Rating Methodology of Creditreform Rating AG

Rating of Bank Capital and Unsecured Debt Instruments

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Creditreform Rating

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This rating methodology for bank capital and unsecured debt instruments is an original development. Once implemented, the methodology applies to all current and future ratings of bank capital instruments and instrument.

1 Introduction

Creditreform Rating AG (CRA), established in 2000, is one of Europe's leading rating agencies.

For the purpose of this rating methodology, bank capital represents the value of a bank's equity instruments (regulatory capital) which can absorb losses and have the lowest priority of repayment in case of a bank failure[1]. Unsecured debt refers to any type of debt which is not protected by a guarantor or an underlying asset of the borrower in the case of bank failure. In the case of such a failure, secured creditors are served first by insolvency proceeds. If sufficient, those proceeds then pay out any unsecured creditors and, if not exhausted, paid further to holders of regulatory capital. In the EU, the BRRD[2] codifies this "waterfall" or cascade of insolvency proceeds.

In order to enable interested parties, investors and the interested public to be able to comprehend a CRA rating judgment, the present rating methodology is disclosed for the rating of bank capital and unsecured debt instruments (hereinafter referred to as "instruments"). The rating methodology is updated when changes are made in the applicable classification system. Each rating of the CRA is based on established principles (for example, rating process, basic procedures, fixed rating scales and additions). This rating system, the fundamentals, principles, and the code of conduct of the CRA are freely available on our website (www.creditreform-rating.de).

The present rating methodology can only be viewed with an existing long-term rating of the issuer in mind. The bank issuer rating as an anchor rating is an indispensable part of the following methodology.

2 Scope of Application

A rating of bank capital and unsecured debt instruments (hereinafter referred to as "instrument rating") of the CRA refers to instrument classes of a financial institution, taking into account the existing group structure (hereinafter referred to as "bank" or "institution"). The quality of the instruments is assessed for Eurozone institutions, but can in principle be applied to

[1] Please consult the annex for the CRA definition of bank default.

[2] See Chapter 3.2 for the Banking Recovery and Resolution Directive.

institutions outside of Europe as well. The present rating methodology defines the general analytical framework for carrying out such an instrument rating.

3 Rating Methodology

The bank capital and unsecured debt instruments rating methodology of CRA uses a modular notching approach. CRA considers a multitude of factors when rating instruments. Each 'module' (factor) receives dedicated attention and specific notching which is then added up, subject to limiting factors.

These specific notching factors are:

- Long-term rating of the bank
- BRRD and bail-in under resolution
- Seniority structure and instrument class
- Bank capital and debt structure
- Too-big-to-fail

Limiting factors are:

- Technical limits, such as AAA at the top or C at the bottom of the rating scale[3]
- No junior instrument class should receive the same or a better rating than a more senior instrument class, unless instrument-specifics warrant a higher rating
- No instrument rating covered in this methodology shall exceed the bank issuer rating

Each of the notching factors is subject to qualitative and quantitative approaches. The CRA applies uniform analytical procedures for all its ratings. The starting point for the rating of a specific financial instrument is always the issuer rating (Long-Term Issuer Rating, see Bank Rating Methodology of the CRA).

3.1 Long-term issuer rating of the bank

Long-term ratings assess the default risks for each category of a bank's financial instruments. Our analysts establish whether the bank will be able to meet its payment obligations for these

[3] See Chapter 3.1 for the rating scale of CRA.

financial instruments on time and whether external support may be required to service certain categories of financial instruments in order to meet the payment deadlines.

The CRA scale for long-term bank ratings (see below) features the internationally common rating categories from AAA to D with 21 levels of financial strength, each of which denotes a specific level of financial strength and insolvency risk:

