Creditreform Covered Bond Rating

UniCredit S.p.A
Mortgage Covered Bond Program

Creditreform Rating
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Rating Object	Rating Information	
UniCredit S.p.A., Mortgage Covered Bond Program guaranteed by UniCredit OBG S.r.l.	Rating / Outlook : **A+ / Stable**	Type: Initial Rating (unsolicited)
Type of Issuance : Mortgage Covered Bond under Italian law Issuer : UniCredit S.p.A.	Rating Date : 11.02.2019 Rating Renewal : Withdrawal of the rating	
LT Issuer Rating: BBB- (UniCredit) ST Issuer Rating: L3 Outlook Issuer: Stable	Rating Methodology : CRA „Covered Bond Ratings"	

Program Overview

Nominal value	EUR 24.000 m.	WAL maturity covered bonds	6,95 (Years)
Cover pool value	EUR 27.402 m.	WAL maturity cover pool	18,67 (Years)
Cover pool asset class	Mortgages	Overcollateralization (nominal/committed)	13,65%/ 7,53%
Repayment method	Conditional Pass-Through	Min. overcollateralization	0%
Legal framework	Italian legal framework for OBG	Covered bonds coupon type	Fix (29,17%), Floating (70,83%)

Cut-off date Cover Pool information: 31.12.2018.

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Summary

This rating report covers our analysis of the mortgages covered bonds (*Obbligazioni Bancarie Garantite* or OBG) program issued under Italian law by UniCredit S.p.A. („UniCredit "). The total covered bond issuance at the cut-off date (31.12.2018) had a nominal value of EUR 24.000,00 m, backed by a cover pool with a current value of EUR 27.402,00 m. This corresponds to a nominal overcollateralization of 13,65%. The cover assets mainly include Italian mortgages obligations in Italy.

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") has assigned the covered bond program an A+ rating. The A+ rating represents a high level of credit quality and low investment risk.

Key Rating Findings

+ Covered Bonds are subject to strict legal requirements (legal framework for OBG)
+ Covered bonds are backed by the appropriate cover asset class
+ Covered bond holders have recourse to the issuer
- Low asset quality of the issuer

Table1: Overview results

Risk Factor	Result
Issuer rating	BBB- (rating as of 03.08.2018)
+ Legal and regulatory framework	+4 Notches
+ Liquidity and refinancing risk	+1 Notch
= Rating after 1st uplift	A+
Cover pool & cash flow analysis	BB
+ 2nd rating uplift	+/-0
= Rating covered bond program	**A+**

Issuer Risk

Issuer

Headquartered in Milan, UniCredit S.p.A. (hereinafter: UniCredit) is the largest bank in Italy in terms of total assets. In addition, UniCredit belongs to the list of global systemically important banks; therefore, UniCredit must fulfill special regulatory requirements. The historical origin of the bank goes back to year 1870. The Group serves approximately 26 million customers, and had total assets amounted to EUR 837 billion as of 2017. UniCredit operates primarily in more than 14 countries in Central and Eastern Europe and in 18 other countries worldwide.

The bank was able to achieve a positive net profit of EUR 5,8 billion in 2017; however this result was boosted primarily by the capital gains related to the sale of Pioneer Group to Amundi with a net volume of EUR 2,1 billion. Overall, UniCredit regained its profitability while keeping its asset write-downs at a manageable level. In addition, UniCredit is ahead of its schedule with regards to reducing its operating expenses. In particular, UniCredit's reduction of the number of FTE's as well as its number of branches enabled UniCredit to boost its profitably. The ongoing improvement of its asset quality can be explained through the reduction of its non-performing exposures and the accelerated run down of its non-core portfolio. Furthermore, UniCredit achieved a solid level of capitalization due to the capital increase of EUR 13 billion in 2017. The overall liquidity situation of the bank is satisfactory.

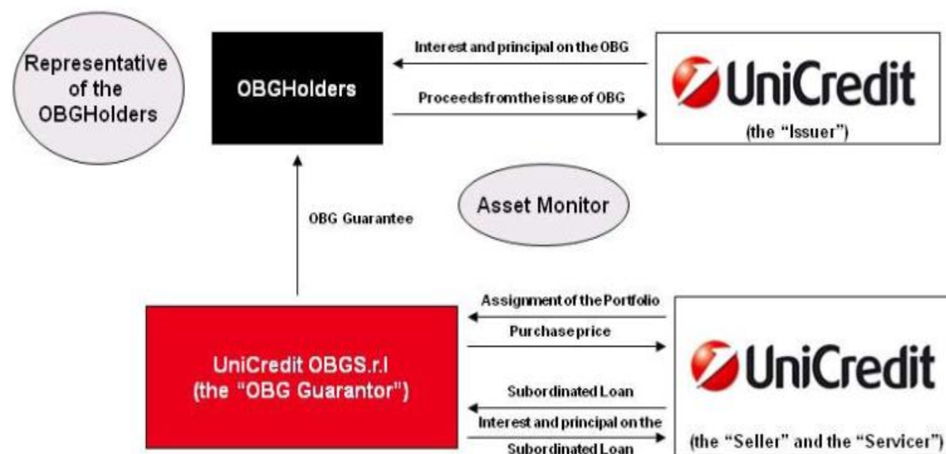
Structural Risk

Transaction structure

Table 2: Overview of all transaction's parties | Source: CRA

Role	Name
Issuer	UniCredit S.p.A., Milan
Guarantor	UniCredit OBG S.r.l.
Cover pool monitor / Trustee	BDO S.p.A.
Cover pool administrator	A portfolio manager should be appointed by the SPV to facilitate the cover assets liquidation in case of issuer default

Figure1: Overview of Covered Bond emission | Source: CRA



Legal and Regulatory Framework

In Italy, no distinct and independent legal framework exists which specifies the regulation of covered bonds by law. Italy has firstly incorporated covered bonds in the legal set-up in 2005 by amending the existing Italian securitization law (Law no. 130/1999) on the basis of two additional articles (Law no. 80/2005) dealing with the administration and issuance of Italian covered bonds ('Obbligazioni Bancarie Garantite' (OBG)).

