

# Creditreform Covered Bond Rating

DZ HYP AG

Public Sector Covered Bond Program

Creditreform   
Rating

## Rating Object

Country Issuer	Germany	Main collateral asset class	Public Sector
Main country of assets	Germany	Legal Framework	German Pfandbrief Act
Covered bonds type	Public Sector	Repayment method	Hard Bullet
Cut-off date Cover pool information:	31.03.2022		

## Rating Overview

Rating Summary		Key Credit Risk Metrics	
Issuer	DZ HYP AG	Metrics date	07.12.2021
LT Issuer Rating	AA-	Rating Case Default Rate	16.31%
ST Issuer Rating	L1	Rating Case Recovery Rate	43.66%
+Legal and regulatory framework analysis	+4 Notches	Expected Loss	9.19%
+Liquidity and refinancing risk	+1 Notch	Rating Case Breakeven OC	11.52%
= Rating after 1st uplift	AAA	Asset-sale discount stressed	12.59%
Cover Pool & cash flow analysis	AA+	Yield Spread stressed	0.50%
+ 2nd rating uplift	+/-0 Notch		
Rating covered bond program / Outlook	<b>AAA / Stable</b>		

## Program Characteristics

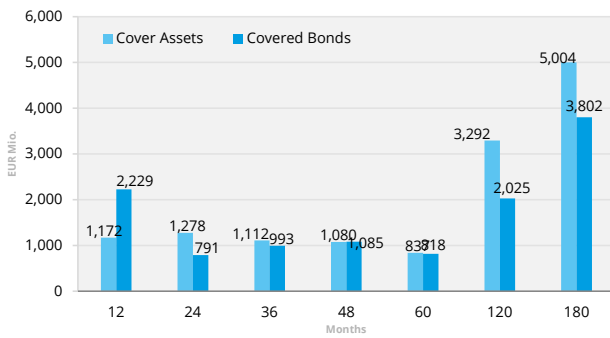
All currencies displayed in EUR

General Information		Overcollateralization	
Bonds Nominal value	11,742.18 m.	Minimum	2.00%
Cover pool value	13,774.46 m.	Committed	0.00%
WAL maturity covered bonds	6.90 Years	Current	17.31%
WAL maturity cover pool	8.30 Years		
Currency Participations		Interest Rate types	
Euro-denominated Assets	95.35%	Fixed Rate - Covered Bonds	94.80%
Euro-denominated Bonds	96.03%	Floating Rate - Covered Bonds	5.20%
Non Euro-denominated Assets	4.65%	Other Rate -Covered Bonds	0.00%
Non Euro-denominated Bonds	3.97%	Fixed Rate -Cover Assets	98.05%
		Floating Rate - Cover Assets	1.95%
		Other Rate - Cover Assets	0.00%

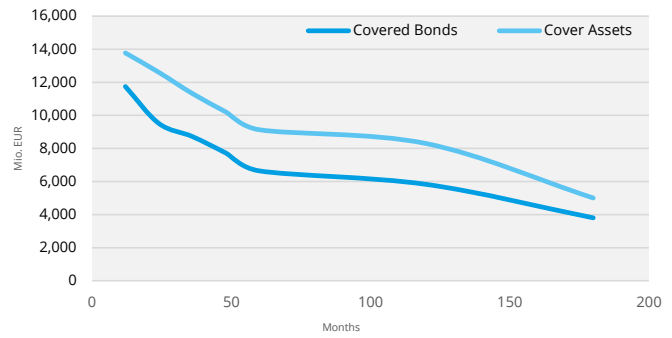
## Cover Assets Composition

General Information			
Cover Pool value	13,774.46 m.	Loans (Public Sector)	11,626.54 m.
Mortgage assets	0.00 m.	Bonds (Public Sector)	2,147.93 m.
Public sector assets	13,774.46 m.	Other (Public Sector)	0.00 m.
Other assets	0.00 m.	Total number of exposures	17,365
Substitute assets	0.00 m.	Average Size Loans Public Sector (000s)	793.23
of which Cash	0.00 m.	Sovereigns (m.)	1,107.39
of which Exposures to/ guaranteed by Supranational, Sovereign, Agency (SSA)	0.00 m.	Regional/ federal authorities (m.)	3,157.33
of which Exposures to central banks	0.00 m.	Local/ municipal authorities (m.)	8,924.83
of which Exposures to credit institutions	0.00 m.	Others (m.)	584.91
of which Other	0.00 m.	Weighted Average Seasoning (months)	125.60
Arrears	% of Public Sector assets		
1-<30 days	0.0		
30-<60 days	0.0		
60-<90 days	0.0		
90-<180 days	0.0		
>= 180 days	0.0		

