

Creditreform Covered Bond Rating

Commerzbank AG

Mortgage Covered Bond Program

Creditreform 
Rating

Rating Object		Program ID	VPWJC
Country Issuer	Germany	Main collateral asset class	Mortgage
Main country of assets	Germany	Legal Framework	German Pfandbrief Act
Covered bonds type	Mortgage	Repayment method	Soft Bullet
Cut-off date Cover pool information:	31.12.2023	Publication date:	06.03.2024

Rating Overview

Rating Summary		Key Credit Risk Metrics	
Issuer	Commerzbank AG	Metrics date	20.11.2023
LT Issuer Rating	A-	Rating Case Default Rate	12.11%
ST Issuer Rating	L2	Rating Case Recovery Rate	81.63%
+Legal and regulatory framework analysis	+4 Notches	Expected Loss	2.22%
+Liquidity and refinancing risk	+1 Notch	Rating Case Breakeven OC	23.87%
= Rating after 1st uplift	AA+	Asset-sale discount stressed	72.75%
Cover Pool & cash flow analysis	AAA	Yield Spread stressed	0.69%
+ 2nd rating uplift	+1 Notch		
Rating covered bond program / Outlook	AAA / Stable		

Program Characteristics

All currencies displayed in EUR

General Information		Overcollateralization	
Bonds Nominal value	29,504.50 m.	Minimum	2.00%
Cover pool value	42,424.50 m.	Committed	NR
WAL maturity covered bonds	4.22 Years	Current	43.79%
WAL maturity cover pool	5.54 Years		
Currency Participations		Interest Rate types	
Euro-denominated Assets	100.00%	Fixed Rate - Covered Bonds	76.24%
Euro-denominated Bonds	100.00%	Floating Rate - Covered Bonds	23.76%
Non Euro-denominated Assets	0.00%	Other Rate -Covered Bonds	0.00%
Non Euro-denominated Bonds	0.00%	Fixed Rate -Cover Assets	98.10%
		Floating Rate - Cover Assets	1.90%
		Other Rate - Cover Assets	0.00%

Cover Assets Composition

General Information			
Cover Pool value	42,424.50 m.	Residential Mortgage value	40,024.36 m.
Mortgage assets	40,805.84 m.	Commercial Mortgage value	781.48 m.
Public sector assets	0.00 m.	Other Mortgage value	0.00 m.
Other assets	0.00 m.	Total number of exposures	314,284
Substitute assets	1,618.67 m.	Number of Commercial Loans	275
of which Cash	0.00 m.	Number of Residential Loans	314,009
of which Exposures to/ guaranteed by Supranational, Sovereign, Agency (SSA)	0.00 m.	Average Size Commercial Loans (000s)	2,841.76
of which Exposures to central banks	0.00 m.	Average Size Residential Loans (000s)	127.46
of which Exposures to credit institutions	0.00 m.	Weighted Average Seasoning (months)	63.24
of which Other	1,618.67 m.		
Arrears	% Residential Loans	% Commercial Loans	
1-<30 days	NR	NR	
30-<60 days	NR	NR	
60-<90 days	NR	NR	
90-<180 days	0.00%	0.00%	
>= 180 days	0.00%	0.00%	

Creditreform Covered Bond Rating

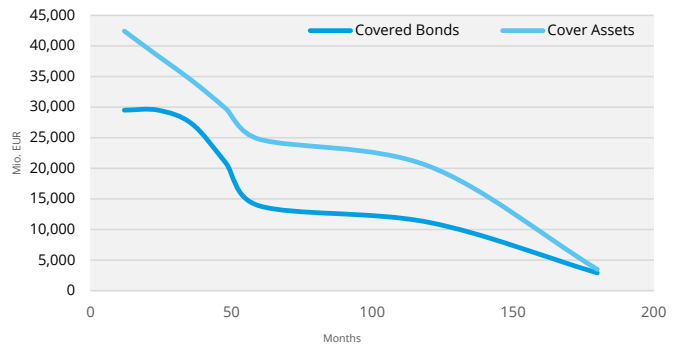
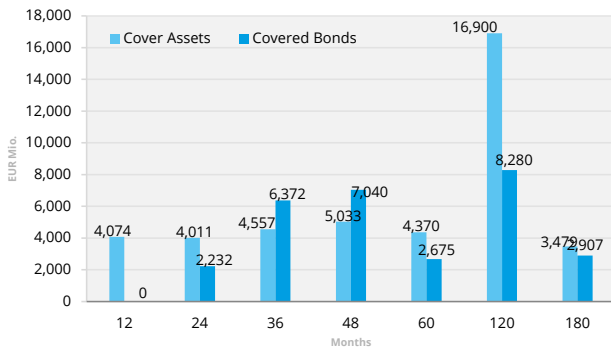
Commerzbank AG

