cover pool at a third-party Luxembourgish bank.

TPI-negative aspects of this covered bond programme include:

» All covered bonds outstanding have a bullet repayment at maturity, without any extension period for the repayment of the bonds.

» The lack of depth of the Luxembourgish's covered bond market implies that the likelihood of government and financial market support is lower than in other markets where covered bonds form an integral part of the banks' funding system.

» The significant currency and interest rate risks that are currently largely hedged via internal swap arrangement could materialize following a CB anchor event, exposing the programme to the crystallisation of marked-to-market losses and unexpected changes to cash flow structures due to currency and interest rate volatility.

Additional analysis

Legal Risks for Non-EEA Assets

In the event of the issuer's insolvency, we believe that cover pool assets located outside the European Economic Area (EEA) are less protected against claims of the issuer's other creditors than assets located in the EEA. In particular, we have identified and analysed the following scenario:

Cover pool assets outside the EEA may not be available to covered bondholders on a priority basis because other (unsecured) creditors of the issuer may successfully access the assets in the cover pool if the borrower is located outside the EEA. This may, due to secondary insolvency proceedings being commenced under the respective domestic law, result in a lower recovery. A significant portion of 30.8% of NORD/LB CBB's cover pool is located outside the EEA. In addition, it is unclear at that stage how UK assets (17.7% of the pool) would be treated in case the UK executes its decision to leave the European Union. According to NORD/LB CBB, no trust solutions exist for these assets, and so this legal risk is not mitigated for those assets. We apply a haircut to the value of non-EEA assets to address the risk of a lower recovery, taking into account that the number of other (unsecured) creditors of the issuer is limited (see "Structural Protection Mechanisms for Non-EEA Assets in German Cover Pools" published in July 2014).

Liquidity

The covered bond programme would not benefit from any designated source of liquidity if cash flow collections were to be interrupted. However, the Luxembourg covered bond law prescribes that, prior to an issuer default, the global interest income resulting from the assets in the cover pool must at all time cover the global amount of interest pertaining to the covered bonds and the issuer maintains a minimum over-collateralisation of 2%. Further, the issuer is required to cover potential liquidity gaps for the next 180 days, in line with the Luxembourg covered bond legislation. After a CB anchor event, the administrator has the ability to sell a portion of the cover pool to make timely payments on the bonds or may be able to raise funding as the "bank with limited" activity retains a banking licence.

Time subordination

After a CB anchor event, later-maturing covered bonds would be subject to time subordination. Principal cash collections may be used on a first-come, first-served basis, paying earlier-maturing covered bonds before later-maturing covered bonds. Such payments could result in the erosion of OC before any payments are made to later-paying covered bonds.

Comparables

Exhibit 6

Comparables - NORD/LB Luxembourg S.A. and other selected deals

PROGRAMME NAME	NORD/LB Luxembourg S.A. Covered Bond Bank - Public-Sector Covered Bonds	Belfius Bank SA/NV	Norddeutsche Landesbank GZ - Public-Sector Covered Bonds	Bayerische Landesbank - Public-Sector Covered Bonds	Erste Group Bank AG - Public-Sector Covered Bonds
Overview					
Programme is under the law	Luxembourg's CB law	Belgium's CB law	Pfandbrief Act	Pfandbrief Act	Austrian
Main country in which collateral is based	Various	Belgium	Germany	Germany	Austria
Country in which issuer is based	Luxembourg	Belgium	Germany	Germany	Austria
Total outstanding liabilities	4,401,544,426	2,461,000,000	15,921,290,535	17,751,996,407	2,306,655,165
Total assets in the Cover Pool	5,488,121,333	3,286,000,635	17,878,303,939	22,772,847,300	3,415,132,225
Issuer name	NORD/LB Luxembourg S.A. Covered Bond Bank	Belfius Bank SA/NV	Norddeutsche Landesbank GZ	Bayerische Landesbank	Erste Group Bank AG
Issuer CR assessment	Baa2(cr) on review, direction uncertain	A1(cr)	Baa2(cr)	Aa3(cr)	A1(cr)
Group or parent name	Norddeutsche Landesbank GZ	n/a	n/a	n/a	n/a
Group or parent CR assessment	Baa2(cr) on review, direction uncertain	n/a	n/a	n/a	n/a
Collateral types	Public Sector 94%, Other/Supplementary assets 6%	Public Sector 99%, Other/Supplementary assets 1%	Public Sector 95%, Other/Supplementary assets 5%	Public Sector 99%, Other/Supplementary assets 1%	Public Sector 98%, Other/Supplementary assets 2%
Ratings					
Covered bonds rating	Aa3 on review, direction uncertain	Aaa	Aa1	Aaa	Aaa
Entity used in Moody's EL & TPI analysis	NORD/LB Luxembourg S.A. Covered Bond Bank	Belfius Bank SA/NV	Norddeutsche Landesbank GZ	Bayerische Landesbank	Erste Group Bank AG
CB anchor	CR Assessment + 1 notch	CR Assessment + 1 notch	CR Assessment + 1 notch	CR Assessment + 1 notch	CR Assessment + 1 notch
CR Assessment	Baa2(cr) on review, direction uncertain	A1(cr)	Baa2(cr)	Aa3(cr)	A1(cr)
Issuer Rating / SUR / LT Deposit	Baa2 on review, direction uncertain	A2	Baa2	Aa3	A2
Unsecured claim used for Moody's EL analysis	Yes	Yes	Yes	Yes	Yes
Value of Cover Pool					
Collateral Score	13.1%	15.7%	4.8%	5.4%	10.9%
Collateral Risk (Collateral Score post-haircut)	6.5%	8.6%	2.4%	3.0%	6.0%
Market Risk	20.6%	19.9%	6.5%	7.9%	12.1%
Over-Collateralisation Levels					
Committed OC	2.0%	5.0%	2.0%	2.0%	3.0%
Current OC	24.7%	33.5%	11.3%	31.4%	50.2%
OC consistent with current rating	8.5%	24.5%	4.5%	0.0%	10.0%
Surplus OC	16.2%	9.0%	6.8%	31.4%	40.2%
Timely Payment Indicator & TPI Leeway					
TPI	Probable	Probable-High	High	High	High
TPI Leeway	1	3	1	5	4
Reporting date	30 June 2018	28 September 2018	30 September 2018	30 September 2018	30 June 2018

