

Covered Bonds follow-up Rating

ING Bank N.V.

Mortgage Covered Bond (Hard & Soft Bullet) Program

Rating Object	Rating Information
ING Bank N.V., Mortgage Covered Bond (Hard & Soft Bullet) Program Type of Issuance : Mortgage Covered Bond under Dutch law Issuer : ING Bank N.V. LT Issuer Rating : A (ING Bank N.V.) ST Issuer Rating : L2 Outlook Issuer : Stable	Rating / Outlook : AAA / Stable Type: Rating Update (unsolicited) Rating Date : 13.02.2020 Rating Renewal until : Withdrawal of the rating Rating Methodology : CRA „Covered Bond Ratings“

Program Overview			
Nominal value	EUR 21.159 m.	WAL maturity covered bonds	5,37 Years
Cover pool value	EUR 25.271 m.	WAL maturity cover pool	15,41 Years
Cover pool asset class	Mortgages	Overcollateralization (nominal/committed)	19,44%/ 2,62%
Repayment method	Hard & Soft Bullet	Min. overcollateralization	5,00%
Legal framework	Dutch covered bonds legislation	Covered bonds coupon type	Fix (92,72%), Floating (7,28%)

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 (hard and soft bullet) program issued under Dutch law by ING Bank N.V. („ING Bank“). The total covered bond issuance at the cut-off date (31.12.2019) had a nominal value of EUR 21.158,70 m, backed by a cover pool with a current value of EUR 25.271,47 m. This corresponds to a nominal overcollateralization of 19,44%. The cover assets include Dutch mortgages obligations in the Netherlands.

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
- + Covered bond holders have recourse to the issuer
- + Covered bonds are backed by the appropriate cover asset class
- High maturity mismatches between covered bonds and covered assets

Table 1: Overview results

Risk Factor	Result
Issuer rating	A (rating as of 22.10.2019)
+ Legal and regulatory framework	+4 Notches
+ Liquidity and refinancing risk	+1 Notch
= Rating after 1 st uplift	AAA

Cover pool & cash flow analysis	BB+
+ 2 nd rating uplift	+/-0
= Rating covered bond program	AAA

Issuer Risk

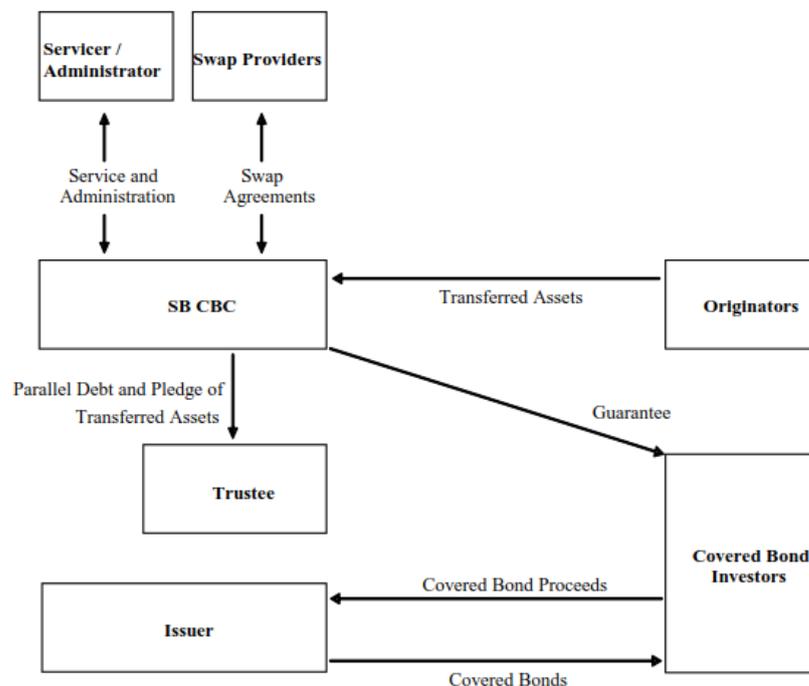
Issuer

Our rating of ING Bank covered bond program is reflected by our issuer rating opinion of ING Bank (Groep) due to its group structure. CRA has affirmed the Long-term Issuer Rating of ING Bank at 'A' in a Rating Update dated 22.10.2019. Responsible for this affirmation were stable and sound earnings figures, good asset quality along with a relatively low NPL ratio, and adequate capital figures. For a more detailed overview of the issuer rating, please refer to the webpage of Creditreform Rating AG.