Mortgage Covered Bond Program



Distribution by remaining time to maturity

Amortization Profile



Loan Distribution by country (as % of total Mortgages)

Currency Distribution

Country	% Residential Loans	% Commercial Loans	Currency	Covered Bonds	Cover Assets
Austria	0.0%	0.0%	EUR	29,504.50 m.	42,424.50 m.
Belgium	0.0%	0.0%	AUD	0.00 m.	0.00 m.
Bulgaria	0.0%	0.0%	BRL	0.00 m.	0.00 m.
Croatia	0.0%	0.0%	CAD	0.00 m.	0.00 m.
Cyprus	0.0%	0.0%	CHF	0.00 m.	0.00 m.
Czech Republic	0.0%	0.0%	CZK	0.00 m.	0.00 m.
Denmark	0.0%	0.0%	DKK	0.00 m.	0.00 m.
Estonia	0.0%	0.0%	GBP	0.00 m.	0.00 m.
Finland	0.0%	0.0%	HKD	0.00 m.	0.00 m.
France	0.0%	0.0%	ISK	0.00 m.	0.00 m.
Germany	100.0%	100.0%	JPY	0.00 m.	0.00 m.
Greece	0.0%	0.0%	KRW	0.00 m.	0.00 m.
Netherlands	0.0%	0.0%	NOK	0.00 m.	0.00 m.
Hungary	0.0%	0.0%	PLN	0.00 m.	0.00 m.
Ireland	0.0%	0.0%	SEK	0.00 m.	0.00 m.
Italy	0.0%	0.0%	SGD	0.00 m.	0.00 m.
Latvia	0.0%	0.0%	USD	0.00 m.	0.00 m.
Lithuania	0.0%	0.0%	Loan Distribution by Regions (as % of total Mortgages)		
Luxembourg	0.0%	0.0%	Region	% Residential Loans	% Commercial Loans
Malta	0.0%	0.0%	NR	NR	NR
Poland	0.0%	0.0%			
Portugal	0.0%	0.0%			
Romania	0.0%	0.0%			
Slovakia	0.0%	0.0%			
Slovenia	0.0%	0.0%			
Spain	0.0%	0.0%			
Sweden	0.0%	0.0%			
United Kingdom	0.0%	0.0%			
Iceland	0.0%	0.0%			
Liechtenstein	0.0%	0.0%			
Norway	0.0%	0.0%			
Switzerland	0.0%	0.0%			
Australia	0.0%	0.0%			
Brazil	0.0%	0.0%			
Canada	0.0%	0.0%			
Japan	0.0%	0.0%			
Korea	0.0%	0.0%			
New Zealand	0.0%	0.0%			
Singapore	0.0%	0.0%			
US	0.0%	0.0%			
Other	0.0%	0.0%			

