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Analyst Contacts

Martin Lenhard +49.69.70730.743
VP-Sr Credit Officer
martin.lenhard@moodys.com

Norddeutsche Landesbank GZ - Mortgage Covered Bonds

New Issue Report – German covered bonds

Ratings

Exhibit 1

Cover Pool (€)	Ordinary Cover Pool Assets	Covered Bonds (€)	Rating
5,546,982,158	Residential & Commercial Mortgage Loans	2,128,100,249	Aa1

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

Summary

The covered bonds issued by Norddeutsche Landesbank GZ (Nord LB or the issuer, A3(cr)) under the it's mortgage sector Norddeutsche Landesbank GZ - Mortgage Covered Bonds programme are full recourse to the issuer and are secured by a cover pool of assets consisting of multi-family assets (44.2%), commercial assets (28.9%), residential assets (20.0%) mainly in Germany along with other supplementary assets (6.9%).

Credit strengths include the full recourse of the covered bonds 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 15.0%, and the current over-collateralisation (OC) of 162.2% (on an unstressed present value basis) as of 30 June 2020.

Credit strengths

- ***Recourse to the issuer***: The covered bonds are full recourse to the 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. The cover pool consists of multi-family assets (44.2%), commercial assets (28.9%), residential assets (20.0%), and supplementary assets (6.9%). The collateral quality is reflected in the collateral score, which is currently 15.0%. All residential assets and 98.2% of the commercial assets are backed by properties in Germany, 1.8% of the commercial assets are backed by properties in Luxembourg. (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. 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. The liquidity matching requirement for the next 180 days also reduce refinancing risk. (See "Covered bond analysis")
- ***Interest rate and currency risks***: The currencies of the cover assets and the outstanding covered bond are well matched. All liabilities are denominated in euro while more than 99.9% of the assets are denominated in euro as well. Currently, interest rate exposure is also relatively well matched because 59.8% of assets and 83.1% of covered bonds are fixed rate. Interest rate risk and currency risk are further mitigated by the 2% present value OC requirement, which has to be maintained in stressed market conditions (that is, yield curve movements and changes in the relevant exchange rates). (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) obligor concentration: the 10 largest borrower groups in the commercial sub-pool represent 18.2% of total commercial cover pool assets; (2) geographical concentration: almost all loans in the cover pool are secured on properties located in Germany with excess concentration in Lower Saxony (79.4% of residential assets and 23.5% of commercial assets), (3) property type concentration of the commercial sub-pool: multifamily (60.5%) and office (11.5%) represent the largest property type concentrations. In an adverse scenario, these concentrations increase the probability of significant losses. However, our collateral score model takes into account, inter alia, the impact of borrower, regional and property type concentrations. (See "Cover pool description")

» ***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 swaps in the programme. (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 of the coronavirus outbreak on the economy as well as the effects that the announced government measures, put in place to contain the virus, will have on the performance of covered bonds. The contraction in economic activity in the second quarter will be severe and the overall recovery in the second half of the year will be gradual. However there are significant downside risks to our forecasts in the event that the pandemic is not contained and lockdowns have to be reinstated. 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 low for covered bonds. Our assessment of the progamme's credit quality resulted in low ESG risk. In addition, the covered bonds' dual recourse structure as well as the diversified nature of cover pools mitigates environmental and social risks. Governance risk is largely mitigated by the German covered bond legal framework, the structure of the programme and our consideration of the programme parties. Please refer to our Cross-Sector Rating Methodology: General Principles for Assessing Environmental, Social and Governance Risks, 9 January 2019, 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 primary liability to make payment on the covered bonds. (See Cover pool analysis - Environmental considerations)

» ***Social****:* Overall exposure to meaningful social risks is moderate in this programme, mainly because social issues that affect banks can also affect the cover pool. Social risk is mitigated by the covered bonds' dual recourse to both issuer and cover pool. In addition, we regard the coronavirus outbreak 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) the rights and duties of the key programme participants and (ii) the German *Pfandbrief* Act. (See Additional analysis - Governance considerations)

Key characteristics

Exhibit 2
Covered bond characteristics

Moody's Programme Number:	171
Issuer:	Norddeutsche Landesbank GZ
Covered Bond Type:	Residential and commercial mortgage 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:	€2,128,100,249
Main Currency of Covered Bonds:	EUR (100.0%)
Extended Refinance Period:	No
Principal Payment Type:	Hard bullet
Interest Rate Type:	Fixed rate covered bonds (83.1%), Floating rate covered bonds (16.9%)
Committed Over-Collateralisation:	2.0% (on an stressed NPV basis)
Current Over-Collateralisation:	162.2% (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:	€5,546,982,158
Main Collateral Type in Cover Pool:	Multi-family assets (44.2%), Commercial assets (28.9%), Residential assets (20.0%), Other supplementary assets (6.9%)
Main Asset Location of Ordinary Cover Assets:	Germany
Main Currency:	EUR (100.0%)
Loans Count:	4,409 Commercial & multifamily assets, 18,232 Residential assets
Number of Borrowers:	2,558 Commercial & multifamily assets, 16,429 Residential assets
WA unindexed LTV:	48.1% Commercial & multifamily assets, 45.6% Residential assets
WA indexed LTV:	n/d
WA Seasoning (in months):	87 Commercial & multifamily assets, 92 Residential assets
WA Remaining Term (in months):	105 Commercial & multifamily assets, 71 Residential assets
Interest Rate Type:	Fixed rate assets (59.8%), Floating rate assets (40.2%)
Collateral Score:	15.0%
Cover Pool Losses:	21.2%
Further Cover Pool Details:	See Appendix 1
Pool Cut-off Date:	30 June 2020

Sources: Moody's Investors Service, issuer data

Exhibit 4
Transaction counterparty

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

Source: Moody's Investors Service

Covered bond description

The covered bonds issued under the mortgage sector covered bond programme of Norddeutsche Landesbank GZ are full recourse to the issuer. Upon a CB anchor event, covered bondholders would have access to a cover pool of mixed loan receivables of commercial, multifamily and residential loans as well as high quality substitute assets.

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 June 2020, the level of OC in the programme was 162.2% on an unstressed present value 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 June 2020, 7.5% of OC is sufficient to maintain the current covered bond rating, which is higher than committed OC. This shows that our analysis currently relies 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 Nord LB's mortgage covered bond programme. (See "Covered Bonds: Germany - Legal Framework for Covered Bonds", July 2019, for a description of the general legal framework for *Hypothekenpfandbriefe* 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 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 the payments due under the outstanding covered bonds.

