



# **Credit rating methodology for non-financial corporations**

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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 non-financial companies, i.e. excluding banks, insurance companies or guarantee funds.

## **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 cyclicity**

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 company'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 company.

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 company. 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 company in areas such as: profitability, financing, liquidity and efficiency.

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

**Profitability assessment:**

Ratio	Formula
Gross margin on sales	Gross sales income / Sales revenues
EBITDA margin	EBITDA / Sales revenues
Operating margin	Operating income (EBIT) / Sales revenues
Net margin	Net income / Sales revenues
Financial costs / Revenues	Total financial costs / Sales revenues
Net financial costs / Revenues	(Financial costs - Financial income) / Sales revenues
Interest / Revenues	Interest paid / Sales revenues

**Financing assessment:**

Ratio	Formula
Equity financing	Equity / Total assets
Equity financing excluding intangible assets	(Equity - Intangible assets) / (Total assets - Intangible assets)
Total liabilities to assets	Liabilities and provisions / Total assets
Coverage of fixed assets	(Equity + Long-term liabilities) / Fixed assets
Net leverage	Equity / (Interest-bearing debt - Cash)
Net liabilities / Sales	(Total Liabilities - Cash) / Sales revenues
Liabilities / EBITDA	Total liabilities / EBITDA
Net liabilities / EBITDA	(Total liabilities - Cash) / EBITDA
Net debt / EBITDA	(Interest-bearing debt - Cash) / EBITDA
Coverage of interest by profit	Net profit / Interest paid

**Liquidity assessment:**

Ratio	Formula
Current ratio	Current assets / Short-term liabilities
Quick ratio	(Current assets - Inventories - Accruals of costs) / Short-term liabilities
Cash liquidity	Cash and equivalents / Short-term liabilities
Cash coverage of short-term debt	Cash and equivalents / Short-term interest-bearing debt
Working capital in trading days	Net working capital / Sales revenues * 365
Net working capital / Total assets	Net working capital / Total assets
Cash flows from operating activities / Revenues	Cash flows from operating activities / Sales revenues
Cash flows from investing activities / Revenues	Cash flows from investing activities / Sales revenues
Free cash flows / Revenues	(Cash flows from operating activities - Cash flows from investing activities) / Sales revenues
Operating cash flows / Investing cash flows	Cash flows from operating activities / Cash flows from investing activities

**Effectiveness assessment:**

Ratio	Formula
Assets turnover	Sales revenues for 4 quarters / Average total assets
Inventories turnover	Average inventories in the year / Revenues for 4 quarters x 365
Trade receivables turnover	Average trade receivables / Revenues for 4 quarters x 365
Trade liabilities turnover	Average trade liabilities / Revenues for 4 quarters x 365
Cash conversion cycle (in days)	Inventories turnover + Trade receivables turnover - Trade liabilities turnover
ROA	Net income for 4 quarters / Average total assets in the year
ROE	Net income for 4 quarters / Average equity in the year
ROIC	Operating income for 4 quarters / (Average equity in the year + Average interest-bearing debt in the year)

Some of the above ratios are calculated twice – separately for the data obtained directly from the rated company's financial statements, as well as for data adjusted (normalized) by EuroRating. Moreover, additional customized ratios may be calculated for individual industries, that take into account the specific business conditions or the presentation of financial data by the company in that sector.

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 company's financial condition.

EuroRating pays great attention to analysis of cash flows, which are very important from the point of view of a company's liquidity and solvency assessment. The operating and investment cash flows reported by companies often require adjustments (e.g. for the value of acquisitions, sales of assets, or cash deposits classified in the financial statements as investment cashflows).

The assessment of the company's financial situation also includes a comparative analysis. This analysis consists of evaluating the individual parameters and the overall risk profile of the company in relation to other companies constituting its reference group (most often companies from the same industry).

As part of the financial analysis, an estimated liquidation value of the company's net assets is also calculated. Based on these calculations, the recovery value is estimated for each category of financial debt, in the event of a default of the rated company.

