June 2017, Frankfurt am Main.

METHODOLOGY FOR ASSIGNING CREDIT RATINGS TO REGIONS – SHORT PUBLIC VERSION

The Methodology presented is a short public version.

1. General definitions

Credit rating of a region represents an opinion of the Agency on the ability of the region to fulfill its financial liabilities fully and in a timely manner.

The main risk factors, which according to the Agency's opinion can lead to a default on the region's liabilities, as well as the possible consequences for the region's development, are listed in the scheme on page 2.

This methodology is intended for assigning ratings to a region by determining to which creditworthiness (rating) class this region belongs to.

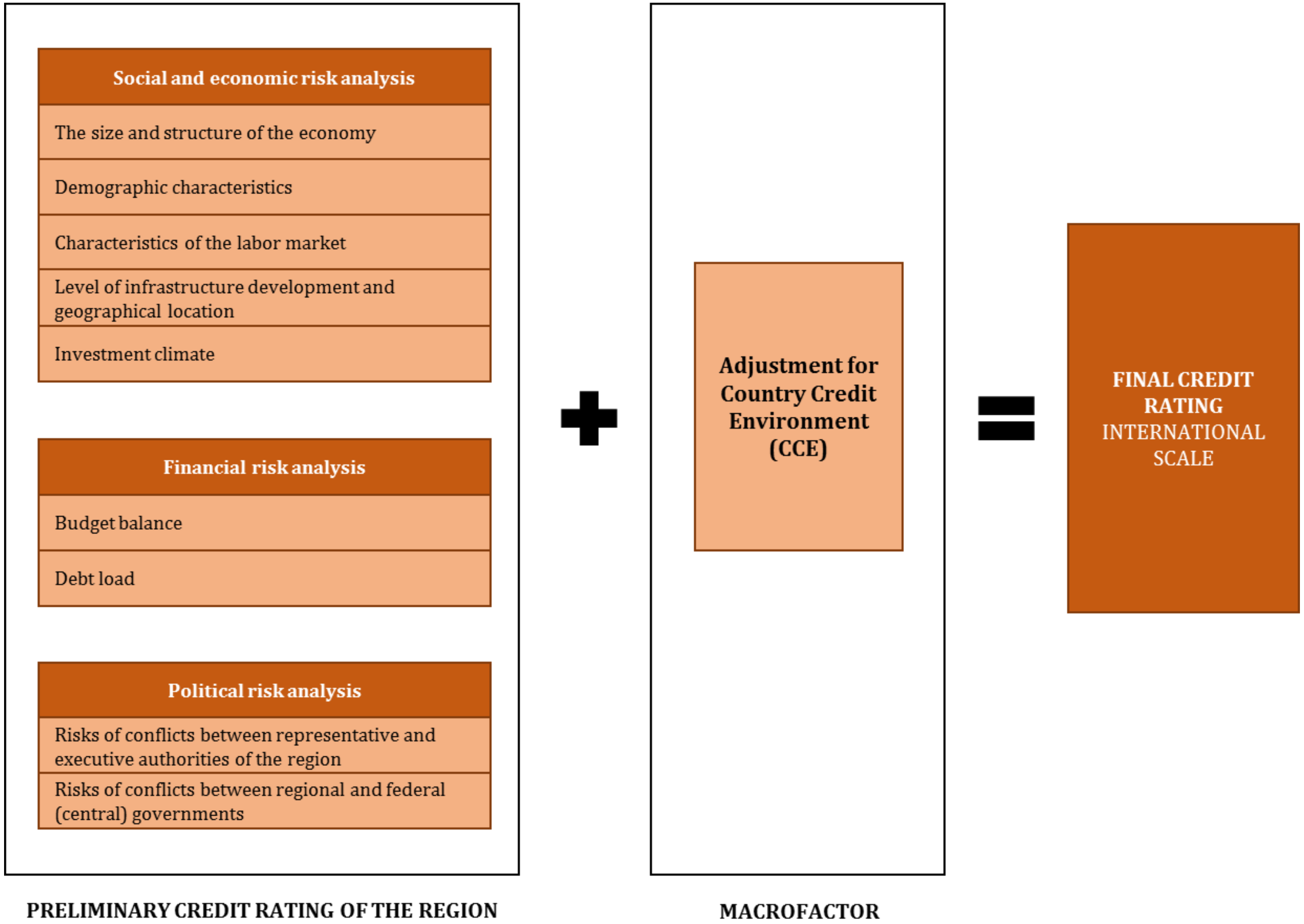
The rating is a complex discrete assessment of the region's activities, recognized by all stakeholder groups with different interests and qualifications.