The 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.

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	6.0	6.1	59.8%	83.1%
Variable rate	3.4	2.5	40.2%	16.9%

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. Currently, there are no foreign exchange-denominated covered bonds outstanding and almost all the cover pool assets are also 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. Nord LB opted for the static approach, which inter alia includes a parallel movement of the interest-rate curve by 250 basis points, to meet mandatory stress test requirements.

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

» Majority of the cover pool assets are fixed rate (59.8%). 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.

» As of the date of this report, Nord LB 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 mortgage 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 TPI-negative aspects of this covered bond programme include:

» Almost 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

All covered bonds are subject to governance factors. The principal sources of governance for this programme are (i) the covered bond law and (ii) the rights and duties of the key programme participants. 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 noteholders; (iii) the covered bond law contains provisions addressing treatment of ineligible 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 June 2020

The cover pool consists of mortgage loans backed by multifamily assets (44.2%), commercial assets (28.9%), residential mortgage loans (20.0%), and further cover assets that constitute substitute assets under the *Pfandbrief* Act (6.9%). The majority of the cover assets are loans backed by properties in Germany. The cover pool has geographical concentration in Lower Saxony region of Germany. All loans are performing.

On a nominal value basis, the cover pool assets total €5.55 billion, which back €2.13 billion in covered bonds, resulting in an OC level of 162.2% on an unstressed present value basis. (For Nord LB's underwriting criteria, see "Appendix: Income underwriting and valuation")

Mortgage loans with backing of commercial and multifamily properties amount to €4.06 billion. Of this amount the majority are backed by multi-family (60.5% of the commercial sub pool), offices (11.5% of the commercial sub pool) and other (11.6% of the commercial sub pool). The weighted average loan-to-value (LTV) ratio of the eligible loan parts is 48.1% based on the property mortgage lending values. The exposure to ten largest borrowers is 18.2%. All the loans are performing.

Mortgage loans with backing of residential properties amount to €1.11 billion. The weighted average loan-to-value (LTV) ratio of the eligible loan parts is 45.6% based on the property mortgage lending values. The residential cover pool has seasoning of 92 months. All the loans are performing.

Exhibits below show more details about the cover pool assets.

Commercial assets

Exhibit 6

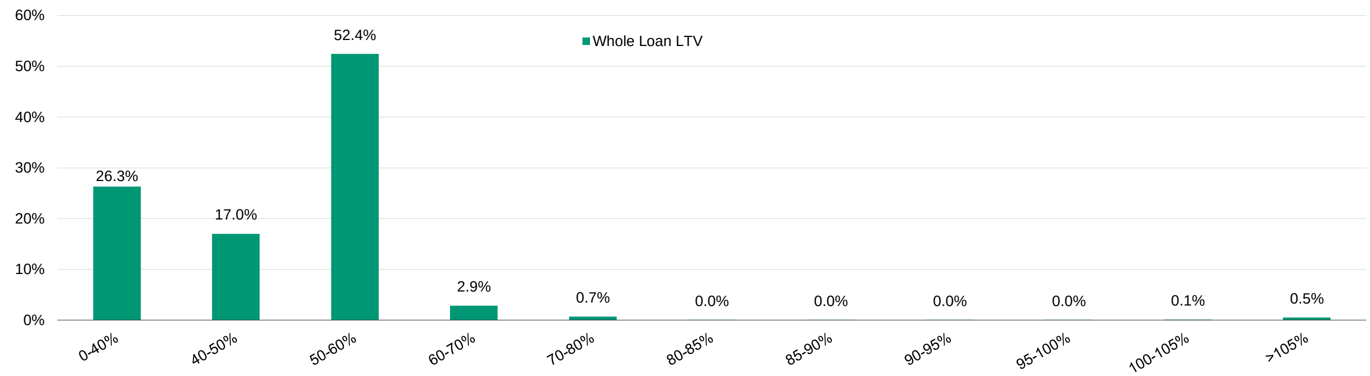
Cover pool summary - Commercial assets

Overview		Details on Loan Underwriting	
Asset type:	Commercial	WA DSCR:	n/d
Asset balance:	4,055,906,958	WA loan seasoning (in months):	87
Average loan balance:	919,838	WA remaining term (in months):	105
Number of loans:	4,409		
Number of borrowers:	2,558	**Details on LTV**	
Largest 10 borrowers:	18.2%	WA LTV(*):	48.1%
Number of properties:	5,870	WA Current LTV(**):	n/a
Main countries:	Germany (98.2%), Luxembourg (1.8%)	Valuation type:	Lending Value
		LTV Threshold:	60.0%
Specific Loan and Borrower characteristics			
Bullet loans:	17.2%	**Performance**	
Main currencies:	EUR (100%), USD (0.0%)	Loans in arrears ≥ 2 months:	0.0%
Fixed rate loans:	71.4%	Loans in a foreclosure procedure:	0.0%
Non-recourse to sponsor/initiator:	n/d		

(note *) Based on property value at origination.
(note **) Based on updated property value.
Sources: Moody's Investors Service, issuer data

Exhibit A

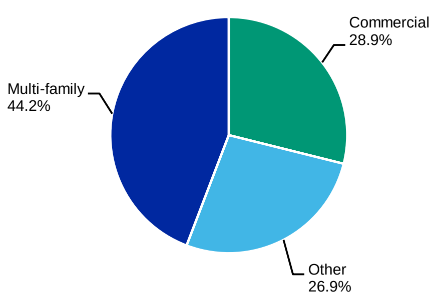
Balance per LTV band - Lending Value (eligible loan part only)



