Credit rating methodology for banks

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1. Introduction

This document presents main assumptions, principles and criteria of the rating methodology used by the EuroRating credit rating agency to issue credit ratings for banks.

2. Rating methodology

2.1 Basic assumptions

2.1.1 Type and scope of the risk assessed

Credit ratings issued by the EuroRating credit rating agency are synthetic assessments of the credit risk related to individual rated entities. The basic credit rating for the rated entity (rating for the issuer) determines the financial credibility and ability of the rated entity to pay off timely short- and long-term financial liabilities in a time horizon of up to 3 years.

The ratings issued by EuroRating define credit risk in absolute terms – the level of rating for an individual entity does not depend on the levels of ratings of other entities. Therefore ratings of the EuroRating credit rating agency do not constitute a comparative ranking, but are grades assigned to a fixed risk scale.

Credit risk expressed by ratings of the EuroRating credit rating agency is defined on a 20-grade scale – analogical to the traditional rating scale commonly used by other international credit rating agencies. This ensures comparability of ratings and makes it easier for their users to use ratings issued by individual agencies.

Nevertheless, it should be noted that credit ratings of the EuroRating credit rating agency are not only estimates of the Probability of Default (PD) of the rated entity, but are a comprehensive estimated assessment of the risk of a loss (i.e. ultimate loss of part or all of the receivables, together with interest) by the creditors of the rated entity as a result of its insolvency. Therefore the ratings issued by EuroRating express a combination of the estimated probability of default (PD) of the rated entity and the estimated degree of a final loss of receivables by its creditors in the event of actual default (Loss Given Default – LGD).

The credit rating for an issuer relates to the assessment of the credit risk of its unsecured, non-preferred, and non-subordinated financial liabilities. Where a rated entity issues debt securities with a credit risk profile different from the issuer's overall credit risk profile (e.g. secured, subordinated or hybrid bonds) a separate rating for the financial instrument is required.

2.1.2 Economic cyclicality

One of the principles that EuroRating follows when issuing long-term credit ratings is to maintain the relative stability of the assigned ratings over a longer time horizon. The long-term approach to credit risk assessment ("through the cycle" approach) is aimed at taking into account and eliminating the impact on the rating of small fluctuations in the financial condition of individual rated entities, related to typical cyclical fluctuations in the economic situation. This approach results in a reduction in volatility and frequency of changes of the assigned credit ratings.

Nevertheless, the above principle of maintaining the stability of assigned credit ratings does not mean that EuroRating does not change the levels of the assigned ratings when it is justified by relevant factors.

2.1.3 Forecasts

When issuing and monitoring credit ratings, EuroRating conducts a forward-looking analysis using qualitative and quantitative information. In addition to historical data and current information, the analysis takes into account, where possible, the potential impact of probable future events on the credit risk profile of the rated entity (based on available forecasted data and information).

EuroRating’s analysis may be based solely on its own forecasts and estimates, as well as may use forecasts prepared by external parties – including rated entities (the quality and credibility of these forecasts are subject to internal assessment of the agency).

2.2 Sources of information used

The EuroRating credit rating agency issues both solicited and unsolicited credit ratings.

Solicited ratings are assigned at the request of the rated entity or a related third party. Unsolicited ratings are issued on the agency's own initiative (in response to information purposes of market participants) or at the request of third parties not related to the rated entity.

Depending on the rating status (solicited/unsolicited), EuroRating may use in the analytical process to a varying extent, both information publicly available, as well as confidential information (usually obtained from the rated entity).

2.3 Scope of analysis

In the process of assigning and subsequent monitoring of the assigned rating, the analysis of the financial and economic situation of the rated company has a very wide scope. This is because the assessment of the risk of insolvency concerns the long-term perspective (up to three consecutive years) and in addition it is necessary to accurately estimate the credit risk level in a precise 20-grade scale.

The analytical process is based on the collected information (financial and non-financial) on the rated entity, as well as on its macroeconomic, market, industry and legal environment and any other information that may affect the economic and financial situation of the rated entity and its credit risk.

