Covered Bonds follow-up Rating

Luminor Bank A.S.

Mortgage Covered Bond Program

Creditreform Rating

Rating Object	Rating Information	
Luminor Bank A.S., Mortgage Covered Bond Program	Rating / Outlook : **AA+ / Stable**	Type: Rating Update (unsolicited)
Type of Issuance : Mortgage Covered Bond under Estonian law Issuer : Luminor Bank A.S. LT Issuer Rating : A- (Luminor Bank A.S.) ST Issuer Rating : L2 Outlook Issuer : Stable	Rating Date : 17.02.2023 Rating Renewal until : Withdrawal of the rating Maximum validity: 01.01.2050 Rating Methodology : CRA „Covered Bond Ratings"	

Program Overview			
Nominal value	EUR 1,750 m.	WAL maturity covered bonds	3.68 Years
Cover pool value	EUR 2,750 m.	WAL maturity cover pool	11.94 Years
Cover pool asset class	Mortgages	Overcollateralization (nominal/committed)	57.15%/ 5.00%
Repayment method	Soft Bullet	Min. overcollateralization	5.00%
Legal framework	Covered Bond Acts	Covered bonds coupon type	Fix (57.14%), Floating (42.86%)

Cut-off date Cover Pool information: 31.12.2022

Content

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Rating Action

This follow-up report covers our analysis of the mortgages covered bond program issued under Estonian law by Luminor Bank A.S. („Luminor Bank"). The total covered bond issuance at the cut-off date (31.12.2022) had a nominal value of EUR 1,750.00 m, backed by a cover pool with a current value of EUR 2,750.12 m. This corresponds to a nominal overcollateralization of 57.15%. The cover assets include mortgage obligations in Estonia, Latvia and Lithuania.

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") downgrades the covered bond program rating to AA+ from AAA. The downgrade is mainly due to the deteriorated OC compared to last year. The AA+ rating represents a very high level of credit quality and very low investment risk.

Key Rating Findings

+ Covered Bonds are subject to strict Estonian legal framework for covered bonds
+ Covered bonds are backed by the appropriate cover asset class
+ Covered bond holders have recourse to the issuer
- This covered bond program suffered from lower recovery assumptions of mortgage loans derived from historical data of mortgage price indexes in the Baltic regions
- Significant maturity mismatches between covered bonds and cover assets

Table1: Overview results

Risk Factor	Result
Issuer rating	A- (rating as of 20.04.2022)
+ Legal and regulatory framework	+4 Notches

+ Liquidity and refinancing risk	+1 Notch
= Rating after 1st uplift	AA+
Cover pool & cash flow analysis	AA-
+ 2nd rating uplift	+/-0 Notch
= Rating covered bond program	AA+

Issuer Risk

Issuer

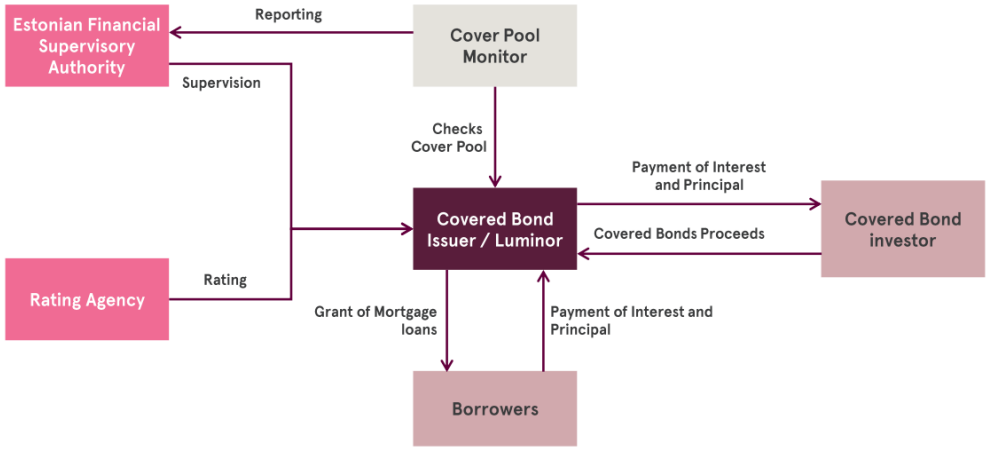
Our rating of Luminor Bank covered bond program is reflected by our issuer rating opinion of Luminor Bank AS due to its group structure. On 20.04.2022, Creditreform Rating assigned an initial Long-Term Issuer Rating of 'A-' with a 'stable' Outlook for Luminor Bank AS.