Sources: Moody's Investors Service, issuer data

Exhibit B

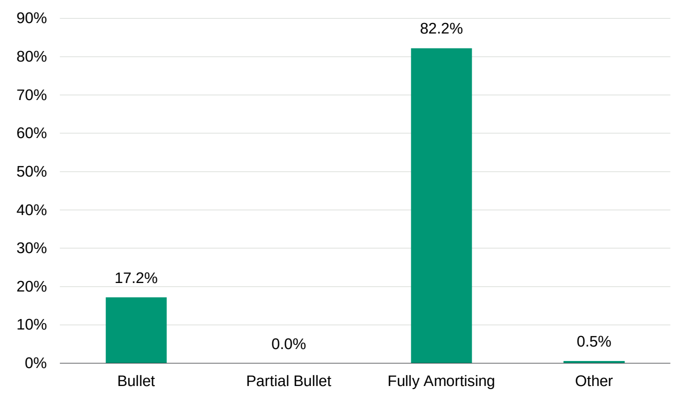
Percentage of commercial assets



Sources: Moody's Investors Service, issuer data

Exhibit C

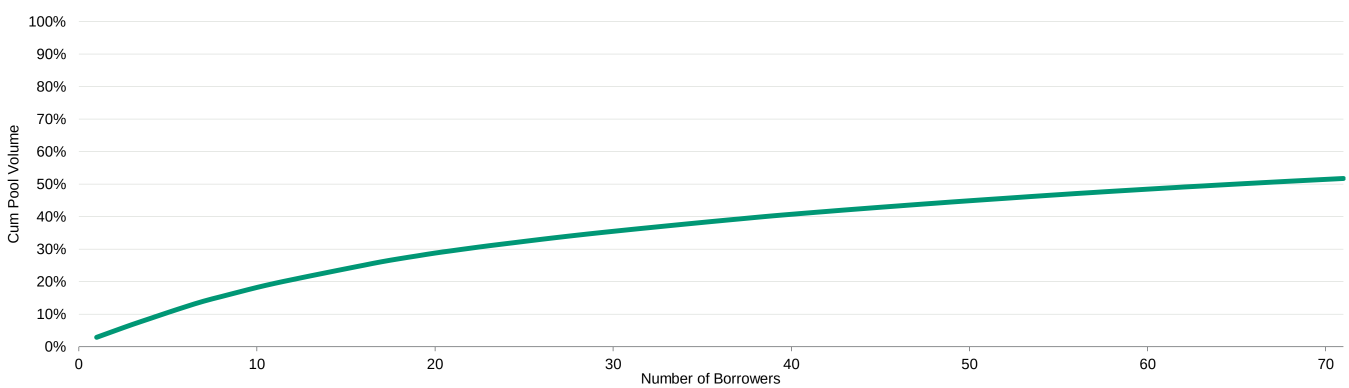
Principal repayment method



Sources: Moody's Investors Service, issuer data

Exhibit D

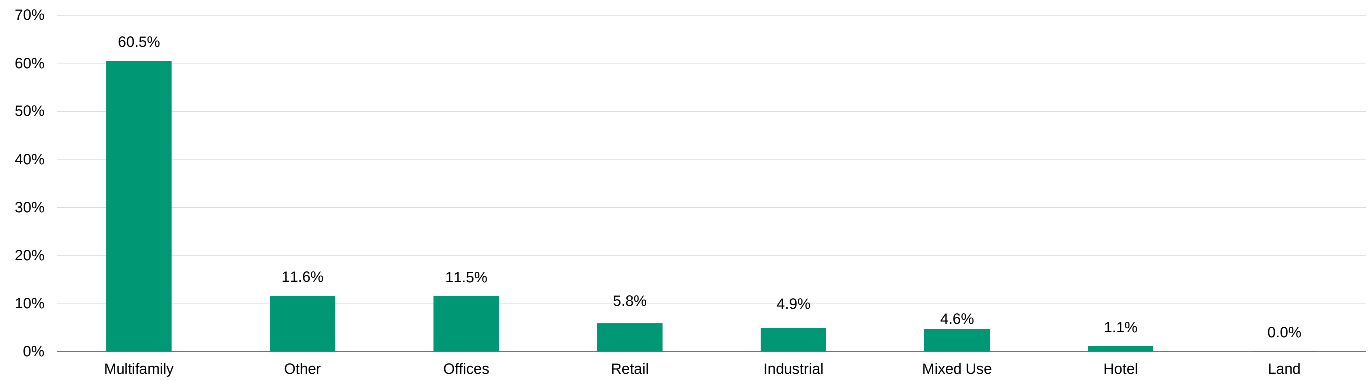
Borrower concentration



Sources: Moody's Investors Service, issuer data

Exhibit E

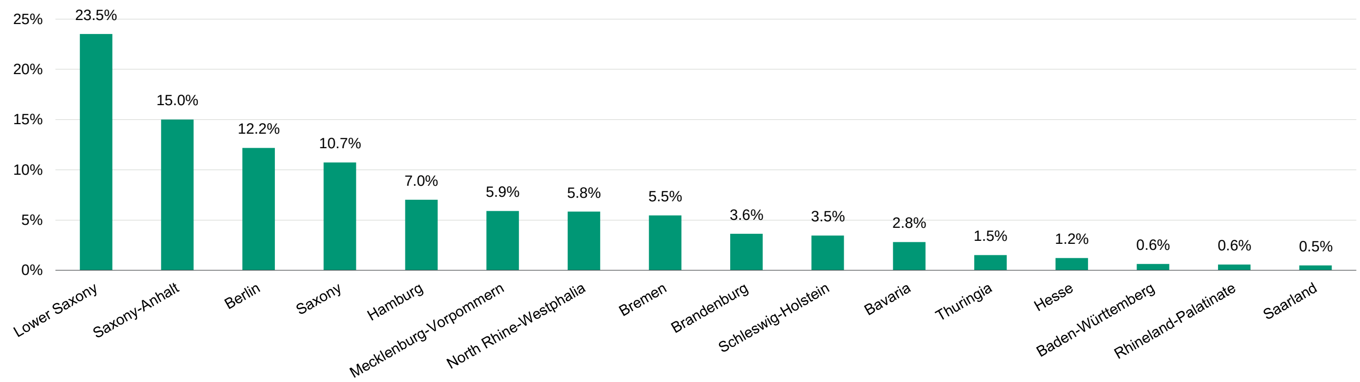
Property type



Sources: Moody's Investors Service, issuer data

Exhibit F

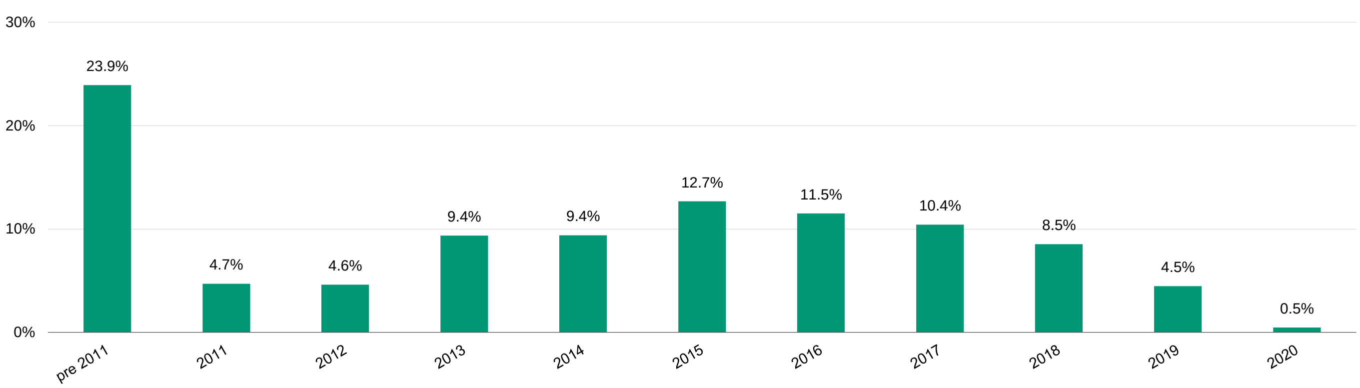
Main country regional distribution



Sources: Moody's Investors Service, issuer data

Exhibit G

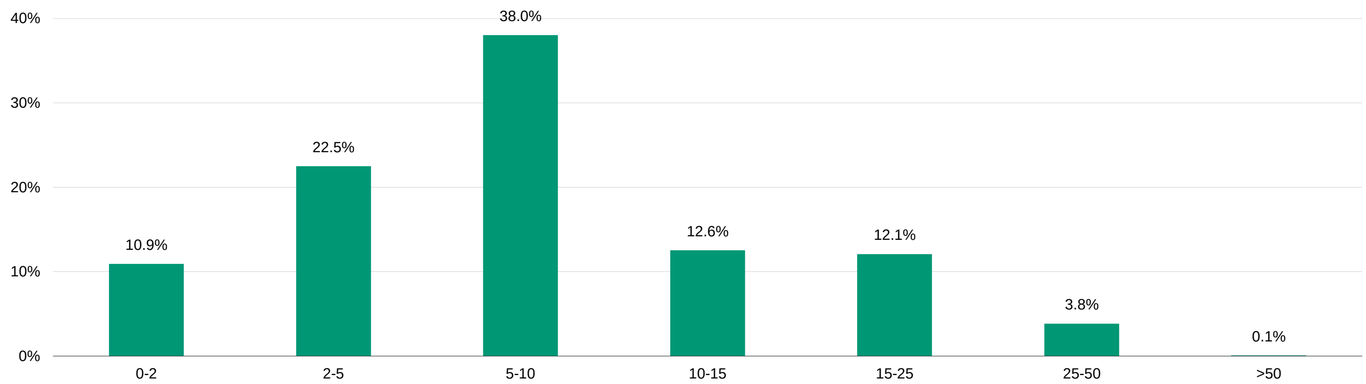
Year of loan origination



Sources: Moody's Investors Service, issuer data

Exhibit H

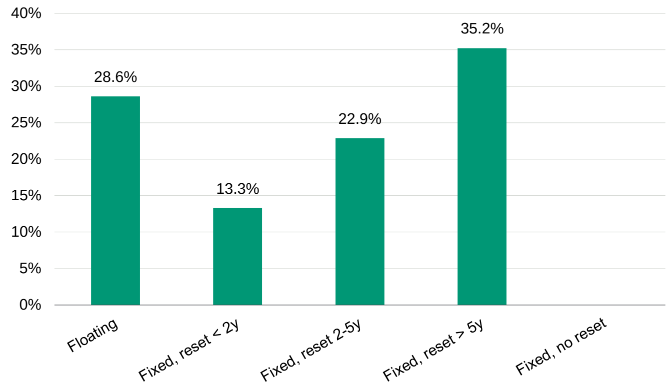
Remaining term (in years)



Sources: Moody's Investors Service, issuer data

Exhibit I

Interest rate type



Sources: Moody's Investors Service, issuer data

Residential assets

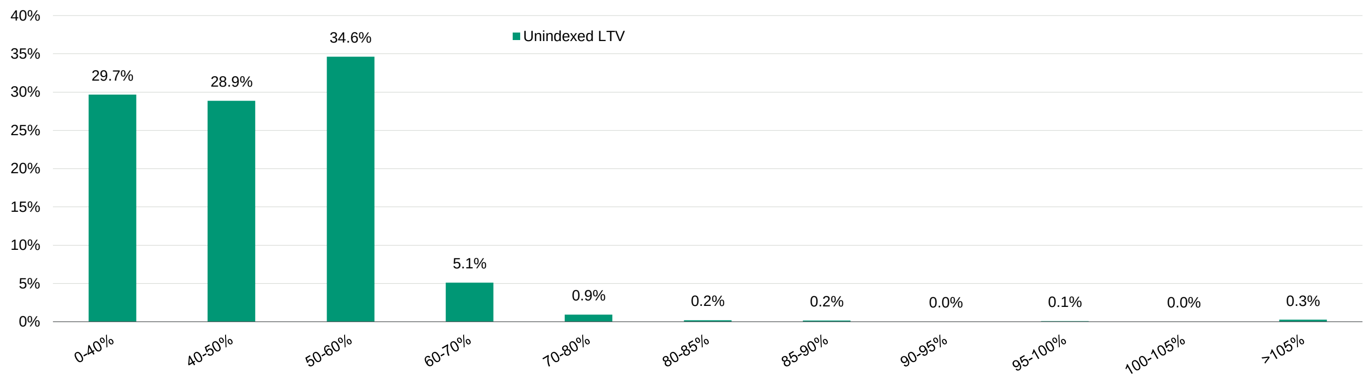
Exhibit 7

Cover pool summary - Residential assets

Overview		Specific Loan and Borrower characteristics	
Asset type:	Residential	Loans with an external guarantee in addition to a mortgage:	n/d
Asset balance:	1,111,075,200	Interest only Loans	n/d
Average loan balance:	60,939	Loans for second homes / Vacation:	n/d
Number of loans:	18,232	Buy to let loans / Non owner occupied properties:	n/d
Number of borrowers:	16,429	Limited income verified:	n/d
Number of properties:	17,605	Adverse credit characteristics (**)	n/d
WA remaining term (in months):	71		
WA seasoning (in months):	92	**Performance**	
		Loans in arrears (≥ 2months - < 6months):	0.0%
Details on LTV		Loans in arrears (≥ 6months - < 12months):	0.0%
WA unindexed LTV (*)	45.6%	Loans in arrears (≥ 12months):	0.0%
WA Indexed LTV:	n/a	Loans in a foreclosure procedure:	0.0%
Valuation type:	Lending Value		
LTV threshold:	60.0%	**Multi-Family Properties**	
Junior ranks:	n/d	Loans to tenants of tenant-owned Housing Cooperatives:	n/d
Loans with Prior Ranks:	n/d	Other type of Multi-Family loans (***)	n/d