Structural Risk

Transaction structure

Figure1: Overview of Covered Bond emission | Source: CRA



Legal and Regulatory Framework

In the Netherlands, the covered bond legislation was passed on 7/1/2008, which was last amended in 2014 and implemented into national law. Under this legislation, any universal bank based in the Netherlands with a special license can issue Dutch covered bonds.

The issuer has to guarantee that the cover assets will be transferred and sold to a separate, non-affiliated, independent legal entity - the Covered Bond Company (CBC). In case of issuer default, the CBC ensures the payment of both interest and principal to the covered bond holders (covered bond guarantee).

Covered bond holders have both an ordinary, unsecured claim against the issuer, which is guaranteed by the CBC, and a claim against the CBC secured by the right of pledge on the cover assets. Eligible cover assets are residential mortgage loans, commercial mortgage loans, ship loans or claims owed or guaranteed by the public sector, central banks, multilateral development banks or international organisations confined to EEA countries and to jurisdictions, where the regulatory arrangements and provisions are leastwise comparable to those in the EU.

The issuer has to ascertain that all requirements are achieved and has to report it to the Dutch Central Bank on a quarterly basis. Furthermore, the issuer has to guarantee and report once a year that it disposes consistent and efficient measures and strategies, so that unencumbered cover assets suffice under various stress scenarios. Furthermore, in case of issuer default, the Security Trustee and the CBC guarantee the ongoing management of the cover pool.

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

Liquidity and Refinancing Risk

The Dutch legal framework stipulates that the minimum mandatory overcollateralization (OC) ratio has to be always 5% of the registered covered bonds outstanding on a nominal value basis. In addition, the statutory liquidity coverage requirement for 180 days is a safeguard mechanism to ensure the servicing of pending principal and interest payments.

Asset coverage tests have to be conducted on a monthly basis to control whether the amount of cover assets exceeds the amount of outstanding covered bonds by the adequate magnitude. Furthermore, Dutch issuing credit institutions guarantee to mitigate liquidity risks by means of contractual requirements. While the Dutch law does not explicitly demand for risk mitigating instruments regarding market risks, it is obligatory to do stress tests to maintain the healthy ratio¹ and to anticipate credit risk, interest rate risk, currency risk and liquidity risk, while derivative instruments have to be included to hedge these risks.

In general, the Dutch covered bonds legislation and the stipulated risk management processes for liquidity risks, constitute a comparatively strict framework by which they can be effectively

¹ This refers to the ratio between the nominal size of the outstanding covered bond program and the consolidated balance sheet of the issuing credit institution. The healthy ratio is constituted individually between the Dutch Central Bank and the corresponding issuer. In case of violation of the healthy ratio, no new covered bond can be issued under the current covered bond program

reduced. Refinancing risks, however, cannot be structurally reduced under the hard bullet repayment structure, which can only be cushioned by sufficiently high OC or other liquid funds. Nevertheless, we assess the overall legal provisions on liquidity management for the Dutch covered bond programs and set a rating uplift of one (+1) notch.

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.

For a more comprehensive overview of the regulatory framework for Dutch covered bond program, please refer to our initial rating reports.

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 153.346 debt receivables, of which 100% are domiciled in the Netherlands. The total cover pool volume amounted to EUR 25.271,47 m in residential (100,00%), commercial (0,00%) and others (0,00%) loans.