The main users of the ratings are the region's creditors. Other users are investors and counterparties of the region whose interest is focused on the possibility of full and timely fulfillment of the region's liabilities, as well as the region's prospects of fulfillment of new liabilities (taking into account possible changes in the economic environment).

The ratings are also intended to be used by the administration of the region for assessing the efficiency of its work.

Only the region's rating and a brief conclusion about the region's creditworthiness (press-release and research report on the rating) are published in the media.

Logic scheme:



2. Sources of information

2.1. While assigning the rating score, the following sources of information are used:

- Annual reports on the region's budget execution for three years preceding the rating assignment;
- Extracts from the book of regional government debt as of the last reporting date, as of the end of the last completed year and for two previous years;
- Standard questionnaire;
- Prospectuses for scheduled or circulated bond emissions.

2.2. The Rating Agency does not check the correctness of the reports provided by the region and reliability of the data contained therein.

2.3. The Agency may contact the region's administration for clarifications of the indicators and data provided in the reports and questionnaire.

2.4 The Agency has the right to use other sources of information in case of data incompleteness.

3. Structure of the rating analysis

3.1 The scheme of the region's creditworthiness analysis has several levels. The region's creditworthiness analysis is based on the assessment of three main groups of factors: ***social and economic risks analysis (1); financial risks analysis (2); political risks analysis (3)***. Each group is divided into several large integral factors.

3.2 Several indicators are analyzed within the framework of analysis of each integral factor. Scores for the indicators within each integral factor may be equal to one of the following values:

1	The factor (indicator) has positive influence on the creditworthiness level
0,5	The factor (indicator) has moderately positive influence on the creditworthiness level
0	The factor (indicator) has neutral influence on the creditworthiness level

-0,5	The factor (indicator) has moderately negative influence on the creditworthiness level
-1	The factor (indicator) has negative influence on the creditworthiness level

3.3 The score for each integral factor is determined as a sum of scores for separate indicators within a group being weighted in a certain manner. Weights of indicators are provided in the **List of indicators and corresponding weights** (page 11).

3.4 Benchmarks for each indicator are based on the data for all regions of a particular country, and then the score is assigned on the basis thereof. If the indicator for the region cannot be assessed directly according to the algorithm provided in this methodology, the expert shall use a similar indicator for local statistical or fiscal standards or assess this indicator based on his/ her reasoned opinion.

3.5 The preliminary **rating score** is determined as a weighted sum of scores for all integral factors.

3.6 The preliminary ratings are then transferred to the international scale through the adjustment for the Country Credit Environment rating (CCE) in foreign currency. Rating-Agentur Expert RA GmbH **publishes only final ratings in accordance with the international scale.** The rating of a region according to the international scale is usually capped by the Sovereign government credit rating of the country where this region is located.

4. System of indicators

4.1 Section ***"Social and economic risks analysis"***

- <u>The size and structure of the economy</u>

  The level of economic development, expressed by the GRP per capita, is the basic indicator describing the wealth levels and labor productivity in the regional economy, and therefore – regional tax base strength. A region with high levels of GRP per capita, as compared with the country average or regional peers, has usually more fiscal independence and, all else being equal, support the creditworthiness assessment of the regional government.

The diversification of the regional economy and, therefore, its tax base diversification, also significantly influences the stability of the regional budget income. The fiscal stance of a region having a well-diversified economy with high share of defensive industries is less exposed to macroeconomic and market shocks. On the other hand, a region with a highly concentrated economy is prone to have very volatile revenues and it is more likely that it would need additional financial support from other budget tiers in periods of economic distress.

- Demographic characteristics

Population and its dynamics are factors which affect the regional tax base, especially the collection of personal income tax (PIT). A large and increasing population correlates with a higher amount of potentially collected taxes, while a small and decreasing population reduces the region's revenues.

In addition, the Agency assesses the age structure of the regional population. A high share of non-working age population resulting in higher dependency ratios, increase the potential level of social spending on the regional budget while at the same time decreasing the tax base for personal taxes, such as PIT.

- Characteristics of the labor market

While evaluating the stance of the local labor market, the Agency focuses on two main indicators: average salary and unemployment rate. Average salary is used as a more accurate measure for the assessment of the personal income tax base characteristics, as compared with the level of total personal income, which can be distorted by non-registered income. Higher levels of average salary result in higher fiscal income and, all else being equal, in a higher level of creditworthiness.

