Covered Bonds follow-up Rating

Commerzbank AG

Mortgage Covered Bond Program

Creditreform Rating

Rating Object	Rating Information	
Commerzbank AG, Mortgage Covered Bonds Program	Rating / Outlook : **AAA / Stable**	Type: Rating Update (unsolicited)
Type of Issuance : Mortgage Covered Bonds under German law Issuer : Commerzbank AG LT Issuer Rating : A (Commerzbank AG) ST Issuer Rating : L2 Outlook Issuer : Stable	Rating Date : Rating Renewal until : Maximum Validity: Rating Methodology :	20.11.2024 Withdrawal of the rating 01.01.2050 CRA „Covered Bond Ratings"

Program Overview

Nominal value	EUR 29,187.25 mn	WAL maturity covered bonds (initial)	4.31 Years
Cover pool value	EUR 43,295.53 mn	WAL maturity cover pool (contractual)	5.71 Years
Cover pool asset class	Mortgage	Overcollateralization (nominal/committed)	52.26%/ 2.00%
Repayment method	Soft Bullet	Min. overcollateralization	2.00%
Legal framework	German Pfandbriefe Act	Covered bonds coupon type	Fixed (83.10%), Floating (16.90%)

Cut-off date Cover Pool information: 30.09.2024

Content

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Rating Action

This follow-up report covers our analysis of the mortgage covered bond program issued under German law by Commerzbank AG ("Commerzbank"). The total covered bond issuance at the cut-off date (30.09.2024) had a nominal value of EUR 29,187.25 mn, backed by a cover pool with a current value of EUR 43,295.53 mn. This corresponds to a nominal overcollateralization of 52.26%. The cover assets include German mortgages obligations in Germany.

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 a AAA rating. The AAA rating represents the highest level of credit quality and the lowest investment risk.

Key Rating Findings

+ Covered Bonds are subject to strict German legal framework for covered bonds (PfandBG)
+ Covered bondholders have full recourse to the issuer
+ Current high overcollateralization (OC) of 52.26% as of 30.09.2024
+ Excellent start for the issuer to the 2024 financial year with the highest quarterly result in the last ten years
+ Asset quality of the issuer remains very good

Table1: Overview results

Risk Factor	Result
Issuer rating	A (rating as of 20.06.2024)
+ Legal and regulatory framework	+4 Notches
+ Liquidity and refinancing risk	+1 Notch
= Rating after 1st uplift	AAA
Cover pool & cash flow analysis	AAA
+ 2nd rating uplift	+/-0 Notch
= Rating covered bond program	**AAA**

Issuer Risk

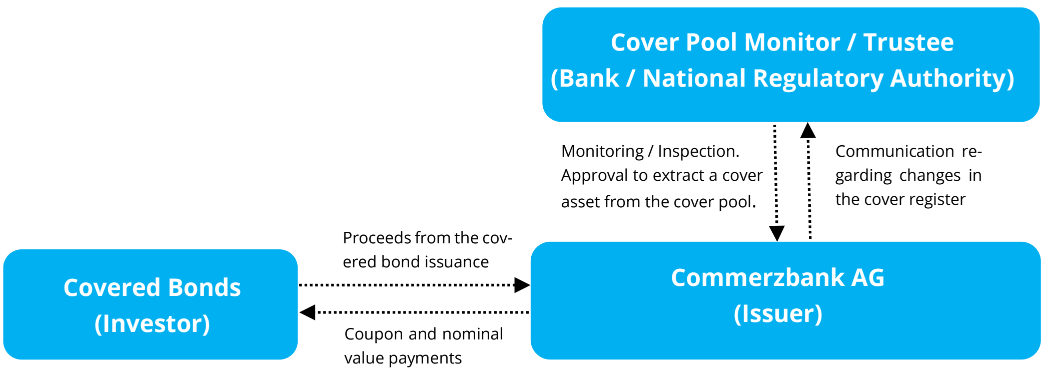
Issuer

Our rating of Commerzbank AG covered bond program is reflected by our issuer rating opinion of Commerzbank AG (Group). On 20 June 2024, Creditreform Rating AG upgraded the unsolicited long-term issuer rating of Commerzbank AG from A- to A. The outlook was set to stable. Commerzbank AG, one of Germany's leading major banks, has begun the fiscal year 2024 with the best quarterly result in the past ten years. Profitability has improved significantly due to higher interest income, attributed to the changed interest rate environment. The quality of assets remains at a very high level. Capital ratios have only slightly improved and remain within the average range. 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