The residential cover pool consists of 153.346 mortgage loans having an unindexed weighted average LTV of 62,06%. The non-residential cover pool consists no mortgage loans. The ten largest debtors of the portfolio total to 0,06%. Table 2 displays additional characteristics of the cover pool:

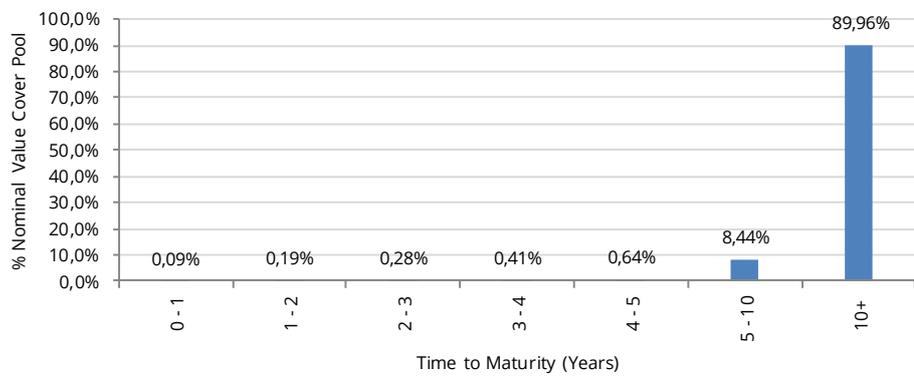
Table 2: Cover pool characteristics | Source: ING Bank

Characteristics	Value
Cover assets	EUR 25.271 m.
Covered bonds outstanding	EUR 21.159 m.
Substitute assets	EUR 0,00 m.
Cover pool composition	
<i>Mortgages</i>	0,00%
<i>Substitute assets</i>	0,00%
<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 86,17 k.
Average asset value (Commercial)	EUR 0,00 k.
Non-performing loans	0,003%

10 biggest debtors	0,06%
WA seasoning	157,68 Months
WA maturity cover pool (WAL)	15,41 Years
WA maturity covered bonds (WAL)	5,37 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: ING 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: ING Bank

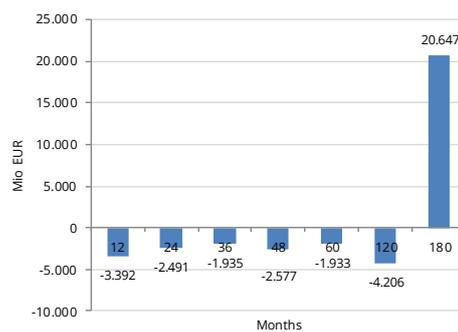
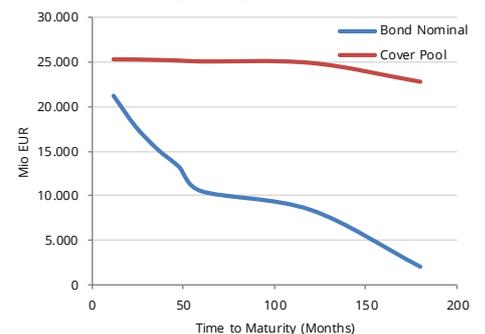


Figure 4: Amortization profile | Source: ING Bank



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

The Dutch legal framework allows issuing banks to use derivative instruments in the cover pool to hedge interest rate- and currency risk. Furthermore, the Dutch legal framework provides for weekly stress tests to be conducted on interest rate- and currency risks. Currency risk, regardless that is limited for this program as the cover pool assets and cover bonds are denominated

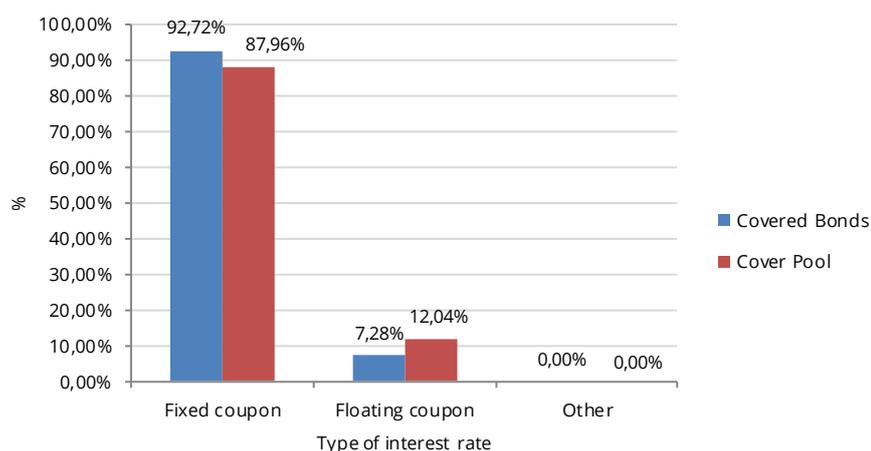
in euros. In our cash flow analysis we assume that the interest rate mismatches are fully hedged in the form of swap agreements; therefore, CRA did not apply any interest rate stress during the cash flow analysis.