Source: Moody's Investors Service

Cover pool description

Pool description as of 30 June 2018

As of 30 June 2018, the cover pool consisted of public sector related receivables (94.4%) and substitute assets (5.6%). The majority of the cover assets are loans backed by public sector related entities located in Germany (32.8%), the USA (26.5%) and the UK (18.7%).

On a nominal value basis, the cover pool assets total €5.48 billion, which back €4.4 billion in covered bonds, resulting in an OC level of 24.7% on a nominal basis. The public sector cover pool features 68.9% fixed-rate assets. 46.8% are denominated in euro while 31.1% are denominated in U.S. dollar.

Exhibits 6 through 13 show more details about the cover pool characteristics.

Public sector related receivables

Public sector related receivables account for 94.4% of the total cover pool. The majority of the borrowers backing the public sector related receivables are located in Germany (32.8%), with regional concentrations in North Rhine-Westphalia (26.9%). The exposure to the 10 largest borrowers is 26.5% of the pool. All of the assets are performing as of the cut-off date of this report.

Exhibit 8

Cover pool information

Overview		Specific Loan and Borrower characteristics	
Asset type:	Public Sector	Repo eligible loans / bonds:	53.4%
Asset balance:	5,182,321,333	Percentage of fixed rate loans / bonds:	67.1%
WA remaining Term (in months):	114	Percentage of bullet loans/ bonds:	41.6%
Number of borrowers:	197	Loans / bonds in non-domestic currency:	56.3%
Number of loans / bonds:	353	**Performance**	
Exposure to the 10 largest borrowers:	26.5%	Loans / bonds in arrears (≥ 2months - < 6months):	0.0%
Average exposure to borrowers:	26,306,200	Loans / bonds in arrears (≥ 6months - < 12months):	0.0%
		Loans / bonds in arrears (≥ 12months):	0.0%
		Loans / bonds in a foreclosure procedure:	0.0%