The legal basis of covered bond („Pfandbriefe“) programs in Germany is the German Covered Bond Act (Pfandbriefgesetz, "PfandBG") dated 22 May 2005 and the relevant secondary legislations. The PfandBG was last amended in two steps on 1 July 2021 and 08 July 2022, implementing the Covered Bond Directive (CBD) with a view to harmonize the national legislation with the EU covered bond harmonization measures. In addition, the directives embedded in the PfandBG were also adapted in 2022 and supplemented by an additional ordinance on the reporting requirements for covered bonds to the BaFin.

Under these frameworks, credit institutions, after requiring a special license, can issue covered bonds backed by pool of mortgages, public sector assets, registered ship mortgages or registered liens on registered aircrafts.

The measures implemented have been included in the rating analysis. A comprehensive overview of the initial PfandBG with previous amendments can be found in our initial and follow-up rating reports of Commerzbank Mortgage Covered Bonds. The following key provisions describe the current status of PfandBG.

The covered bondholders have direct recourse to the issuer and a preferential claim over the cover pool assets secured by its cover asset class. Each covered bond must be fully covered by the relevant class of cover assets. For mortgage covered bonds (“Hypothekenpfandbriefe”) the cover assets comprise mortgage assets confined to EU/EEA countries, Switzerland, USA, Canada, Japan, Australia, New Zealand, Singapore and explicitly widened to UK since Brexit.

Up to a total of 20% of the nominal volume of covered bonds outstanding may consist of monetary claims against the European Central Bank, member states of the EU, or against suitable credit institutions, that meet the requirements of credit quality step 1 (15% of cover assets) or 2 (10% of cover assets) in accordance with CRR provisions, have an external rating and do not belong to the same banking group. Derivatives are permitted for cover pools under certain conditions.

The cover pools are generally subject to a special audit every three years, which is carried out either by BaFin specialists or by suitable auditors. Furthermore, an independent trustee (Treuhänder) ensures that the cover assets are correctly recorded in the relevant cover register and that their inclusion meets eligibility criteria. In the event of issuers insolvency, a special administrator („Sachwalter“) will be appointed by the regulatory authority BaFin to manage the cover pool. The amended PfandBG foresees a strengthening of the dual recourse, whereby the insolvency administrator must keep reserves for the claims of the covered bond holders during the insolvency proceedings of the issuer.

In general, we consider the structural framework for covered bonds in Germany as positive, as the PfandBG 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, with regard to the regulatory and structural framework for German covered bond programs, we have set a rating uplift of four (+4) notches.

Liquidity and Refinancing Risk

According to PfandBG, it is compulsory for the covered bonds issuers to maintain 2.00% higher nominal value of cover assets than outstanding covered bonds (mortgage covered bonds and public sector covered bonds). Issuers are also required to maintain an npv-overcollateralization (OC) of at least 2.00% of the net present value of liabilities after stress tests.

In addition, the Issuers must maintain a liquidity buffer that covers all debt service outflows (interest and principal) and derivative transactions for the next 180 days, calculated each day.

The underlying cover pool must be subject to a stress test at least weekly to ensure the present value coverage, and that the 2.00% npv-OC is maintained in the event of interest rates and exchange rates fluctuation. Derivatives can be an additional measure to hedge interest rate and currency risks.

In the event of issuer's insolvency, the PfandBG stipulates that the special administrator can sell cover pool assets or use them as a guarantee for liquidity operations if liquidity shortfalls are foreseeable. Furthermore, the special administrator has the legal option of extending the maturity for covered bonds by up to 12 months, if this action is necessary, not over indebted and subsequent solvency of the issuer can be assumed. The cover pool administrator is allowed to extend maturities of interest and principal within the first month after his appointment to the end of this month. However, the original maturity schedule of the covered bonds must be kept. This feature of German covered bond programs is considered quantitatively within our rating analysis.