While Italian banks do not need a special license to issue covered bonds, they have to fulfil certain requirements and comply with a number of limits in order to be allowed to issue covered bonds and to transfer eligible assets to a special purpose vehicle (SPV). Pursuant to the Italian central bank – the Bank of Italy – only banks with equity of leastwise EUR 250 million and a consolidated total capital ratio of leastwise 9% are allowed to issue covered bonds. This also accounts for the delegating banks, i.e. the cover asset suppliers. Furthermore, for an unlimited transfer of eligible assets to the SPV**,** the Tier 1 ratio has to be at least 9% and the Core Equity Tier 1 ratio has to be at least 8%. These requirements are more demanding than those currently requested by other European legal frameworks where a license system prevails. For instance, universal banks need to have a minimum Core Equity Tier 1 ratio of 4.5% according to Basel III standards.

According to Law no. 80/2005, the setting of a covered bond transaction is regulated. First of all, a credit institution delegates eligible cover assets to the SPV, which grants a guarantee for the issued covered bonds in favour of the covered bond holders. By means of a true sale, the SPV buys the assets via a subordinated loan received or safeguarded by a bank (this can be a bank different than the one selling the assets). The selling bank or another bank then issues covered bonds, while the assets bought by the SPV are used to guarantee the claims of the covered bond holders and relevant counterparties, as well as to pay transaction costs. Thus, the purpose of the SPV is to a) acquire eligible cover assets and become their owner and b) grant a guarantee for the issued covered bonds, safeguarded by the cover assets. The loan is reimbursed only after all covered bonds have been redeemed.

On 12/14/2006 and on 12/27/2006 Law no. 80/2005 was enriched by the decree of the Ministry of Economy and Finance (No 310) and regulations of the Bank of Italy (Circular No 263) including eligibility criteria of cover assets, the maximum permissible proportion between transferred assets and issuable securities and the kind of collateral to be supplied to covered bond holders by the SPV. Finally in 2007, the implementing principles were enacted and with it the legal framework necessary to issue covered bonds was finalized.

The Bank of Italy is responsible for the regulatory monitoring of covered bond programs, both off-site as well as on-site. On a regular basis, the Bank of Italy examines the compliance with relevant eligibility criteria and their documentation, like the requirement of own funds of leastwise EUR 250 million and a consolidated total capital ratio of leastwise 9%. The Bank of Italy stipulates that each issuing bank on its own is predominantly responsible for the assessment of operational risk, for suitable monitoring techniques and for its effective functioning at all times. Overall, the supervision of the covered bond issuer is only partially in line with EBA's best practice, as the covered bond program need not be approved and authorized by the competent authority. Besides, in case of an issuer default, the duties and powers of the supervisory authority comprise, amongst others the consultation on the administrator's actions, the power to order special audits, or the granting of extra powers to the administrator, which again fulfils EBA Best Practices.

The Italian legal framework accords with Article 129 CRR, which governs the risk-weighting of covered bonds, and is also in line with UCITS Directive 52(4). Italian covered bonds are eligible in repo transactions with the Bank of Italy.

Regarding the implementation of the BRRD, which features resolution authorities with several particular resolution tools and deals with the failure of financial institutions, Italy has translated the directive - including the bail-in tool - into national law on 1/1/2016. The BRRD allows authorities to interfere as fast as possible in an affected or bankrupt institution in order to guarantee the continuance of the institution's financial and economic tasks and to mitigate the aftermath of an institution's bankruptcy on the economy and the financial system. This law should ensure that the corresponding resolution authority exempts covered bonds from bailing-in and write downs. In November 2015, the Bank of

Italy saved four Italian banks (Banca delle Marche, Banca Popolare dell'Etruria, Cassa di Risparmio di Ferrara and Cassa di Risparmio di Chieti). The non-performing loans of the four troubled banks were delegated to a bad bank. While subordinated creditors were bailed-in, senior unsecured and covered bond creditors were fully repaid. Thus, covered bonds (and senior unsecured) were exempted from a bail-in. Nevertheless, this was in 2015 before the new resolution regime was introduced. Under the new BRRD provisions senior unsecured investors would not have been spared. Two years later on 6/23/2017, the ECB adjudged Banca Popolare di Vicenza and Veneto Banca to be 'failing or likely to fail'. The Italian regime decreed to separate the two banks into a good and a bad bank and to bail-in shareholders and junior bondholders.

Insolvency Remoteness and Asset Segregation

In Italy, the segregation of cover assets is accomplished via the sale/transfer of cover assets by a universal credit institution to a SPV equipped with a guarantee covenant. Consequently, the cover assets are isolated from the issuer's remaining assets and reserved for the preferential claim of the covered bond holders. EBA's best practice of assets segregation is fully satisfied. The Italian legal framework stipulates that the warranty issued by the SPV in favour of the covered bond holders has to be binding, first-demand, implicitly and autonomous of the issuing credit institution's liabilities. Moreover, in case of failure to pay or insolvency of the issuing bank the guarantee will be restricted to cover pool asset value to assure insolvency remoteness of the SPV, while the SPV is reliable for the ongoing interest and principal payments. All funds arising from the resolution procedure will be included in the cover pool and thus, utilized to meet the claims of the covered bond holders. The repayment of any outstanding obligation to covered bond holders, derivative counterparties and of transaction costs ranks senior to the repayment of the subordinated loan of the SPV.

In case of an issuer default, no automatic acceleration of the covered bond takes place. Covered bonds will continue to exist and they will be reimbursed at the time of their original contractual maturity. Besides, failure to pay does not cause a covered bond default. Italy mainly issues soft-bullet covered bonds, i.e. an extension period will grant additional time to pay back principal and interest payments of covered bonds, while only a small volume of covered bonds outstanding goes into pass-through mode in case of non-payment. Covered bond holders have a preferential claim on the cover assets by law, i.e. they are endowed with the right to assert a claim with the issuing bank and to demand complete reimbursement of the covered bond.