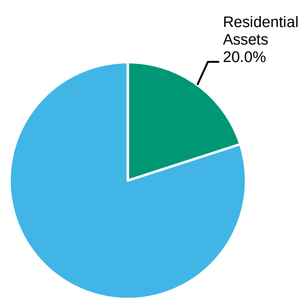
(note *) may be based on property value at time of origination or further advance or borrower refinancing
(note **) Typically borrowers with a previous personal bankruptcy or borrowers with record of court claims against them at time of origination
(note ***) This "other" type refers to loans directly to Housing Cooperatives and to Landlords of Multi-Family properties (not included in Buy to Let)
Sources: Moody's Investors Service, issuer data

Exhibit A
Balance per LTV band (eligible loan part only)



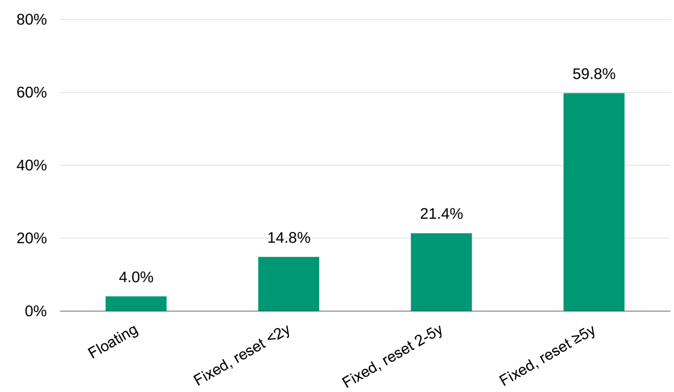
Sources: Moody's Investors Service, issuer data

Exhibit B
Percentage of residential assets



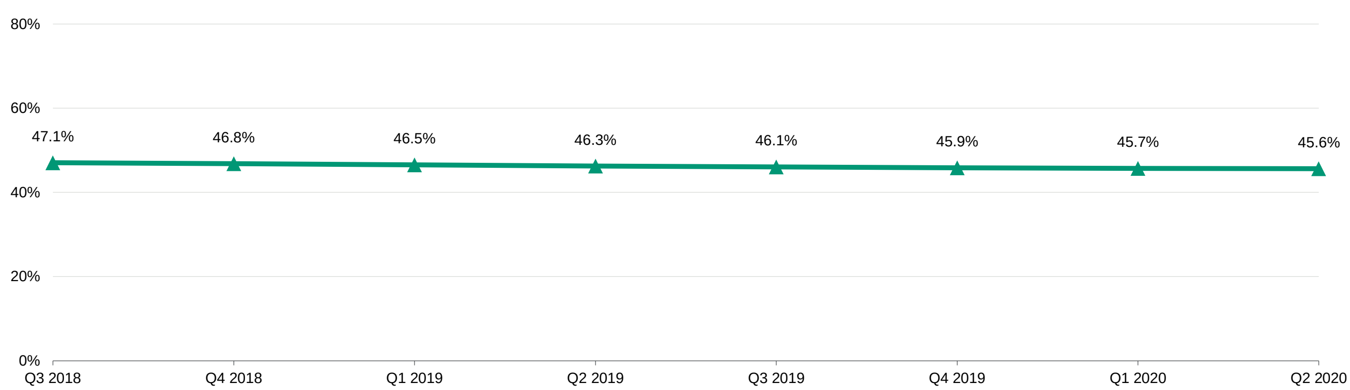
Sources: Moody's Investors Service, issuer data

Exhibit C
Interest rate type



Sources: Moody's Investors Service, issuer data

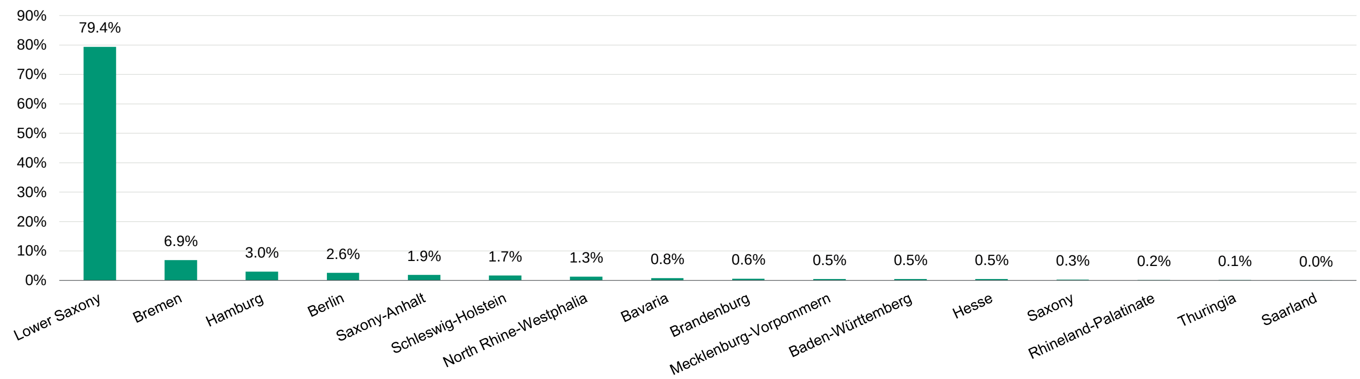
Exhibit D
LTV



Sources: Moody's Investors Service, issuer data

Exhibit E

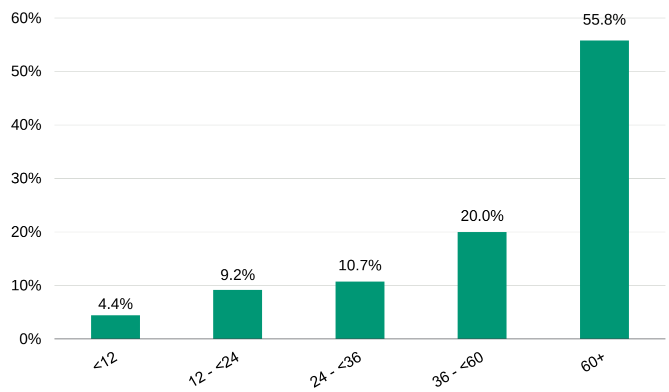
Main country regional distribution



Sources: Moody's Investors Service, issuer data

Exhibit F

Seasoning (in months)



Sources: Moody's Investors Service, issuer data

Substitute assets

Of the cover assets, €380.0 million (6.9%) are substitute assets.

