MOODY'S INVESTORS SERVICE

CREDIT OPINION
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Norddeutsche Landesbank GZ- Public Sector Covered Bonds

Update to New Issue Report – German covered bonds

Ratings

Exhibit 1

Cover Pool (€)	Ordinary Cover Pool Assets	Covered Bonds (€)	Rating
14,870,887,197	Public Sector Loans	11,019,406,636	Aa1

All data in the report is as of 30 September 2020 unless otherwise stated
Source: Moody's Investors Service

Summary

The covered bonds issued by Norddeutsche Landesbank GZ (NordLB or the issuer, A3(cr)) under its public-sector Norddeutsche Landesbank GZ- Public Sector Covered Bonds programme are full recourse to the issuer and are secured by a cover pool of assets consisting mostly of public sector loans (94.7%) in Germany (94.5%).

Credit strengths include the full recourse of the covered bonds (*Öffentliche Pfandbriefe)* to the issuer and support provided by the German legal framework for *Pfandbriefe*, which provides for the issuer's regulation and supervision.

Credit challenges include the high level of dependency on the issuer. As with most covered bonds in Europe, there are few restrictions on the future composition of the cover pool. The cover pool also has geographical and obligor concentration risks.

Our credit analysis takes into account the cover pool's credit quality, which is reflected in the collateral score of 4.3%, and the current over-collateralisation (OC) of 30.9% (on an unstressed present value basis) as of 30 September 2020. The issuer is also required to cover 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.

Credit strengths

» ***Recourse to the issuer***: The covered bonds are full recourse to Norddeutsche Landesbank GZ (A3(cr)). (See "Covered bond description")

» ***Support provided by the German legal framework***: The covered bonds are governed by the German *Pfandbrief* Act, which provides for the issuer's regulation and supervision and sets certain minimum requirements for the covered bonds and the cover pool. (See "Moody's related publications: Covered Bond Legal Frameworks")

» ***High credit quality of the cover pool***: The covered bonds are supported by a cover pool of high-quality assets. Most of the assets are claims against regional and local governments in Germany. The *Pfandbrief* Act sets out strict eligibility criteria for cover pool assets. Eligible assets for public-sector *Pfandbriefe* are (1) claims directly against sovereigns or regional or local governments; and (2) loans to (or other claims against) entities guaranteed by them. The collateral quality is reflected in the collateral score, which is currently 4.3%. (See "Cover pool analysis")

» ***Refinancing risk*****:** Following what we call a covered bond (CB) anchor event, refinancing risk would be mitigated by a well-established and deep market for German *Pfandbriefe*, as well as the liquidity-matching requirements for the next 180 days. A CB anchor event occurs when the issuer, or another entity within the issuer group that supports the issuer, ceases to service the payments on the covered bonds. (See "Covered bond analysis")

» ***Interest rate and currency risks***: Interest rate risk is mitigated by the 2% OC requirement, which has to be maintained in stressed market conditions (that is, yield curve movements and changes in the relevant exchange rates). Currency risk is well matched in this programme. The vast majority of the assets (98.9%) and liabilities (99.9%) are denominated in euros. (See "Covered bond analysis")

» ***Provisions for a cover pool administrator***: Following an issuer default, the covered bondholders would benefit from a cover pool administrator (the *Sachwalter*) that acts independently from the issuer's insolvency administrator. Furthermore, if the German banking regulator BaFin deems it necessary, the *Sachwalter* may be appointed ahead of any issuer default. (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. Also similar to most covered bonds in Europe, this programme has few restrictions on the future composition of the cover pool. These changes could affect the credit quality of the cover pool as well as the overall refinancing and market risks. Further, if the quality of the collateral deteriorates below a certain threshold, the issuer would have the ability, but not the obligation, to increase the OC in the cover pool. (See "Covered bond analysis")

» ***Cover pool concentration****:* The cover pool has the following concentrations: (1) geographical concentration, with the majority of the loans backed by claims against public sector entities in Germany and particular concentration in Lower Saxony (33.8%) and North Rhine-Westphalia (15.4%); and (2) obligor concentration, with the 10 largest obligors accounting for 24.3% of the public sector loans. (See "Cover pool analysis")