Distribution by remaining time to maturity



Amortization Profile



Loan Distribution by country (as % of total Public Sector assets)

Country	% Public Sector Loans
Austria	3.2%
Belgium	1.0%
Bulgaria	0.0%
Croatia	0.0%
Cyprus	0.0%
Czech Republic	0.0%
Denmark	0.0%
Estonia	0.0%
Finland	0.0%
France	0.3%
Germany	81.1%
Greece	0.0%
Netherlands	0.0%
Hungary	0.0%
Ireland	0.0%
Italy	2.5%
Latvia	0.0%
Lithuania	0.0%
Luxembourg	0.1%
Malta	0.0%
Poland	0.0%
Portugal	2.0%
Romania	0.0%
Slovakia	0.0%
Slovenia	0.0%
Spain	5.7%
Sweden	0.0%
United Kingdom	0.0%
Iceland	0.0%
Liechtenstein	0.0%
Norway	0.0%
Switzerland	1.3%
Australia	0.0%
Brazil	0.0%
Canada	2.8%
Japan	0.0%
Korea	0.0%
New Zealand	0.0%
Singapore	0.0%
US	0.0%
Other	0.0%

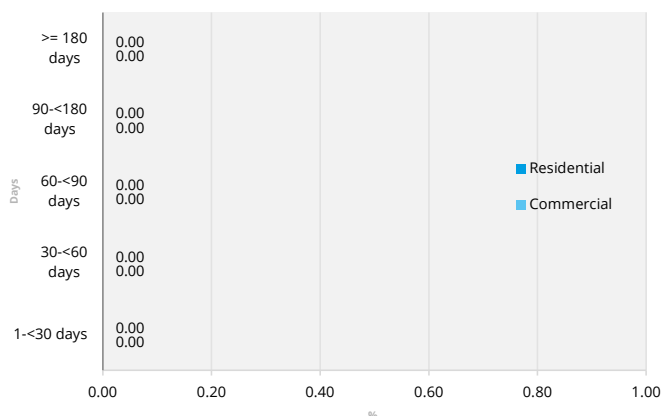
Currency Distribution

Currency	Covered Bonds	Cover Assets
EUR	11,275.44 m.	13,134.60 m.
AUD	0.00 m.	0.00 m.
BRL	0.00 m.	0.00 m.
CAD	0.00 m.	28.66 m.
CHF	97.40 m.	180.19 m.
CZK	0.00 m.	0.00 m.
DKK	0.00 m.	0.00 m.
GBP	0.00 m.	23.64 m.
HKD	0.00 m.	0.00 m.
JPY	0.00 m.	29.59 m.
KRW	0.00 m.	0.00 m.
NOK	0.00 m.	0.00 m.
PLN	0.00 m.	0.00 m.
SEK	0.00 m.	0.00 m.
SGD	0.00 m.	0.00 m.
USD	369.34 m.	377.78 m.
Other	0.00 m.	0.00 m.

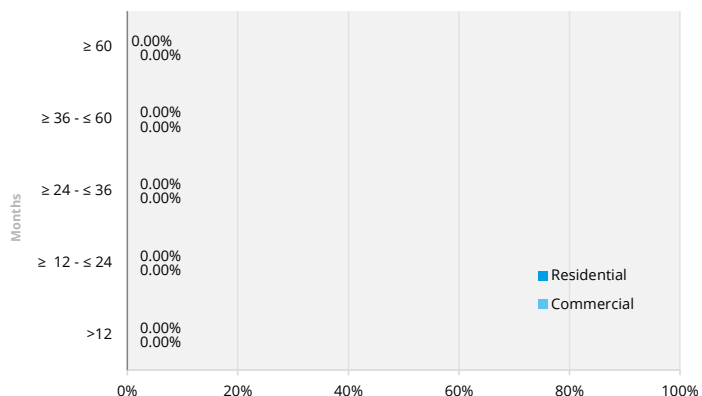
Loan Distribution by Regions (as % of total Public Sector assets)