Rating category	Lt issuer rating	Assessment
AAA	AAA	Excellent level of financial strength, extremely low insolvency risk
AA	AA+	Very good level of financial strength, very low insolvency risk
	AA	
	AA-	
A	A+	Good level of financial strength, low insolvency risk
	A	
	A-	
BBB	BBB+	Good to satisfactory level of financial strength, low to medium insolvency risk
	BBB	
	BBB-	
BB	BB+	Satisfactory level of financial strength, medium insolvency risk
	BB	
	BB-	
B	B+	Adequate level of financial strength, increased insolvency risk
	B	
	B-	
C	CCC	Barely adequate level of financial strength, high or very high insolvency risk
	CC	
	C	
SD	SD	Insufficient level of financial strength. Selective default of an essential part of the liabilities
D	D	Insufficient level of financial strength. Negative characteristics, insolvency, moratorium, default.
NR	Not Rated	Rating temporarily suspended, for example due to an ongoing liquidation

For CRA, the anchor rating of all rated instruments is the long-term issuer rating (see bank rating methodology of the CRA), because the creditworthiness of the issuer is an authoritative reference point. It is important for the instrument rating that the issuer has a CRA long-term

rating. If the direct issuer has no long-term rating, but the parent company, CRA can also use this rating as a rating reference point if:

- The parent company owns a 100% stake of the subsidiary or
- The probability is very high that the issuer of the instrument is supported by the parent company in the event of payment problems.

The probability of the support depends on a variety of factors, including:

- Common Jurisdiction
- Agreements on profit transfers
- Uniform branding
- Interdependency in business model and refinancing.

Specific notching will be applied to all classes of instruments, depending on different bank issuer rating bands.

Rating category band	Assessment	Notching
AAA – BBB	No further action needed.	0
BB – B	Increased risk of non-viability.	- 1
C	Barely adequate financial strength. High risk of non-viability.	- 2

Rating categories from AAA to BBB warrant no further action. Banks in these categories enjoy adequate capitalization and good financial strength. As such, the risk of non-viability is low and no additional notching will be applied. Banks in the BB to B category have adequate or satisfactory at most financial strength, but they face a higher risk of non-viability due to numerous factors. Reasons for this could be a bad earnings situation and insufficient capital, among others. All instruments would see a one notch downgrade from the bank issuer rating in the first step. Banks within the C category have barely adequate financial strength and face a very high insolvency risk. CRA acknowledges this increased risk with a downgrade of two notches for all instruments in the first step.

Further notching, specific to instrument classes and seniority of claims will be discussed in the following chapters.

3.2 BRRD and bail-in under resolution

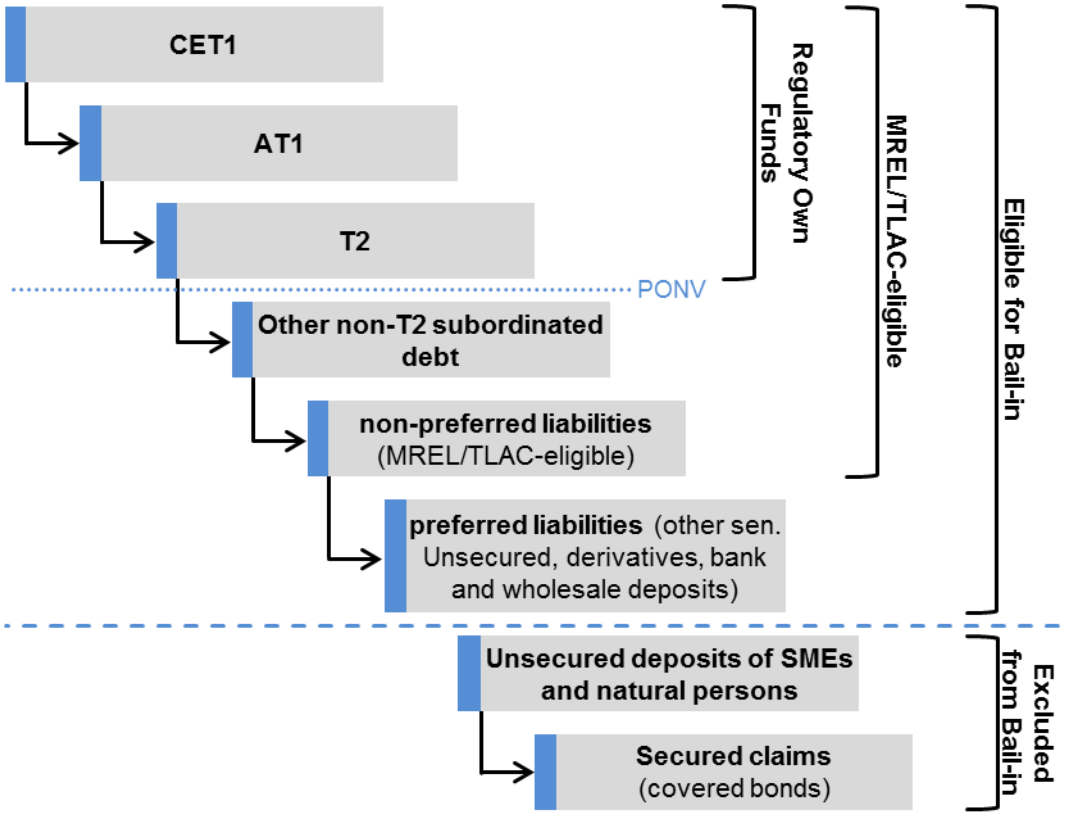
The contractual or legal liability structure (seniority) determines the distribution of a bank's assets and cash flows to creditors in the event of a default. The relevant legal framework for the EU and EEA countries is the European Bank Recovery and Resolution Directive (BRRD), and for the countries of the Eurozone the Single Resolution Mechanism (SRM). The BRRD (and the complementary SRM) was the response to the global financial crisis as a broader regulatory post-crisis framework. The regulation contains four key elements:

- Recovery and resolution planning
- Early intervention measures by supervisor
- Application of resolution tools and powers
- Cooperation and coordination between national authorities

The BRRD provides a set of resolution tools that can be used in the event of a bank failure, one of which is the **bail-in tool**. Debt instruments can be converted into equity or the principal amount can be reduced partially or in full (“senior bail-in”).

With substantiation of the BRRD in December 17 2017, the European Commission amended the existing framework in order to unify the diverging national frameworks that had previously developed. CRA recognizes two types of senior unsecured debt: preferred and non-preferred. While preferred liabilities are eligible for bail-in, only non-preferred liabilities are additionally MREL/TLAC-eligible.

As a result, the insolvency and bail-in hierarchy in the case of resolution is as follows:



Instruments of the category Regulatory Own Funds are so-called Going-Concern-Liabilities, while all other liabilities listed are so-called Gone-Concern-Liabilities. The transition from the former to the latter is referred to as the point of non-viability (PONV), at which the institution has exhausted its entire regulatory capital and is no longer "viable". Excluded from bail-in proceedings are unsecured deposits of small-and-medium-enterprises (SMEs) as well as secured claims. CRA will first and foremost rate credit, and not equity or other liabilities not covered below (e.g. deposits).

3.3 Seniority structure and instrument class

3.3.1 AT1

Capital instruments shall identify as *Additional Tier 1* (*AT1*), if the following conditions (among others) are met:

- The instruments rank below *Tier 2* in the case of insolvency
- The instruments have no maturity/are perpetual with no incentive for the institution for early redeeming
- Trigger events require a write down of principal on a temporary or permanent basis or a conversion into *Common Equity Tier 1* (*CET1*)
- Institutions have full discretion in terms of distribution of payments (e.g. interest); failure to pay does not implicate default nor facilitate repercussions for the institution.

As such, CRA acknowledges two main drivers of risk for holder of *AT1* debt. One risk is the principal write down (temporary or permanent) or conversion into *CET1*, the latter often accompanied with a permanent write down. Upon reaching the *CET1* trigger as per contract or when the ECB deems an institution failing-or-likely-to-fail (FOLTF), investors will have to expect a share or the entirety of their principal written down. In practice it will be much more common for investors to experience the second risk, namely loss of coupon payments. At the discretion of the issuer or upon breaching a contractual combined buffer requirement (CBR)[4], issuers can suspend distribution of payments on *AT1* debt. In practice, the latter risk will be far more frequently encountered by investors, not least due to higher effective trigger requirements, but the impact will be less.