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 for the commercial mortgages 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.

We calculate the collateral score for the residential mortgages using a scoring model that estimates loss in severe recession scenario. Our analysis takes into account, among other factors, the LTV ratios of the mortgage loans, the seasoning and the geographical distribution.

The collateral quality is reflected in the 15.0% collateral score of the pool, which is higher than the average collateral score (9.2%) of the mortgage covered bonds in Germany. This higher collateral score is mainly driven by our conservative treatment of areas where Nord LB does not provide as detailed and comprehensive reporting regarding the cover pool assets as other issuers. (For details, see “Moody's related publications - Moody’s Global Covered Bonds Sector Update, Q1 2020”)

Commercial and multi-family assets (73.1% of the cover pool)

From a credit perspective, we view positively the following characteristics of the cover assets:

» All assets are performing, and none are in arrears.

» The high share of multi-family and office properties.

From a credit perspective, we view negatively the following characteristics of the cover assets:

» The cover pool has obligor concentration with the 10 largest obligors accounting for 18.2% of the commercial sub-pool.

» The cover pool has regional concentration with (23.5%) of the commercial and muti-family properties located in Lower Saxony.

Residential assets (20.0% of the cover pool)

From a credit perspective, we view positively the following characteristics of the cover assets:

» All assets are performing, and none are in arrears.

» The loans are well-seasoned (weighted average seasoning is 92 months).

From a credit perspective, we view negatively the following characteristics of the cover assets:

» The cover pool has regional concentration with the majority (79.4%) of the residential properties are located in Lower Saxony.

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 physical risks to the cover pool, the geographical diversification of the pool, the largest concentration being 79.4% of residential assets and 23.5% of commercial assets in the Lower Saxony region of Germany. In addition to geographical diversification, environmental factors are mitigated by mandatory possession of insurance in line with market practices.

» In respect of regulatory risk, we expect that over time properties that do not meet climate-aligned standards for energy efficiency or carbon emissions will face regulatory sanctions and value impairment. However, we expect much of this risk to be gradually absorbed into the periodic updating of property valuations. This will impact key credit metrics such as LTVs.

In the event of shocks in connection with regulation or physical hazards, the impact on property collateral will be partly mitigated by borrowers’ liability to repay mortgage loans regardless of property value.

Social considerations
Overall exposure to social factors is moderate for this programme. Covered bondholders benefit from the issuer's primary liability to make payment on the covered bonds, meaning any impact from social factors on the cover pool will only be felt if the issuer defaults. For banks, misconduct, poor handling of data security and customer privacy breaches are the most significant social risks that may in due course affect the cover pool, although banks' financial and operational flexibility and track record of adjusting to social issues may mitigate this.

In addition, the rapid spread of the coronavirus outbreak, the government measures put in place to contain it and the deteriorating global economic outlook, have created a severe and extensive credit shock across sectors, regions and markets. Our analysis has considered the effect on the performance of residential real estate/commercial real estate from the collapse in German economic activity in the second quarter and a gradual recovery in the second half of the year. However, that outcome depends on whether governments can reopen their economies while also safeguarding public health and avoiding a further surge in infections. 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.

Social factors that potentially affect the cover pool have varied implications. Social risks can arise from changing demographic trends such as aging, urbanization, an increase in telecommuting and flight from cities, population declines or ways of living trends in general that impact the supply or demand for housing in particular areas, which can reduce home values. Societal and demographic trends will be relevant but typically develop over an extended time frame that smooths out materiality for expected loss.

Social issues may be driven also by a political agenda related to housing and consumer protection, particularly in down cycles, creating pressure on recovery values. Borrower-friendly legislation as a reaction to consumer activism can affect both the underwriting and the servicing of mortgage loans in the cover pool. Social policy-driven decisions in Germany, such as lowering underwriting standards at government-sponsored enterprises to increase homeownership, would reduce the credit quality of the cover pool.

Commercial mortgages
In respect of the property collateralizing loans in the cover pool, externally driven demographic trends and societal preferences are the main social considerations affecting credit. These considerations generally affect the operations of building owners in respect of demand for space. For retail properties, the most notable shifts have come in mature markets, such as the shift in retail shopping preferences online. Especially in secondary and tertiary locations, retailers demand less physical store space. For office properties, long-term trends such as flexible/remote-working can lead to lower tenant demand resulting eventually in lower rental levels and property values. Greater amounts of shared office space and a limited but increasing amount of co-working space impact office building use and business models of landlords and operators leading to higher exposure to operational performance. However, in this programme the small portion of the pool exposed to offices, combined with the prime nature of those assets mitigates such trends as illustrated by the high and stable historical occupancy rate.

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 outside of Germany account for 1.8% of the cover pool. However, borrower set-off risk is low because Nord LB neither takes deposits nor acts as a swap counterparty for clients outside of Germany.

» Loans to borrowers outside of the European Economic Area (EEA): All of the mortgage loans are granted to borrowers within the EEA. If this criteria were to change, in addition to the above risk, the cover pool assets might not be available to the covered bondholders on a priority basis because other (unsecured) creditors of the issuer might successfully access the assets in the cover pool. These actions might result in lower recovery, owing, for example, to secondary proceedings commenced under the respective domestic law.

Comparables

Exhibit 8

Comparables - Norddeutsche Landesbank GZ - Mortgage Covered Bonds and other deals