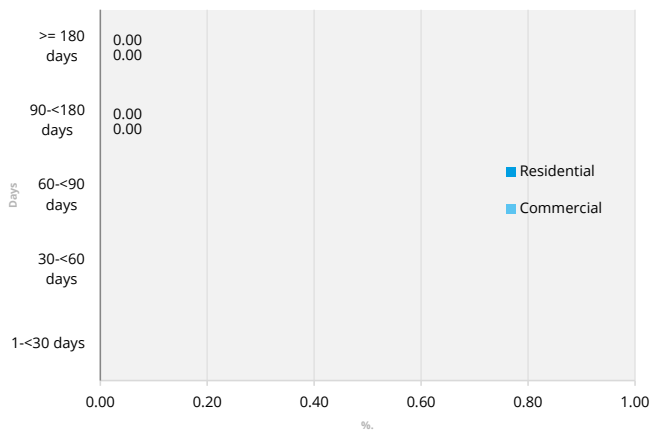
Creditreform Covered Bond Rating

Commerzbank AG

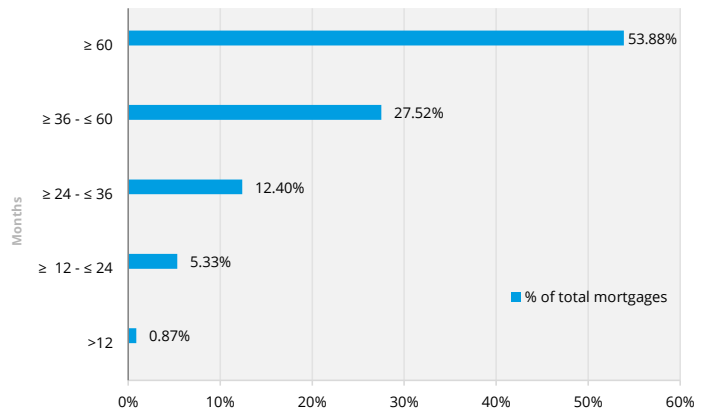
Mortgage Covered Bond Program

Creditreform 
Rating

Arrears Distribution



Seasoning Distribution



LTV Distribution

Unindexed LTV Distribution Commercial Loans			Unindexed LTV Distribution Mortgage Loans		
LTV	Nominal	% Loans	LTV	Nominal	% Loans
>0 - <=40 %	NR	NR	>0 - <=40 %	7,791.50	19.09%
>40 - <=50 %	NR	NR	>40 - <=50 %	5,576.70	13.67%
>50 - <=60 %	NR	NR	>50 - <=60 %	27,437.60	67.24%
>60 - <=70 %	NR	NR	>60 - <=70 %	0.00	0.00%
>70 - <=80 %	NR	NR	>70 - <=80 %	0.00	0.00%
>80 - <=90 %	NR	NR	>80 - <=90 %	0.00	0.00%
>90 - <=100 %	NR	NR	>90 - <=100 %	0.00	0.00%
>100%	NR	NR	>100%	0.00	0.00%

Transaction Parties

Key Transaction parties	Name	LEI
Issuer	Commerzbank AG	851WYGNLUQLFZBSYGB56

Swap Counterparties

Counterparty Name	LEI	Type of swap
NR	NR	NR
NR	NR	NR
<i>Type of swap arrangements</i>		
Intra-group interest rate swaps		No
Intra-group currency rate swaps		No

