



Sovereign Rating Methodology

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I. General remarks

This document presents the official Sovereign Rating Methodology used by BCRA - Credit Rating Agency (hereinafter referred to as "BCRA"). The aim of this methodology is to inform issuers, investors and other interested market participants about our approach in assessing sovereign credit risk.

This methodology is effective as of November 11th 2019 and replaced the Sovereign Rating Methodology from July 2014. The methodology update aims to achieve greater transparency by providing clearer and more detailed information about BCRA's analytical approach, including a rationale for the key rating criteria and additional text to clarify the qualitative considerations that are usually most important when we make risk adjustments to the individual subsections. The analysis is once again conditionally divided into four sections, however, their names and subsections have been slightly modified in order to achieve greater consistency and simplicity. These changes generally do not affect the underlying assumptions or key rating criteria of the previous methodology and would not impact the previously issued sovereign credit ratings.

Sovereign credit rating

For the purposes of this methodology, a sovereign rating is a credit rating where the rated entity or the issuer of the rated financial instrument is a sovereign government (hereinafter referred to as a "sovereign") that de facto exercises primary fiscal authority over a recognised jurisdiction. As with all credit ratings, the sovereign rating is an opinion on the creditworthiness of the issuer or issue rated, i.e., it is an opinion on the ability and willingness of the sovereign to service its debt-related contractual financial obligations. Failure to service a debt-related contractual financial obligation is considered a default (see [Appendix 1](#) for a more precise definition). A sovereign rating is designed for the express purpose of estimating the probability of a default occurring in the short to medium term in the future. A sovereign rating does not constitute a recommendation for buying, subscribing to, selling, short-selling, or holding any financial instruments and should always be complemented by the investor's own set of analytical tools for risk assessment.

Credit rating in local and foreign currency

The methodology and the rating scales in this document relate to short- and long-term sovereign ratings and apply to obligations denominated in both local and foreign currency. BCRA does not differentiate a sovereign credit rating in foreign or local currency. This is backed by a global financial market development, increasing political independence of national banks and the lack of convincing up-to-date empirical data to preferentially assess domestic debt, given that the choice of exposure to the two types of debt is not accidental.

Short-term and Long-term ratings

The short-term credit rating reflects the possibility of servicing the short-term financial obligations (within one year), while the long-term credit rating reflects the possibility of servicing the long-term financial obligations (see the rating scales definitions in [Appendix 3](#)). The difference is mainly due to liquidity considerations within the shorter maturity period.

Rating outlooks

The credit rating is accompanied by a rating outlook, which can be stable, positive, negative or in development. The outlook usually apply for a period of one year. Stable outlook reflects expectations for keeping the rating category. Negative outlook reflects expectations for a downgrade, and the positive - for an upgrade. Outlook defined as "in development" reflects

expectations of occurrence of an event, which may have negative / positive effect on the rating category. However, it should be noted that these outlooks do not necessarily signal that rating upgrades or downgrades, respectively, will automatically follow.

Under review

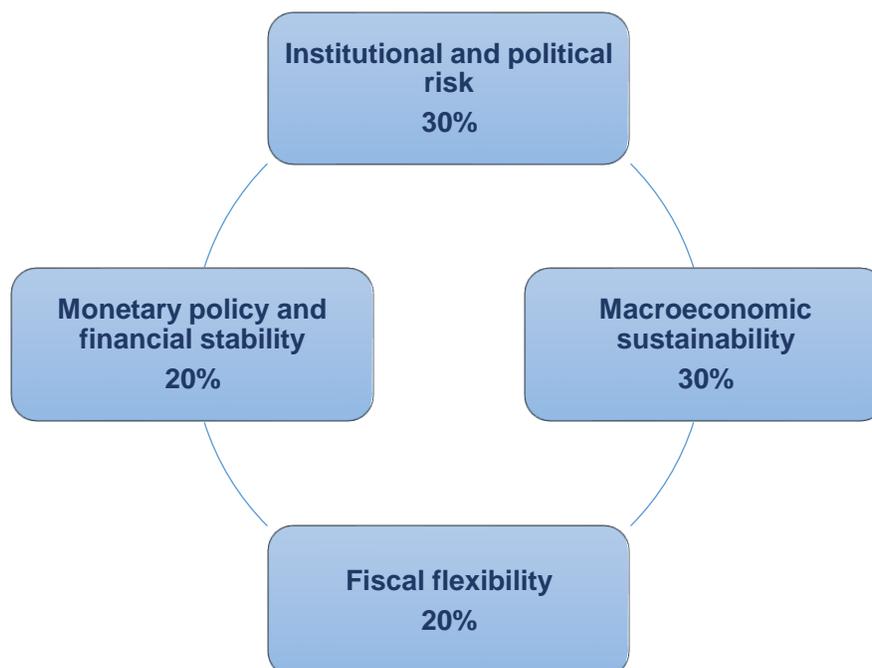
A credit rating may be placed “under review” if there are expectations that further analysis of a recent or an imminent event is likely to lead to a change in the rating category in the near future. When a credit rating is placed “under review” the previously assigned outlook becomes invalid.