Under the PfandBG, all covered bonds issuers are obligated to publish detailed information on their outstanding covered bonds and the corresponding cover assets on a quarterly basis.

Overall, the German PfandBG and the stipulated risk management processes for liquidity risks generally provide a comparatively strict framework by which they can be effectively reduced. The option to defer maturity can mitigate existing refinancing risks, but is limited to the actions of the cover pool administrator. Remaining risks can only be cushioned by sufficiently high OC or other liquid funds to bridge the asset-liability mismatches. We assess the overall legal provisions on liquidity management for German 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 German covered bond legislation (PfandBG) 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 30.09.2024, the pool of cover assets consisted of 316,697 debt receivables from 243,297 debtors, of which 100.00% are domiciled in Germany. The total cover pool volume amounted to EUR 43,295.53 mn in residential (97.75%), commercial (2.25%) and others (0.00%) loans.

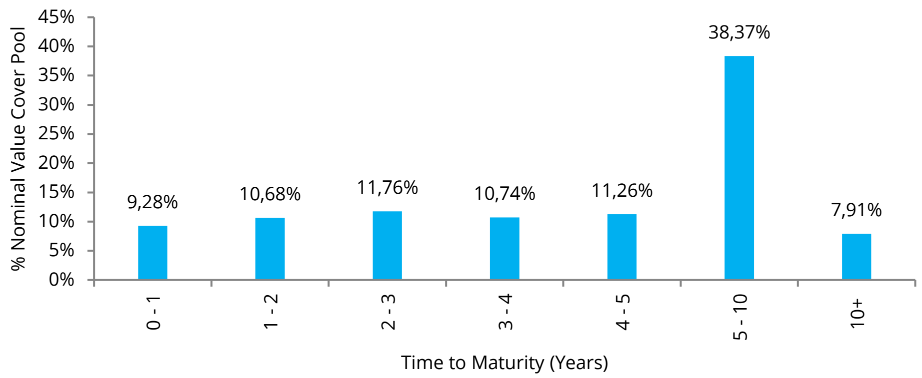
The cover pool for residential properties consists of 243,156 mortgage loans. On the other hand, the cover pool for non-residential properties consists of 141 mortgage loans. The total cover pool has an unindexed weighted average LTV of 50.80%. The ten largest debtors of the portfolio total to 1.67%. Table 2 displays additional characteristics of the cover pool:

Table 2: Cover pool characteristics | Source: Commerzbank

Characteristics	Value
Cover assets	EUR 43,296 m.
Covered bonds outstanding	EUR 29,187 m.
Substitute assets	EUR 1591.76 m.
Cover pool composition	
Mortgages	96.32%
Substitute assets	3.68%
Other / Derivative	0.00%
Number of debtors	243,297
Mortgages Composition	
Residential	97.75%
Commercial	2.25%
Other	0.00%
Average asset value (Residential)	EUR 128.75 k.
Average asset value (Commercial)	EUR 10,138.44 k.
Non-performing loans	0.00%
10 biggest debtors	1.67%
WA seasoning	5.44 Years
WA maturity cover pool (contractual)	5.71 Years
WA maturity covered bonds (initial)	4.31 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 30.09.2024 (see figure 2):

Figure 2: Distribution by remaining time to maturity I Source: Commerzbank



Maturity profile

During its cash flow modelling, CRA has taken into consideration the maturity structure of cover assets and liabilities. Given the available public information, contractual maturities for cover pool has been considered, whereas for covered bonds, extended maturity has been taken into account. This structure was an integral part of the cash flow analysis.