When a company has a major shareholder being another company (parent company), the financial analysis may also be carried out for the parent company, in order to assess the ability of the shareholder to provide financial support to the rated company 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 company, 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 company'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 company, as well as the importance and relevance of their influence on the assessment of the creditworthiness of that company. 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 company.

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

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

- political and economic stability of the country in which the company operates (in case of international companies, the analysis concerns the main countries, in which the company generates revenues and/or has got assets invested)
- independence, stability and predictability of the country's monetary policy
- current and forecasted level of interest rates and exchange rates
- the level of state debt and the monetary policy pursued
- current and forecasted economic situation.

At a lower level of generality, **the factors related to the market and industry** in which the company operates are also assessed, including inter alia:

- cyclicalities of demand in the market (or markets) where the company sells its products and/or services
- existence (or the threat of development) of substitutes for products offered by the company
- sensitivity of the industry and the major products to technological changes
- industry/market entry barriers
- concentration of the sector (number and strength of major players in the industry)

- intensity of competition in the industry and margins achieved
- dependence of the situation in the industry on external factors (prices of raw materials, interest rates, regulatory and legal environment, etc.).

The **microeconomic factors** related to the rated company itself include inter alia:

- product diversification of sales and the share of key products in revenues
- geographic diversification of the company's activities
- market (markets) shares on which the company operates and trends of their change over time
- recognizability and reputation of the company on the market (or markets), on which the company operates, owned brands and their strength
- the company's key competitive advantages and their stability
- quality, innovation and competitiveness of the products offered
- dependence on key suppliers and/or recipients
- dependence on the availability of key raw materials for production
- sensitivity to changes in interest rates, exchange rates and/or commodity prices
- long-term strategy and business model
- ownership structure and financial credibility of the main shareholders and the estimated probability of providing support to the rated company when it would be required
- presence of the company on the public capital market (listing of stocks and/or bonds) and reputation of the company on that market
- transparency of the company and access to data and information about it
- quality and stability of management, experience and qualifications of management staff
- financial policy of the management board (risk appetite – acquisitions, large investments, dividend payments, share repurchases – 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 company's operations and compliance with good management practices (ESG – Environment, Social, Governance factors).

Qualitative analysis also takes into account **the financial parameters of the company**, which are not easily quantified 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 company's existence and the credit history (occurrence of possible periods of increased credit risk)



- structure, quality, liquidity and market value of assets
- type, structure and maturity of its financial liabilities
- possible encumbrance of the company's assets with pledges and collaterals of debt
- possible key terms of loans or issued bonds (e.g. covenants)
- possibility and ease of raising equity and/or debt
- 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 company 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 corporations 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 industry and each company has its own specificity. Therefore, the factors influencing the overall level of credit risk of individual rated entities (as well as their weight in the analytical process) may differ.

Their identification, selection and assessment of the impact on the company'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 company suggests that there is a significant probability that the rating of the company 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.