» ***Market risks***: Following a CB anchor event, covered bondholders, to achieve timely principal payment, might need to rely on proceeds raised through the sale of, or borrowing against, the cover pool assets. The market value of these assets may be subject to high volatility after a CB anchor event. In addition, covered bondholders might have exposure to interest rate and currency risks. There are no swap arrangements in the programme. Also, all the outstanding covered bonds in this programme are hard bullet with no extension available on maturity of bonds(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")

» ***Lack of liquidity facility*****:** The programme would not benefit from any designated source of liquidity if cash flow collections are interrupted. (See "Covered bond analysis")

» ***Economic uncertainty***: Our analysis has considered the effect on the performance of covered bonds from the current weak German economic activity and a gradual recovery for the coming months. Although an economic recovery is underway, it is tenuous and its continuation will be closely tied to containment of the virus. As a result, the degree of uncertainty around our forecasts is unusually high. We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety.

ESG considerations

Except with respect to the coronavirus outbreak, which we consider a social risk as described above under Economic uncertainty, in general, we consider ESG risks to be low for covered bonds. In our assessment of the programme's credit quality, we evaluate ESG risks as low. The covered bonds' dual recourse structure mitigates environmental, social and governance risks. Environmental and social risks are further mitigated by the diversified nature of the cover pool, while governance risk is largely mitigated by (i) the German *Pfandbrief* Act; (ii) key programme participants' adherence to obligations; and (iii) the operational and substantive provisions of the programme documents. Please refer to General Principles for Assessing Environmental, Social and Governance Risks, 14 December 2020, which explains our general principles for assessing ESG Risks in our credit analysis globally.

» ***Environmental:*** Overall exposure to meaningful environmental risks is low in this programme as covered bondholders benefit from the issuer's liability to make payment on the covered bonds and the cover pool's geographical diversification. (See Cover pool analysis - Environmental considerations)

» ***Social****:* Overall exposure to meaningful social risks is moderate in this programme, mainly because social issues that affect lenders can also affect the cover pool. Social risks are mitigated by [the covered bonds' dual recourse to both issuer and cover pool as well as the cover pool's diversification. In addition, we regard the coronavirus pandemic as a social risk under our ESG framework, given the substantial implications for public health and safety. (See Summary – Credit challenges and Cover pool analysis - Social considerations)

» ***Governance***: Overall exposure to meaningful governance risks is low in this programme due to: (i) covered bonds' dual recourse to both issuer and cover pool; (ii) German *Pfandbrief* Act; (iii) key programme participants' adherence to obligations; and (iv) the operational and substantive provisions of the programme documents. (See Additional analysis - Governance considerations)

Key characteristics

Exhibit 2
Covered bond characteristics

Moody's Programme Number:	201
Issuer:	Norddeutsche Landesbank GZ
Covered Bond Type:	Public sector covered bonds
Issued under Covered Bonds Law:	Yes
Applicable Covered Bonds Law:	German *Pfandbrief* Act
Entity used in Moody's TPI analysis:	Norddeutsche Landesbank GZ
CR Assessment:	A3(cr)
CB Anchor:	CR Assessment + 1 notch
Senior unsecured/deposit rating:	A3
Total Covered Bonds Outstanding:	€11,019,406,636
Main Currency of Covered Bonds:	EUR (99.9%)
Extended Refinance Period:	No
Principal Payment Type:	Hard bullet
Interest Rate Type:	Fixed rate covered bonds (96.4%) , floating rate covered bonds (3.6%)
Committed Over-Collateralisation:	2.0% (on a stressed NPV basis)
Current Over-Collateralisation:	30.9% (on an unstressed NPV basis)
Intra-group Swap Provider:	No
Monitoring of Cover Pool:	Cover pool monitor (*Treuhänder*), mandatory by operation of the *Pfandbrief* Act
Trustees:	n/a
Timely Payment Indicator:	High
TPI Leeway:	3 notches

Sources: Moody's Investors Service, issuer data

Exhibit 3
Cover pool characteristics

Size of Cover Pool:	€ 14,870,887,197
Main Collateral Type in Cover Pool:	Public-sector assets (94.7%), Other supplementary assets (5.3%)
Main Asset Location of Ordinary Cover Assets:	Germany (94.5%)
Main Currency:	Euro (98.9%)
Loans Count:	4,144
Number of Borrowers:	1,454
Concentration of 10 Biggest Borrowers:	24.3%
Interest Rate Type:	Fixed rate assets (81.5%) , floating rate assets (18.5%)
Collateral Score:	4.3%
Cover Pool Losses:	9.5%
Further Cover Pool Details:	See cover pool description
Pool Cut-off Date:	30 September 2020