Although Luminor Bank AS is a young bank itself with its foundation in 2017, it was consolidated from six predecessor banks. This is also a reason for its favorable market position, which did not have to be built from the bottom up. Under the aegis of the new majority owner, a further transformation process has been initiated, which is intended to develop Luminor into the leading independent bank in the Baltic region. The transformation costs continue to weigh on the bank's results, which from an external perspective does not appear to be very profitable. Capitalization, on the other hand, appears to be very good, and asset quality is good and steadily improving. It remains to be seen when and to what extent the transformation costs will decrease and a true picture of profitability and cost effectiveness will emerge. 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: Luminor



Legal and Regulatory Framework

On 1 March 2019, the Estonian Covered Bond Act (ECBA) entered into force after passed in the parliament on 13 February of the same year. The legislation was the first to regulate the covered bond market in the country, providing the directives of mortgage and mixed assets covered bonds. Subsequently, various amendments were adopted on 10 December 2021 in order to implement the EU Covered Bond Directive 2019/2162 of 27 November 2019, and to align the Estonian law with the covered bond legislations of three Baltic States.

A comprehensive overview of the covered bond legislation can be found in our initial rating reports of Luminor Bank Mortgage Covered Bonds. The following major provisions describe the current status of the covered bonds legislation in Estonia.

Under ECBA, any universal credit institutions in Estonia is permitted to issue covered bonds. A company shall hold the Credit Institution authorisation and requires an additional permission to issue covered bonds. The issuer holds the cover pool assets and it will not be held by SPV, which means that the issuer has to keep the separate cover registers for different types of 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. Cover assets mainly consists of primary cover assets and substitute assets. Primary cover assets must constitute 85% of the main collateral of the relevant covered bond portfolio, the residual can consist of substitute assets. Additionally, the law establishes different primary cover assets for mortgage covered bonds and mixed covered bonds.

For mortgage covered bond portfolios, either residential or commercial, the respective cover assets comprise of residential or commercial mortgage loans confined to EEA countries. An LTV limit of 70% and 60% are in place for the residential and commercial mortgage loans, respectively.

A cover pool monitor is appointed in the issuer's general meeting in order to ensure that the record of the cover assets are correctly documented in the cover register and that their inclusion meet the eligibility criteria, amongst other issuer's obligations. The issuers are required to publish the information about the covered bond portfolios quarterly according to the minimum disclosure criteria set out by the ECBA.

Furthermore, if an issuer is declared bankrupt or a dissolution process is set, upon the proposal of the EFSA, a court shall appoint a special cover pool administrator for the covered bond portfolio. The bankruptcy administrator may perform all legal transactions with effect to the cover pool, insofar as these are necessary for an orderly settlement in the interest and to the full satisfaction of the covered bond creditors.

In general, the Estonian covered bond framework 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 cover pool monitor and bankruptcy administrator, among other provisions. We consider the structural framework in Estonia as positive, accomplishing an adequate set of rules for Estonian covered bonds. Due to those reasons we have set a rating uplift of four (+4) notches.

Liquidity and Refinancing risk

Minimum Overcollateralization

According to the ECBA, the issuer must perform a stress test on the covered bond portfolio every quarter to check the level of collateralization. The issuers are required to maintain a mandatory nominal overcollateralization of 5% for the Mortgage and mixed assets.

Furthermore, the Issuer is required to maintain a liquidity buffer to cover, for the next 180 days, all debt service outflows (interest and principal) and derivative transactions. Considering soft-bullet or covered bonds with extendable maturity, the calculation of the maximum cumulative net liquidity outflow of the program takes into account the final (extended) maturity date for the capital outflow, as specified in the applicable contractual terms and conditions.

The issuer must ensure that the coverage and OC is also maintained in the case of stress periods. For this purpose, the underlying cover pool must be subjected to a stress test at least once a quarter to anticipate credit risk, interest rate risk, currency risk, and liquidity risk. Furthermore, issuing banks are allowed to use derivative instruments in the cover pool to hedge market risks like interest rate and currency risks and to facilitate risk management.

This covered bond program issues covered bonds with soft bullet maturity, i.e. a final repayment with an extension option at the end of the term. Maturity mismatches between cover assets and liabilities thus can be partially mitigated by extension of the legal final maturity. This feature of Estonian covered bond programs is considered quantitatively into our cash flow analysis.