Region	% of Public Sector assets
Baden-Württemberg	14.18%
Bavaria	14.05%
Berlin	1.69%
Brandenburg	0.15%
Bremen	0.82%
Hamburg	0.69%
Hesse	14.04%
Lower Saxony	13.08%
Mecklenburg-Western Pomerania	1.97%
North Rhine-Westphalia	22.05%
Rhineland-Palatinate	8.72%
Saarland	3.54%
Saxony	0.71%
Saxony-Anhalt	0.19%
Schleswig-Holstein	2.32%
Thuringia	1.80%

Arrears Distribution



Seasoning Distribution



### LTV Distribution

Unindexed LTV Distribution Commercial Loans			Unindexed LTV Distribution Residential Loans		
LTV	Nominal	% Loans	LTV	Nominal	% Loans
>0 - <=40 %	NR	NR	>0 - <=40 %	NR	NR
>40 - <=50 %	NR	NR	>40 - <=50 %	NR	NR
>50 - <=60 %	NR	NR	>50 - <=60 %	NR	NR
>60 - <=70 %	NR	NR	>60 - <=70 %	NR	NR
>70 - <=80 %	NR	NR	>70 - <=80 %	NR	NR
>80 - <=90 %	NR	NR	>80 - <=90 %	NR	NR
>90 - <=100 %	NR	NR	>90 - <=100 %	NR	NR
>100%	NR	NR	>100%	NR	NR

### Transaction Parties

Key Transaction parties	Name	LEI
Issuer	DZ HYP AG	5299004TE2DYMKEAM814

### Swap Counterparties

Counterparty Name	LEI	Type of swap
NR	NR	NR
Type of swap arrangements		
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
DZ HYP AG	DE000A3E5UV0	Fix	0.01	14.09.2021	30.06.2022
DZ HYP AG	DE000A3E5UW8	Fix	0.01	29.09.2021	13.07.2022
DZ HYP AG	DE000A3E5UX6	Fix	0.01	18.10.2021	27.07.2022
DZ HYP AG	DE000A3E5UZ1	Fix	0.01	27.10.2021	10.08.2022
DZ HYP AG	DE000A3E5U06	Fix	0.01	10.11.2021	24.08.2022
DZ HYP AG	DE000A3E5U14	Fix	0.01	24.11.2021	07.09.2022
DZ HYP AG	DE000A2GSMB6	Fix	3.59	20.10.2017	07.10.2022
DZ HYP AG	DE000A2GSP23	Floating	EIEUR3M + 0.2	27.02.2018	27.02.2023
DZ HYP AG	DE000A1YC8G2	Fix	1.78	28.02.2014	25.10.2023
DZ HYP AG	DE000A0XFAE1	Floating	EIEUR6M + 0.55	23.02.2009	23.02.2024
DZ HYP AG	DE000A1YC8K4	Fix	1.88	18.03.2014	18.03.2024
DZ HYP AG	DE000A14J5C9	Fix	0.63	26.02.2015	26.02.2025
DZ HYP AG	DE000A0EUPJ7	Fix	3.82	08.12.2005	08.12.2025
DZ HYP AG	DE000A1TM6A4	Fix	2.00	26.04.2013	26.04.2028
DZ HYP AG	DE000A12TYS2	Floating	0.7175 * EURSWE10Y	19.02.2014	19.02.2029
DZ HYP AG	DE000A161ZP5	Fix	1.23	27.01.2016	27.01.2031
DZ HYP AG	DE000A2BPJ29	Fix	1.00	29.11.2016	29.11.2032
DZ HYP AG	DE000A2TSDZ7	Fix	0.38	12.11.2019	10.11.2034
DZ HYP AG	DE000A2BPJ11	Fix	1.13	22.11.2016	22.11.2034
DZ HYP AG	DE000A2BPJ52	Fix	1.30	28.02.2017	27.02.2037
DZ HYP AG	DE000A2BPJ60	Fix	1.38	23.03.2017	23.03.2037
DZ HYP AG	DE000A2GSMC4	Fix	1.54	24.10.2017	24.10.2039

#### 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
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 $\frac{[(\text{Cover pool value}) - (\text{outstanding covered bonds})]}{(\text{outstanding covered bonds})} * 100$
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

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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

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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

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