Sources: Moody's Investors Service, issuer data

Exhibit 4
Transaction counterparties

Counterparty Type	Transaction Counterparty
Sponsor	n/a
Servicer	n/a
Back-up Servicer	n/a
Back-up Servicer Facilitator	n/a
Cash Manager	n/a
Back-up Cash Manager	n/a
Account Bank	n/a
Standby Account Bank	n/a
Account Bank Guarantor	n/a

Sources: Moody's Investors Service, issuer data

Covered bond description

The covered bonds issued under the public sector covered bond programme of NordLB are full recourse to the issuer. Upon a CB anchor event, covered bondholders would have access to a cover pool of public sector loan receivables.

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 September 2020, the level of OC in the programme was 30.9% on unstressed NPV basis.

The current covered bond rating relies on an OC within the minimum legal requirements by the German *Pfandbrief* Act. The act requires that the OC exceed the principal balance of the bonds by 2%. Based on data as of 30 September 2020, 0% of OC is sufficient to maintain the current covered bond rating, which is lower than committed OC. This shows that our analysis currently does not rely on OC that is not in committed form.

Although the issuer has the ability to increase the OC in the cover pool if collateral quality deteriorates below a certain threshold, 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.

Legal framework

The covered bonds are governed by the *Pfandbrief* Act. There are a number of strengths in this legislation, including the regulation of the issuer by BaFin, as well as certain minimum requirements for the covered bonds and the cover pool. No specific structural features beyond the statutory requirements are implemented for NordLB's public sector covered bond programme. (See "Covered Bonds: Germany - Legal Framework for Covered Bonds", published in July 2019, for a description of the general legal framework for *Pfandbrief* governed by the *Pfandbrief* Act.)

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

The issuer's CR Assessment is A3(cr). (For a description of the issuer's rating drivers, see Credit Opinion, published August 2020)

The reference point for the issuer's credit strength in our analysis is the CB anchor, which for covered bond programmes under the covered bond law in Germany is the CR Assessment plus one notch.

Issuer analysis - Dependency on the issuer's credit quality

The credit quality of the covered bonds depends primarily on the credit quality of the issuer. If the issuer's credit strength were to 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 were to decrease.

In the event that the CB anchor deteriorates, the issuer would have the ability, but not the obligation, to increase the OC in the cover pool. Failure to increase the level of OC under these circumstances could lead to a negative rating action.

Reasons for the high level of dependency 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 and remove assets from the cover pool, issue further bonds and enter new hedging arrangements. Such actions could reduce 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, which creates substitution risk. Nevertheless, cover pool quality over time will be protected by, among other things, the requirements of the German *Pfandbrief* Act, which specifies what types of assets are eligible. (See "Moody's related publications: Covered Bond Legal Frameworks")

Refinancing risk

Following a CB anchor event, the "natural" amortisation of the cover pool assets alone cannot be relied on to repay the 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 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 related publications - Moody's Approach to Rating Covered Bonds")

The refinancing-positive factors outweigh the negative ones. The refinancing-positive aspects of this covered bond programme include:

» The *Pfandbrief* Act: At the time of the declaration of the issuer's bankruptcy, or earlier if BaFin considers it necessary, a cover pool administrator (the *Sachwalter*) would take over management responsibility of the covered bond programme. The *Sachwalte*r would have the ability to sell all or part of the cover pool, with or without all or parts of the liabilities attached.

» The depth of the German market and the high level of government and financial market support expected to be available to *Pfandbriefe* in Germany, where refinancing risk is perceived as lower than in most other jurisdictions. In the modeling of this transaction, we have used refinancing margins that are lower than the refinancing margins used for most other jurisdictions.

» The issuer is required 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

The refinancing-negative aspects of this covered bond programme include:

» The programme does not benefit from any 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.

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	n/a	6.6	81.5%	96.4%
Variable rate	n/a	1.0	18.5%	3.6%

WAL = weighted average life
Sources: Moody's Investors Service, issuer data

In the event of issuer insolvency, we currently do not assume that the *Sachwalter* would 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 would separately assess 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 rate and currency stresses used over different time horizons are published in our Rating Methodology.