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

Currency	Volume	Share (%)
<i>Cover Pool</i>		
EUR	25.271 m.	100,00%
<i>Covered Bond</i>		
EUR	21.159 m.	100,00%

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

Figure 5: Type of interest rate | Source: ING 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. For the ING Bank it has been assumed an expected default rate of 0,29% 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 (%)
BBB+	9,43%	78,75%	2,00%
BBB	8,72%	80,02%	1,74%
BBB-	7,97%	81,50%	1,48%
BB+	6,89%	83,90%	1,11%
BB	5,91%	86,06%	0,82%
BB-	4,87%	88,76%	0,55%
B+	4,11%	90,65%	0,38%

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- and hard bullet maturity structure. Due to insufficient information on the extended maturities, CRA did not consider any maturity extensions of the soft bullet covered bonds during its 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
BBB+	44,20%	1,19%
BBB	41,38%	1,21%
BBB-	38,42%	1,24%
BB+	35,23%	1,27%
BB	31,70%	1,30%
BB-	28,06%	1,33%
B+	24,55%	1,37%

Rating Scenarios

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

- Portfolio composition (diversification, concentration, granularity)

- Probability of default of cover assets
- Correlations of cover assets and systematic risk factors
- Recoveries
- Maturity profile of covered bonds and cover assets (ALM)

Within a BB+ 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
BB+	18,84%
BB	16,19%
BB-	13,47%
B+	10,94%
B	8,34%
B-	3,33%

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 change in the implied rating. Based on the base case, there is a sensitivity of rating in terms of decreased recovery rates and increased defaults. In the worst-case scenario, i.e. a 50% decrease in the base case assumptions leads to a reduction in the base case rating by 2 notches (see Table 7):

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

Recovery Defaults	Base Case	-25%	-50%
Base Case	BB+	BB	BB
+25%	BB+	BB	BB-
+50%	BB+	BB	BB-

In general, based on the presented cash flow analysis results, the rating of the cover pool within our covered bond program rating has been set at BB+. This, however, did not ensure any secondary rating uplift which has been set at zero (0) notch.

Counterparty Risk

Derivatives

This covered bond program uses intra group derivatives in the form of currency swaps, interest rate swaps and total return swaps.

Commingling

Incoming cash flows generated from the cover pool will normally be transferred to the Issuer and will be forwarded to the covered bond holders according to the payment terms and conditions. Should the issuer become bankrupt, there is a risk (“commingling risk”) that funds may not be returned and commingled with the insolvency estate of the issuer. In order to avoid such risk, the Dutch covered bonds legislation stipulates that the cover assets should be isolated from the general bankruptcy estate (insolvency-free assets) and the ongoing management of the cover pool will be guaranteed by the Security Trustee and the CBC. Under that mandate, the CBC will have the first priority on the up-coming cash flows from the cover pool assets. These cash flows in turn should be used to cover interest and principal payments of the covered bond holders in the event of the Issuer’s insolvency.

Appendix

Rating History

Event	Rating Date	Publication Date	Result
Initial Rating	18.02.2019	25.02.2019	AAA / Stable
Rating Update	13.02.2020	18.02.2020	AAA / Stable

Details Cover Pool

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

Characteristics	Value
Cover Pool Volume	EUR 25.271 m.
Covered Bonds Outstanding	EUR 21.159 m.
Substitute Assets	EUR 0 m.
Share Derivatives	0,00%
Share Other	0,00%
Substitute Assets breakdown by asset type	
Cash	0,00%
Guaranteed by Supranational/Sovereign agency	0,00%
Central bank	0,00%
Credit institutions	0,00%
Other	0,00%
Substitute Assets breakdown by country	
Issuer country	0,00%
Eurozone	0,00%
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	0,00%
Total Substitute Assets	0,00%
Other / Derivatives	0,00%
Number of Debtors	NA
Distribution by property use	
Residential	100,00%