High unemployment rates negatively affect the fiscal performance of the region. Elevated unemployment potentially increases the level of social payments and other related costs for the regional budget. At the same time, even if unemployment related expenditures are partly or fully mitigated by the transfers from another budget tier, the high share of unemployed population reduces the regional tax base. Consequently, higher unemployment rates will usually increase the risks of deficit and debt increase.

- Level of infrastructure development and geographical location

  The Agency uses the range of quantitative and qualitative indicators to assess the level of infrastructure development and geographical location of the rated region. Road density is used as the basic characteristic of the infrastructure development of the region. Authorities of the territories having low levels of this indicator have to maintain larger capital expenditures to compete with more developed regions and therefore have a higher risks of deficit and debt increase.

  Proximity of the region to the capital or to the most developed part of the country (in some cases) in terms of infrastructure, is used to assess the risks related to the region's geographical location. Unit cost of transport and social infrastructure in regions with non-favorable nature characteristics (such as mountains, deserts or territories with extreme climate) as well as in regions located far from the most populated zones of a country, are higher as compared with regions located close to the main economic and financial centers. In addition, the formers have more barriers to increase its tax base. Hence, favorable geographical location positively affects the region's creditworthiness. The Agency also considers the presence of big sea ports[1] as an additional advantage for the regional economy and fiscal revenues, since this type of infrastructure provides benefits from foreign trade for the region.

- Investment climate

  The Agency assesses the characteristics of the region's investment climate through the analysis of two main indicators: total investments and foreign direct investments (FDI) per capita. The total investments per capita indicator shows the actual values of funds invested on the territory of the region. High levels of this indicator show the widening industrial base and increasing level of infrastructure development of the region, and therefore, are related to the broader future tax base as compared with the current stance. Foreign investments per capita focuses on the attractiveness of the region for foreign investors, which are not only the source of additional funds for the economy and taxes for the budget, but also usually source of new technologies and industry standards (especially for developing countries).

[1] Only for regions from countries which have access to the sea. For land-locked countries availability of big transport nodes and river ports shall be assessed.

In addition, the Agency can use qualitative assessments of investment attractiveness, such as independent complex indexes of business climate, calculated by local or international think tanks or non-government organizations.

4.2 Section ***"Financial risks analysis"***

The structure of financial risks analysis provided in the methodology is intended for regions from countries with a fiscal federalism system. For regions of countries with another type of budget system, the algorithm of assessment of some indicators can be different.

- Budget balance

  To assess the fiscal stance of the regional government the Agency evaluates both revenues and expenditures with a range of quantitative and qualitative indicators. We also evaluate the size of the fiscal balance and the quality of the budget management in the rated region.

  The volume of revenues and its dynamics are used as an indicator of the size and stability of the funding base. In addition, the Agency takes into account the volume of the tax collected on the region as an indicator showing the importance of the entity for the national fiscal system and, therefore, the probability to have additional preferences or extraordinary financial support from the highest budget tier.

  The main quantitative indicator for the assessment of the structure of revenues is the share of transfers from the highest budget level in total revenues of the consolidated regional budget. A high share of such type of revenues indicates that the regional government does not have enough own funds to finance its financial obligations and, thus, increases the exposure of the regional budget to risks related to another budgetary tier. However, the Agency also assesses the flexibility of incoming transfers. Even if the share of total transfers in the budget revenues is high, the major part of such funds can be formed by transfers not bearing any covenants or conditions. Such structure of transfers will be assessed positively by the Agency, as the regional government has more space to use incoming funds according their needs. The Agency also assesses the structure of tax revenues to evaluate the region's dependency on particular taxes, industries or particular taxpayers.

While assessing the expenditures part, the Agency focuses on the expenses flexibility in order to assess which share of fiscal expenditures can be easily reduced in case of financial stress. Current expenditures such as salaries or obligatory social payments are usually difficult to reduce on short notice without negative economic and social consequences, while capital expenditures are considered as a more flexible part of the fiscal expenses.

The level of fiscal balance is used by the Agency as a resulting measure for the assessment of the fiscal performance of the region. A fiscal surplus shows that the region has enough revenues not only to cover its current expenditures, but also to pay its financial liabilities, create financial reserves or invest funds in development projects. In contrast, a sustained budgetary deficit can lead to debt increase, and therefore negatively affect the creditworthiness assessment.