The combination of these risks results in notching of **-3 notches**, but instrument-specific further notching can be applied at the discretion of the rating analyst, namely the level and distance of and to the contractual trigger or combined buffer requirement. A level close to the contractual trigger requirement bears the risk of immediate write down, and should the ECB

[4] CBR is the total Common Equity Tier 1 capital required to meet the requirement for the capital conservation buffer extended by the following, as applicable: (a) an institution-specific countercyclical capital buffer; (b) a G-SII buffer; (c) an O-SII buffer; (d) a systemic risk buffer

deem an institution FOLTF, a write down can happen even if triggers have not been breached. The rating of the instrument should be reflecting this very real risk.

3.3.2 Tier 2

Capital and subordinated loans shall qualify as *Tier 2* (*T2*), if the following conditions (among others) are met:

- The *T2* instruments/subordinated loans rank above *AT1* but below all other subordinated debt in the case of insolvency
- The *T2* instruments/subordinated loans have an original maturity of at least 5 years.

In contrast to risk associated with *AT1* instruments, *T2* instruments do not face coupon cancellation risks, but only principal loss absorption without the need for a contractual trigger condition[5]. *T2* instruments rank senior to *AT1*. *T2* instruments will be written off or converted at the PONV, and before any resolution action is implemented. As such, they bear less probable risk than *AT1*, but more risk than more subordinated instruments.

T2 instruments bar any specifics shall be notched down **-2 notches**.

As with *AT1* instruments, rating of specific *T2* instruments may warrant further notching.

3.3.3 Non-Preferred Senior Unsecured (MREL- and/or TLAC-eligible)

Non-Preferred Senior Unsecured debt bar any specifics and should generally reflect the bank issuer rating, subject to a single downnotch, reflecting the remote chance of a bail-in under resolution due to its relative seniority compared to issues which rank lower in insolvency proceedings. However, the underlying bank capital and debt structure may incur down-notching, as outlined in chapter 3.4 below. See also limiting factors for instrument ratings in chapter 3.6 below.

[5] T2 instruments may be designed with a contractual trigger, however.

3.3.4 Preferred Senior Unsecured

Preferred Senior Unsecured instruments which are *not* MREL and/or TLAC-eligible will not receive prior notching. The underlying bank capital and debt structure may incur down-notching, as outlined in chapter 3.4 below and is further likely subject to limiting factors, outlined in chapter 3.6 below.

3.4 Bank Capital and Debt structure

The structure of the bank capital and debt (hereinafter referred to as "debt structure") is of particular importance. Seniority and bail-in waterfall can only present the risk of default in individual positions on a superficial basis and require further analysis. In this respect, in a setting of unfavorable (advantageous) debt structure, down-notching (up-notching) may be applied at the discretion of the rating analyst.

An "advantageous" debt structure, for any given instrument class, would be a large amount of subordinated debt preceding the class in the case of bail-in and being comparatively large, relative to the balance sheet. Not only would investors of the given instrument class being subject to a small bail-in risk, they would also only suffer a fraction of the total loss.

In the case of an "unfavorable" debt structure, for any given instrument class, such an instrument class would rank junior to many or all other claims eligible for bail-in, as well as being comparatively small.

In any case, the BRRD requires institutions which are deemed FOLTF by the ECB to make up for losses of a minimum 8% of total assets in the course of a bail-in, before the shareholders and lenders gain access to the Single Resolution Fund (SRF). In a worst case event the resolution authority may allow alternative financing methods (e.g. bail-out).

In the following, CRA assumes that the average loss does not exceed these 8% of the total assets. The debt structure is, next to the waterfall, decisive for the loss propagation.

To determine additional notching for individual instrument classes, CRA first determines the level of subordination (vertical axis), that is the percentage of instruments that rank junior to the instrument class in question. According to an average loss rate of 8%, there would be no further write downs for higher-ranking instruments (subordination ≥ 8%). The next step is to record the relative size of the instrument class (pari passu), if possible. A comparatively small

instrument class is to be considered “unfavorable”, since a possible loss weighs heavier than would be the case in a class of larger relative size. Due to the relationship between subordination and relative size of in the debt structure, we arrive at the following notching matrix for bank capital and debt structure featured below:

subordination \ relative size of instrument	<2%	<4%	<6%	<8%	<10%	<12%	<14%	≥14%
<2%	-3	-3	-2	-2	-2	-2	-1	-1
<4%	-2	-2	-2	-2	-1	-1	-1	-1
<6%	-2	-2	-1	-1	-1	-1	-1	-1
<8%	-1	-1	-1	-1	-1	-1	-1	-1
<10%	0	0	0	0	0	0	0	0
<12%	1	1	1	1	1	1	1	1
<14%	1	1	1	1	2	2	2	2
≥14%	1	1	2	2	2	2	3	3