In case of an issuer default, the SPV will be in charge of repaying covered bondholders and relevant counterparties and will conduct lawsuits for covered bond holders against the issuing credit institution. The covered bonds are direct, unconditional liabilities of the issuer. Regarding bankruptcy remoteness, Italy fully complies with EBA's best practice and provides structural features to guarantee the remoteness of the covered bond from the insolvency of the issuer and a preferential treatment of the covered bond holders regarding the cover assets. If the funds arising from the liquidation are scarce to repay covered bond holders, covered bond holders in addition can file an unsecured claim against the general insolvency estate of the issuer and can make use of the dual recourse, which ranks senior to the unsecured creditors and fulfils EBA's best practice. These provisions are regulated by the legal framework replacing the general insolvency law.

Trustee

The Italian legal framework stipulates that an external asset monitor has to be nominated by the issuer and he or she has to supervise the accuracy of the transactions, the soundness of the cover assets as well as the reliability of the covered bond guarantee in favour of the covered bond holders. Furthermore, the asset monitor conducts audits of the cover pool and controls the retention of the coverage tests and verifies them. The asset monitor has to be an independent auditing firm endowed with the necessary expertise and know-how. Each year the asset monitor has to give a full account to the Board of Directors and to the internal audit department of the bank. Though the legal framework does not require any particular reporting to the Bank of Italy, the asset monitor usually submits any substantial discrepancy to the competent authority, while the report of the asset monitor is also investigated by the auditor of the bank. The bank's auditor, who files a report to the Bank of Italy on a regular basis, too, should call the Bank of Italy's attention to detrimental assessments. Furthermore, every half-year and for every single operation the issuers have to investigate the quality of the cover

pool, the adherence to the stipulated ratio of outstanding covered bonds to cover assets, the adherence to transfer restrictions and asset integration requisites, and the efficiency of any derivative hedge instrument. Overall, Italy fully conforms to the EBA requirement of appointing the cover pool monitor and formulating corresponding duties and powers.

Special Administrator

In case of issuer default or any other crisis with respect to covered bonds, the legal framework has set out duties and powers regarding the special administrative function - i.e. the ongoing management of the covered bonds - which is governed in an independent way and on behalf of the covered bond holders' preferential interests. The SPV has to organize the remaining liabilities of the issuer and has to fulfil payments at the time of their original contractual maturity, while the SPV will also be appointed to enforce the rights of the covered bond holders against the issuer in the bankruptcy proceedings. Italy fully complies with EBA's best practice regarding the administration of the covered bond program post the issuer's insolvency or resolution.

Eligibility Criteria

All assets transferred to the SPV are part of the cover pool. Eligible cover assets are residential mortgage loans with a maximum LTV of 80% of the nominal value or commercial mortgage loans with a maximum LTV of 60%. Moreover, claims owed or guaranteed by third parties are allowed with a maximum of 10% of total cover assets, while the third party either has to be a public entity of EEA member countries and Switzerland with a maximum risk-weight of 20%, or a public entity of non-EEA member countries with a risk weight of 0% or another entity of non-EEA member countries with a risk weight of 20%. Further eligible cover assets are senior mortgage-backed securities assessed with credit quality step 1, while at least 95% of the underlying assets include above mentioned eligible assets. If the amount of mortgage-backed securities exceeds the limit of 10% of the issuance nominal level of outstanding covered bonds, further requirements have to be obeyed. First the residential or commercial mortgage loans must be provided by an affiliated credit institution. Second, the issuer has to bear the risk underlying the whole junior tranche. And finally, the issuer and SPV must be capable of guaranteeing the eligibility and the amount of securitized assets at any time and they have to endow the special asset monitor with all important information in order to execute essential surveillance and monitoring duties. The assignment of eligible assets to the SPV is subject to various thresholds with respect to the regulatory capital levels of the issuer. If the Tier 1 ratio is at least 9% or higher and the Core Equity Tier 1 ratio is at least 8% or higher no transfer limitations exists. However, if the Tier 1 ratio is at least 8% or higher and the Core Equity Tier 1 ratio is at least 7% or higher, the amount of eligible assets that can be sold is limited to 60%. Finally, if the Tier 1 ratio is at least 7% or higher and the Core Equity Tier 1 ratio is at least 6% or higher, the transfer limit is set to 25%. Overall, substitution assets are allowed up to a limit of 15% of the cover pool's nominal value.

Eligible cover assets are residential mortgage loans with a maximum LTV of 80% of the market value or commercial mortgage loans with a maximum LTV of 60% of the market value, while exceeding the LTV cap makes the whole loan ineligible to be included in the cover pool. In Italy, both soft and hard LTV limits are in place. Hard limits are used, when the loan is comprised in the cover pool, while soft limits are used, when the loan deviates from the limit after inclusion. There exists no cap that induces the elimination of an existing loan from the cover pool. Thus, if the LTV limit is violated after a loan has been included in the cover pool, the issuer should either substitute the loan with a complying loan, or reduce the amount of the loan computable in the cover pool. Considering property revaluation, residential properties have to be evaluated every 3 years and commercial properties every year in accordance with Article 208(3) of the CRR. Overall, these legal requirements result in complete consistency with EBA's best practice considering LTV limits and the measurement and frequency of revaluation.

The geographical scope of legitimate mortgage assets and public sector assets is confined to EEA countries and to Switzerland, while regulatory arrangements are present to ensure that the cover assets are enforceable in the corresponding jurisdiction. This conforms fully to EBA's best practice.

Primary assets classes in the cover pool are residential mortgages, commercial mortgages, public sector loans and senior mortgage-backed securities, while issuers decide on the structure of cover

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pools on their own. Thus, mixed asset cover pools are possible and no regulatory limits with respect to the composition need to be adhered. Accordingly, Italy is merely partially aligned to EBA's best practice in terms of the composition of the cover pool.