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

» Low currency risk. Most of the covered bonds (99.9%) and cover pool assets (98.9%) are denominated in euros

» The requirement under the *Pfandbrief* Act that the stressed present value OC of the cover pool must exceed, by at least 2%, the total of outstanding covered bonds issued against the cover pool, and the requirement that *Pfandbrief* issuers must regularly run stress tests regarding interest rate and foreign-exchange risks. NordLB opted for the 'static' stress test, which includes a parallel movement of the interest-rate curve by at least 250 basis points, to meet mandatory stress test requirements.

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

» A potential sale of fixed-rate assets to meet payments due 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. A significant proportion of the cover pool assets are fixed rate (81.5%).

» There is unhedged interest rate and currency risk that exists in this programme. 96.4% of the covered bonds outstanding pay fixed interest rate, while 81.5% of the cover assets are fixed rate assets. Also 0.1% of the covered bonds and 1.1% of the cover pool are denominated in currencies other than euros

» As of the date of this report, NordLB has not entered any swaps into the cover pool register. We understand that there are no plans to change this in the near future.

Timely Payment Indicator

Our Timely Payment Indicator (TPI) assesses the likelihood that timely payments would 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 level of OC. We have assigned a TPI of High to these covered bonds, in line with other public sector covered bonds issued under the *Pfandbrief* Act.

Based on the current TPI of High, the TPI leeway for this programme is three notches. This three-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 three notches, all other variables being equal.

The TPI-positive aspects of this covered bond programme include:

» The high level of government and financial market support provided to *Pfandbriefe* in Germany

» The refinancing-positive factors discussed in the "Refinancing risk" section

- The strength of the German *Pfandbrief* legislation, including:
  - The *Sachwalter* would take over management responsibility of the covered bond programme at the time of the declaration of the issuer's bankruptcy, or earlier if BaFin were to consider it necessary.
  - The *Sachwalter* would act independently from the issuer's insolvency administrator. Having an independent cover pool administrator might reduce potential conflicts of interest between the covered bondholders and other creditors.
  - The issuer is required 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.
  - Set-off: We understand that the *Pfandbrief* Act excludes from set-off loans registered in the cover pool that are under German law and located in Germany.
- The credit quality of the cover pool assets, reflected by the collateral score of 4.3%.

The 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 covered bond programme does not benefit from any designated source of liquidity if cash flow collections are interrupted.
- Commingling risk: Upon the appointment of the *Sachwalter*, it is our understanding that the *Sachwalter* has a priority claim on all cash flows stemming from the cover pool assets. However, these cash flows have to be separated from other cash flows to the issuer before they can be used to make payments to covered bondholders.

Additional analysis

Liquidity

The covered bond programme would not benefit from any designated source of liquidity if cash flow collections were to be interrupted. However, before an issuer default, the *Pfandbrief* Act requires the issuer to cover potential liquidity gaps for the next 180 days and to maintain a minimum OC level of 2%. After an issuer default, the *Sachwalter* would have the ability to sell a portion of the cover pool to make timely payments on the bonds.

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.

Governance considerations

Overall exposure to meaningful governance risks is low in this programme due to covered bonds' dual recourse to both issuer and cover pool and the consideration set out below.

The principal sources of governance for this programme are (i) the German *Pfandbrief* Act; (ii) key programme participants' adherence to obligations; and (iii) the operational and substantive provisions of the programme documents. In this programme, there are control mechanisms in place that are designed to protect covered bondholders from mistakes, misallocation of cash flows and misappropriation of assets, and that promote compliance with the covered bond legal framework and operational and reporting requirements.

In particular, we note that (i) the issuer is a regulated entity and maintains the cover pool on its balance sheet, incentivising it to maximise cover pool value as owner and servicer; (ii) the cover pool monitor and any cover pool administrator are roles prescribed by the covered bond law and both owe duties to bondholders to adapt if no cover pool monitor or cover pool administrator; (iii) the covered bond law contains provisions addressing treatment of ineligible and non performing assets and contains detailed reporting requirements; and (iv) there is a high level of legal certainty over the segregation of the cover pool and the parties' respective rights to it.

Cover pool description

Pool description as of 30 September 2020

As of 30 September 2020, the cover pool consisted of loans and bonds granted to German public-sector entities mainly German Federal state and German Municipalities. With regards to German cover assets there is a regional concentration in Lower Saxony (33.8%) and North Rhine-Westphalia (15.4%). All the assets are performing.

Beyond Germany, exposures exist towards obligors in the USA (2.1%), France (1.8%) and other countries (1.5%)

Exhibits 6 and 7 show more details about the cover pool.