In addition, the Agency assesses the quality of budget management through different ratios and qualitative factors. The level of tax collection2 shows the quality of fiscal planning of local tax authorities (or local representatives of the centralized tax collection service) and payment discipline of local taxpayers. Significant underperformance of the budget as compared to the initially planned targets reflect an overestimation of the tax base for a particular period or that local taxpayers somehow can avoid paying taxes. The level of deviation of the actual budget figures from the planned ones (according to the budget execution) is also used to assess the adequacy of budget forecasting in the region. Finally, the Agency can use additional qualitative parameters and take into account results of budget management supervision by federal authorities to assess the quality of budget management.

- Debt load

The Agency assesses the debt load of the region using a set of quantitative ratios taking into account the structure of the debt and credit history of the rated region. The main variable used to assess this factor is the ratio of total debt to own budget revenues (total revenues minus transfers from the higher budget level), which shows the ability of the regional government to pay its debt without external financial

[2] This indicator is assessed by the ratio of tax payments received in a certain period to the volume of tax liabilities that must be incurred in the same period according to the law.

support. In addition, the Agency takes into account the share of debt servicing expenses in the region's expenses and the ratio of debt to the value of regional government's property.

When analyzing the debt structure, the Agency focuses on the debt breakdown by maturity, lenders and currency. A high share of short-term debt is negatively assessed, because such composition of the regional liabilities creates pressure on the fiscal stance of the government in case of abrupt changes in the level of expenditures and shows the low level of fiscal planning. High concentration on one single or group of related creditors is also a negative factor because it increases the dependence of the region on one source of funding and makes the debt conditions less predictable. However, if the debt is mostly formed by loans from another budget tier or non-market loans from special financial institutions (such as IMF, local development funds, etc.), this can be assessed as a positive factor due to the high probability of prolongation or restructuring. Moreover, the Agency assesses high levels of FX-debt as a strong negative factor. Usually, all budget revenues of the region are denominated in local currency and, as a result, the presence of FX-debt negatively affects the volatility of the overall debt load.

At the final stage, the Agency analyses the credit history of the rated region on the basis of the recorded debt repayment, public debt instruments issuing, assigned credit ratings, as well as presence of defaults and overdue financial liabilities in the past.

4.3 Section ***"Political risk analysis"***

- Risks of conflicts between representative and executive authorities of the region

  Presence of such conflicts are assessed by the Agency as a negative factor as they substantially distort the quality of budget planning and budget execution (including debt repayments). In extreme scenarios, if the legislature has the right to block debt repayments from the regional budget and has a conflict with executive authorities, the latter increases the probability of default even if the financial ratios remain at acceptable levels.

- Risks of conflicts between regional and federal (central) governments

Conflicts between regional and federal (central) governments substantially increase the risks of regional defaults, especially in the countries with large scaled budget equalization. If a region which depends heavily on budget transfers has a conflict with the central government, it decreases the probability of financial support from the highest budget tier, especially if the fiscal rules are not transparent. Therefore, such regions are more exposed to default risks.

Annex 1. List of indicators and corresponding weights

Factors	Weight
I. Social and economic risks	**40,0%**
The size and structure of the economy	
Demographic characteristics	
Characteristics of the labor market	
Level of infrastructure development and geographical location	
Investment climate	
II. Financial risks	**50,0%**
Budget balance	
Debt load	
III. Political risks	**10,0%**
Risks of conflicts between representative and executive authorities of the region	
Risks of conflicts between regional and federal (central) governments	

Annex 2. Rating classes

Credit rating assigned by Rating-Agentur Expert RA GmbH is defined on the basis of allocating the region to one of ten rating classes (according to the international scale).

The region can be classified into one of the following rating classes:

AAA - Highest level of creditworthiness

In the short-run the region will ensure timely fulfillment of all its financial liabilities, both current and contingent, with exceptionally high probability. In the mid-run there is a significant probability that the liabilities will be fulfilled even in case of significant unfavorable changes in the macroeconomic and market indicators.

AA - Very high level of creditworthiness

In the short-run the region will ensure timely fulfillment of all its financial liabilities, both current and contingent, with very high probability. In the mid-run there is a significant probability that the liabilities will be fulfilled if the macroeconomic and market indicators remain stable.