Issuing banks primarily use derivative instruments in the cover pool to hedge market risks, like interest rate and currency risks. In case of issuer default, derivative contracts in the cover pool cannot be cancelled upon the issuer's bankruptcy and no automatic acceleration takes place. Derivative instruments, which are allowed in the cover pool, rank pari passu to covered bond holders. The treatment of derivatives fully conforms to EBA's best practice, as the legal framework requires that derivative instruments are permitted in the covered bond program solely for risk hedging purposes, while contracts in the cover pool cannot be cancelled upon the issuer's bankruptcy and no automatic acceleration takes place.

Systemic Relevance and External Support

After the 2007/2008 financial crisis, Italian covered bonds outstanding increased from around EUR 15bn in 2008[1] to around EUR 127bn in 2012. The outstanding amount has been increasing since and hit a new high-point at around EUR 147bn in 2017. The changing volume is mainly attributed to mortgage covered bonds outstanding, which reached from EUR 116bn in 2012 to EUR 140bn in 2017, while public sector covered bonds decreased from EUR 10bn to EUR 7bn at the same period. On average, 31bn mortgage covered bonds were issued each year over the last five years, whereas only 2,4bn public sector were issued each year over the same period.

With a market share of approximately 18% outstanding covered bonds in relation to the entire covered bonds segment as of 2017, UniCredit S.p.A. is one of the largest issuer on the Italian market, with a portfolio consisting primarily of mortgage covered bonds. Likewise, being the largest bank in Italy, the positioning of UniCredit S.p.A. in the Italian banking sector has been classified as systematically important.

Summary Structural Risk

In general, the Italian legal framework for OBG defines the legal basis for covered bond programs in Italy, it defines clear rules to mitigate risks in particular regarding: insolvency remoteness, asset segregation, investor's special claim vis-à-vis other creditors, the roll and appointment of a special administrator, among other provisions.

Therefore, we considered the structural framework in Italy as positive, accomplishing an adequate set of rules for Italian covered bonds. Furthermore, we contemplate the importance of UniCredit SpA in the Italian covered bonds market in our analysis. Due to those reasons we have set a rating uplift of four (+4) notches.

Liquidity- and Refinancing Risk

Minimum Overcollateralization

According to the legal framework and the Italian Ministry of Economy, assets have to be at least of the same amount as the covered bonds outstanding on a nominal and a NPV basis. In addition, interests deriving from underlying cover assets must be at least as high as interest payments on covered bonds. Thus, Italy requires issuing banks to stick to an overcollateralization level of at least 0% on a nominal and a NPV basis.

If a positive mandatory overcollateralization is required by the individual covered bond program, the overcollateralization level is binding, while respective assets above the minimum overcollateralization ratio are fully covered. Italy is considered aligned with EBA's best practice of coverage principles and overcollateralization, as requisites exist that guarantee an overcollateralization level beyond 0% and

[1] Source: EMF-ECBC (2018), ECBC: European Covered Bond Fact Book 2018, EMF-ECBC

thus ensure the repayment of obligations of the covered bond programs, together with the repayment of liabilities towards derivative counterparties and transaction costs.

Cash flows originating from cover assets have to be sufficiently large to disburse both principal and interest payments to covered bond holders and to settle up the costs of derivative counterparties. In order to comply with the regulations that assets have to be leastwise as high as covered bonds outstanding, an integration of cover assets can be conducted. For instance, further eligible assets, or substitution assets like deposit accounts at banks within EEA member countries or other countries with a 0% risk-weight can be opened, or own debt securities with a remaining contract period of less than 1 year can be included in the cover pool. Thus, integration is merely permitted in order to keep the amount of cover assets at least as high as the amount of covered bonds issued, if overcollateralization is stipulated to keep the ratio up to the prearranged limit and to meet the 15% threshold of eligible substitution assets.

Short-term Liquidity Coverage

No requirements with respect to liquidity risks, i.e. a mandatory liquidity buffer, are specified within the legal framework, while the principal procedure to alleviate liquidity risk is natural matching and stress testing. Furthermore, interest matching prerequisite is present and considers operational costs of the SPV and payments to derivative counterparties. As there exists no requirement for the implementation of a particular liquidity buffer Italy is considered to be merely partially aligned with EBA's best practice.

Stress Tests and Matching

While coverage tests have to be conducted, the legal framework does not stipulate any prescription to do stress tests. It is neither obligatory to do stress tests to anticipate interest rate and currency discrepancies, nor to do stress tests regarding the calculation of the coverage requirement per se. Nevertheless, stress testing can be conducted on a voluntary basis. Overall, EBA's guidelines are not satisfied.

Asset-Liability Mismatches

In order to guarantee that the revenues from the cover pool assets are always adequate to wipe off the claims of the covered bond holders and the transaction costs, the issuing banks need to implement suitable asset-liability management procedures and to conduct particular checks and supervisions leastwise half a year. Both nominal and present value coverage tests have to be undertaken every six months.

Repayment Method

This covered bond program issues covered bonds in the form of conditional pass through maturity structure, i.e. a final repayment with extension optionality at the end of the term. Maturity mismatches between cover assets and liabilities thus may be mitigated by extension of the legal final maturity of respective covered bonds. This feature of the covered bond program is considered quantitatively within our cash flow analysis.

Refinancing Costs

In the event of the issuer's insolvency, the legal framework stipulates that, the guarantor may sell a random part of the cover pool in every six months only if sale proceeds are sufficient to redeem the relevant pass-through OBG without incurring a loss and to make provisions towards accumulation for the earliest maturing OBG.

Other Liquidity Risks

Derivative instruments can be an additional measure to hedge market risks, like interest rate and currency risks. In case of issuer default, derivative contracts in the cover pool cannot be cancelled upon the issuer's bankruptcy and no automatic acceleration takes place. Derivative instruments, which are allowed in the cover pool, rank pari passu to covered bondholders. Information on the maturity of outstanding bonds, notional and NPV coverage, the structure of the cover assets, positions in derivatives and the fixed interest periods, the voluntary stress tests and the respective coverage shall be published on a semi-annual basis.