Commercial	0,00%
Other	0,00%
Distribution by Residential type	
Occupied (main home)	100,00%
Second home	0,00%
Non-owner occupied	0,00%
Agricultural	0,00%
Multi family	0,00%
Other	0,00%
Distribution by Commercial type	
Retail	0,00%
Office	0,00%
Hotel	0,00%
Shopping center	0,00%
Industry	0,00%
Land	0,00%
Other	100,00%
Average asset value (Residential)	EUR 86 k.
Average asset value (Commercial)	EUR 0 k.
Share Non-Performing Loans	0,00%
Share of 10 biggest debtors	0,06%
WA Maturity (months)	198,6
WAL (months)	184,96
Distribution by Country (%)	
Netherlands	100,00
Distribution by Region (%)	
Groningen	2,54
Friesland	2,74
Drenthe	2,72
Overijssel	6,09
Gelderland	12,27
Noord-Holland	20,50
Zuid-Holland	22,66
Zeeland	1,44
Brabant	12,58
Utrecht	9,50
Limburg	3,37
Flevoland	3,60

Table 9: Participant counterparties | Source: ING Bank

Role	Name	Legal Entity Identifier
Issuer	ING Bank N.V.	3TK20IVIUIJ8J3ZU0QE75
Servicer	ING Bank N.V.	3TK20IVIUIJ8J3ZU0QE75
Account Bank	ING Bank N.V.	3TK20IVIUIJ8J3ZU0QE75
Sponsor	Non available information at rating time	Non available information at rating time

Table 10: Interest rate and Swap counterparties | Source: ING Bank

Name	Legal Entity Identifier	Agreement Type
ING Bank N.V.	3TK20IVIUIJ8J3ZU0QE75	FX
ING Bank N.V.	3TK20IVIUIJ8J3ZU0QE75	IRS
ING Bank N.V.	3TK20IVIUIJ8J3ZU0QE75	TRS