Public-Sector loans

Exhibit 6

Cover pool summary

Overview		Specific Loan and Borrower characteristics	
Asset type:	Public Sector	Repo eligible loans / bonds:	27.0%
Asset balance:	14,082,082,840	Percentage of fixed rate loans / bonds:	89.3%
WA remaining Term (in months):	155	Percentage of bullet loans/ bonds:	31.7%
Number of borrowers:	1,454	Loans / bonds in non-domestic currency:	1.2%
Number of loans / bonds:	4,144	**Performance**	
Exposure to the 10 largest borrowers:	24.3%	Loans / bonds in arrears (≥ 2months - < 6months):	0.0%
Average exposure to borrowers:	9,685,064	Loans / bonds in arrears (≥ 6months - < 12months):	0.0%
		Loans / bonds in arrears (≥ 12months):	0.0%
		Loans / bonds in a foreclosure procedure:	0.0%

Sources: Moody's Investors Service, issuer data

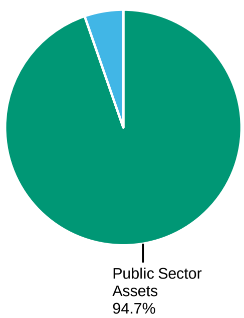
Exhibit 7
Cover pool characteristics

Exhibit A
Borrower type by country

	Germany	USA	Other	Totals
Direct claim against supranational	0.0%	0.0%	0.0%	**0.0%**
Direct claim against sovereign	0.3%	0.0%	0.0%	**0.3%**
Loan with guarantee of sovereign	0.2%	2.1%	4.2%	**6.6%**
Direct claim against region/federal state	22.0%	0.0%	0.3%	**22.3%**
Loan with guarantee of region/federal state	2.8%	0.0%	0.0%	**2.9%**
Direct claim against municipality	39.7%	0.0%	0.2%	**39.9%**
Loan with guarantee of municipality	3.9%	0.0%	0.0%	**3.9%**
Others	21.1%	0.0%	0.8%	**21.9%**
	90.1%	**2.1%**	**5.5%**	

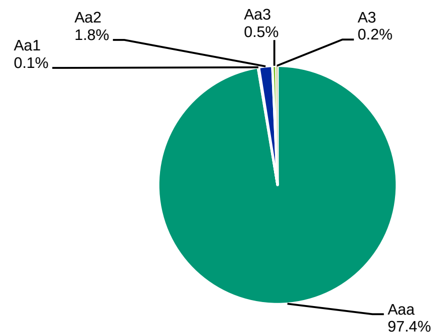
Sources: Moody's Investors Service, issuer data

Exhibit B
Percentage of public sector assets



Sources: Moody's Investors Service, issuer data

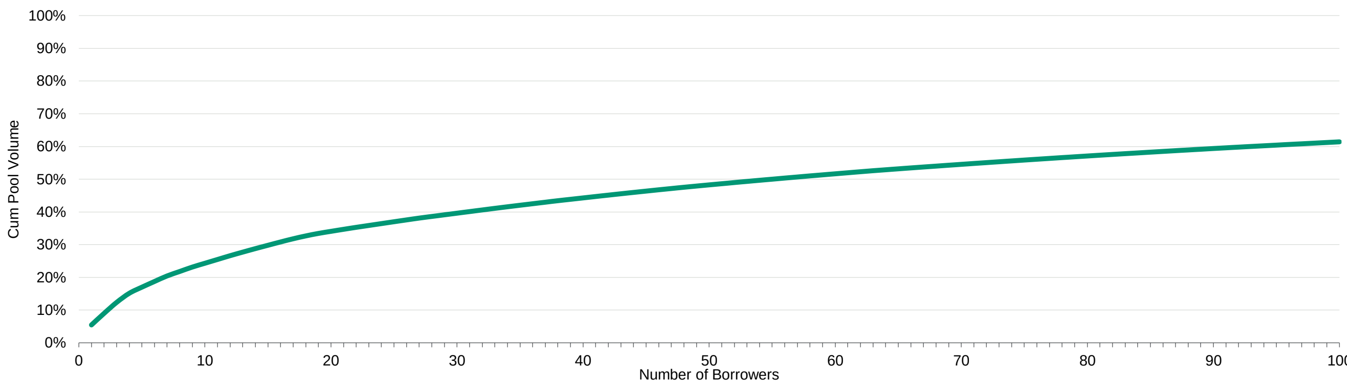
Exhibit C
Pool distribution by country exposure rating



