

# Covered Bonds follow-up Rating

KBC Bank N.V.

Mortgage Covered Bond Program

**Creditreform**  
**Rating**

Rating Object	Rating Information	
<b>KBC Bank N.V., Mortgage Covered Bond Program</b>  Type of Issuance : Mortgage Covered Bond under Belgian law Issuer : KBC Bank N.V.  LT Issuer Rating : A (KBC Bank) ST Issuer Rating : L2 Outlook Issuer : Stable	Rating / Outlook : <b>AAA / Stable</b>	Type: Rating Update (unsolicited)
	Rating Date :	21.02.2020
	Rating Renewal until :	Withdrawal of the rating
	Rating Methodology :	CRA „Covered Bond Ratings“

Program Overview			
Nominal value	EUR 6.770 m.	WAL maturity covered bonds	4,67 Years
Cover pool value	EUR 10.947 m.	WAL maturity cover pool	7,84 Years
Cover pool asset class	Mortgages	Overcollateralization (nominal/committed)	61,11%/ 10,00%
Repayment method	Soft Bullet	Min. overcollateralization	5,00%
Legal framework	Belgian Covered Bonds law	Covered bonds coupon type	Fix (99,00%), Floating (1,00%)

Cut-off date Cover Pool information: 31.12.2019

## Rating Action

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This follow-up report covers our analysis of the mortgages covered bond program issued under Belgian law by KBC Bank N.V. („KBC Bank“). The total covered bond issuance at the cut-off date (31.12.2019) had a nominal value of EUR 6.770,00 m, backed by a cover pool with a current value of EUR 10.946,98 m. This corresponds to a nominal overcollateralization of 60,57%. The cover assets include Belgium mortgages obligations in Belgium.

Taking into consideration the issuer rating, our analysis of the regulatory framework, liquidity- and refinancing risks, as well as our cover pool assessment and results of the cash flow analysis, Creditreform Rating AG (“Creditreform Rating” or “CRA”) affirms the covered bond program with an AAA rating. The AAA rating represents the highest level of credit quality and the lowest investment risk.

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## Key Rating Findings

- + Covered Bonds are subject to strict legal requirements
- + High Overcollateralization of 61,11% as of 31.12.2019
- + Covered bond holders have recourse to the issuer
- Despite improvement, relatively high NPL ratio of the issuer

Table1: Overview results

Risk Factor	Result
Issuer rating	A (rating as of 29.11.2019)
+ Legal and regulatory framework	+4 Notches
+ Liquidity and refinancing risk	+1 Notch
= Rating after 1 <sup>st</sup> uplift	AAA

Cover pool & cash flow analysis	AAA
+ 2 <sup>nd</sup> rating uplift	3 Notches
= Rating covered bond program	<b>AAA</b>

## Issuer Risk

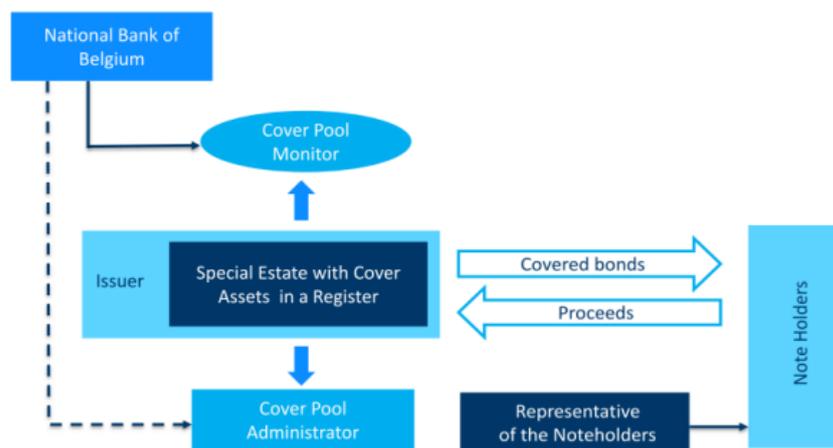
### Issuer

Our rating of KBC Bank covered bond program is reflected by our issuer rating opinion of KBC Group NV (Group) due to its group structure. CRA has affirmed the Long-term Issuer Rating of KBC Bank at 'A' in a Rating Update dated 29 November 2019. Responsible for this affirmation were primarily a result of its diversified business model and the stable performance in recent years despite having relatively high NPL ratio. For a more detailed overview of the issuer rating, please refer to the issuer rating report published on the webpage of Creditreform Rating AG.