As an example, consider a debt instrument class for which there is a subordinated instrument class/classes with subordination in the order of less than 6% of total assets, the value of the subordination would be "<6%" on the vertical axis. The minimum notching range would be between -1 and -2. So consider an instrument class that is very small, less than 2% of total assets. As such, the additional down-notching due to the debt structure would be -2 notches.

3.5 Too-Big-To-Fail

It seems plausible that, despite BRRD and SRM efforts or due to inherent flaws and loopholes thereof, individual banks are proving to be too systemically relevant or simply too costly for resolution to be viable. This is particularly true if the stability of the banking system cannot be guaranteed due to an exposed liabilities side with very high interbank liabilities. In these cases, it would be conceivable that individual institutes could be saved against all attempts at a controlled resolution, especially if politically motivated. This eventuality could lead to CRA considering an upgrade of certain instrument classes.

3.6 Limiting factors

There are inherent limiting factors to an instrument rating which warrant further discussion. Outlined in the introduction of chapter 3, these factors will be discussed in more detail below.

3.6.1 Technical limitations

Instrument ratings, through notching, shall not exceed 'AAA' or go below 'C' at the bottom of the rating scale and are as such subject to a technical rating ceiling and floor.

3.6.2 Coherence of the rating

Ratings are to be coherent between instrument classes. This naturally means that two instrument classes are not to have the same rating assigned. E.g. if the Issuer Rating of the bank is 'A' and *Preferred Senior Unsecured* also receives an 'A'-rating, no other instrument class, such as *Non-Preferred Senior Unsecured,* shall receive an 'A'-rating. In such an eventuality, the junior class will be notched down by an additional factor of one. Should this then violate the coherence of the rating of yet another junior instrument class, this class shall too be notched down by one grade, and so forth until the ratings are coherent.

Likewise, a rating of an instrument class shall not exceed the bank issuer rating and as such is affected by a rating ceiling set by the bank issuer rating.

4 Continuous Monitoring and Follow-Up Rating

Following the release of the (initial) rating, the team of analysts continues to observe the business development of the bank under review (this process is called "monitoring") in order to ensure that the rating is not made obsolete by events, staying in close contact with the client and evaluating business documents such as quarterly reports. If any significant events or developments occur during the monitoring period that may adversely or positively affect the business of the bank under review, the original rating may be adjusted.

Once the monitoring period has expired, a valid rating will generally require a new rating process to be performed for a follow-up rating. Any measures taken by the bank which have changed the determining factors of its financial strength can then cause an adjustment of the rating.

Annex

Definition of a default

All ratings must have a working definition of a default event. The definition used by CRA is essentially derived from the definition of the Basel Committee on Banking Supervision. A bank is considered "in default" when it looks highly likely that it will no longer be capable of fully meeting the contractual payment obligations of its financial instruments or when the bank is about to be wound down due to specific regulatory requirements (for example, when the financial supervisory authority declares a bank "failing or likely to fail", FOLTF). Under the CRA definition, no default is deemed to have taken place if supporting measures have been granted or announced, no matter whether this support will be provided in the form of government guarantees, guarantor liability or institutional liability or letters of comfort. An issue of voluntary or contractual waivers of receivables shall equally not be interpreted as a default. It is possible, however, that the qualitative analysis of the bank under review may under such circumstances produce a more cautious assessment of its intrinsic financial strength and stand-alone rating, causing a downgrading of the overall rating, also taking into account that external support to uphold a bank's liquidity will always have a limited time horizon.

CRA distinguishes between long-term and short-term issuer ratings and has a separate rating scale for either category. Long-term and short-term ratings are mainly differentiated with regard to the bank's liquidity and on the basis of the maturities of the financial instruments that the bank under review uses as assets or refinancing instruments when it transforms its maturities.