Figure 6: Arrears Distribution | Source: ING Bank

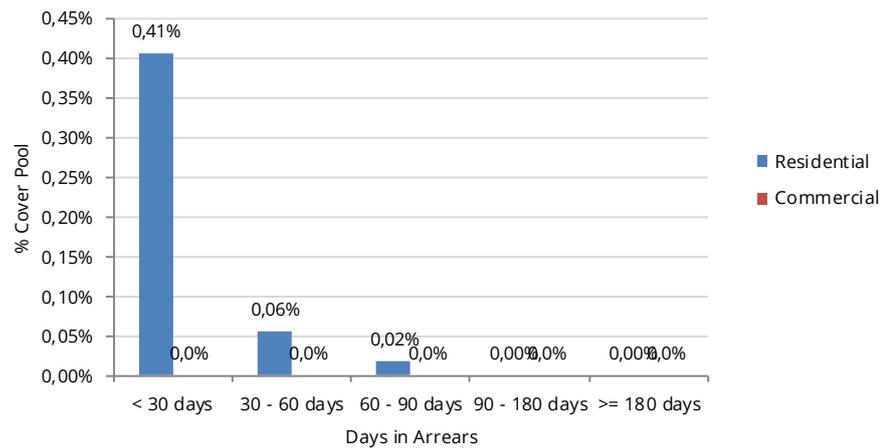


Figure 7: Program currency mismatches | Source: ING Bank

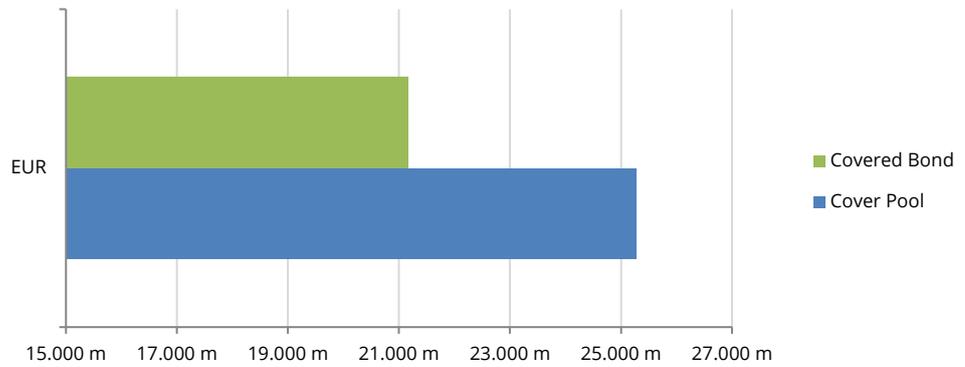
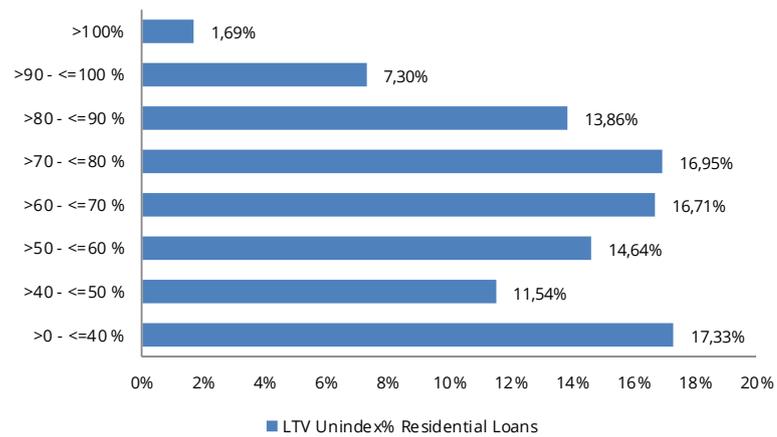


Figure 8: Unindexed LTV breakdown - residential pool | Source: ING Bank



Key Source of Information

Documents (Date: 31.12.2019)

Issuer

- Audited consolidated annual reports of ING Groep N.V. (Group) 2015-2018
- Rating file 2019
- Final Rating Update as of 22.10.2019 based on the report from 23.02.2018 and rating update from 03.08.2018
- 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 ING Bank as of 31.12.2019
- Market data Mortgage Covered 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 24 competing institutes. The cover pool's quantitative analysis for the rated Covered Bond Program was based on the "Harmonised Transparency Template" (HTT) published by the ING 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/

This rating was carried out by analysts AFM Kamruzzaman and Qinghang Lin both based in Neuss/Germany. On 13.02.2020, the rating was presented to the rating committee by the analysts and adopted in a resolution.

The rating result was communicated to ING 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

permitted to issue credit ratings within the EU and is bound to comply with the provisions of the CRA-Regulation.

Conflict of Interests

No conflicts of interest were identified during the rating process that might influence the analyses and judgements of the rating analysts involved or any other natural person whose services are placed at the disposal or under the control of Creditreform Rating AG and who are directly involved in credit rating activities or approving credit ratings and rating outlooks.

In the event of provision of ancillary services to the rated entity, CRA will disclose all ancillary services in the credit rating report.

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The approval of credit ratings and rating outlooks follows our internal policies and procedures. In line with our policy "Rating Committee," all credit ratings and rating outlooks are approved by a rating committee based on the principle of unanimity.

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

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

There are no other attributes and limitations of the credit rating or rating outlook other than displayed on the CRA website. Furthermore, CRA considers satisfactory the quality and extent of information available on the rated entity. In regard to the rated entity, Creditreform Rating AG regarded available historical data as sufficient.

Between the disclosure of the credit rating to the rated entity and the public disclosure no amendments were made to the credit rating.

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In cases where the credit rating is based on more than one methodology, or where reference only to the principal methodology might cause investors to overlook other important aspects of the credit rating, including any significant adjustments and deviations, Creditreform Rating AG explains this fact in the credit rating and indicates how the different methodologies and other aspects are taken into account in the credit rating. This information is integrated in the credit rating report.

The meaning of each rating category, the definition of default or recovery, and any appropriate risk warning, including a sensitivity analysis of the relevant key rating assumptions, such as mathematical or correlation assumptions, accompanied by worst-case scenario credit ratings as well as best-case scenario credit ratings, are explained.

The date at which the credit rating was released for distribution for the first time and when it was last updated including any rating outlooks, is indicated clearly and prominently in the "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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