## Structural Risk

### Transaction structure

Figure1: Overview of Covered Bond emission | Source: KBC Bank



### Legal and regulatory framework

Belgium introduced the legal framework on covered bonds and their issuance by credit institutions to foster the mobilisation of claims in the financial sector ('Mobilisation Law') on 8/3/2012, which was later incorporated in the Belgian 'Banking law' of 25/4/2014 on the status and supervision of credit institutions. Under this framework, any universal credit institution licensed by the National Bank of Belgium (NBB) is permitted to issue covered bonds, although these institutions need approval from the NBB as covered bonds.

The covered bondholders have direct recourse to the issuer and a preferential claim over the cover pool assets secured by its cover asset class. For mortgage covered bonds the cover assets

comprise of mortgage assets confined to EEA countries. Mixed asset cover pools are possible but restricted by regulatory limits with respect to the composition.

The Belgian legal framework stipulates that for any covered bond program an external statutory cover pool monitor has to be nominated by the issuer after being accepted by the NBB. Furthermore, in case of issuer default, a special cover pool administrator that is approved by the NBB to manage the cover pool, guarantees the ongoing management of the cover pool.

In general, we consider the structural framework for covered bonds in Belgium as positive, as the framework defines clear rules to mitigate risks in particular regarding insolvency remoteness, investor's special claim vis-à-vis other creditors, among other provisions. Furthermore, it foresees clear defined asset eligibility criteria with soft LTV limits. On the other hand, Belgian legal framework does stipulate a special cover pool monitor independent from the issuer. Due to above reasons we have set a rating uplift of four (+4) notches for the regulatory and structural framework for covered bond programs in Belgium.

## Liquidity- and Refinancing Risk

According to the legal framework, an overcollateralization (OC) test is required to ensure mandatory 5% minimum OC ratio on a nominal basis at any time, and the tests have to be executed and fulfilled on a daily basis. Furthermore, the Issuer is required a liquidity test to maintain a liquidity buffer to cover, for the next 180 days, all debt service outflows (interest and principal) and derivative transactions.

An amortization test has to be conducted to make sure that the cash flows from the cover assets suffice to wipe off any claims of covered bond holders and other involved counterparties. Furthermore, the underlying cover pool must be subjected to a daily static stress test to ensure the present value coverage, and that the OC is maintained in case of changes in interest rates and exchange rates. All required tests have to be executed and fulfilled on a daily basis, however, regular public reporting on market and liquidity risk is not requested.

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

The European Commission on April 2019 has also adopted the directive to provide for enhanced harmonisation of the EU covered bond market. Once fully implemented, the directive might have a potential impact on legal and regulatory framework on the issuer and the covered bonds of each EU member states.

In general, the Belgian Covered Bond legislation and the stipulated risk management processes for liquidity risks constitute a comparatively adequate framework by which they can be effectively reduced. However, Refinancing risks, cannot be structurally completely reduced under the soft bullet repayment structures, which can only be cushioned by sufficiently high OC or other liquid funds. Nevertheless, we assess the overall legal provisions on liquidity management for covered bonds programs issued in Belgium and set a rating uplift of only one (+1) notch.

For a more comprehensive overview of the regulatory framework for covered bond programs in Belgium, please refer to our initial rating reports of KBC Bank mortgage covered bonds published on February 2019.

## Credit and Portfolio Risk

### Cover pool analysis

The analysis of the cover pool is based on public information which has been made available by the Issuer, in particular the Harmonised Transparency Template („HTT“) as per regulatory requirements. This information was sufficient according to CRA´s rating methodology “Covered Bond Ratings”.

At the cut-off-date 31.12.2019, the pool of cover assets consisted of 141.753 debt receivables, of which 100,00% are domiciled in Belgium. The total cover pool volume amounted to EUR 10.946,98 m in residential (100,00%), commercial (0,00%) and others (0,00%) loans.