Source: issuer data

Cover pool characteristics

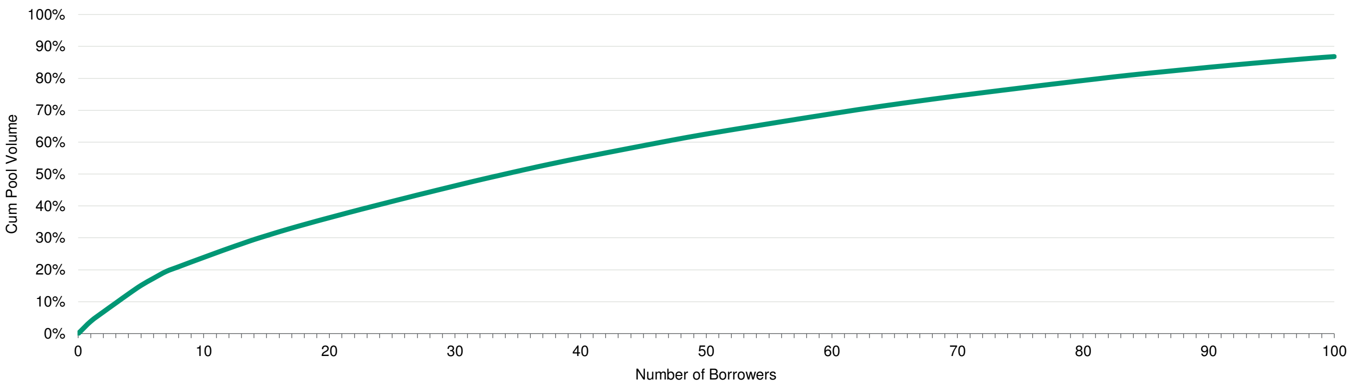
Exhibit 9

Borrower type by country

	Germany	USA	UK	Other	Totals
Direct claim against supranational	0.0%	0.0%	0.0%	0.7%	0.7%
Direct claim against sovereign	0.0%	0.0%	0.0%	3.6%	3.6%
Loan with guarantee of sovereign	2.2%	0.0%	0.0%	0.0%	2.3%
Direct claim against region/federal state	6.2%	0.0%	0.0%	1.6%	7.8%
Loan with guarantee of region/federal state	4.3%	0.0%	0.0%	3.1%	7.4%
Direct claim against municipality	0.0%	0.3%	0.0%	0.6%	0.9%
Loan with guarantee of municipality	0.0%	10.9%	0.0%	0.0%	10.9%
Others	20.1%	15.3%	18.7%	12.4%	66.4%
	32.8%	26.5%	18.7%	22.0%	

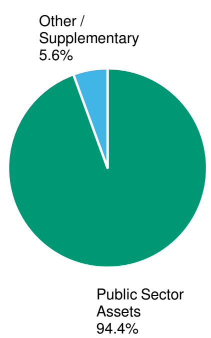
Source: Moody's Investors Service, issuer data

Exhibit 10
Borrower concentration



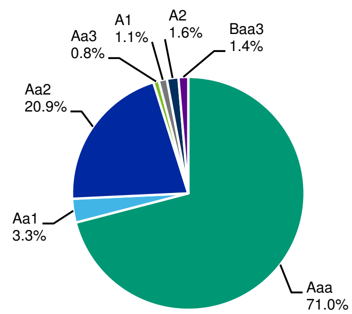
Source: Moody's Investors Service, issuer data

Exhibit 11
Percentage of public sector related receivables



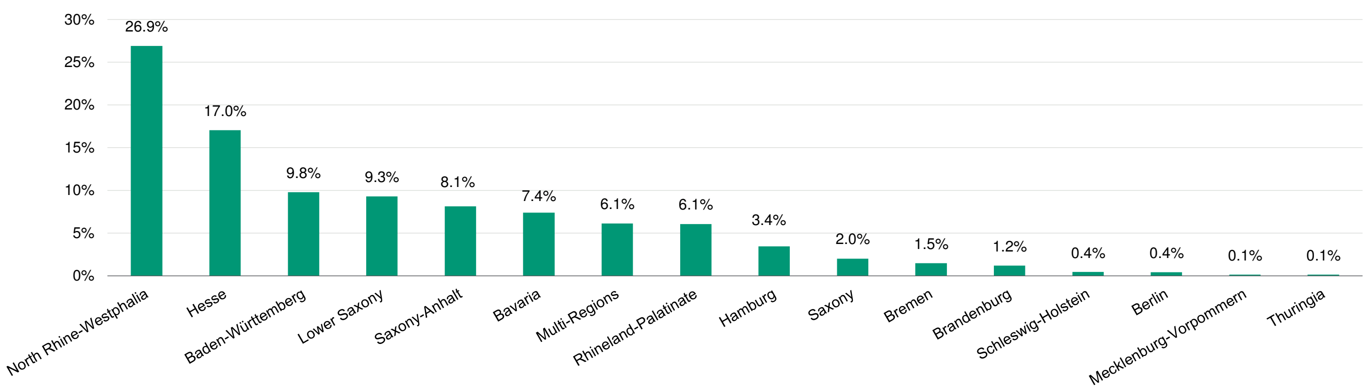
Source: Moody's Investors Service, issuer data