ISIN List of rated securities

Issuer	ISIN	Coupon Type	Coupon Rate (%)	Issue date	Maturity date	Program ID
Commerzbank AG	DE000CZ43ZW9	Fix	3.21	02.03.2023	02.03.2035	VPWJC
Commerzbank AG	DE000CZ43ZX7	Fix	3.13	20.04.2023	20.04.2029	VPWJC
Commerzbank AG	DE000CZ40NU5	Fix	0.24	10.04.2019	10.04.2026	VPWJC
Commerzbank AG	DE000CZ40NN0	Fix	0.13	09.01.2019	09.01.2024	VPWJC
Commerzbank AG	DE000CZ40LG8	Fix	0.50	09.06.2016	09.06.2026	VPWJC
Commerzbank AG	DE000CZ40MH4	Fix	0.27	11.12.2017	11.06.2024	VPWJC
Commerzbank AG	DE000CZ45WY7	Fix	0.25	12.01.2022	12.01.2032	VPWJC
Commerzbank AG	DE000CZ40NY7	Fix	0.23	06.05.2019	06.05.2026	VPWJC
Commerzbank AG	DE000CZ43Z23	Fix	3.13	13.06.2023	13.06.2033	VPWJC
Commerzbank AG	DE000CZ40MN2	Fix	0.63	13.03.2018	13.03.2025	VPWJC
Commerzbank AG	DE000CZ45W16	Fix	0.50	15.03.2022	15.03.2027	VPWJC
Commerzbank AG	DE000CZ45W40	Fix	1.25	23.03.2022	23.03.2032	VPWJC
Commerzbank AG	DE000CZ45VS1	Fix	0.01	10.03.2020	11.03.2030	VPWJC
Commerzbank AG	DE000CZ45W24	Fix	1.16	16.03.2022	16.03.2038	VPWJC
Commerzbank AG	DE000CZ40MQ5	Fix	0.88	16.04.2018	18.04.2028	VPWJC
Commerzbank AG	DE000CZ43ZS7	Fix	2.88	31.01.2023	28.04.2026	VPWJC
Commerzbank AG	DE000CZ40MU7	Fix	0.63	28.05.2018	28.05.2025	VPWJC
Commerzbank AG	DE000CZ40MV5	Fix	0.88	06.06.2018	06.06.2028	VPWJC
Commerzbank AG	DE000CZ40NP5	Fix	1.25	09.01.2019	09.01.2034	VPWJC
Commerzbank AG	DE000CZ45VF8	Fix	0.05	09.12.2019	09.05.2029	VPWJC
Commerzbank AG	DE000CZ45W65	Fix	2.56	08.07.2022	08.07.2037	VPWJC
Commerzbank AG	DE000CZ40LM6	Fix	0.05	11.07.2016	11.07.2024	VPWJC
Commerzbank AG	DE000CZ43Z56	Fix	3.29	17.08.2023	17.08.2028	VPWJC
Commerzbank AG	DE000CZ40MB7	Fix	0.63	24.08.2017	24.08.2027	VPWJC
Commerzbank AG	DE000CZ43Z72	Fix	3.38	28.08.2023	28.08.2028	VPWJC
Commerzbank AG	DE000CZ45W99	Fix	2.25	01.09.2022	01.09.2032	VPWJC
Commerzbank AG	DE000CZ40KZ0	Fix	0.88	07.09.2015	08.09.2025	VPWJC
Commerzbank AG	DE000CZ45W32	Fix	0.79	23.03.2022	22.09.2028	VPWJC
Commerzbank AG	DE000CZ43ZE7	Floating	EIEUR3M + 0.06	07.10.2022	07.10.2027	VPWJC
Commerzbank AG	DE000CB0HR50	Floating	EIEUR3M + 0.9	08.04.2021	08.04.2026	VPWJC
Commerzbank AG	DE000CZ43ZF4	Fix	2.88	13.10.2022	13.10.2028	VPWJC
Commerzbank AG	DE000CZ45W73	Floating	EIEUR3M + 0.5	22.07.2022	22.07.2026	VPWJC
Commerzbank AG	DE000EH1A3P2	Floating	EIEUR3M + 0.8	03.06.2009	03.06.2024	VPWJC
Commerzbank AG	DE000CZ43ZJ6	Fix	2.75	08.12.2022	08.12.2025	VPWJC
Commerzbank AG	DE000CZ45W08	Floating	EIEUR3M + 0.9	10.03.2022	10.12.2025	VPWJC
Commerzbank AG	DE000CZ40LQ7	Fix	0.13	30.08.2016	15.12.2026	VPWJC
Commerzbank AG	DE000CB0HR27	Floating	EIEUR3M + 0.9	17.03.2021	17.03.2026	VPWJC
Commerzbank AG	DE000CB0HR43	Floating	EIEUR3M + 0.9	31.03.2021	30.09.2025	VPWJC

Data Definitions

The data is presented with a cut-off date. Following the clarification regarding the source of information:

Issuer: Issuer source of information includes all available public information, i.e. Investor Reports, Harmonised Transparency Templates "HTT", National Transparency Templates "NTT", Prospectus etc.

Information not applicable for the jurisdiction and not relevant for the issuer and/or CB program at the present time will be labeled as "NR" (Not Relevant)

Information not disclosed by the issuer will be labeled as "ND" (Not Disclosed)