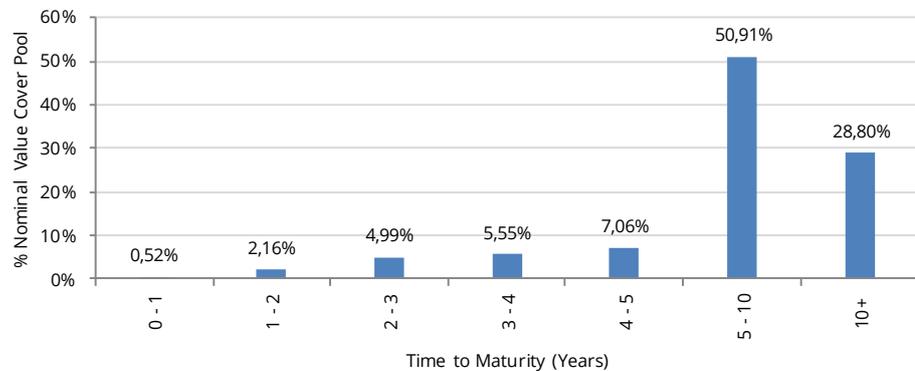
The residential cover pool consists of 141.753 mortgage loans having an unindexed weighted average LTV of 60,30% . The non-residential cover pool does not have any mortgage loans. The ten largest debtors of the portfolio total to 0,00%. Table 2 displays additional characteristics of the cover pool:

Table 2: Cover pool characteristics | Source: KBC Bank

Characteristics	Value
Cover assets	EUR 10.947 m.
Covered bonds outstanding	EUR 6.770 m.
Substitute assets	EUR 81,06 m.
Cover pool composition	
<i>Mortgages</i>	98,89%
<i>Substitute assets</i>	0,74%
<i>Other / Derivative</i>	0,00%
Number of debtors	NA
Mortgages Composition	
<i>Residential</i>	100,00%
<i>Commercial</i>	0,00%
<i>Other</i>	0,00%
Average asset value (Residential)	EUR 107.89 k.
Average asset value (Commercial)	NA
Non-performing loans	NA
10 biggest debtors	0,00%
WA seasoning	61 Months
WA maturity cover pool (WAL)	7,84 Years
WA maturity covered bonds (WAL)	4,67 Years

We have listed an extended view of the composition of the cover pool in the appendix section “Cover pool details”. The following chart displays the maturity profile of the cover assets at the cut-off date 31.12.2019 (see figure 2):

Figure 2: Distribution by remaining time to maturity | Source: KBC Bank



## Maturity profile

The following charts present the cash flow profile of the Issuer (see figure 3 and figure 4):

Figure 3: Cover asset congruence | Source: KBC Bank

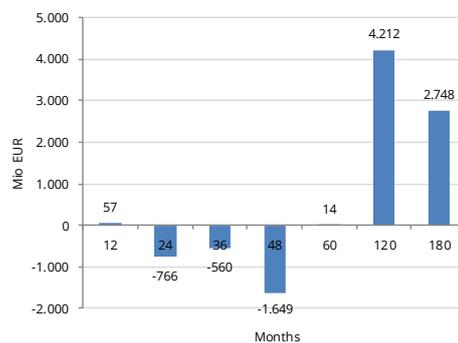
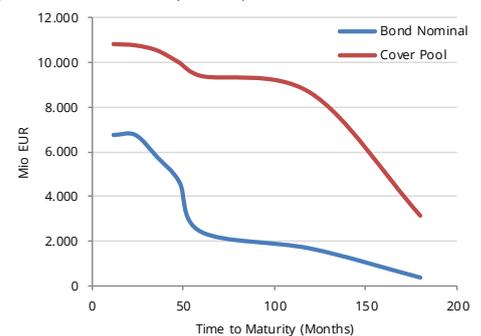


Figure 4: Amortization profile | Source: KBC Bank



During its cash flow modelling, CRA has taken into consideration the maturity structure of cover assets and liabilities. This structure was an integral part of the cash flow analysis.