Sources: Moody's Investors Service, issuer data

Exhibit D

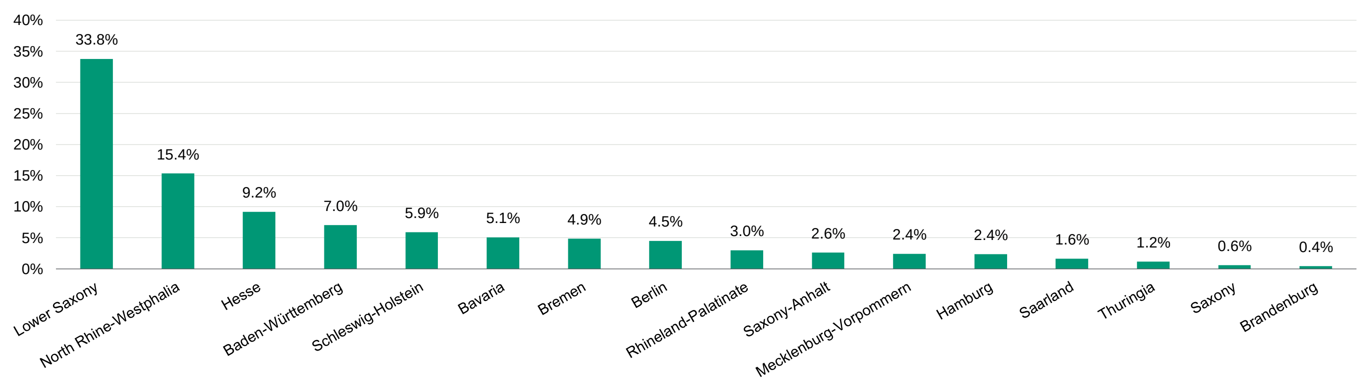
Borrower concentration



Sources: Moody's Investors Service, issuer data

Exhibit E

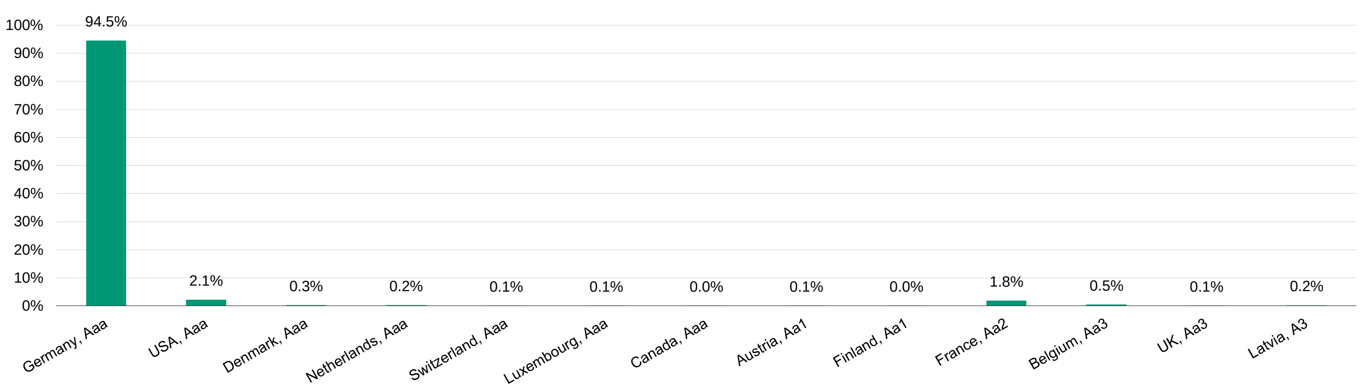
Main country regional distribution



Sources: Moody's Investors Service, issuer data

Exhibit F

Distribution by country exposure rating



Sources: Moody's Investors Service, issuer data

Substitute assets

Of the cover assets, €788.8 million (5.3%) are substitute assets. The substitute assets consist of claims against obligors, mainly financial instutions, located in Germany (93.7%) and the Netherlands (6.3%). All the substitute assets are performing.