Field Name	Source	Definition
Program ID	CRA	Unique CRA internal identification for a rating
Covered bonds type	Issuer	The covered bonds type (public sector covered bonds or mortgage covered bonds)
Country Issuer	Issuer	The issuer country
Main country of assets	Issuer	The country with the maximum participation of cover assets
Main collateral asset class	Issuer	The main collateral asset class of the covered bonds
Legal framework	CRA	The set of legislative and regulatory rules of the respective jurisdiction that regulates the covered bonds (CB) program
Bonds Nominal value	Issuer	The total amount of outstanding covered bonds as of cut-off date expressed in millions
Cover pool value	Issuer	Aggregate value of all cover assets in the cover pool (incl. Substitute assets) as of cut-off date expressed in millions
WAL maturity covered bonds	Issuer	The weighted average remaining maturity of all outstanding covered bonds in years
WaL maturity cover pool	Issuer	The weighted average remaining maturity of all outstanding covered assets in years
Repayment method	Issuer	Hard Bullet: Covered bonds are repaid on the maturity date which cannot be extended Soft Bullet: The maturity date of the covered bonds can be extended by a fixed period Conditional pass-through (CPT): Covered bonds with a scheduled maturity date, and an extension mechanism defined by certain conditions Hard & Soft Bullet: The covered bond program with a combination of hard bullet and soft bullet maturity structures
Overcollateralization (OC) - Current	CRA	The proportion of cover assets that exceeds the current outstanding covered bonds, calculated as $(\text{Cover pool value} / \text{outstanding covered bonds} - 1) * 100$
Overcollateralization (OC) - Minimum	CRA	The minimum OC level that the issuer must maintain according to the respective CB legislation
Overcollateralization (OC) - Committed	CRA	The minimum OC level that the issuer has committed to maintain, as published in its public available reports. If no level of committed OC is reported, the field shows "NR" (Not Relevant)
Fixed Rate - Covered Bonds	Issuer	Share of covered bonds paying a fixed rate of interest
Floating Rate - Covered Bonds	Issuer	Share of covered bonds paying a floating rate of interest
Other Rate - Covered Bonds	Issuer	Share of covered bonds paying an other rate of interest
Fixed Rate - Cover Assets	Issuer	Share of cover assets yielding a fixed rate of interest
Floating Rate - Cover Assets	Issuer	Share of cover assets yielding a floating rate of interest
Other Rate - Cover Assets	Issuer	Share of cover assets yielding an other rate of interest
Euro-denominated Assets	Issuer	Share of cover assets denominated in Euros, in percentage of total cover pool value
Euro-denominated Bonds	Issuer	Share of covered bonds denominated in Euros, in percentage of bonds nominal value
Non Euro-denominated Assets	Issuer	Share of cover assets denominated in currencies other than Euros, in percentage of total cover pool value
Non Euro-denominated Bonds	Issuer	Share of covered bonds denominated in currencies other than Euros, in percentage of bonds nominal value
LT Issuer Rating	CRA	Long-term ratings assess the default risks for each category of a bank's financial instruments with a residual term-to-maturity of more than one year
ST Issuer Rating	CRA	Short-term ratings assess the default risks for each category of a bank's financial instruments with a residual term-to-maturity of less than one year
Legal and regulatory framework analysis	CRA	A qualitative assessment of legislative and regulatory rules of the respective covered bonds program
Liquidity and refinancing risk	CRA	A qualitative assessment of regulatory requirements for the liquidity and refinancing risk of the respective covered bonds program
First rating uplift	CRA	The rating after adding up the notches from Legal and regulatory framework analysis and Liquidity and refinancing risk with LT Issuer rating
Cover pool and cash flow analysis	CRA	The quantitative assessment of the cover assets and covered bonds at different rating-level stressed scenarios
Second rating uplift	CRA	The rating after adding up the notches from cash-flow analysis with 1st rating uplift (only effective if the rating from cash-flow analysis is higher than the 1st rating uplift)
Rating covered bond program / Outlook	CRA	Final rating and outlook of the covered bond program

Creditreform Covered Bond Rating

Commerzbank AG

Mortgage Covered Bond Program

Creditreform
Rating

Data Definitions

The data is presented with a cut-off date. Following the clarification regarding the source of information:

Issuer: Issuer source of information includes all available public information, i.e. Investor Reports, Harmonised Transparency Templates "HTT", National Transparency Templates "NTT", Prospectus etc.

Information not applicable for the jurisdiction and not relevant for the issuer and/or CB program at the present time will be labeled as "NR" (Not Relevant)

Information not disclosed by the issuer will be labeled as "ND" (Not Disclosed)