## Interest rate and currency risk

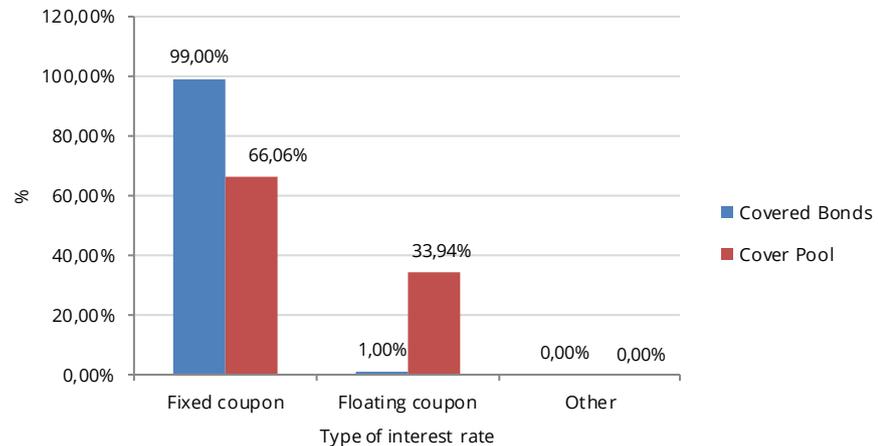
In order to reduce the exposure to the interest rate and currency risks, derivative contracts can be used to hedge these risks. Furthermore, the Belgian Covered Bond Law stipulates that any liquidity needs within the next six months have to be covered by liquid cover assets. Currency risk, on the other hand, is also limited for this program as 100,00% of the cover pool assets and 100,00% of the cover bonds are denominated mainly in euro. Nevertheless, we have applied interest rate stresses on the cash flows for each rating level according to our methodology.

Table 3: Program distribution by currency | Source: KBC Bank

Currency	Volume	Share (%)
<i>Cover Pool</i>		
EUR	10.947 m.	100,00%
<i>Covered Bond</i>		
EUR	6.770 m.	100,00%

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

Figure 5: Type of interest rate | Source: KBC Bank



## Credit Risk

The credit risk assessment for Mortgage Covered Bond have been determined in accordance with CRA rating methodology for Covered Bonds by means of historical data and particular parameters from the Covered Bonds.

Due to the high granularity of mortgage pools we have characterized these portfolios as big enough and with a homogeneous composition i.e. ("Large Homogeneous Portfolio", LHP). Furthermore, under that premise we have assumed that it is possible to derive a loss distribution. CRA has used the issuer's historical NPL ratios to derivate a conservative default rate proxy for the approximation through the LHP distribution. On the other hand, for the assessment in public sector assets, due to insufficient information, CRA has assumed that such assets are in default i.e. approx. 0,36% of the covered pools value. Summarizing, it has been assumed for KBC Bank a combined expected default rate of 2,11% for the LHP. Furthermore, CRA has considered a 15,00% correlation to define the LHP distribution. Table 4 disclosed the expected default rate for each relevant rating level.

In order to derive recovery and loss-severity base case assumption, CRA has used historical data from mortgage price indexes. To determine loan-level recovery assumptions the resulting stressed recoveries assumptions were compared with the portfolio's existing loan-to-value ratios (LTVs).

Based on the default rates and taking into account the recovery assumptions, the following loss assumptions were determined for the current cover pool (see Table 4)

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

Rating	Default Rate (%)	Recoveries (%)	Expected Loss (%)
<b>AAA</b>	<b>46,09%</b>	<b>73,35%</b>	<b>12,28%</b>
AA+	42,97%	74,79%	10,84%
AA	37,99%	77,00%	8,74%
AA-	33,71%	78,85%	7,13%

A+	31,98%	79,64%	6,51%
A	31,94%	79,67%	6,49%
A-	30,78%	80,20%	6,10%

## Cash-Flow Analysis

### Model Assumptions

Based on public information and using the base case loss assumptions, we implement a scenario-based cash flow model. This model aims to test the ability of the structure to service all covered bonds according to their payment profile in diverse stress scenarios. The CRA cash flow analysis assumes that the Issuer has defaulted, i.e. all obligations will be met using cash flows from the cover pool assets only. We also assume that no additional assets will be added to the cover pool during the wind-down phase.

This program issues covered bonds with soft bullet maturity structure, i.e. a 12 months maturity extension upon the final legal maturity. This characteristic of the covered bonds has been taken into account during our cash-flow analysis.