Exhibit 12
Pool distribution by country exposure rating



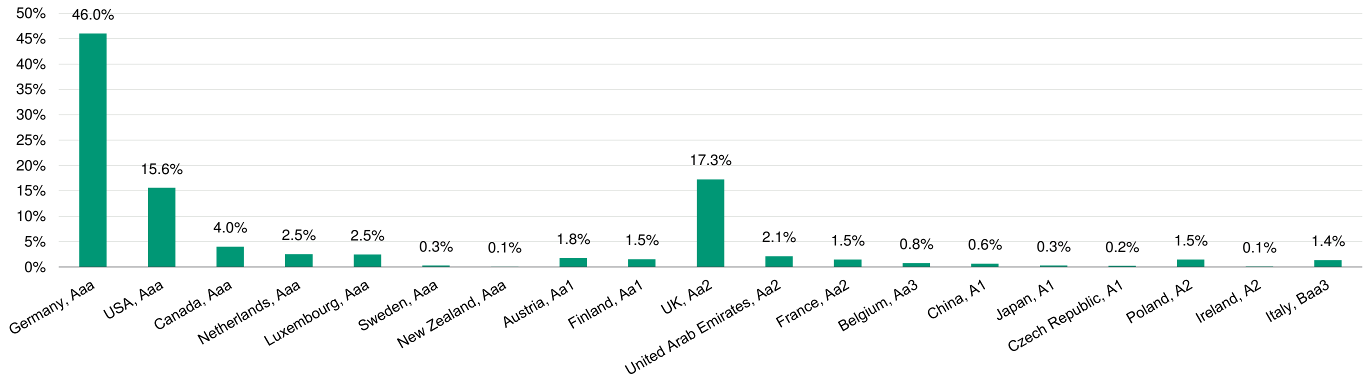
Source: Moody's Investors Service, issuer data

Exhibit 13
Main country regional distribution



Source: Moody's Investors Service, issuer data

Exhibit 14
Distribution by country exposure (including guarantees for debtors located in other countries)



Source: Moody's Investors Service, issuer data

Substitute assets

Exposure to decisions made by the issuer in its discretion as manager of the cover pool creates additional risk. For example, before a CB anchor event, the issuer may remove assets from the cover pool and/or add new assets to the cover pool. Such actions could negatively affect the value of the cover pool.

As with most covered bonds in Europe, there are few contractual restrictions on the future composition of the cover pool, creating substitution risk. NORDLB/CBB's programme carries a higher substitution risk than other covered bond programmes, notably such from Germany and Austria, as the Luxembourgish covered bond legislation has a wider definition of public sector assets that are eligibile for inclusion into the cover pool (see Legal Framework Description).

Cover pool monitor

Pursuant to the Luxembourg law, a cover pool monitor (*Approved Statutory Auditor*) has been appointed by Luxembourg's financial services authority (CSSF) to monitor the various operations with respect to the cover pool. The cover pool monitor, amongst other things, supervises the recording of the cover pool assets into the cover pool register and may refuse such recording if any irregularities are detected. Similarly, the cover pool monitor may refuse the issue of covered bonds or the de-registration of assets from the pool if the over-collateralisation would as a result fall below the legally required level of 2.0%.

Cover pool analysis

Our credit analysis of the pool takes into account specific characteristics of the pool, as well as legal risks.

Primary cover pool analysis

For this programme, the collateral score of the pool is 13.1%. This collateral score is lower than the average collateral score of covered bond programmes backed by public sector assets from lower rated European Union sovereigns (for example, average collateral score of Spanish public sector covered bond programmes: 20.8%), but higher than the average collateral score of Pfandbrief covered bond programmes backed with German public sector assets (average: 6.4%). For further details, please see Moody's Global Covered Bonds Sector Update: Q3 2018.

Luxembourg's covered bond law includes in the definition of public sector assets public undertakings over which a territorial authority may directly or indirectly exercise a dominant influence. Our collateral score reflects the pool's characteristic that the public sector assets include public undertakings in highly rated sovereigns without a direct claim or guarantee by a central, regional or local government. (see pool distribution by country exposure rating and borrower type classification).

Asset Specifications

33.6% of the public sector related receivables are direct claims against or loans with a guarantee of a supranational, a sovereign, a federal state or region, or a municipality. The majority of such assets is with 23.9% of the public sector related receivables to debtors located in Germany and the USA.

The remaining 66.4% of the public sector related receivables consists primarily of three main asset types: Claims against public sector undertakings (*kommunale Unternehmen)* in Germany (17.1%), U.S. municipal bonds (14.6%) and lending to public-private-partnerships (PPP) projects predominantly in the UK (17.3%). The issuer's business strategy concentrates on Europe and we expect a growing share of cover pool assets pertaining to German kommunalnahe Unternehmen, European PPPs and also financial institutions with European public sector sponsors including leasing companies (currently accounting for 12.0% of the pool).