Cover pool monitor

Pursuant to the *Pfandbrief* Act, the regulator (BaFin) has appointed a cover pool monitor (*Treuhänder*). (See “Moody's related publications: Covered Bond Legal Frameworks”)

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

We calculate the collateral score using a multifactor model that is created through a Monte Carlo simulation. Our analysis takes into account, among other factors, the impact of concentration on borrower, regional and country levels, as well as the credit quality of the individual borrowers and guarantors.

For this programme, the collateral score of the current pool is 4.3%, better than the average collateral score of 9.5% in other German public sector covered bonds. (For details, see “Moody's related publications - Moody’s Global Covered Bonds Sector Update, Q3 2020”).

From a credit perspective, we view the following characteristics of the public sector loans as positive:

» The obligors are generally of high credit quality

From a credit perspective, we view the following characteristics of the public sector loans as negative:

» The cover pool has obligor concentration risk with the exposure to ten largest borrowers being 24.3%

» The cover pool has some geographical concentration risk, with concentrations in Lower Saxony (33.8%) and North Rhine-Westphalia (15.4%) regions of Germany.

Additional cover pool analysis

Environmental considerations

Overall exposure to meaningful environmental risks is low in this programme due to the issuer’s primary liability to make payment on the covered bonds and in respect of obligors in the cover pool, the geographical diversification of the pool, the largest concentration being 33.8% in the Lower Saxony region. Public sector borrowers or guarantors may be exposed to physical or regulatory environmental risks if these could affect their income or ability to service their loans. However, they tend to have fiscal flexibility to mitigate specific negative events and may have contingency plans, reserves or insurance to off-set environmental impacts. In addition, the burden of responding to natural disasters mostly falls on central Governments.

Social considerations

Overall exposure to social factors is moderate for this programme. Covered bondholders benefit from the issuer’s liability to make payment on the covered bonds, meaning the bondholders will not be directly exposed to social factors affecting the cover pool unless the issuer defaults. Misconduct, poor handling of data security and customer privacy breaches by lenders are the most significant social risks that may in due course affect the credit quality of the cover pool, although lenders’ financial and operational flexibility and track record of adjusting to social issues may mitigate this. In addition, the diversified nature of the cover pool is a mitigant to exposure to social factors.

Social factors that potentially affect the public sector cover pool have varied implications. Public sector borrowers that are regional and local governments are exposed to demographic risks as their populations age. Such risks can slow economic growth and increase demand for services, resulting in less dynamic fiscal revenue, increased social expenditure and unfunded pension liabilities.

However, pension responsibilities tend to lie more at the sovereign level and equalization measures can mean that the exposure and effects of demographics may be less immediate for regional and local governments. Within the same time frame, poor employment growth prospects and labor participation may also pressure regional and local governments' finances. Especially, if the working-age population is contracting, along with high levels of income inequality and pressure on housing affordability. In Germany, the central government plays a significant role in mitigating some of these pressures.

While such risks can be material to credit quality in the medium to long term, they are likely to be broadly manageable in the short term. Advanced economy regional and local governments can mitigate some of the effects because their economies are relatively wealthy and diverse, providing fiscal flexibility.

In addition, the coronavirus outbreak, the government measures put in place to contain it, and the weak global economic outlook continue to disrupt economies and credit markets across sectors and regions. Our analysis has considered the effect on the performance of covered bonds from the current weak German economic activity and a gradual recovery for the coming months. Although an economic recovery is underway, it is tenuous, and its continuation will be closely tied to containment of the virus. As a result, the degree of uncertainty around our forecasts is unusually high. We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety.

Legal risks for assets outside of Germany

In the event of the issuer's insolvency, we believe that cover pool assets outside of Germany would be less protected against claims of the issuer's other creditors than would be assets in Germany. In particular, we have identified and analysed the following scenarios:

» Claims against borrowers outside of Germany or loans not governed by German law: In the case of loans not governed by German law, the borrower might be allowed to exercise set-off, thereby reducing the amount that would be payable to the benefit of covered bondholders.

» Loans to borrowers located outside the European Economic Area (EEA). In addition to the above risk, we understand that 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. This may, due to secondary insolvency proceedings being commenced under the respective domestic law, result in lower recovery. The majority of the loans in the cover pool have either been granted to German or EEA-based borrowers, or borrowers that benefit from a guarantee from a German or EEA-based guarantor.