The cash-flow analysis considers, among other factors, asset value haircuts ("asset-sale discount"), and the possible positive yield spread between covered assets and covered bonds ("yield spreads"). To derive the asset-sale discount, CRA assumes, based on secondary market data, a rating level haircut on the asset value. Furthermore, CRA, using available public information (i.e. issuer's annual accounts), has derived estimations for yield spreads (see table 5):

Table 5: Cash-Flow Model assumptions | Source: CRA

Rating level	Asset-Sale Discount	Yield Spread
<b>AAA</b>	<b>66,67%</b>	<b>2,40%</b>
AA+	61,27%	2,42%
AA	57,79%	2,44%
AA-	54,47%	2,45%
A+	51,92%	2,46%
A	49,83%	2,47%
A-	47,10%	2,48%

### Rating Scenarios

In our cash flow model rating scenarios have been tested considering several central input parameters, such as:

- Portfolio composition (diversification, concentration, granularity)
- Probability of default of cover assets
- Correlations of cover assets and systematic risk factors
- Recoveries
- Maturity profile of covered bonds and cover assets (ALM)

Within an AAA rating scenario, the cash flow model showed that obligations can be paid fully and in a timely manner. Overall, the cash flow analysis revealed that the portfolio, given all used information as of 31.12.2019, may ensure the repayment of bonds' nominal capital notwithstanding the occurrence of the presented stressed scenarios.

## Overcollateralization Break-Even Analysis

CRA also performed a break-even OC analysis taking into considerations the following drivers: ALM, Loss level, Interest rate spreads, foreign currency mismatches and Recoveries. Performing the break-even OC analysis, we took rating-level specific stressed outcomes into account. Based on these analyses, the maximum OC required for each relevant rating level during the whole period has been presented in table 6.

Table 6: Breakeven Analysis | Source: CRA

Rating Level	Break-Even OC
AAA	<b>33,16%</b>
AA+	29,04%
AA	25,07%
AA-	21,82%
A+	20,03%
A	19,08%
A-	17,44%

## Sensitivity Analysis

CRA also evaluates the sensitivity of the structure and program with respect to important input parameters. In particular, the following factors have been varied:

- Credit quality of cover assets
- Recoveries

The following table presents the rating impact of a decline in recoveries and an increase in the credit risk of single debtors. Starting from the best-case, which is represented by our base case assumptions, the analysis reveals the sensitivity of the rating with respect to recovery rates and credit risk. The worst-case scenario, in which we reduce recoveries by 50% and increase credit risk by 50%, the impact can be seen by a reduction in the implied rating by 3 notches upto AA- (see Table 7):

Table 7: Covered Bond Program Sensitivity: Credit Quality und Recovery Rates | Source: CRA

Defaults \ Recovery	Base Case	-25%	-50%
Base Case	<b>AAA</b>	AAA	AAA
+25%	AAA	AAA	AA
+50%	AAA	AA+	AA-

In general, based on the presented cash flow analysis results, the rating of the cover pool within our covered bond program rating has been set at AAA. This ensures a possible uplift of three (+3) notches, however, the secondary rating uplift has been set at zero (0) notch as the maximum attainable rating for this program has already been achieved.

## Counterparty Risk

### Derivatives

No derivatives in use at present.

### Commingling

In the event of issuer's bankruptcy, in order to avoid commingling of funds, the Belgian covered bond law stipulates that the cover assets should be isolated from the general bankruptcy estate (insolvency-free assets) and a special cover pool administrator will be appointed to manage the cover pool. Under that mandate the cover pool administrator will have first priority on the upcoming cash flows from the cover pool assets, which in turn should be used to cover interest and principal payments of the covered bond holders in event of the Issuer's insolvency.

## Appendix

### Rating History

Event	Rating Date	Publication Date	Result
Initial Rating	20.02.2019	28.02.2019	AAA / Stable
Rating Update	21.02.2020	26.02.2020	AAA / Stable

### Details Cover Pool

Table 8: Characteristics of Cover Pool | Source: KBC Bank

Characteristics	Value
Cover Pool Volume	EUR 10.947 m.
Covered Bonds Outstanding	EUR 6.770 m.
Substitute Assets	EUR 81 m.
Share Derivatives	0,00%
Share Other	100,00%
Substitute Assets breakdown by asset type	
Cash	66,96%
Guaranteed by Supranational/Sovereign agency	33,04%
Central bank	0,00%
Credit institutions	0,00%
Other	0,00%
Substitute Assets breakdown by country	
Issuer country	66,96%
Eurozone	33,04%
Rest European Union	0,00%
European Economic Area	0,00%
Switzerland	0,00%
Australia	0,00%
Brazil	0,00%
Canada	0,00%
Japan	0,00%
Korea	0,00%
New Zealand	0,00%
Singapore	0,00%
US	0,00%
Other	0,00%
Cover Pool Composition	
Mortgages	98,89%
Total Substitute Assets	0,74%
Other / Derivatives	0,00%
Number of Debtors	NA
Distribution by property use	
Residential	100,00%

# Creditreform Covered Bond Rating

KBC Bank N.V.