PROGRAMME NAME	Norddeutsche Landesbank GZ - Mortgage Covered Bonds	Landesbank Baden-Wuerttemberg - Mortgage Covered Bonds	Bayerische Landesbank - Mortgage Covered Bonds	Deutsche Kreditbank AG - Mortgage Covered Bonds	Landesbank Berlin AG - Mortgage Covered Bonds
Overview					
Programme is under the law	German	Pfandbrief Act	Pfandbrief Act	Pfandbrief Act	Pfandbrief Act
Main country in which collateral is based	Germany	Germany	Germany	Germany	Germany
Country in which issuer is based	Germany	Germany	Germany	Germany	Germany
Total outstanding liabilities	2,128,100,249	10,682,885,762	6,544,735,000	4,397,000,000	3,830,000,000
Total assets in the Cover Pool	5,546,982,158	15,055,834,326	8,269,511,031	7,009,828,602	5,329,424,885
Issuer name	Norddeutsche Landesbank GZ	Landesbank Baden-Wuerttemberg	Bayerische Landesbank	Deutsche Kreditbank AG	Landesbank Berlin AG
Issuer CR assessment	A3(cr)	Aa3(cr)	Aa3(cr)	A1(cr)	Aa2(cr)
Group or parent name	n/a	n/a	n/a	n/a	n/a
Group or parent CR assessment	n/a	n/a	n/a	n/a	n/a
Main collateral type	Commercial	Commercial	Commercial	Other	Commercial
Collateral types	Commercial 73%, Residential 20%, Public Sector 0%, Other/Supplementary assets 7%	Commercial 77%, Residential 18%, Public Sector 0%, Other/Supplementary assets 5%	Commercial 94%, Residential 1%, Public Sector 0%, Other/Supplementary assets 5%	Public Sector 0%, Residential 30% Commercial 66%, Other/Supplementary assets 4%	Commercial 87%, Residential 7%, Public Sector 0%, Other/Supplementary assets 6%
Ratings					
Covered bonds rating	Aa1	Aaa	Aaa	Aaa	Aaa
Entity used in Moody's EL & TPI analysis	Norddeutsche Landesbank GZ	Landesbank Baden-Wuerttemberg	Bayerische Landesbank	Deutsche Kreditbank AG	Landesbank Berlin 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	A3(cr)	Aa3(cr)	Aa3(cr)	A1(cr)	Aa2(cr)
SUR / LT Deposit	A3	Aa3	Aa3	n/a	n/a
Unsecured claim used for Moody's EL analysis	Yes	Yes	Yes	Yes	Yes
Value of Cover Pool					
Collateral Score	15.0%	9.6%	10.7%	6.3%	14.7%
Collateral Score excl. systemic risk	n/a	n/a	n/a	5.4%	14.5%
Collateral Risk (Collateral Score post-haircut)	10.0%	6.4%	7.1%	4.3%	9.9%
Market Risk	11.2%	13.0%	12.7%	14.8%	12.3%
Over-Collateralisation Levels					
Committed OC*	2.0%	2.0%	2.0%	2.0%	2.0%
Current OC	162.2%	49.8%	34.9%	57.3%	49.3%
OC consistent with current rating	7.5%	0.5%	1.0%	9.5%	0.0%
Surplus OC	154.7%	49.3%	33.9%	47.8%	49.3%
Timely Payment Indicator & TPI Leeway					
TPI	High	High	High	High	High
TPI Leeway	3	5	5	4	6
Reporting date	30 June 2020	31 March 2020	31 March 2020	31 March 2020	31 March 2020

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 June 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.

Appendix: Income underwriting and valuation

Exhibit 9

Income underwriting and valuation

A. Residential Income Underwriting	
1 Is income always checked?	Yes.
2 Does this check ever rely on income stated by borrower ("limited income verification") ?	No, income is verified by official documents, e.g. audited annual reports, pay slips, pension approval certificates, annual tax declaration etc.
3 Percentage of loans in Cover Pool that have limited income verification	0%
4 If limited income verification loans are in the Cover Pool, describe what requirements lender has in place for these loans.	Not applicable.
5 Does income in all cases constrain the amount lent (for example through some form of Income Sufficiency Test ("IST")?	As a rule, yes. Exceptions have to be approved by a credit officer in line with the competence regulation.
6 If not, what percentage of cases are exceptions.	Not disclosed.
For the purpose of any IST:	
7 Is it confirmed that income after tax is sufficient to cover both interest and principal?	Yes.
8 If so over what period is it assumed principal will be paid (typically on an annuity basis)? Any exceptions?	For private customers 30 years is the maximum period, for commercial (corporate) customers it is 20 years.
9 Does the age of the borrower constrain the period over which principal can be amortised?	NORD/LB does not have an official regulation on this, but the age is always taken into account during the underwriting process.
10 Are any stresses made to interest rates when carrying out the IST? If so when and for what type of products?	Yes, the debt service must be covered, even in stressed scenarios.
11 Are all other debts of the borrower taken into account at the point the loan is made?	Yes.
12 How are living expenses of the borrower calculated? And what is the stated maximum percentage of income (or income multiple if relevant) that will be relied on to cover debt payments. (specify if income is pre or post tax)	NORD/LB applies an internal schedule for the living expenses. They increase disproportionately to the income. Up to 10,000 Euro of monthly income, it is automatically calculated. Above this amount the calculation of the living expenses is manually corrected.
Other comments	None

B. Residential Valuation	
1 Are valuations based on market or lending values?	As a general rule all valuations are based on the market value (MV). For the purpose of entering securities into the Pfandbrief register or for internal purposes a mortgage lending value (MLV) is calculated according to the regulations of the Pfandbrief Act and the BelWertV.
2 Are all or the majority of valuations carried out by external valuers (with no direct ownership link to any company in the Sponsor Bank group)?	Generally valuations are done by the appropriate internal staff. In addition, external valuers are used, e.g. for capacity or efficiency reasons.
3 How are valuations carried out where an external valuer not used?	Internal valuers who are independent in terms of CRR, NPL, MaRisk and BelWertV
4 What qualifications are external valuers required to have?	Qualified valuers with a certificate by HypZert, RICS or comparable certifications.
5 What qualifications are internal valuers required to have?	Qualified valuers in line with the Pfandbrief legislation (section 6 of the Beleihungswertverordnung).
6 Do all external valuations include an internal inspection of a property?	Basically, yes.
7 What exceptions?	Depending on the product, an inspection may be unnecessary for internal use only or on the basis of reliefs permitted by the regulatory authorities, provided that the valuer has no indications that make an inspection necessary.
8 Do all internal valuations include an internal inspection of a property?	Basically, yes.
9 What exceptions?	Depending on the product, an inspection may be unnecessary for internal use only or on the basis of reliefs permitted by the regulatory authorities, provided that the valuer has no indications that make an inspection necessary.
Other comments	None

Commercial Lending	
1. Business Focus	
1.1 What kind of CRE loans will form part of the cover pool?	Mostly investment loans and to lesser extent development & construction financing.
1.2 What CRE property types do you finance?	Office, multi-family, and logistics properties as well (limited) retail properties and hotels; preferred "green buildings"
1.3 What kind of restrictions do you have in terms of property location and quality	Location: Focus on prime locations; secondary locations may be acceptable for multi-family Quality: Properties have to be well maintained / in good condition, and must meet requirements regarding “third party usability”.
1.4 Does the cover-pool only contain self-originated loans or loan participations (e.g. syndicated loans, mezzanine loans)?	The main focus of the cover pool is on self-originated loans but loan participations also form a smaller part of the cover pool.