Comparables

Exhibit 8

Norddeutsche Landesbank GZ- Public Sector Covered Bonds and other deals

PROGRAMME NAME	Norddeutsche Landesbank GZ - Public-Sector Covered Bonds	Landesbank Hessen-Thueringen GZ - Public-Sector Covered Bonds	Landesbank Baden-Wuerttemberg - Public-Sector Covered Bonds	Deutsche Pfandbriefbank AG - Public-Sector Covered Bonds
Overview				
Programme is under the law	Pfandbrief Act	Pfandbrief Act	Pfandbrief Act	Pfandbrief Act
Main country in which collateral is based	Germany	Germany	Germany	Germany
Country in which issuer is based	Germany	Germany	Germany	Germany
Total outstanding liabilities	11,019,406,636	28,318,716,924	9,852,978,286	10,813,202,785
Total assets in the Cover Pool	14,870,887,197	32,993,856,896	12,919,378,375	12,562,755,007
Issuer name	Norddeutsche Landesbank GZ	Landesbank Hessen-Thueringen GZ	Landesbank Baden-Wuerttemberg	Deutsche Pfandbriefbank AG
Issuer CR assessment	A3(cr)	Aa3(cr)	Aa3(cr)	Unpublished
Group or parent name	n/a	n/a	n/a	n/a
Group or parent CR assessment	n/a	n/a	n/a	n/a
Main collateral type	Public Sector	Public Sector	Public Sector	Public Sector
Collateral types	Public Sector 95%, Residential 0% Commercial 0%, Other/Supplementary assets 5%	Public Sector 100%, Residential 0% Commercial 0%, Other/Supplementary assets 0%	Public Sector 100%, Residential 0% Commercial 0%, Other/Supplementary assets 0%	Public Sector 100%, Residential 0% Commercial 0%, Other/Supplementary assets 0%
Ratings				
Covered bonds rating	Aa1	Aaa	Aaa	Aa1
Entity used in Moody's EL & TPI analysis	Norddeutsche Landesbank GZ	Landesbank Hessen-Thueringen GZ	Landesbank Baden-Wuerttemberg	Deutsche Pfandbriefbank AG
CB anchor	CR Assessment + 1 notch	CR Assessment + 1 notch	CR Assessment + 1 notch	CR Assessment + 1 notch
CR Assessment	A3(cr)	Aa3(cr)	Aa3(cr)	Unpublished
SUR / LT Deposit	A3	Aa3	Aa3	n/a
Unsecured claim used for Moody's EL analysis	Yes	Yes	Yes	Yes
Value of Cover Pool				
Collateral Score	4.3%	2.7%	3.6%	14.7%
Collateral Score excl. systemic risk	n/a	n/a	n/a	n/a
Collateral Risk (Collateral Score post-haircut)	2.1%	1.5%	2.0%	7.3%
Market Risk	7.4%	8.3%	7.5%	7.5%
Over-Collateralisation Levels				
Committed OC*	2.0%	2.0%	2.0%	2.0%
Current OC	30.9%	20.7%	39.6%	15.8%
OC consistent with current rating	0.0%	0.0%	0.0%	8.0%
Surplus OC	30.9%	20.7%	39.6%	7.8%
Timely Payment Indicator & TPI Leeway				
TPI	High	High	High	High
TPI Leeway	3	5	5	Unpublished
Reporting date	30 September 2020	30 September 2020	30 June 2020	30 September 2020

*We consider this level of OC as committed according to our methodology even though the level of OC provided via the asset cover test might be higher because the issuer could reduce the level of OC down to this level without a rating impact on our covered bond rating.

Sources: Moody's Investors Service, issuer data

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 October 2020. 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 lack of data availability 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, October 2020 (1234823)

Special Comments

» Covered Bonds – Global - Sector Update - Q3 2020: Covered bonds benefit from systemic support but face post-pandemic policy shifts, November 2020 (1252116)

» Covered Bonds – Germany - Proposed maturity extension and increased overcollateralization for Pfandbrief is credit positive, October 2020 (1249282)

» Covered bonds – Germany - Legal framework for covered bonds, July 2019 (1178095)

» Structural Protection Mechanisms for Non-EEA Assets in German Cover Pools, July 2014 (SF374519)

Performance Overview

» Norddeutsche Landesbank GZ - Public-Sector Covered Bonds, December 2020 (SF494084)

Credit Opinion

» Norddeutsche Landesbank GZ

Webpages

» Covered Bonds: www.moodys.com/coveredbonds

» Covered Bond Legal Frameworks: www.moodys.com/Pages/CoveredBondLegalFrameworks.aspx

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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