A - High level of creditworthiness

In the short-run the region will ensure timely fulfillment of all its financial liabilities, both current and contingent, with high probability. In the mid-run the probability of fulfilling the liabilities requiring significant payments depends greatly on the stability of the macroeconomic and market indicators.

BBB - Moderately high level of creditworthiness

In the short-run the region will ensure timely fulfillment of all its current financial liabilities, as well as small- and medium-sized contingent liabilities with high probability. Probability of financial difficulties in case of incurred contingent liabilities requiring significant lump-sum payments is considered as moderately low. In the mid-run the probability of fulfilling the liabilities depends on the stability of the macroeconomic and market indicators.

BB - Sufficient level of creditworthiness

In the short-run the region will ensure timely fulfillment of all its current financial liabilities, as well as small- and medium-sized contingent liabilities with high probability. Probability of financial difficulties in case of incurred contingent liabilities requiring significant lump-sum payments is considered as moderate. In the mid-run the probability of fulfilling the liabilities depends on the stability of the macroeconomic and market indicators.

B - Moderately low level of creditworthiness

In the short-run the region will ensure timely fulfillment of almost all of its current financial liabilities with high probability. Probability of not fulfilling incurred contingent liabilities requiring large payments is moderately high. In the mid-run the probability of fulfilling the liabilities depends on the stability of the macroeconomic and market indicators.

CCC - Low level of creditworthiness

In the short-run the probability of not fulfilling financial liabilities of the region is high.

CC - Very low level of creditworthiness (close to default)

In the short-run the probability of not fulfilling financial liabilities of the region is very high.

C - Lowest level of creditworthiness (partial default)

The region is not ensuring timely fulfillment of some financial liabilities.

D - Default

The region is not ensuring the fulfillment of all its financial liabilities.

One of the above rating levels that can be assigned to the region (excluding AAA and ratings below CCC) may be supplemented with (+) or (-) sign depending on the value of the rating score.

The bonds of the region can be classified into one of the following rating classes:

AAA - Highest level of reliability

In the short-run the region will ensure timely fulfillment of all its financial liabilities within the framework of the bond issue with exceptionally high probability. In the mid-run there is a significant probability that the liabilities will be fulfilled even in case of significant unfavorable changes in the macroeconomic and market indicators.

AA - Very high level of reliability

In the short-run the region will ensure timely fulfillment of all its financial liabilities, within the framework of the bond issue with very high probability. In the mid-run there is a significant probability that the liabilities will be fulfilled if the macroeconomic and market indicators remain stable.

A - High level of reliability

In the short-run the region will ensure timely fulfillment of all its financial liabilities within the framework of the bond issue with high probability. In the mid-run the probability of fulfilling the liabilities requiring significant payments depends greatly on the stability of the macroeconomic and market indicators.

BBB - Moderately high level of reliability

In the short-run the region will ensure timely fulfillment of all its current financial liabilities within the framework of the bond issue, as well as small- and medium-sized contingent liabilities, with high probability. The probability of financial difficulties in case of other liabilities requiring significant lump-sum payments is considered as moderately low. In the mid-run the probability of fulfilling the liabilities depends on the stability of the macroeconomic and market indicators.

BB - Sufficient level of reliability

In the short-run the region will ensure timely fulfillment of all its current financial liabilities within the framework of the bond issue, as well as small- and medium-sized contingent liabilities, with high probability. The probability of financial difficulties is considered as moderate in case of other liabilities requiring significant payments. In the mid-run the probability of fulfilling the liabilities depends on the stability of the macroeconomic and market indicators.

B - Moderately low level of reliability

In the short-run the region will ensure timely fulfillment of almost all of its current financial liabilities within the framework of the bond issue with high probability. The probability of not fulfilling contingent liabilities is moderately high. In the mid-run the probability of fulfilling the liabilities depends on the stability of the macroeconomic and market indicators.

CCC - Low level of reliability

In the short-run the probability of not fulfilling financial liabilities of region within the framework of the bond issue is high.

CC - Very low level of reliability (close to default)

In the short-run the probability of not fulfilling occurring financial liabilities of the region within the framework of the bond issue is very high.

C - Lowest level of reliability (partial default)

The region is not ensuring timely fulfillment of some financial liabilities within the framework of the bond issue.

D - Default

The region is not ensuring the fulfillment of almost all its financial liabilities within the framework of the bond issue.

One of the above rating levels that can be assigned to the region (excluding AAA and ratings below CCC) may be supplemented with (+) or (-) sign depending on the value of the rating score.