2. Loan underwriting policy	
2.1 Do you accept loans with refinancing risk? If yes, do you have a maximum Exit-LTV limit at loan maturity?	Yes. There is no specific Exit-LTV target, however, each transaction is being intensively analysed with respect to any refinancing risk taking into account property’s individual characteristics. In doing so several issues are being analysed: interest rate sensitivities, exit debt yield, exit LTV and/or exit mortgage lending value.
2.2 Do you have a maximum LTV ratio that is covenanted in the loan agreement? Do max. LTV ratio vary by property type? Please specify.	If required according to our financing principles LTV ratios are covenanted. The max. LTV ratio varies depending on property’s location (by country) and property class.
2.3 Do you have a minimum DSCR ratio that is covenanted in the loan agreement? Do min. DSCR ratio vary by property type? Please specify.	If required according to our financing principles min. KDF (debt servicing ability) ratios are covenanted. The min. KDF varies subject to property’s location (by country).
2.4 Do you always require full hedging in terms of interest rate and currency risk? If not, which stresses are used to calculate the DSCR ratios?	Typically adequate / full interest hedging / fixing is required, exceptions are possible subject to property’s cash flow analysis. Typically a stress interest rate plus standard amortisation rate will be applied. Currency risks may be accepted on a case by case basis, typically e.g. stop-loss agreements and/or additional collaterals are required.
2.5 Do you require a minimum exit debt yield? Please specify	The requirements for a minimum KDF imply an exit debt yield which varies subject to property class and location (by country).
2.6 Do you allow exceptions to and what reasons would justify exceptions?	Yes, exceptions possible in case of adequate additional collateral, in case of pre-sales, for premium core properties or in case of recourse transactions.

3. Cash flow analysis	
3.1 Is a cash-flow assessment always carried out?	Yes.
3.2 Do you consider in the DSCR calculation (cash-flow assessment) possible reduction in property cash flow (e.g. due to lease roll-over, changing market rents, capex requirements)?	Yes.
3.3 Do you rely in the DSCR calculation (cash-flow assessment) on possible increases in property cash flow (e.g. due to expected reduction in property vacancy, rent increase, property disposal income, or sponsor support)?	In general - no. A minimum cash flow / KDF based on in place lease agreements (or pre-letting in case of development loans) is required. Exceptions are limited to a few cases (e.g. multi-family development loans or for selected core / landmark properties).
3.4 Do you consider in the cash flow assessment the quality (tenant) and diversity of cash flows? How do you assess tenant quality?	Yes. Tenant’s quality/financial condition is assessed by analysis of annual reports and/or by internal or external ratings.
3.5 How often is the property cash flow and loan DSCR assessment updated?	At least annually, or more often (e.g. quarterly or event driven) depending on the transactions specifics.

4. Borrower	
4.1 Do you accept SPV as a borrower?	Yes.
4.2 Do you always require direct recourse to the borrower and sponsor (natural person) holding the equity stake? If not, please provide details/limits on non-recourse business.	No. For non-recourse loans more conservative minimum KDF requirements apply.
4.3 Do you have minimum requirements as for the borrower’s quality? Please detail.	Yes. For new deals and in general we have PD limits. Furthermore, only professional investors, developers, funds asset managers etc. with a long running track record, know-how and sound financials are accepted.
4.4 How do you assess borrower’s quality?	Via rating, annual reports, track record and references.
4.5 Do you allow exceptions to 4.3?	Yes, but only to a limited extend and in case of other mitigants (e.g. additional collateral).
What reasons would justify exceptions?	

Commercial Valuation	
1 Are valuations based on market or lending values?	As a general rule all valuations are based on the market value (MV). For the purpose of entering securities into the Pfandbrief register or for internal purposes a mortgage lending value (MLV) is calculated according to the regulations of the Pfandbrief Act and the BelWertV.
2 Do you consider vacant possession values for single-tenanted properties?	Yes, because the vacant possession value (VPV) specifically does not consider existing rental contracts but is based on the current market rent. Therefore the VPV does not include the inherent influence of single tenant rental contract on the market value. In general when weighting property risks we assess the MLV because its methodology is focused on a sustainable value.
3 Do valuations always comply with standards of the RICS Red Book?	No, we also accept and instruct external valuations that comply with European and International Valuation standards (EVS/IVS -Blue and White book) as well as HypZert-Standards (MLV) and in Germany the ImmoWertV.
4 Do you always require that valuations include a review of the lease contracts, a technical report and environment report?	NORD/LB's real estate related international business has been transferred to the subsidiary Deutsche Hypo. The minimum requirements of the BelWertV are fulfilled as standard with regard to the valuation of commercial real estate in Germany. Depending on the product, additional sources are also consulted for location or property-specific reasons.
5 Do you always require that valuations provide reference to comparable recent property transactions?	With regard to the German property transaction market, research sources are available based on both direct and indirect comparisons of property transactions.
6 Could the value of a property portfolio exceed the value of the individual properties?	No.
7 How often is the property value updated and how often is checked that the LTV covenant is not breached? (annually, ad-hoc, depending on general market movement)?	Valuation updates depend on following regulatory standards: monitoring cycle and event driven to CRR, NPL, MaRisk and BelWertV. In addition they are based on credit and contractual agreements, internal ratings or on the occation of a valuers assessment.
Other comments	None

Source: Issuer

Moody's related publications

Rating Methodology

- Moody's Approach to Rating Covered Bonds, June 2020 (1214379)

Special Comments

- Covered Bonds: Sector update Q2 2020: Credit quality remains stable amid coronavirus pressures, August 2020 (1240602)
- Covered Bonds – Global: 2020 Outlook, December 2019 (1195966)
- Covered Bonds - Europe: 2020 Outlook - Credit quality will remain strong despite slowing global economy, December 2019
- EU Bank Recovery and Resolution Regime Strengthens German Covered Bonds and Improves Their Ratings, July 2015 (1006468)
- Structural Protection Mechanisms for Non-EEA Assets in German Cover Pools, July 2014 (SF374519)
- Germany - Legal Framework for Covered Bonds, July 2019 (1178095)

Sector In-Depth:

- Pfandbriefe: Low interest rates raise safety but limit use of this funding tool, April 2020 (1213354)

Performance Overview

- Norddeutsche Landesbank GZ - Mortgage Covered Bonds, August 2020 (SF491284)

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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CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454