Due to the type of data used at individual stages of the analysis, the analytical process is divided into quantitative analysis and qualitative analysis.

2.3.1 Quantitative analysis

The quantitative assessment includes primarily the analysis of the bank's financial statements (if possible – for the last ten years, while taking into account the latest quarterly reports and – if available – forecasts for the future), carried out, inter alia, based on credit risk scoring models, which facilitate determining the initial rating level for a rated bank.

Scoring models take into account the most important financial ratios from the point of view of assessing the financial standing of the rated entity. These ratios are assigned ranges of values, that classify a given level of the ratio to the rating classes corresponding to these ranges (according to the rating scale applicable in the EuroRating credit rating agency).

The scoring model calculates a synthetic risk index (scoring) based on all the most important financial ratios taken into account, as a weighted average of numerical values assigned to risk classes corresponding to the values of individual financial ratios.

The initial credit rating obtained on the basis of scoring is then subject to additional analysis, which includes an expert assessment of the impact of individual areas of quantitative and qualitative analysis on the overall credit risk of the rated entity.

The crucial element of the financial analysis is the ratio analysis, which consists of calculation of financial ratios based on (original and adjusted for one-off events) financial data reported by the bank. A part of the used financial ratios are included in the scoring models. Regardless of this, EuroRating usually calculates and analyses several dozen financial ratios (for both original and adjusted data) presenting the situation of the rated bank in areas such as: profitability, solvency, the structure of assets and liabilities and the quality of the loan portfolio.

The typical most important financial indicators used by EuroRating in the analysis of banks are presented below:

Profitability assessment:

Ratio	Formula
Gross margin on core business	(Interest income + Fee and commission income) / (Interest revenues + Fee and commission revenues)
Net margin	Net income / (Interest revenues + Fee and commission revenues)
Cost / Income	General administrative expenses / (Interest income + Fee and commission income + Other operating income and expenses)
Net profitability of RWA	Net income / Average risk-weighted assets
Operating profitability of assets	Operating income / Average total assets
Operating profitability of RWA	Operating income / Average risk-weighted assets
Return on assets (ROA)	Net income for 4 quarters / Average total assets
Return on equity (ROE)	Net income for 4 quarters / Average equity
Net interest margin	Interest income / Average assets generating interest
Net commission margin	Fee and commission income / Average assets generating interest
Interest revenues / Assets generating interest	Interest revenues / Average assets generating interest
Interest expenses / Interest bearing liabilities	Interest expenses / Average interest bearing liabilities

Financing assessment:

Ratio	Formula
Equity financing (leverage)	Equity / Total assets
Equity financing excluding intangible assets	(Equity - Intangible assets) / (Total assets - Intangible assets)
TCR solvency ratio	Bank's own funds / Risk-weighted assets
Tier 2 solvency ratio	Tier 2 capital / Risk-weighted assets
Tier 1 solvency ratio	Tier 1 capital / Risk-weighted assets
Core Tier 1 solvency ratio	Equity / Risk-weighted assets

Assets and liabilities structure:

Ratio	Formula
Share of loans in total assets	Amounts due from customers / Total assets
Share of deposits in liabilities	Amounts due to customers / Total liabilities and equity
Share of bonds in liabilities	Amounts due to bonds issued / Total liabilities and equity
Deposits / Loans	Amounts due to customers / Amounts due from customers
Deposits + Bonds issued / Loans	(Amounts due to customers + Amounts due to bonds issued) / Amounts due from customers
Interbank receivables / Liabilities	Amounts due from banks / Amounts due to banks
Cash liquidity	(Cash + Cash and balances at the Central Bank) / Total liabilities
Quick liquidity	(Cash + Cash and balances at the Central Bank + Financial assets held-for-trading) / Total liabilities

Quality of loan portfolio:

Ratio	Formula
NPL / Gross loans	Gross value of non-performing loans / Total gross value of loans
Coverage of NPL by provisions	(Write-offs for non-performing loans + IBNR write-offs) / Gross value of non-performing loans
Provisions for NPL / Gross loans	(Write-offs for non-performing loans + IBNR write-offs) / Total gross value of loans
NPL not covered by provisions / Equity	(Gross value of non-performing loans - Write-offs for non-performing loans - IBNR write-offs) / Average equity
Average cost of credit risk	Result from write-offs for assets due to loan impairment / Average total gross value of loans

Some of the above ratios are calculated twice – separately for the data obtained directly from the rated bank's financial statements, as well as for data adjusted (normalized) by EuroRating. Moreover, additional customized ratios may be calculated for individual banks, which takes into account the specific business conditions in which the bank operates (this applies, for instance, to banks which have a significant share of loans denominated in foreign currencies or other untypical assets in their portfolio).

In addition to calculation of the values of financial ratios, an important element of the quantitative analysis is the assessment of the stability of financial ratios, as well as the dynamics and direction of changes of basic indicators in time, characterizing the bank's financial condition.

The assessment of the bank's financial situation also includes a comparative analysis. This analysis consists of evaluating the individual parameters and the overall risk profile of the bank in relation to other banks constituting its reference group.

It should be noted that, if the bank has got a strategic shareholder (eg. an another bank or other business entity), the financial analysis is being also carried out for the parent entity, in order to assess the ability and possibility of the majority shareholder to provide a financial support to the rated bank, in case if needed.

2.3.2 Qualitative analysis

The qualitative analysis includes the assessment of factors influencing the economic and financial situation and the credit risk of the rated bank, which are difficult to quantify and to measure objectively. The qualitative analysis is therefore primarily an expert assessment of the impact of these factors on the level of the bank's overall credit risk and its final credit rating.

When selecting the qualitative factors to be analysed, EuroRating takes into account their adequacy to the assessment of the credit risk of the rated bank, as well as the importance and relevance of their influence on the assessment of the creditworthiness of that bank. The individual analysed qualitative factors are assessed in terms of whether they have a positive, neutral or negative impact (and how strong it is) on the credit risk of the rated bank.

Qualitative assessment factors may include both macroeconomic (country and sector risk assessment) and microeconomic parameters (assessment of individual areas of the bank's activity).

Examples of **macroeconomic factors** to be assessed include inter alia:

- political and economic stability of the country in which the bank operates (in the case of international banks, the analysis concerns the main countries, in which the bank generates revenues and/or has got assets invested)
- independence, stability and predictability of the country's monetary policy
- current and forecasted interest rates
- currency exchange rates
- state debt and the fiscal policy being implemented
- current and forecasted economic situation
- unemployment rate, changes of average salaries.

Examples of **sector-level factors directly affecting banks** are also assessed, inter alia:

- regulatory, legal and tax environment
- concentration of the sector (number and strength of major players in the sector)
- intensity of competition in the sector, margins achieved and rates of return on capital
- number and share of state-controlled entities in the sector
- demand for loans in the corporate and private sector
- general availability of financing by deposits on the market (liquidity in the sector – the ratio of deposits to loans)
- historical, current and forecasted average level of non-performing loans (NPL)
- technological changes and the threat from entities from the non-banking sector.

The **microeconomic factors** related to the assessed bank itself include inter alia:

- geographic diversification of the bank’s activities
- bank’s market share and trends of its change over time
- recognisability and reputation of the bank on the market (or markets), on which it operates

- product diversification of the bank's offer (specialized/universal bank)
- the bank's key competitive advantages and their stability
- quality, innovation and competitiveness of the products offered
- long-term strategy and business model
- sensitivity to changes in interest rates and/or exchange rates
- structure, quality and concentration of the loan portfolio
- dependence on individual sources of financing
- ownership structure and financial credibility of the strategic shareholder (or shareholders) and the estimated likelihood of providing financial support to the rated bank, when it would be required
- possible presence of the bank on the public capital market (listing of shares and/or bonds) and reputation of the bank on that market
- transparency of the bank and availability of data and information about it
- quality and stability of the management, experience and qualifications of management staff
- financial policy of the management board (risk appetite – acquisitions, large investments, dividend payments, share buybacks – assessment, inter alia, in terms of their sources of financing)
- the principles and standards of corporate governance applied
- evaluation of ecological and social aspects in the bank's operations and compliance with good management practices (ESG – Environment, Social, Governance).