Summary Liquidity and Refinancing Risk

In comparison to other jurisdictions, the regulatory requirements for liquidity and risk management for OBG are relatively weak and barely in line with the requirements of EBA Best Practices. Overall, sufficient structural safeguards are not established due to the absence of compulsory liquidity buffers and no obligation to conduct stress tests for interest rate and currency risks.

Nevertheless, we assess the overall legal provisions on liquidity management for covered bonds (OBG) programs issued in Italy and set a rating uplift of only one (+1) notch.

Conditional Pass-Through Overview

In conditional-pass through maturity structure, maturity mismatches between cover assets and liabilities can be mitigated by the extension of the legal final maturities of respective covered bonds. 'Pass-Through OBG' means any series in respect of which: (i) the issuer has defaulted and fails to redeem the OBG on the applicable maturity date and (ii) the OBG guarantor has insufficient funds to redeem the OBG on the relevant maturity date.

Regarding UniCredit OBG, if the issuer becomes insolvent and the OBG guarantor has insufficient funds to repay the full OBG at the maturity date, the OBG becomes pass-through and the legal maturity is extended by 38 years. Once pass-through, payment of all unpaid amounts will be deferred automatically until 38 years, provided that any unpaid amount will be paid by the guarantor on any OBG payment date up to the extended period. However, the guarantor may sell a random part of the cover pool in every six months only if sale proceeds are sufficient to redeem the relevant pass-through OBG without incurring a loss and to make provisions towards accumulation for the earliest maturing OBG, without deteriorating the 'Amortisation Test'.

An amortisation test is carried out after the issuer event of default. The purpose of the test is to ensure that the cover assets, adjusted after taking into account the arrears and defaults, are at least equal to the outstanding covered bonds. For UniCredit OBG, the amortisation test is set at 75% of the applicable OC, i.e. the contractual OC before the occurrence of an issuer default. Failure to satisfy the amortisation test will constitute a guarantor event of default. This feature of the covered bonds is considered quantitatively during our cash-flow analysis.

Breach of such test allows the representatives of the OBG holders to serve an guarantor acceleration notice if directed by an extraordinary resolution of the OBG holders. Upon servicing the notice, the OBG becomes immediately due and payable together, irrespective of their scheduled maturity. A flow chart of the UniCredit pass-through OBG mechanism has been presented in Figure 2:

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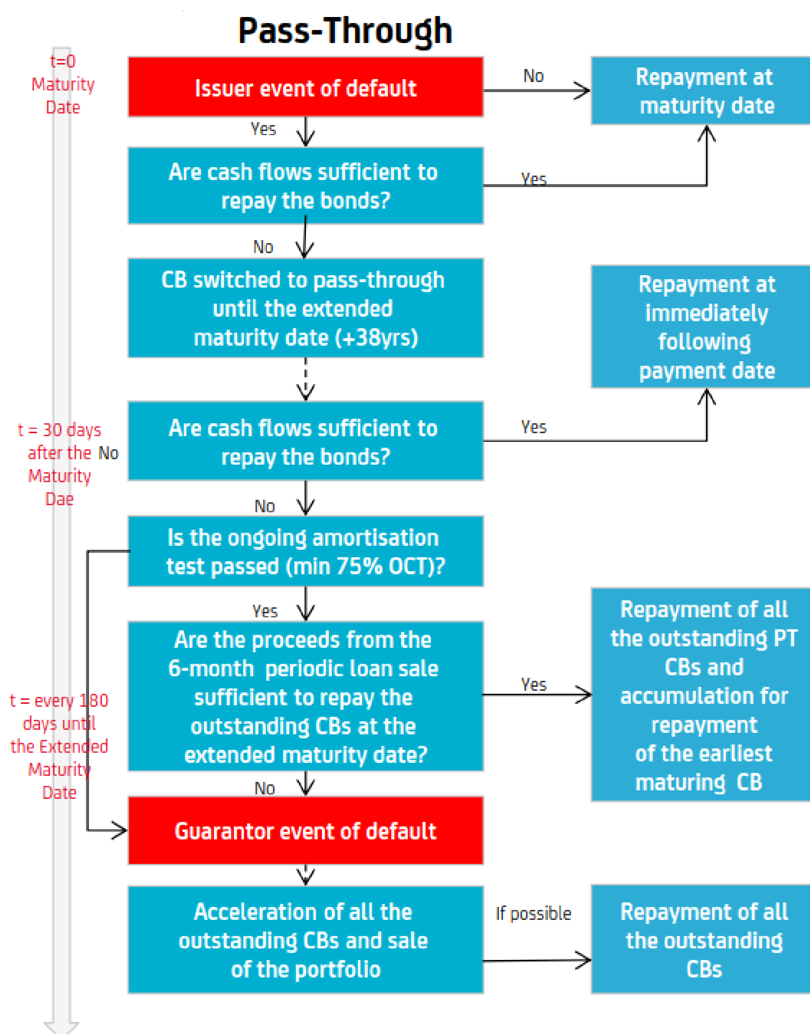
Figure 2: UniCredit Conditional Pass-Through OBG Mechanism I Source: UniCredit



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”.