Mortgage Covered Bond Program



Commercial	0,00%
Other	0,00%
Distribution by Residential type	
Occupied (main home)	78,24%
Second home	0,00%
Non-owner occupied	5,68%
Agricultural	0,00%
Multi family	0,00%
Other	16,08%
Distribution by Commercial type	
Retail	NA
Office	NA
Hotel	NA
Shopping center	NA
Industry	NA
Land	NA
Other	NA
Average asset value (Residential)	EUR 107.89 k.
Average asset value (Commercial)	NA
Share Non-Performing Loans	NA
Share of 10 biggest debtors	0,00%
WA Maturity (months)	177,0
WAL (months)	94,08
Distribution by Country (%)	
Belgium	100,00
Distribution by Region (%)	
Unknown	0,07
Brussels-Capital Region	5,45
Walloon Brabant	0,93
Flemish Brabant	17,64
Antwerp	28,43
Limburg	12,32
Liège	1,62
Namur	0,14
Hainaut	0,67
Luxembourg	0,14
West Flanders	14,67
East Flanders	17,93

Table 9: Participant counterparties | Source: KBC Bank

Role	Name	Legal Entity Identifier
Issuer	KBC Bank N.V.	6B2PBRV1FCJDMR45RZ53
Servicer	KBC Bank N.V.	Non available information at rating time
Account Bank	KBC Bank N.V.	Non available information at rating time
Sponsor	Non available information at rating time	Non available information at rating time