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

Figure 3: Cover asset congruence (contractual) | Source: Commerzbank

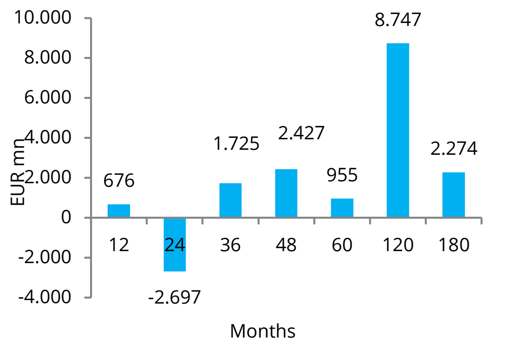
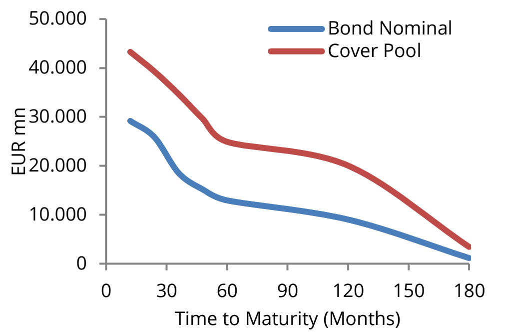


Figure 4: Amortization profile (contractual) | Source: Commerzbank



Interest rate and currency risk

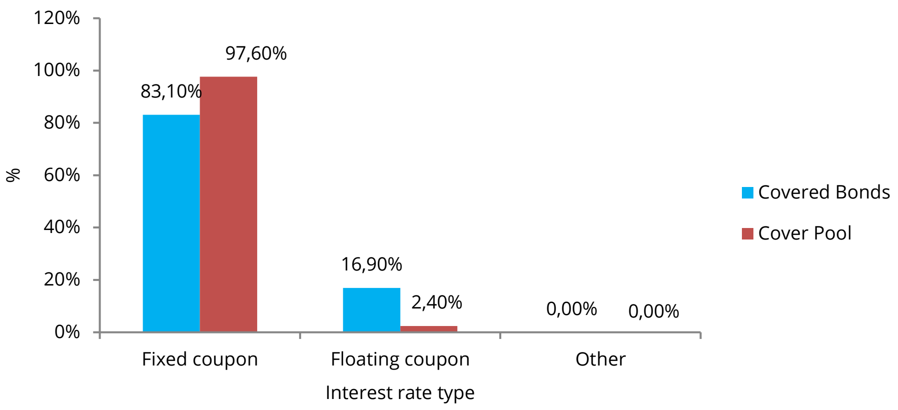
The legal framework provides for weekly stress tests to be conducted on interest rate- and currency risks. Therefore, interest rate risk could be mitigated by the 2% OC requirement. Currency risk, on the other hand, is also limited for this program as 100.00% of the cover pool assets and 100.00% of the cover bonds are denominated in euro. Nevertheless, we have applied interest rate on the cash flows for each rating level according to our methodology.

Table 3: Program distribution by currency | Source: Commerzbank

Currency	Volume	Share (%)
Cover Pool		
EUR	43,296 mn	100.00%
Covered Bonds		
EUR	29,187 mn	100.00%

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

Figure 5: Type of interest rate | Source: Commerzbank



Credit Risk

The credit risk assessment for Mortgage Covered Bond has 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 Commerzbank, it has been assumed an expected default rate of 0.24% 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	**19.18%**	**81.88%**	**3.47%**
AA+	17.10%	83.40%	2.84%
AA	14.03%	85.87%	1.98%
AA-	11.63%	88.19%	1.37%
A+	10.72%	89.11%	1.17%
A	10.70%	89.13%	1.16%
A-	10.11%	89.67%	1.04%

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. CRA assumes that the maturity extensions of soft bullet covered bonds are reflected on the HTT and other public documentation published by Commerzbank. Therefore, CRA has taken the relevant extended maturities of the covered bonds into consideration quantitatively 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
AAA	**71.32%**	**0.45%**
AA+	65.82%	0.51%
AA	62.27%	0.55%
AA-	58.89%	0.59%
A+	56.29%	0.62%
A	54.16%	0.64%
A-	51.38%	0.68%

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 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 30.09.2024, 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	**15.38%**
AA+	13.80%
AA	12.08%
AA-	10.64%
A+	9.94%
A	9.68%
A-	9.09%

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 a single debtor. 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 the unchanged base case rating of AAA (see Table 7):

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

Recovery / Defaults	Base Case	-25%	-50%
Base Case	**AAA**	AAA	AAA
+25%	AAA	AAA	AAA
+50%	AAA	AAA	AAA

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. Because the rating after the primary rating uplift is already at AAA, the secondary rating uplift was set at zero (+/-0) notch.