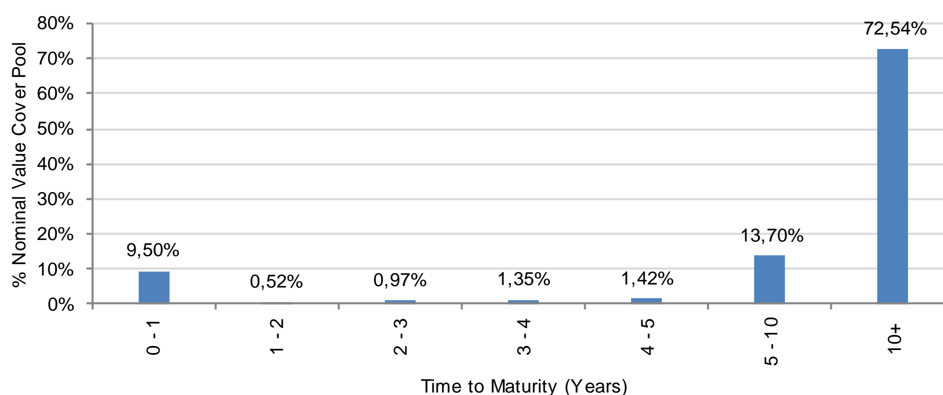
At the cut-off-date 31.12.2018, the pool of cover assets consisted of 319.068 debt receivables, of which 100,00% are domiciled in Italy. The total cover pool volume amounted to EUR 27.402,00 m in residential (95,29%), commercial (4,71%) and others (0,00%). The ten largest debtors of the portfolio total to 0,53%. Table 3 displays additional characteristics of the cover pool:

Table 3: Cover pool characteristics | Source: UniCredit

Characteristics	Value
Cover assets	EUR 27.402 m.
Covered bonds outstanding	EUR 24.000 m.
Substitute assets	EUR 2.538,00 m.
Cover pool composition	
Mortgages	90,74%
Substitute assets	9,26%
Other / Derivative	0,00%
Number of debtors	NA
Mortgages Composition	
Residential	95,29%
Commercial	4,71%
Other	0,00%
Average asset value (Residential)	EUR 75,84 k.
Average asset value (Commercial)	EUR 175,90 k.
Non-performing loans	0,01%
10 biggest debtors	0,53%
WA seasoning	76,85 Months
WA maturity cover pool (WAL)	18,67 Years
WA maturity covered bonds (WAL)	6,95 Years

We have listed an extended view of the composition of the cover pool in the appendix section "Cover pool details", with, for example, a detailed regional distribution. The following chart displays the maturity profile of the cover assets at the cut-off date 31.12.2018 (see figure 3):

Figure 3: Distribution by remaining time to maturity I Source: UniCredit



Maturity profile

The following charts present the cash flow profile of the Issuer (see figure 4 and figure 5):

Figure 4: Cover asset congruence | Source: UniCredit

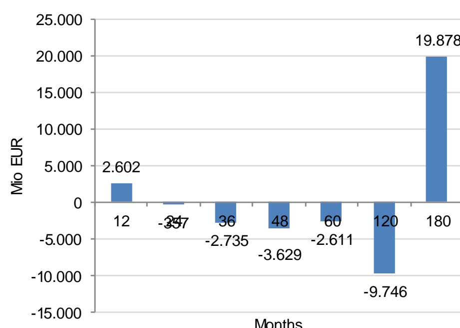
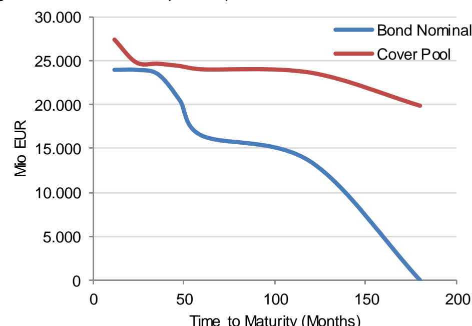


Figure 5: Amortization profile | Source: UniCredit



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 does not use derivatives to hedge interest rate- and currency risks. In addition, the legal framework does not stipulate any obligatory stress tests to anticipate interest rate and currency discrepancies. However, all the cover pool assets and covered bonds are denominated in euros that mitigates the currency risks.

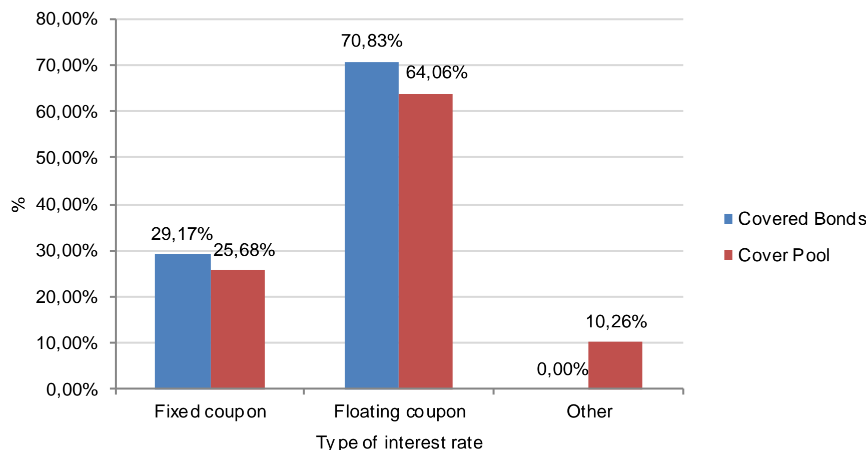
On the other hand, 64,06% of cover pool assets and 70,83% of covered bonds have floating interest rates (see Figure 6), which possess significant interest rate risks. Therefore, CRA has applied interest rate stresses on the cash flows at each rating level according to the methodology.