In the event of the issuer's insolvency, the special administrator has wide-ranging powers to mitigate the refinancing risks which includes transferring the covered bond programs to another credit institutes in Estonia upon approval from EFSA or performing other necessary actions like use them as a guarantee for liquidity operations if liquidity shortfalls are foreseeable.

The Estonian legal framework and the required risk management processes for liquidity risks constitute a comparatively strict framework by which the risks can be effectively reduced. However, refinancing risks may not be completely structurally reduced under the soft bullet repayment structures, which can only be cushioned by sufficiently high OC or other liquid funds to bridge the asset liability mismatches in the portfolio. Nevertheless, we assess the overall legal provisions on liquidity management for Estonian Covered Bond programs as positive and set a rating uplift of one (+1) notch.

ESG Criteria

CRA generally takes ESG-relevant factors (environmental, social and governance) into account when assessing Covered Bond ratings. Overall, ESG factors have a significant impact on the current rating of this Covered Bond program. CRA identifies governance factors, in particular, to have a highly significant impact on Covered Bond ratings. Since Covered Bonds are subject to strict legal requirements, regulatory risk plays an important role in assessing the credit rating.

The Estonian covered bond legislation 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. Additionally, Risk management and internal controls as well as the macroeconomic factors such as hedging strategies, interest rates and yield curve are considered to have a highly significant impact on the

assessment of the credit rating. Other individual factors with a potential key rating influence were not identified, and therefore did not affect the final rating.

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 31.12.2022, the pool of cover assets consisted of 54,676 debt receivables from 51,201 debtors, of which 48.77% are domiciled in Lithuania. The total cover pool volume amounted to EUR 2,750.12 m in residential (100.00%), commercial (0.00%) and others (0.00%) loans.

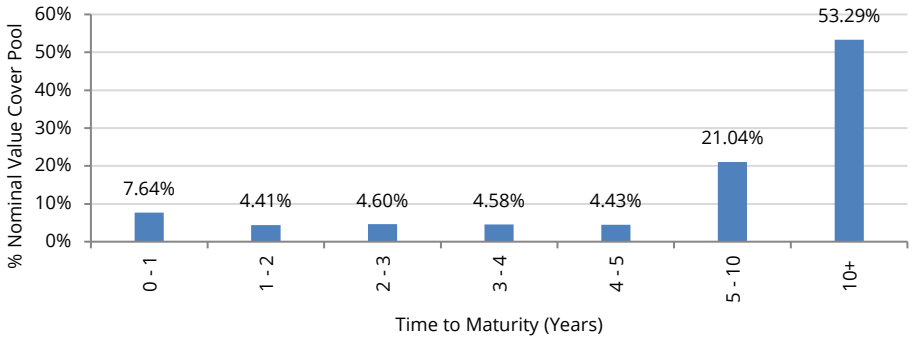
The residential cover pool consists of 54,676 mortgage loans having an unindexed weighted average LTV of 62.74%. The non-residential cover pool does not have any mortgage loans. The ten largest debtors of the portfolio total to 0.16%. Table 2 displays additional characteristics of the cover pool:

Table 2: Cover pool characteristics | Source: Luminor Bank

Characteristics	Value
Cover assets	EUR 2,750 m.
Covered bonds outstanding	EUR 1,750 m.
Substitute assets	EUR 85.00 m.
Cover pool composition	
Mortgages	96.91%
Substitute assets	3.09%
Other / Derivative	0.00%
Number of debtors	51,201
Mortgages Composition	
Residential	100.00%
Commercial	0.00%
Other	0.00%
Average asset value (Residential)	EUR 48.74 k.
Average asset value (Commercial)	EUR 0.00 k.
Non-performing loans	0.0%
10 biggest debtors	0.16%
WA seasoning	71.486 Months
WA maturity cover pool (WAL)	11.94 Years
WA maturity covered bonds (WAL)	3.68 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 31.12.2022 (see figure 2):

Figure 2: Distribution by remaining time to maturity I Source: Luminor 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: Luminor Bank

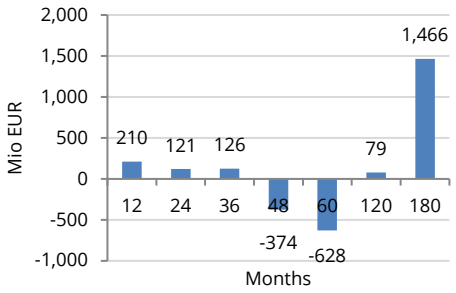
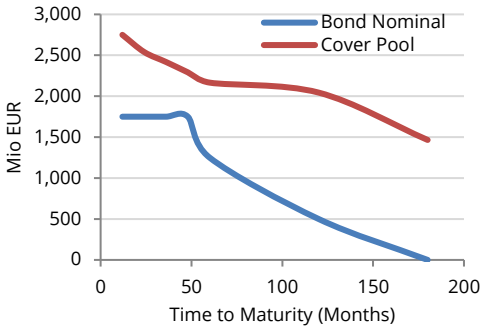