Figure 6: Arrears Distribution | Source: KBC Bank

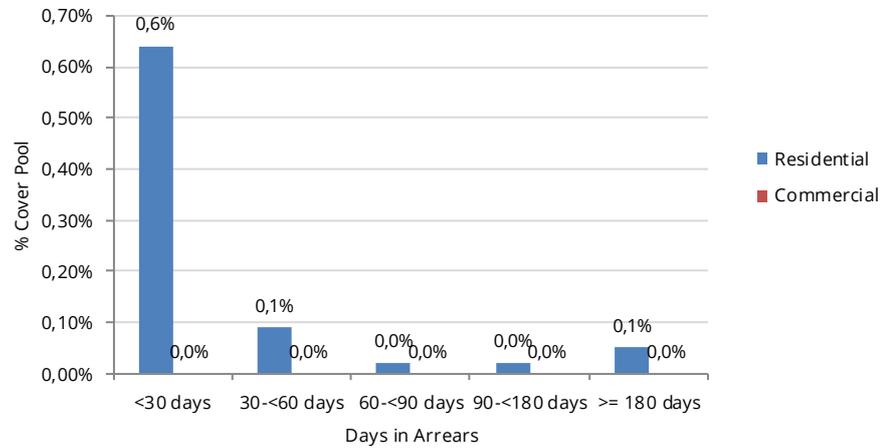


Figure 7: Program currency mismatches | Source: KBC Bank

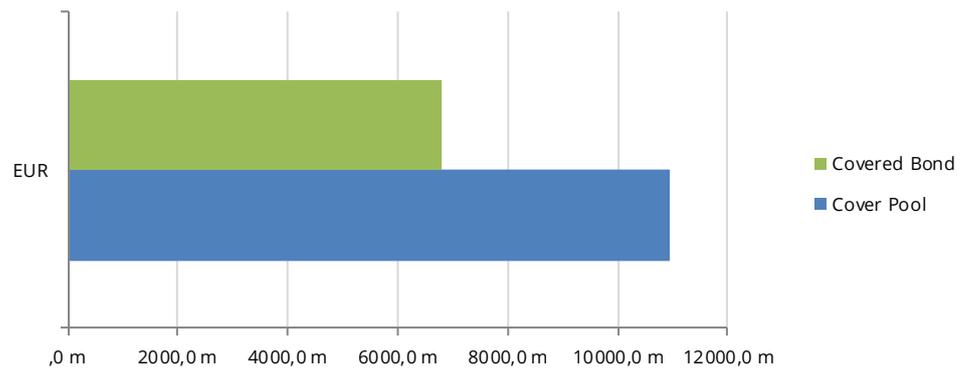
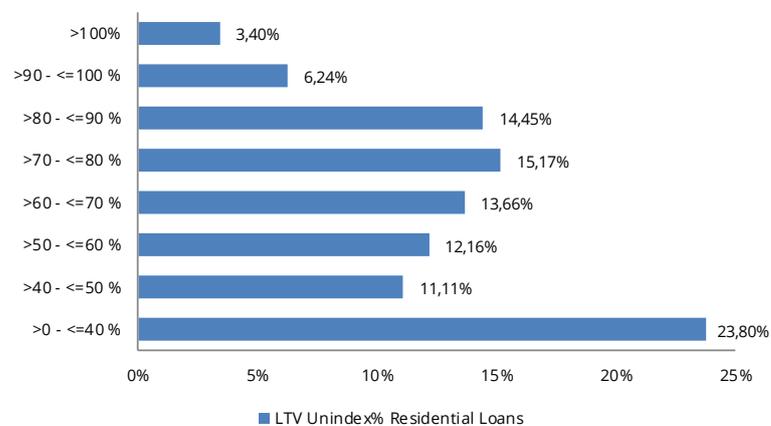


Figure 8: Unindexed LTV breakdown - residential pool | Source: KBC Bank



## Key Source of Information

### Documents (Date: 31.12.2019)

#### Issuer

- Audited consolidated annual reports of KBC N.V. (Group) 2015-2018
- Final Rating Update as of 29.11.2019
- Rating file 2019
- Miscellaneous Investor Relations Information and Press releases
- Peergroup-Data and other data from the CRA/ eValueRate database

#### Covered Bond and Cover Pool

- HTT Reporting from KBC Bank as of 31.12.2019
- Market data Mortgage Cover Bond Program

## Regulatory and Legal Disclosures

Creditreform Rating AG was neither commissioned by the rating object nor by any other third parties for the rating. The analysis took place on a voluntary basis by Creditreform Rating AG and is to be described in the regulatory sense as an unsolicited rating. The rating was conducted on the basis of Creditreform Rating's "Covered Bond Ratings" methodology and "Technical Documentation Portfolio Loss Distributions" in conjunction with Creditreform's basic document "Rating Criteria and Definitions".

The rating is based on publicly available information and internal evaluation methods for the rated bank and program. The issuer's quantitative analysis is based mainly on the latest annual accounts, interim reports, other information of the bank pertaining to investor relations, and key figures calculated by eValueRate/CRA subject to a peer group analysis of 38 competing institutes. The cover pool's quantitative analysis for the rated Covered Bond Program was based on the "Harmonised Transparency Template" (HTT) published by the KBC Bank.

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

[www.creditreform-rating.de/en/regulatory-requirements/](http://www.creditreform-rating.de/en/regulatory-requirements/)

This rating was carried out by analysts AFM Kamruzzaman and Qinghang Lin both based in Neuss/Germany. On 21.02.2020, the rating was presented to the rating committee by the analysts and adopted in a resolution.

The rating result was communicated to KBC Bank, and the preliminary rating report was made available. The Issuer and all relevant parties examined the rating report prior to publication and were given at least one full working day to appeal the rating committee decision and provide additional information. The rating decision was not amended following this examination.

The rating is subject to one-year monitoring from the creation date (see cover sheet). Within this period, the rating can be updated. After one year at the latest, a follow-up is required to maintain the validity of the rating.

In 2011 Creditreform Rating AG was registered within the European Union according to EU Regulation 1060/2009 (CRA-Regulation). Based on the registration Creditreform Rating AG (CRA) is

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

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

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The date at which the credit rating was released for distribution for the first time and when it was last updated including any rating outlooks, is indicated clearly and prominently in the "Basic data" card as a "Rating action"; first release is indicated as "initial rating", other updates are indicated as an "update", "upgrade or downgrade", "not rated", "confirmed", "selective default" or "default".

In the case of a rating outlook, the time horizon is provided during which a change in the credit rating is expected. This information is available within „Basic data“ information card.

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An explanatory statement of the meaning of Creditreform`s default rates are available in the credit rating methodologies disclosed on the website.

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