Table 4: Program distribution by currency | Source: UniCredit

Currency	Volume	Share (%)
Cover Pool		
EUR	EUR 27.402 m	100,00%
Cover Bond		
EUR	EUR 24.000 m	100,00%

Figure 6 shows the types of interest rate used in this program

Figure 6: Type of interest rate | Source: UniCredit



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 historical issuer's NPL ratio to derivate a conservative default rate proxy for the approximation through the LHP distribution. For the UniCredit it has been assumed an expected default rate of 4,50% for the LHP. Furthermore CRA has considered a 15,00% correlation to define the LHP distribution. Table 5 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 5)

Table 5: Cover Pool Base case assumptions | Source: CRA

Rating	Default Rate (%)	Recoveries (%)	Expected Loss (%)
BBB+	51,75%	46,49%	27,69%
BBB	50,85%	48,38%	26,25%
BBB-	49,54%	51,17%	24,19%
BB+	47,38%	56,28%	20,72%
BB	**44,88%**	**62,87%**	**16,67%**
BB-	42,03%	71,27%	12,08%
B+	39,52%	77,73%	8,80%

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 covered bond program issues covered bonds in the form of conditional pass through maturity structure, i.e. a final repayment with up to 38 years extension optionality at the end of the term. During its cash-flow analysis, CRA assumes that the covered bonds become pass-through and the legal maturities of the bonds are extended until the above-mentioned period.

Asset-Sale Discount

For Short-term liquidity needs or liquidity needs due to asset-liability mismatches, the guarantor may sell a random part of the cover assets in every six months if only sale proceeds are sufficient to redeem the relevant pass-through cover bonds without incurring a loss. During its cash-flow analysis, CRA, therefore, assumes that no fire sale of the cover assets takes place during the pass-through phase.

Yield Spread

Since cover assets often have a positive yield spread against the covered bonds issued, CRA uses available public information (i.e. issuers´ annual accounts) to size this assumed spread („Yield Spread“) (see table 6):

Table 6: Cash-Flow Model assumptions | Source: CRA

Rating level	Asset-Sale Discount	Yield Spread
BBB+	0,00%	0,99%
BBB	0,00%	1,01%
BBB-	0,00%	1,04%
BB+	0,00%	1,06%
BB	**0,00%**	**1,09%**
BB-	0,00%	1,12%
B+	0,00%	1,15%

Rating Scenarios

Scenarios that have been tested in our cash flow model rely on the variation of several central input parameters, such as:

- Portfolio composition (diversification, concentration, granularity)
- Probability of default of cover assets
- Correlations of cover assets and systematic risk factors
- Recoveries
- Maturity profile of covered bonds and cover assets (ALM)

Within a **BB** rating scenario, the cash flow model showed that obligations can be paid fully and in a timely manner. In total, the cash flow analysis revealed that the portfolio, given all information available as of 31.12.2018, could be sufficient to repay bond nominal capital notwithstanding the occurrence of any extraordinary events. On this basis, the rating of the cover pool within our covered bond program rating has been set at BB.

Overcollateralization Break-Even Analysis

CRA also performed a break-even OC analysis. Such OC levels should bear the corresponding losses for a given rating scenario. Main drivers of the analysis are:

- ALM
- Loss level
- Interest rate spreads
- Foreign currency mismatches
- 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 7.

Table 7: Breakeven Analysis | Source: CRA

Rating Level	Breakeven OC
BBB+	26,74%
BBB	24,71%
BBB-	21,98%
BB+	17,69%
BB	**12,99%**
BB-	7,97%
B+	7,53%

Sensitivity Analysis

CRA also evaluates the sensitivity of the structure and program with respect to important input parameters. In particular, the following factors have been varied:

- Credit quality of cover assets
- Recoveries

The following table presents the rating impact of a decline in recoveries and an increase in the credit risk of single debtors. Starting from the best-case, which is represented by our base case assumptions, the analysis reveals the sensitivity of the rating with respect to recovery rates and credit risk. The worst-case scenario, in which we reduce recoveries by 50% and increase credit risk by 50%, the impact can be seen by a change in the implied rating. Based on the base case, there is a high sensitivity of rating in terms of decreased recovery rates and increased defaults (rating reduced by up to 4 notches). In the worst-case scenario, i.e. a 50% decrease in the base case assumptions leads to a reduction in the base-case rating by 6 notches (see Table 8):

Table 8: Covered Bond Program Sensitivity: Credit Quality und Recovery Rates | Source: CRA

Defaults \ Recovery	Base Case	-25%	-50%
Base Case	**BB**	B+	B-
+25%	BB-	B	CCC
+50%	BB-	B-	CC

Summary Cash-Flow Analysis

Based on public information and using the base case loss assumptions, the analysis showed that obligations can be paid in full and in a timely manner. Overall, the cash flow analysis revealed that the portfolio, given the used information, may ensure the repayment of bonds' nominal capital notwithstanding the occurrence of the presented stressed scenarios. Therefore, the rating of the cover pool within our covered bond program rating has been set at BB. This, however, did not ensure any secondary rating uplift which has been set at zero (+/- 0) notch.

Counterparty Risk

Transaction parties

Table 9: Participant counterparties | Source: UniCredit

Role	Name	Legal Entity Identifier
Issuer	UniCredit S.p.A.	549300TRUWO2CD2G5692
Servicer	UniCredit S.p.A.	549300TRUWO2CD2G5692
Account Bank	UniCredit S.p.A.	549300TRUWO2CD2G5692
Sponsor	Not relevant for the issuer and/or CB program at the present time	Not relevant for the issuer and/or CB program at the present time

Derivatives

No derivatives in use at present.

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 legal framework for OBG stipulates that the cover assets should be isolated from the general bankruptcy estate (in-solvency-free assets) and the SPV has to organize the remaining liabilities of the issuer and has to fulfil payments at the time of their original contractual maturity, while the SPV will also be appointed to enforce the rights of the covered bond holders against the issuer in the bankruptcy proceedings.