The qualitative analysis also takes into account **financial parameters** of the bank, which are not easily quantifiable and require expert judgment of the rating analysts and members of the Rating Committee on a case-by-case basis. These include inter alia:

- the length of the history of the bank's existence and the credit history (occurrence of periods of an increased credit risk)
- structure, quality, liquidity and market value of assets
- type, structure and maturity dates of liabilities
- ability and ease to raise equity and debt capital
- accounting principles applied.

2.3.3 Final assessment

The combination of the results of the quantitative and qualitative analysis allows for the final assessment of the economic and financial condition of the rated bank and its ability to meet its financial liabilities in the long term, and for assigning to it a reliable credit rating reflecting its credit risk on a precise 20-grade rating scale.

Although the above-mentioned rating methodology of banks used by the EuroRating credit rating agency covers a certain fixed basic range of quantitative and qualitative analysis, it should be noted that the importance and significance of the parameters taken into account in the analytical process is not constant, as each bank has its own specificity. Therefore, the factors influencing the overall level of credit risk of individual rated banks (as well as their weight in the analytical process) may differ.

Their identification, selection and assessment of the impact on the bank's financial credibility is based on the knowledge and experience of the rating analysts presenting the rating proposal, as well as of the members of the Rating Committee making the final decision on assignment (or a subsequent verification) of the credit rating.

In addition to issuing the final rating, proposals of possible rating attributes are also prepared, if applicable to the rating. The basic attributes include a rating outlook.

If the conducted credit risk analysis of the rated bank suggests that there is a significant probability that the rating of the bank may be upgraded in the next several months, the rating is assigned with a positive outlook. In the opposite situation (significant probability of a rating downgrade), the rating is assigned with a negative outlook. In the absence of clear indications regarding future changes in the credit risk and the rating level, the rating is assigned with a stable outlook.

It should be noted that the change of the rating outlook may, but don’t has to, precede the change of the rating level. In addition, a rating level change may or may not be in line with the direction suggested by the predetermined rating outlook.

The credit rating assigned to the company (and its possible attributes) is valid indefinitely – until it is changed (or withdrawn) by EuroRating.

Due to continuous risk monitoring of the rated entities and frequent periodic updating of the assigned credit ratings, ratings assigned by the EuroRating credit rating agency are always up-to-date and reflect the current level of the credit risk of the rated entities.

3. Rating process

Regardless of whether the credit rating was initiated by the rated entity itself (solicited rating) or is carried out on the initiative of the EuroRating rating agency or on behalf of third parties (unsolicited rating), the same rating methodology is applied, and the process of issuing and subsequent monitoring of the assigned rating is carried out in the same way.

Information obtained from the rated entity and/or from publicly available sources is collected on a continuous basis and assessed in terms of its significance and adequacy in assessing the credit risk of a given entity. The collected data is subject to periodic, in-depth, multifaceted analysis carried out by the rating analysts of the EuroRating credit rating agency, aimed at assigning a credit rating for the first time or periodically updating the existing rating.

The result of the analysis performed is a proposal by the lead rating analyst assigned to a given rated entity to undertake a specific rating action (i.e. to assign a rating for the first time, affirm or change the level and/or the outlook of the assigned rating, or to suspend or withdraw the rating). This proposal is presented to members of the Rating Committee designated for a given rated entity, which approves the undertaken rating actions by voting.