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 PfandBG 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	27.12.2018	04.01.2019	AAA / stable
Rating Update	11.12.2019	19.12.2019	AAA / stable
Monitoring	24.03.2020	28.03.2020	AAA / watch negative
Rating Update	10.12.2020	16.12.2020	AAA / stable
Monitoring	05.07.2021	06.07.2021	AAA/ watch
Rating Update	13.12.2021	17.12.2021	AAA / stable
Rating Update	17.11.2022	23.12.2022	AAA / stable
Rating Update	20.11.2023	23.11.2023	AAA / stable
Rating Update	20.11.2024	25.11.2024	AAA / stable

Details Cover Pool

Table 8: Characteristics of Cover Pool | Source: Commerzbank

Characteristics	Value
Cover Pool Volume	EUR 43,296 mn
Covered Bonds Outstanding	EUR 29,187 mn
Substitute Assets	EUR 1,592 mn
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	0.00%
Credit institutions	0.00%
Other	100.00%
Substitute Assets breakdown by country	
Issuer country	34.24%
Eurozone	65.76%
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	96.32%
Total Substitute Assets	3.68%
Other / Derivatives	0.00%
Number of Debtors	243,297
Distribution by property use	
Residential	97.75%
Commercial	2.25%
Other	0.00%
Distribution by Residential type	
Owner occupied	0.00%
Second home/Holiday houses	0.00%
Buy-to-let/Non-owner occupied	0.00%
Subsidised housing	0.00%
Agricultural	0.00%
Other	100.00%
Distribution by Commercial type	
Retail	10.64%
Office	83.71%
Hotel/Tourism	0.00%
Shopping malls	0.00%
Industry	0.00%
Agriculture	0.00%
Other commercially used	5.65%
Hospital	0.00%
School	0.00%
other RE with a social relevant purpose	0.00%
Land	0.00%
Property developers / Building under construction	0.00%
Other	0.00%
Average asset value (Residential)	EUR 128.75 k
Average asset value (Commercial)	EUR 10,138.44 k
Share Non-Performing Loans	0.00%
Share of 10 biggest debtors	1.67%
Contractual WA Maturity (months)	68.49
Distribution by Country	