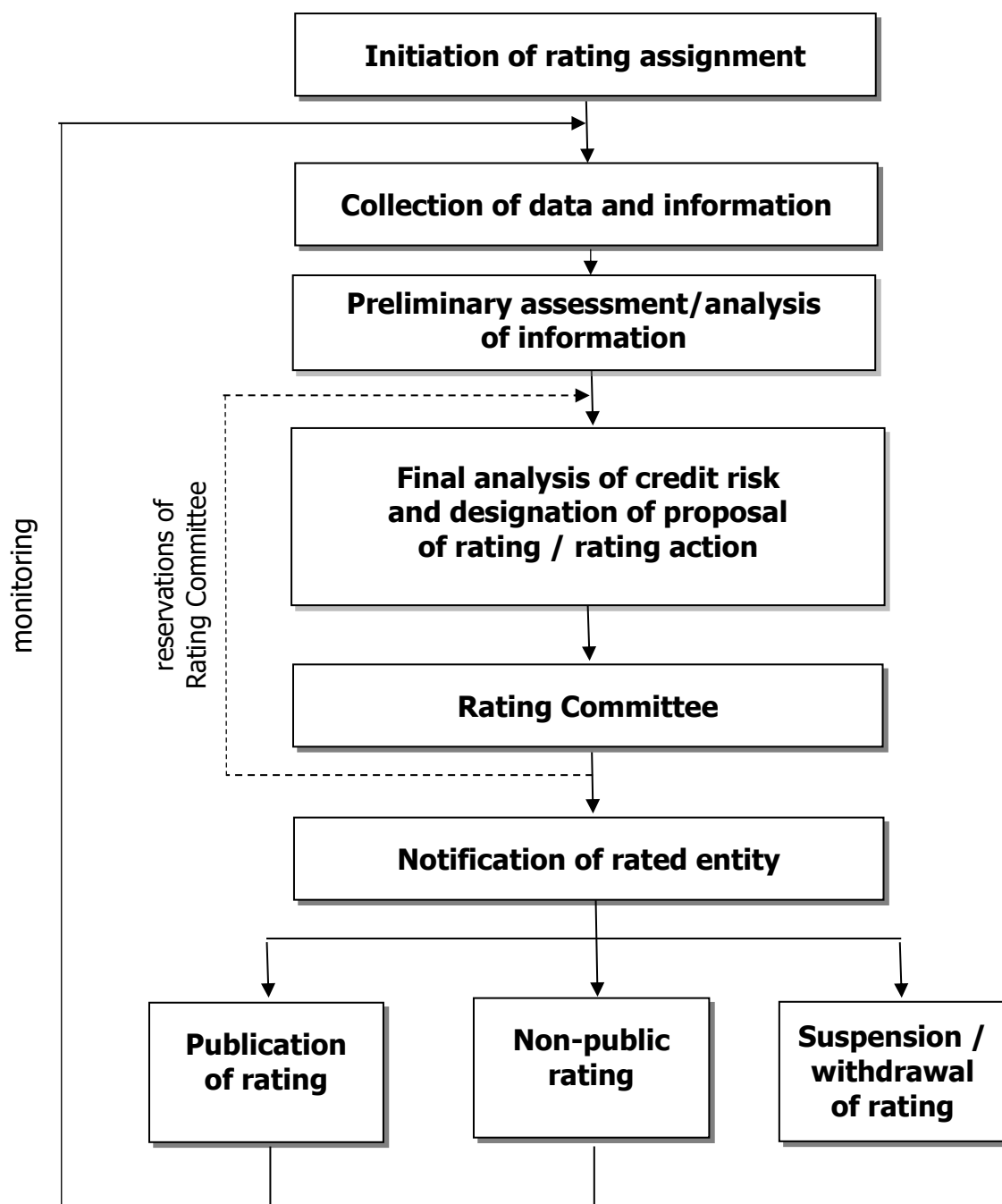
In case of public ratings, information on the assigned credit rating or on its verification is made public by EuroRating on the agency's website ([www.EuroRating.com](http://www.EuroRating.com)). The assignment of a credit rating for the first time or a possible change of its level (or outlook) may also 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	<b>AAA</b>	Negligible credit risk. Highest level of financial credibility. Rating assigned exclusively where an entity has extremely strong capability to meet financial commitments.
	<b>AA+</b> <b>AA</b> <b>AA-</b>	Very low credit risk. Very high level of financial credibility. Very strong capability to meet financial commitments. Low susceptibility to adverse economic conditions.
	<b>A+</b> <b>A</b> <b>A-</b>	Low credit risk. High financial credibility and capability to meet financial commitments. Average resistance to long-term unfavourable economic conditions.
	<b>BBB+</b> <b>BBB</b> <b>BBB-</b>	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	<b>BB+</b> <b>BB</b> <b>BB-</b>	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> <b>B</b> <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.
	<b>CCC</b> <b>CC</b> <b>C</b>	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.
	<b>D</b>	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.