Appendix

Rating History

Event	Initial Rating
Result	A+
Rating Date	11.02.2019
Publication Date	25.02.2019

Details Cover Pool

Table 10: Characteristics of Cover Pool | Source: UniCredit

Characteristics	Value
Cover Pool Volume	EUR 27.402 m
Covered Bond Outstanding	EUR 24.000 m
Substitute Assets	EUR 2.538 m
Share Derivatives	0,00%
Share Other	100,00%
Substitute Assets breakdown by asset type	
Cash	100,00%
Guaranteed by Supranational/Sovereign agency	0,00%
Central bank	0,00%
Credit institutions	0,00%
Other	0,00%
Substitute Assets breakdown by country	
Issuer country	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 Pools' Composition	
Mortgages	90,74%
Total Substitution Assets	9,26%
Other / Derivatives	0,00%
Number of Debtors	NA
Distribution by property use	
Residential	95,29%

Commercial	4,71%
Other	0,00%
Distribution by Residential type	
Occupied (main home)	76,73%
Second home	23,27%
Non-owner occupied	0,00%
Agricultural	0,00%
Multi family	0,00%
Other	0,00%
Distribution by Commercial type	
Retail	70,66%
Office	7,20%
Hotel	3,19%
Shopping center	0,00%
Industry	10,96%
Land	0,21%
Other	7,79%
Average asset value (Residential)	76 tEUR
Average asset value (Commercial)	176 tEUR
Share Non-Performing Loans	0,70%
Share of 10 biggest debtors	0,53%
WA Maturity (months)	203,37
WAL (months)	224,04
Distribution by Country (%)	
Italy	100,00
Distribution by Region (%)	
ABRUZZO	1,02
BASILICATA	0,20
CALABRIA	0,71
CAMPANIA	4,47
EMILIA ROMAGNA	9,56
FRIULI VENEZIA GIULIA	2,09
LAZIO	17,17
LIGURIA	2,13
LOMBARDIA	18,88
MARCHE	1,75
MOLISE	0,28
PIEMONTE	9,15
PUGLIA	4,29
SARDEGNA	1,19
SICILIA	9,32
TOSCANA	4,90
TRENTINO ALTO ADIGE	1,12
UMBRIA	2,18
VALLE D'AOSTA	0,21
VENETO	9,38

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Figure 7: Arrears Distribution | Source:: UniCredit

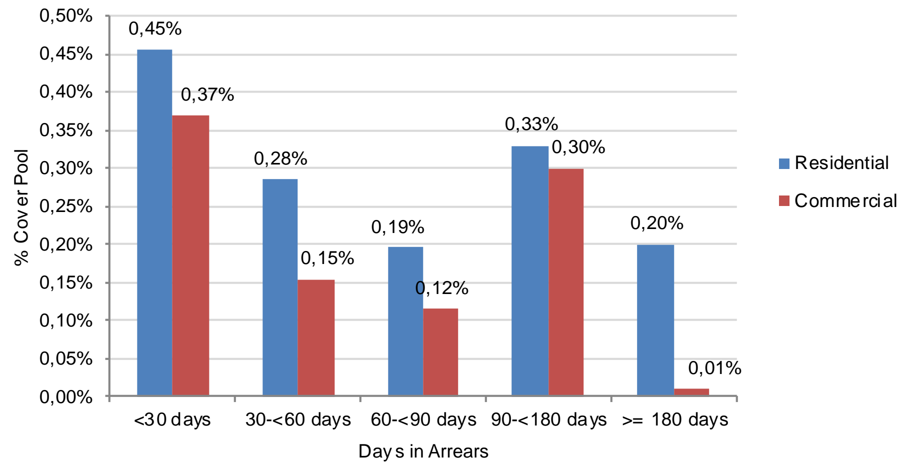


Figure 8: Unindexed LTV breakdown - residential pool | Source: UniCredit

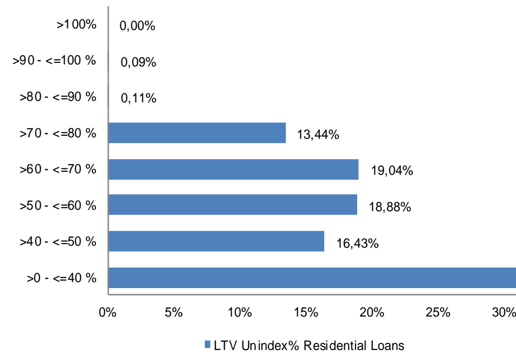
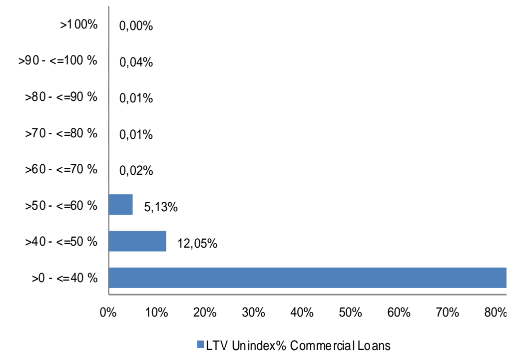


Figure 9: Unindexed LTV breakdown - commercial pool | Source: UniCredit



Key Source of Information

Documents (Date: 31.12.2018)
Issuer ▪ Audited consolidated annual reports of UniCredit SpA (Group) 2014-2017 ▪ Final Rating report as of 03.08.2018 ▪ Rating file 2017 ▪ Miscellaneous Investor Relations Information and Press releases ▪ Peergroup-Data and other data from the S&P Global Market Intelligence Database
Covered Bond and Cover Pool ▪ HTT Reporting from UniCredit S.p.A. (31.12.2018) ▪ Market data Mortgage Cover Bond Program.

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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 S&P Global Market Intelligence subject to a peer group analysis of 32 competing institutes. The cover pool's quantitative analysis for the rated Covered Bond Program was based on the "Harmonised Transparency Template" (HTT) published by the UniCredit SpA.

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www.creditreform-rating.de/en/regulatory-requirements/

This rating was carried out by analysts Edsson Rodriguez und AFM Kamruzzaman both based in Neuss/Germany. On 11.02.2019, the rating was presented to the rating committee by the analysts and adopted in a resolution.

The rating result was communicated to UniCredit SpA 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.

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

The date at which the credit rating was released for distribution for the first time and when it was last updated including any rating outlooks, is indicated clearly and prominently in the "Basic data" card as a "Rating action"; first release is indicated as "initial rating", other updates are indicated as an "update", "upgrade or downgrade", "not rated", "confirmed", "selective default" or "default".

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