Field Name	Source	Definition
Metrics date	CRA	The date on which CRA assigned the initial / follow-up rating of the covered bond program, as well as the proprietary metrics to determine the rating of the covered bonds program
Rating Case Default Rate (RDR)	CRA	Stressed default rate of the cover assets represented by the base case stressed scenario
Rating Case Recovery Rate (RRR)	CRA	Stressed recovery rate of the defaulted assets represented by the base case stressed scenario
Expected Loss	CRA	Stressed loss rate of the cover assets represented by the base case stressed scenario. The expected loss rate has been calculated as $[RDR * (1 - RRR)]$ [%]
Rating Case Breakeven OC	CRA	The required stressed OC level compatible with the base case rating
Asset-sale discount stressed	CRA	Stressed Asset value haircuts of the main collateral asset class represented by the base case stressed scenario
Yield Spread stressed	CRA	Stressed positive yield spreads between covered bonds and cover assets represented by the base case stressed scenario
Average Seasoning	Issuer	Average length of the loans from the origination date to the cut-off date in months
Loan Size	Issuer	Average size of the loans (i.e. Total value of cover assets / Number of loans)
Mortgage assets	Issuer	Outstanding mortgage assets in the cover pool expressed in millions
Public sector assets	Issuer	Outstanding public sector assets in the cover pool expressed in millions
Other assets	Issuer	Outstanding other assets in the cover pool expressed in millions
Substitute assets	Issuer	Outstanding substitute assets in the cover pool expressed in millions
Residential mortgage value	Issuer	Outstanding residential mortgage loans in the cover pool expressed in millions
Commercial mortgage value	Issuer	Outstanding commercial mortgage loans in the cover pool expressed in millions
Other mortgage value	Issuer	Outstanding other mortgage loans in the cover pool expressed in millions
Loans (Public Sector)	Issuer	Outstanding loans among public sector assets expressed in millions
Bonds (Public Sector)	Issuer	Outstanding bonds among public sector assets expressed in millions
Other (Public sector)	Issuer	Outstanding other loans among public sector assets expressed in millions
Sovereigns (m.)	Issuer	Outstanding Sovereigns loans among public sector assets expressed in millions
Regional/ federal authorities (m.)	Issuer	Outstanding regional governments loans among public sector assets expressed in millions
Local/ municipal authorities (m.)	Issuer	Outstanding local governments loans among public sector assets expressed in millions
Others (m.)	Issuer	Outstanding loans of other debtors among public sector assets expressed in millions
of which Cash	Issuer	Nominal value of total cash in the substitute assets expressed in millions
of which Exposures to/ guaranteed by Supranational, Sovereign, Agency (SSA)	Issuer	Nominal value of the exposures to/ guaranteed by Supranational, Sovereign, Agency (SSA) in the substitute assets expressed in millions
of which Exposures to central banks	Issuer	Nominal value of the exposures to central banks in the substitute assets expressed in millions
of which Exposures to credit institutions	Issuer	Nominal value of the exposures to credit institutions in the substitute assets expressed in millions
of which Other	Issuer	Nominal value of the other type of exposures in the substitute assets expressed in millions
Total number of exposures	Issuer	Total number of public sector exposures or total number of mortgage loans in the cover assets
Arrears % of public sector assets	Issuer	Percentage of public sector loans with arrears
Arrears % of residential loans	Issuer	Percentage of residential mortgage loans with arrears
Arrears % of commercial loans	Issuer	Percentage of commercial mortgage loans with arrears
1-<30 days	Issuer	Percentage of loans with arrears of less than 30 days
30-<60 days	Issuer	Percentage of loans with arrears between 30 and 60 days
60-<90 days	Issuer	Percentage of loans with arrears between 60 and 90 days
90-<180 days	Issuer	Percentage of loans with arrears between 90 and 180 days
>= 180 days	Issuer	Percentage of loans with arrears equal or above 180 days
Distribution by remaining time to maturity	CRA	The remaining residual life of cover pool assets and the remaining maturity of covered bonds in months

Data Definitions

The data is presented with a cut-off date. Following the clarification regarding the source of information:

Issuer: Issuer source of information includes all available public information, i.e. Investor Reports, Harmonised Transparency Templates "HTT", National Transparency Templates "NTT", Prospectus etc.