Figure 4: Amortization profile | Source: Luminor Bank



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

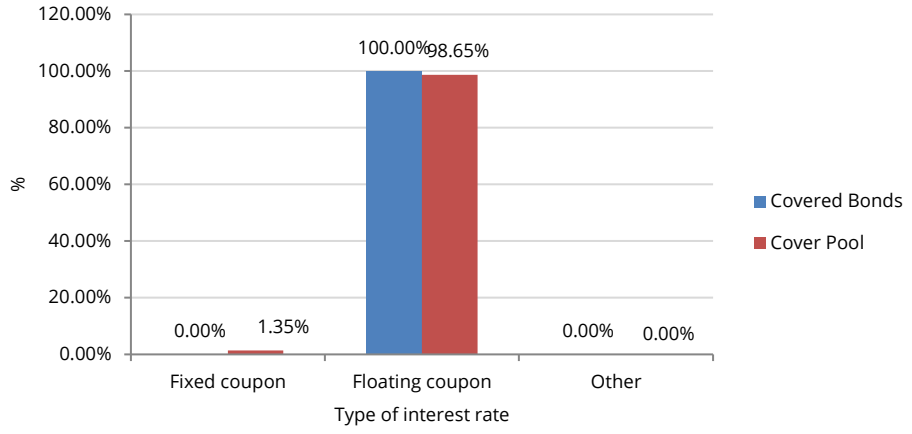
This covered bond program uses derivatives to hedge interest rate- and currency risk. The legal framework provides for quarterly stress tests to be conducted on interest rate- and currency risks to maintain the mandatory OC. Therefore, interest rate risk could be mitigated by the 5% OC requirement. Currency 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 in euros. In our Cash flow analysis we assume that the interest rate mismatches and open currency positions of this program are fully hedged in the form of swap agreements; therefore, CRA did not apply any interest rate and foreign exchange stresses for the cash flows.

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

Currency	Volume	Share (%)
Cover Pool		
EUR	2,750 m.	100.00%
Covered Bond		
EUR	1,750 m.	100.00%

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

Figure 5: Type of interest rate | Source: Luminor 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 Luminor Bank it has been assumed an expected default rate of 2.07% 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 (%)
AAA	44.38%	27.57%	32.14%
AA+	40.93%	30.54%	28.43%
AA	36.22%	35.07%	23.52%
AA-	**31.87%**	**39.97%**	**19.14%**
A+	30.18%	42.14%	17.46%
A	30.09%	42.24%	17.38%
A-	28.83%	44.02%	16.14%

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.

In our model, short-term liquidity needs and liquidity needs due to asset-liability mismatches will be met with a sale of cover assets or by necessary arrangements of funds against cover assets available for monetization. CRA assumes that this funds will be arranged with discounts to the nominal value in a distressed refinancing scenarios. Based on secondary market data, CRA assumes a rating-level haircut on the asset value („Asset-Sale Discount") which represents additional costs of disposal and market risks during the sale of cover assets. To derive the asset-sale discount, CRA assumes, based on secondary market data, a rating level haircut on the asset value (see table 5):

The cash-flow analysis also considers, among other factors, the possible positive yield spread between covered assets and covered bonds ("yield spreads"). 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
AAA	72.93%	0.77%
AA+	67.35%	0.83%
AA	63.75%	0.88%
AA-	**60.33%**	**0.92%**
A+	57.70%	0.95%
A	55.54%	0.98%
A-	52.72%	1.01%

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 AA- 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 31.12.2022, 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
AA-	**48.72%**
A+	44.83%
A	43.61%
A-	40.37%
BBB+	37.30%
BBB	33.34%
BBB-	29.85%

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 of the base case rating by 6 notches to BBB- (see Table 7):

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

Recovery / Defaults	Base Case	-25%	-50%
Base Case	**AA-**	AA-	A+
+25%	AA-	A	BBB+
+50%	A-	BBB+	BBB-

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 AA-. Consequently, the secondary rating uplift was set at zero (0) notch.