German kommunale Unternehmen (17.1% of pool)
Claims against public sector undertakings (*kommunale Unternehmen)* in Germany, whereby the borrower provides basic public services like energy supply, water supply and transportation services, and is owned by a regional or local government. The entities often have monopoly-like positions in local markets, however they do not benefit from a guarantee from a governmental entity and do not have tax or levy raising power. There are regional concentrations in North Rhine-Westphalia (Aa1), Hesse and Baden-Wuerttemberg (Aaa).

U.S. Municipals (14.6% of pool)
Three main types of bonds are found in the pool:

» Revenue Bonds: Municipal bonds supported by the revenue from a specific project, such as a toll bridge, highway or local stadium.

» Tax Allocation Bonds: Bonds issued in conjunction with a redevelopment project; the repayment is derived from the increase in tax collections on the added value of the redevelopment.

» General Obligation Bonds: Municipal bonds backed by the credit and taxing power of the issuing jurisdiction rather than the revenue from a given project; it is assumed that a municipality will be able to repay its debt obligation through taxation or revenue.

UK Public-Private-Partnerships (17.3% of pool)
The PPPs are set up to deliver public service functions where the public authority has a general interest to deliver services, using private funds. Examples include the education, transportation and health care sector. All of the transactions derive their cash-flow through regular contractual payments from a public body. However, there is no direct claim against a public body for debt repayment. The PPP assets are somewhat diversified across the operational cycle - in construction (4.6% of the pool) and in operation (12.7%).

Cover Pool Assessment

We calculate the collateral score for public sector assets using a multi-factor time-to-default model solved through a monte-carlo simulation (called PUSCOS). Our analysis takes into account, inter alia, the impact of concentration on borrower, regional and country levels as well as individual borrowers' credit quality.

» From a credit perspective, Moody's views the following characteristics as positive:

  – The obligors are generally of high credit quality.

  – The cover pool benefits from extensive international diversification (15+ countries) and some regional diversification within the individual countries.

  – All public sector related receivables are performing and not in arrears as of the cut-off date of this report.

  – The issuer has publicly stated to maintain at least a OC level of 22.0% on a nominal and net present value basis. We do not consider this public statement as “committed” OC under our methodology.

» From a credit perspective, Moody's views the following characteristics as negative:

  – 66.4% of the public sector related receivables are neither direct claims against or guaranteed by a sovereign or other territorial authority but finance other types of public sector undertakings as eligible under Luxembourg's covered bond legislation.

  – The 10 largest obligors account for 26.5% of the cover pool.

- 41.6% of the public sector related receivables are bullet loans or bonds, and 100.0% of the supplementary assets are in bullet format.
- The Luxembourg covered bond legislation grants issuers significant leeway as the cover pool eligibility criteria for public sector related receivables have no limits on assets located outside the EEA.

Methodology and monitoring

The primary methodology we use in rating the issuer's covered bonds is "Moody's Approach to Rating Covered Bonds", published in November 2018. Other methodologies and factors that may have been considered in the rating process can also be found on http://www.moodys.com. In addition, we publish a weekly summary of structured finance credit, ratings and methodologies, available to all registered users of our website, at www.moodys.com/SFQuickCheck.

We expect the issuer to deliver certain performance data to us on an ongoing basis. In the event that this data is not made available to us, our ability to monitor the ratings may be impaired. This could negatively affect the ratings or, in some cases, our ability to continue to rate the covered bonds.

Moody's related publications

Rating Methodology:

- Moody's Approach to Rating Covered Bonds, November 2018 (1094165)

Special Comments:

- Moody's Global Covered Bonds Monitoring Overview: Q2 2018, January 2019 (1152125)
- Covered Bonds – Global Sector Update Q3 2018 (1113304)
- Covered Bonds - Global: 2019 Outlook, December 2018 (1141185)
- Covered Bonds - Luxembourg: New legal framework offers dual recourse credit strength for renewable energy funding, March 2018 (1113622)
- Structural Protection Mechanisms for Non- EEA Assets in German Cover Pools, July 2014 (SF374519)

Performance Overview:

- NORD/LB Luxembourg S.A. - Public Sector Covered Bonds, Q2 Performance Overview report, November 2018 (SF475900)

Credit Opinion:

- NORD/LB Luxembourg S.A. Covered Bond Bank (1136696)

Webpages:

- Covered Bonds: www.moodys.com/coveredbonds
- Covered Bond Legal Frameworks: Covered Bond Legal Framework

To access any of these reports or webpages, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

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