Germany	100.00%
Distribution by Region	NR

Table 9: Participant counterparties | Source: Commerzbank

Role	Name	Legal Entity Identifier
Issuer	Commerzbank	851WYGNLUQLFZBSYGB56

Figure 6: Arrears Distribution | Source: Commerzbank

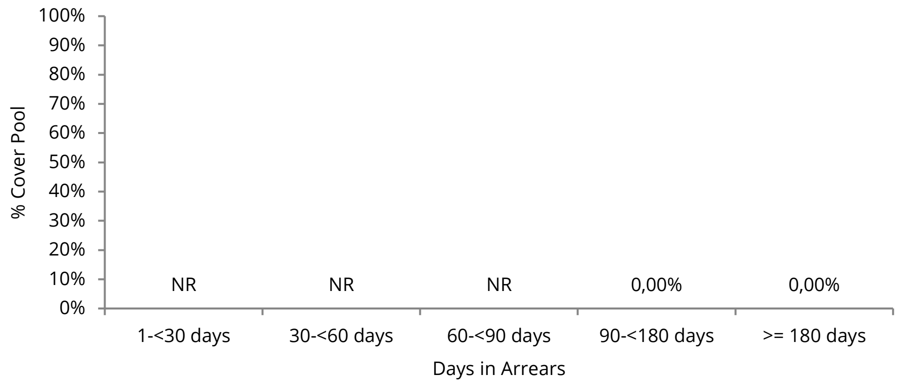


Figure 7: Program currency mismatches | Source: Commerzbank

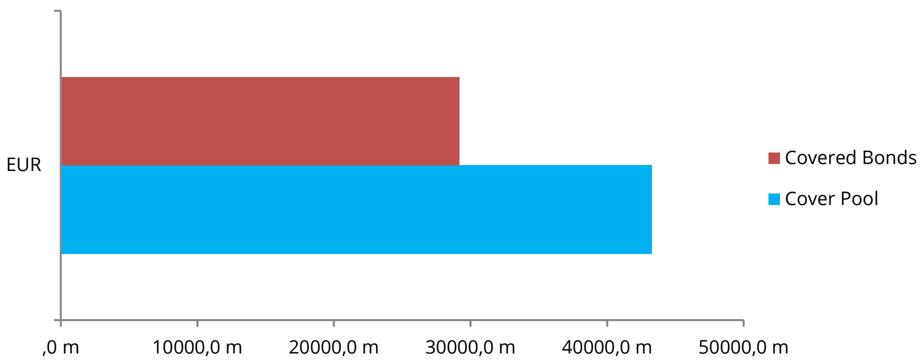
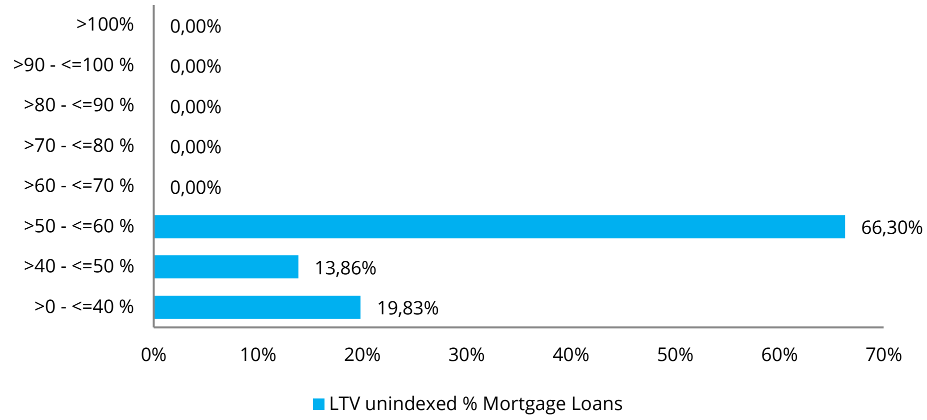


Figure 8: Unindexed LTV breakdown - mortgage pool | Source: Commerzbank



Key Source of Information

Documents (Date: 30.09.2024)
Issuer ▪ Audited consolidated annual reports of the Commerzbank AG (Group) 2019-2023 ▪ Final rating report of issuer from 20.06.2024 ▪ Miscellaneous investor relations information and press releases ▪ Other rating relevant data from CRA/ eValueRate databank
Covered Bond and Cover Pool ▪ HTT Reporting from Commerzbank as of 30.09.2024 ▪ Publication according to section 28 Pfandbrief Act from Commerzbank as of 30.09.2024 ▪ Base prospectus of Commerzbank Mortgage Covered Bond Program dated 05.06.2024 ▪ Market data of 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 "CRAG Rating Methodology Covered Bonds (v1.3, October 2024) 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 HTT published by the Commerzbank.

A complete description of CRA's rating methodologies and basic document "Rating Criteria and Definitions" is published on CRA's website.

This rating was carried out by analysts Philip Michaelis (Lead Analyst) and Paul Zinn (Analyst) both based in Neuss/Germany. On 20.11.2024, 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 Christian Konieczny.

On 20.11.2024, the rating result was communicated to Commerzbank, 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

Creditreform Rating AG ensures that the provision of ancillary services does not present conflicts of interest with its credit rating activities and discloses in the final ratings reports any ancillary services provided for the rated entity or any related third party. The following ancillary services were provided for the rated entity or for third parties associated with the rated entity:

In the case of the provision of ancillary services to the rated entity or a related third party, CRA will disclose all ancillary services in the credit rating report of the issuer.

For the complete list of provided rating and credit service ancillaries please refer to the CRA's website.

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.

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