Counterparty Risk

Derivatives

Based on the available information, the issuer has entered into derivative agreements with Nordea Bank Abp in the form of Interest rate 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 Estonian 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 a special cover pool administrator appointed by EFSA. Under that mandate, the cover pool administrator 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	27.04.2022	03.05.2022	AAA/ Stable
Rating Update	17.02.2023	24.02.2023	AA+/ Stable

Details Cover Pool

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

Characteristics	Value
Cover Pool Volume	EUR 2,750.12 m
Covered Bonds Outstanding	EUR 1,750.00 m
Substitute Assets	EUR 85.00 m
Share Derivatives	0.00%
Share Other	100.00%
Substitute Assets breakdown by asset type	
Cash	0.00%
Guaranteed by Supranational/Sovereign agency	0.00%
Central bank	100.00%
Credit institutions	0.00%
Other	0.00%
Substitute Assets breakdown by country	
Issuer country	100.00%
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	96.91%
Total Substitute Assets	3.09%
Other / Derivatives	0.00%
Number of Debtors	51,201
Distribution by property use	
Residential	100.00%

Commercial	0.00%
Other	0.00%
Distribution by Residential type	
Occupied (main home)	93.00%
Second home	5.00%
Non-owner occupied	2.00%
Agricultural	0.00%
Multi family	0.00%
Other	0.00%
Distribution by Commercial type	
Retail	NR
Office	NR
Hotel	NR
Shopping center	NR
Industry	NR
Land	NR
Other	NR
Average asset value (Residential)	EUR 48.74 k.
Average asset value (Commercial)	NR
Share Non-Performing Loans	0.00%
Share of 10 biggest debtors	0.16%
WA Maturity (months)	244.42
WAL (months)	143.22
Distribution by Country (%)	
Lithuania	48.77
Latvia	29.52
Estonia	21.71
Distribution by Region (%)	
Tallinn	9.13
Other Estonia	12.58
Riga	14.27
Other Latvia	15.24
Vilnius	20.33
Other Lithuania	28.44

Table 9: Participant counterparties | Source: Luminor Bank

Role	Name	Legal Entity Identifier
Issuer	Luminor Bank	213800JD2L89GGG7LF07
Cover Pool Monitor	KPMG	NR

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

Name	Legal Entity Identifier	Agreement Type
Nordea Bank Abp	529900ODI3047E2LIV03	Interest rate