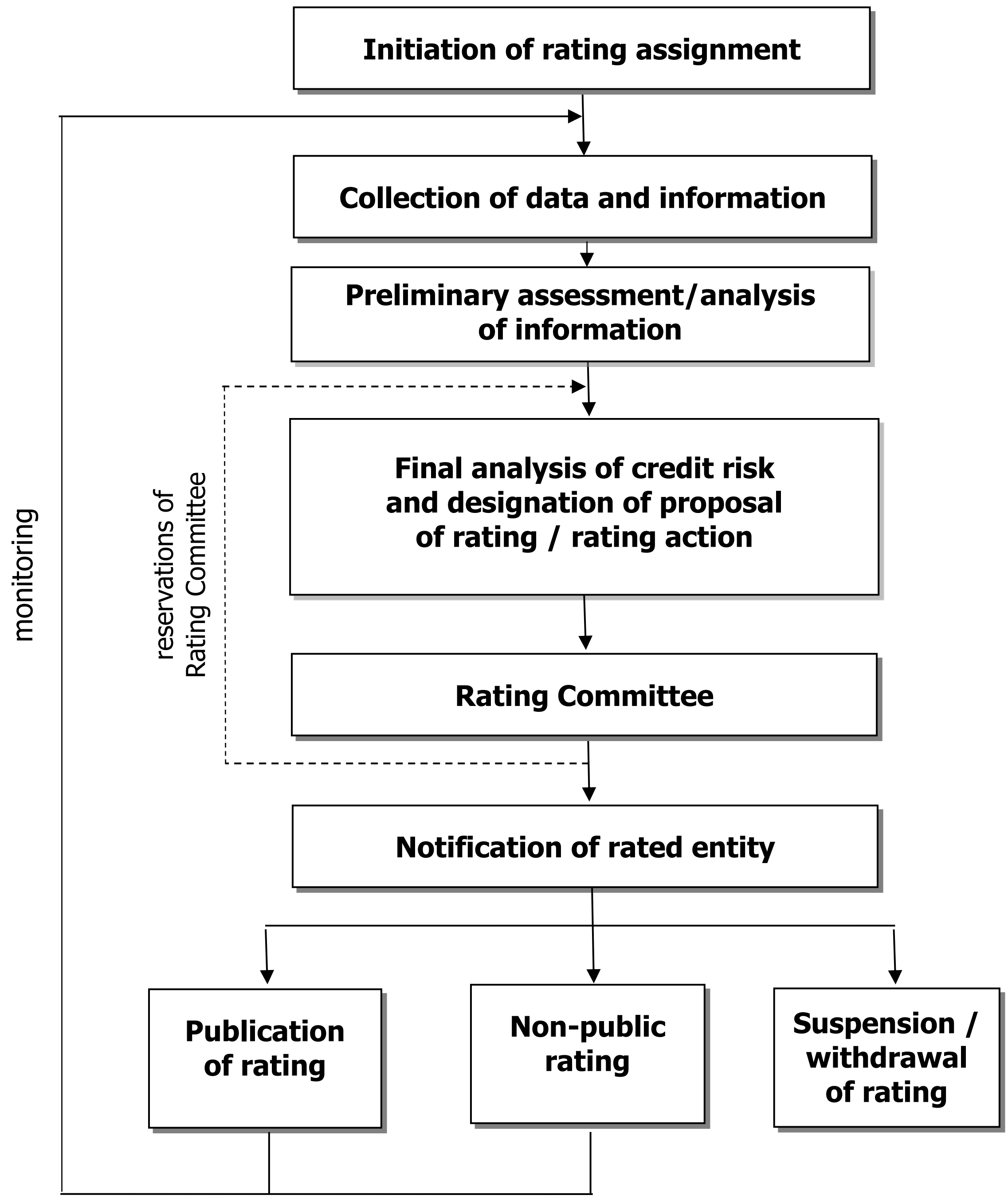
Prior to the publication of information on the assignment or verification of the assigned rating (or other rating action) EuroRating informs the rated entity at least 24 hours in advance of the rating action taken, and in case of assigning the rating for the first time or the rating level and/or its outlook changes, EuroRating provides the rated entity with the rationale, including a description of the main factors influencing the change made. This is to enable the rated entity to identify possible factual errors in the rationale provided by the agency for the rating action carried out. In case of solicited ratings, which are also accompanied by a rating report, making the report available in advance to the rated entity is also intended to enable it to determine the scope of information that may be disclosed in the report and to exclude of any confidential information from publication.