Information not applicable for the jurisdiction and not relevant for the issuer and/or CB program at the present time will be labeled as "NR" (Not Relevant)

Information not disclosed by the issuer will be labeled as "ND" (Not Disclosed)

Field Name	Source	Definition
LTV	Issuer	The loan-to-value (LTV) is the ratio of a loan to the value of the property securing the loan
Unindexed LTV Distribution Commercial Loans	Issuer	Unindexed LTV distribution of commercial loans represented by finite continuous distributions of intervals expressed in volume and percentage of total commercial loans
Indexed LTV Distribution Commercial Loans	Issuer	Indexed LTV distribution of commercial loans represented by finite continuous distributions of intervals expressed in volume and percentage of total commercial loans
Unindexed LTV Distribution Residential Loans	Issuer	Unindexed LTV distribution of residential loans represented by finite continuous distributions of intervals expressed in volume and percentage of total residential loans
Indexed LTV Distribution Residential Loans	Issuer	Indexed LTV distribution of residential loans represented by finite continuous distributions of intervals expressed in volume and percentage of total residential loans
Loan distribution by country	Issuer	The share of cover assets across countries represented by the respective asset classes
Loan distribution by region	Issuer	The regional distribution of cover assets of the main country of collateral asset class in percentage
Currency distribution	Issuer	Distribution of currencies of the covered bonds and cover assets expressed in millions
Arrears Distribution	Issuer	The distribution of arrears of the cover assets with respect to each asset class
Seasoning Distribution	Issuer	The distribution of seasoning of the cover assets with respect to each asset class
Amortization Profile	CRA	The maturity structure of the cover assets and liabilities
% Residential Loans	Issuer	Outstanding value of loans that are secured by the residential property expressed as % of total outstanding loans in the cover pool
% Commercial Loans	Issuer	Outstanding value of loans that are secured by the commercial property expressed as % of total outstanding loans in the cover pool
LEI	CRA	Legal Entity Identifier (LEI) enables unique identification of legal entities in financial transactions
Transaction parties	Issuer	Key transaction parties of the covered bond program
Fixed Coupon	Issuer	All assets and liabilities in the covered bond program that yield a fixed interest rate
Floating Coupon	Issuer	All assets and liabilities in the covered bond program that have variable interest rates
EIEURxM	Reuters	Euro x Month EURIBOR
EURSWEXY	Reuters	Euro x Year Interest Rate Swap Fixing

Disclaimer

© Creditreform Rating AG, 2024. This report is protected by copyright. Any commercial use is prohibited without prior written permission from Creditreform Rating AG. Only the full report may be published in order to prevent distortion of the report's overall assessment. Excerpts may only be used with the express consent of Creditreform Rating AG. Publication of the report without the consent of Creditreform Rating AG is prohibited. Only ratings published on the Creditreform Rating AG web pages remain valid.

We have assumed that the publicly available information, and the documents and information provided to us by the client are complete and accurate and that the copies provided to us represent the full and unchanged contents of the original documents. Therefore, Creditreform does not and cannot independently verify or validate information in every instance during the rating process. Further, Creditreform Rating AG assumes no responsibility for the true and fair representation of the original information.

Future events are uncertain, and forecasts are necessarily based on assessments and assumptions. The information in this report and in other types of credit opinions by Creditreform are provided "as is" without representation or warranty of any kind. This rating is therefore no statement of fact, but an opinion. No representation or warranty, express or implied, as to the accuracy, timeliness, completeness, merchantability or fitness for any particular purpose of any such information is made by Creditreform in any form or manner whatsoever. For this reason, Creditreform Rating AG or its directors, officers, employees, independent contractors, agents, representatives, licensors or suppliers cannot be held liable for the consequences of decisions made on the basis of any of their ratings or assumptions and assessments expressed in this report. Neither should ratings, assumptions or assessments expressed in this report, be construed as recommendations for investors, buyers or sellers. They should only be used by market participants (entrepreneurs, bankers, investors etc.) as one factor among others when arriving at corporate or investment decisions. Ratings or assumptions and assessments expressed in this report are not meant to be used as substitutes for one's own research, inquiries and own assessments.

ANY RATING PERFORMED BY CREDITREFORM RATING AG IS SUBJECT TO THE CREDITREFORM RATING AG CODE OF CONDUCT, WHICH HAS BEEN PUBLISHED ON THE WEB PAGES OF CREDITREFORM RATING AG. IN THIS CODE OF CONDUCT, CREDITREFORM RATING AG COMMITS ITSELF – SYSTEMATICALLY AND WITH DUE DILIGENCE – TO ESTABLISH ITS INDEPENDENT AND OBJECTIVE OPINION AS TO THE SUSTAINABILITY, RISKS AND OPPORTUNITIES CONCERNING THE ENTERPRISE OR THE ISSUE UNDER REVIEW.