Figure 6: Arrears Distribution | Source: Luminor Bank

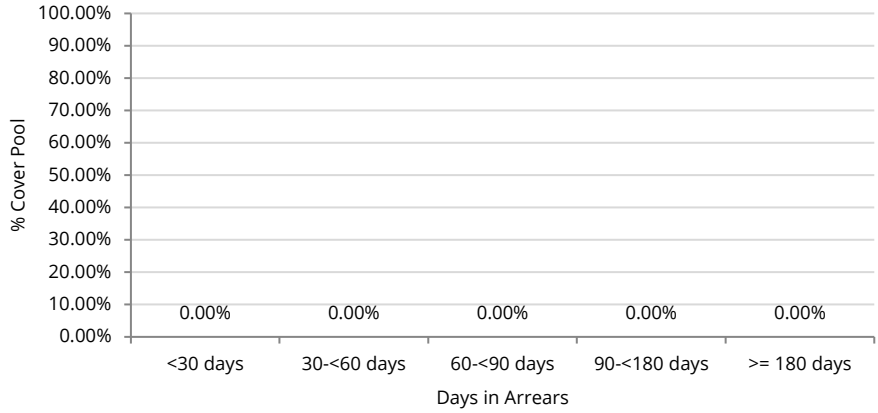


Figure 7: Program currency mismatches | Source: Luminor Bank

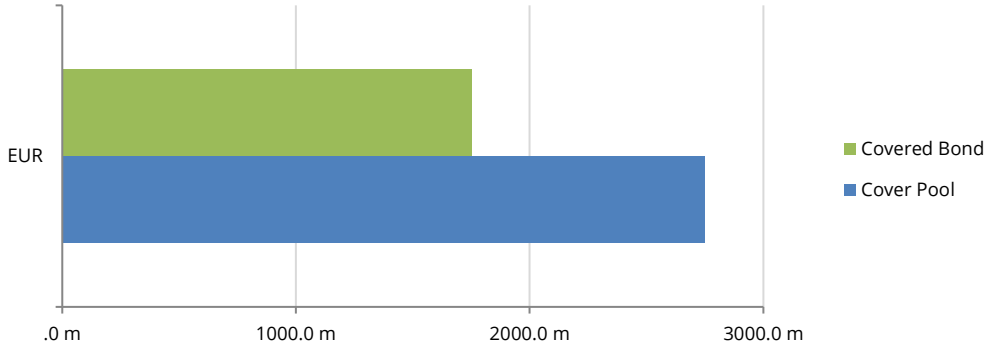
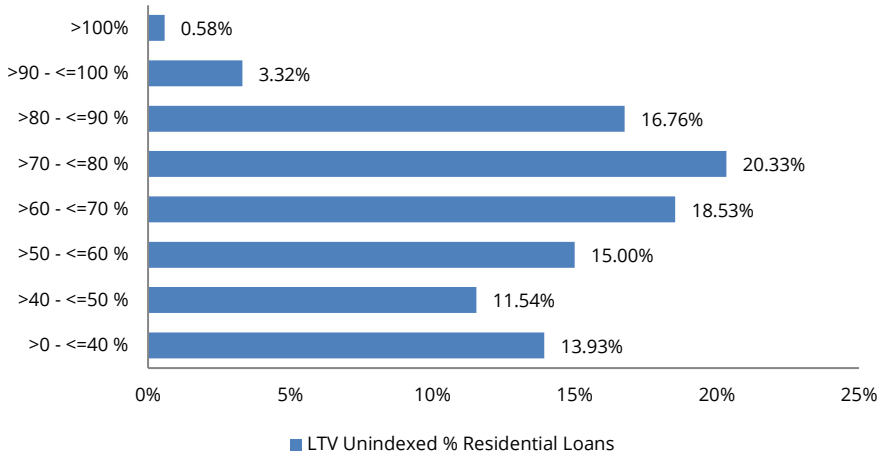


Figure 8: Unindexed LTV breakdown - residential pool | Source: Luminor Bank



Key Source of Information

Documents (Date: 31.12.2022)
Issuer ▪ Audited consolidated annual reports of Luminor Bank (Group) 2018-2021 ▪ Issuer rating report dated 22.04.2022 ▪ Rating File 2023 ▪ Miscellaneous Investor Relations Information and Press releases ▪ Other rating relevant data from eValueRate/CRA databank
Covered Bond and Cover Pool ▪ HTT Reporting from Luminor Bank as of 31.12.2022 ▪ Base prospectus of Luminor Bank Mortgage Covered Bond Program dated 28.04.2022 ▪ 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 (v1.1, April 2022) and "Technical Documentation Portfolio Loss Distributions" (v.1.0, July 2018) in conjunction with Creditreform`s basic document "Rating Criteria and Definitions" (v1.3, January 2018). On the subject of ESG (environment, social and governance), Creditreform Rating AG has published the basic document "The Impact of ESG Factors on Credit Ratings" (March 2020).

Unsolicited Credit Rating	
With Rated Entity or Related Third Party Participation	NO
With Access to Internal Documents	NO
With Access to Management	NO

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 CRA/ eValueRate. The cover pool's quantitative analysis for the rated Covered Bond Program was based on the "Harmonised Transparency Template" (HTT) published by the Luminor Bank.

Information on the meaning of a rating category, definition of default and sensitivity analysis of relevant key rating assumptions can be found at "Creditreform Rating AG, Rating Criteria and Definitions":

https://www.creditreform-rating.de/en/about-us/regulatory-requirements.html

This rating was carried out by analysts Aaron Kamruzzaman (Senior Analyst) und Bruno Passos (Analyst) both based in Neuss/Germany. On 17.02.2023, the rating was presented to the rating committee by the analysts and adopted in a resolution. The function of Person Approving Credit Ratings (PAC) was performed by Artur Kapica (Senior Analyst).

On 17.02.2023, the rating result was communicated to Luminor 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.

Endorsement

Creditreform Rating did not endorse the rating according Article 4 (3), 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 of the issuer.

Rules on the Presentation of Credit Ratings and Rating Outlooks

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
4. Other rating relevant documentation

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.

The rating report and/or Press release indicate the principal methodology or version of methodology that was used in determining the rating, with a reference to its comprehensive description.

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 rating report and/or Press Release 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 the rating report and/or Press Release.

In accordance to Article 11 (2) EU-Regulation (EC) No 1060/2009 registered or certified credit rating agency shall make available in a central repository established by ESMA information on its historical performance data, including the ratings transition frequency, and information about credit ratings issued in the past and on their changes. Requested data are available at the ESMA website: https://cerep.esma.europa.eu/cerep-web/statistics/defaults.xhtml.

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