In case of public ratings, information on the assigned credit rating or on its verification is made public by EuroRating on the agency’s website (www.EuroRating.com). The assignment of a credit rating for the first time or a possible change of its level (or outlook) may also be accompanied by a publication by EuroRating of an appropriate press release (this applies in particular to public interest entities – i.e. mainly banks, as well as corporations whose securities are listed on the public market).

In case of private ratings (not made public), information on the rating assignment or on a rating update is transmitted only to the rated entity (or other entity that ordered the rating) and/or to a small group of other authorized entities.

The rating process is continuous. The EuroRating credit rating agency constantly monitors and analyses any incoming information that may affect the economic and financial situation of the rated entities. Formal updates of assigned ratings are carried out on a quarterly basis. Thanks to continuous monitoring, the verification of rating may also be carried out *ad hoc* if the agency obtains information of particular importance for the assessment of the credit risk of a given rated entity.

Graphical diagram of the rating process



4. Definition of default event

EuroRating treats a rated entity as insolvent (defaulted) in case of any of the following events:

- submission by the rated entity a formal application for protection against creditors (i.e. a petition for remedial proceedings) or a petition for bankruptcy, or a declaration by the court of bankruptcy or receivership over the rated entity, which events are likely to result in a lack or delay in future payments of financial liabilities;
- a missed or delayed disbursement of a contractually required interest or principal payment in respect to debt or debt-like obligations, unless these payments are made within a contractually allowed grace period or are missed due to purely technical or administrative errors, which are not related to the ability or willingness to make the payments and are cured in a very short time;
- a distressed exchange of debt if the offer implies the investor will receive less value than the promise of the original securities;
- due to its bad financial situation the rated entity is covered by formal regulatory receivership and/or a rescue programme or liquidation programme (this applies only to banks).

5. Rating scale

The EuroRating credit rating agency uses one transparent rating scale for all types of rated entities – it is a 20-grade long-term international scale.

When analysing the credit risk of the rated entities, the agency takes into account the risk of the macroeconomic environment, as well as the sensitivity of the rated entity to changes in exchange rates. The credit ratings assigned by EuroRating are therefore identical to the ratings for liabilities denominated in foreign currencies.

Since the financial condition and credibility of companies and financial institutions may in many cases be better than the overall situation of the country and the state budget, and moreover, due to the fact that the process of analysing the credit risk associated with a specific rated entity also takes into account risk factors of the country, the level of a credit rating for a company is not automatically limited by the assessment of a credit risk of the country’s debt.

EuroRating – rating scale

Group	Rating	Description of the credit risk
Investment grade	AAA	Negligible credit risk. Highest level of financial credibility. Rating assigned exclusively where an entity has extremely strong capability to meet financial commitments.
	AA+ AA AA-	Very low credit risk. Very high level of financial credibility. Very strong capability to meet financial commitments. Low susceptibility to adverse economic conditions.
	A+ A A-	Low credit risk. High financial credibility and capability to meet financial commitments. Average resistance to long-term unfavourable economic conditions.
	BBB+ BBB BBB-	Moderate credit risk. Good financial credibility and adequate capability to meet financial commitments in the long term. Increased susceptibility to long-term adverse economic conditions.
Speculative grade	BB+ BB BB-	Increased credit risk. Relatively lower financial credibility. Adequate capability to meet financial commitments under average or favourable economic conditions. High or medium level of debt recovery in case of a default.
	B+ B B-	High credit risk. Capability of meeting financial commitments largely conditioned on favourable external conditions. Medium or low level of debt recovery in case of a default.
	CCC CC C	Very high credit risk. Very low capability to meet financial commitments even under favourable economic conditions. Low or very low level of debt recovery in case of a default.
	D	Extremely high credit risk. Complete lack of capability to meet financial commitments. Without additional external support the level of debt recovery is very low or close to zero.