Data sources and limitations

The information used in assessing the sovereign risk is generally drawn from a number of public sources which include, but are not limited to, the World Bank, the International Monetary Fund, the Bank for International Settlements, the Organization for Economic Cooperation and Development, Eurostat, the European Commission, national statistical services, national central banks, government agencies and ministries, as well as various non-governmental organizations. Data is updated for each rating review, although its availability may vary by country. BCRA will not rate the sovereign if data is considered insufficient in coverage or lacking in adequate quality.

II. Risk assessment methodology

The rating process is organized in a way that provides comparability, consistency, and continuity of ratings over time and across sovereigns. For any sovereign rating analysis, BCRA uses a wide range of quantitative and qualitative factors incorporated in our *Sovereign Rating Model* (see [Appendix 2](#)) which presents a transparent and coherent framework for risk assessment and peer analysis.



For the sake of simplicity and clarity, risk analysis is conditionally organised into four main sections: [Institutional and political risk](#); [Macroeconomic sustainability](#); [Fiscal flexibility](#) and [Monetary policy and financial stability](#). In addition, each of these sections is divided into 2 separate subsections. Using the *Sovereign Rating Model* as a starting point, the rigorous expert analysis subsequently supplements the final rating decision.

The *Sovereign Rating Model* includes a total of 28 key quantitative variables selected on the basis of empirical research, explanatory power, and availability. The assessment of each factor takes into account both the relative ranking of the sovereign among the others and its absolute position in the observed range, i.e. the linear distance from the two ends of the distribution after having dropped the extreme outliers from either tail. In other words, the score is based on percentile ranking, which shows the place that the given value occupies in the frequency distribution. The weighing of individual sections, subsections and risk factors reflects their relative importance in assessing sovereign creditworthiness.

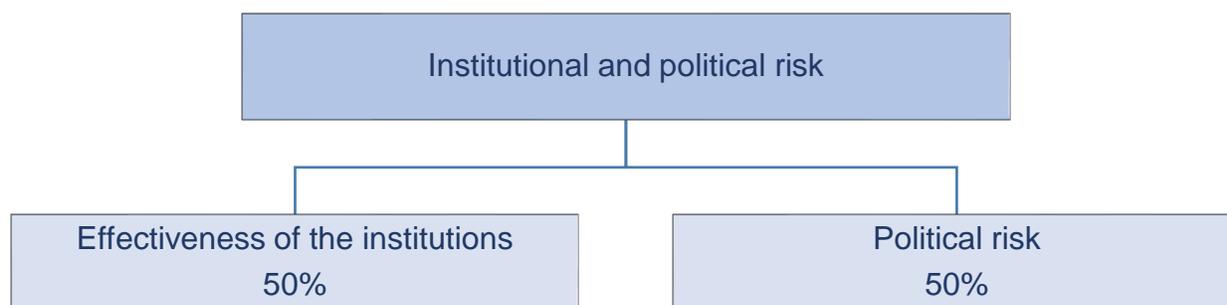
The factors within each subsection receive a numerical risk score on a scale from 1 to 5, where 1 implies the highest risk of default and 5 - the lowest. Then each factor score is multiplied by its respective weight and those products are summed to arrive at a numerical subsection score. Expert risk adjustments are made, if necessary, in the individual subsections, and then section scores are calculated in the same manner. The weighted scores of all four sections are summed to generate an overall risk score, between 1 and 5. As a final step, this score of the sovereign is mapped to a letter scale and the sovereign is defined in one of the 21 notches, varying between

"AAA" for the lowest default risk and "C" for the highest default risk (see [Appendix 3](#)). A rating category "D" is expertly assigned when the sovereign is currently in default or on the brink of one.

Risk adjustments in each subsection are made on the basis of expert analysis, which considers the impact of additional quantitative and qualitative factors. Thus, we attempt to capture the country-specific risk profile, so the listed adjustments are not universally relevant. In addition, credit ratings include expectations for future risk developments, which may lead to differences from historical-based scores.

In the final phase of the rating process, notching can be extended with a potential range of ± 2 rating steps at the judgment of the rating committee. This may happen in case of exceptional circumstances not covered in the *Sovereign Rating Model*. Besides, when the *Sovereign Rating Model* result migrates from one rating notch to another - either upwards or downwards, the rating committee may consider this only a temporary improvement / deterioration and can decide to keep the rating unchanged until a material change is visible.

1. Institutional and political risk



Institutional and political risk as an introductory section aims to assess the potential and constraints of the environment (in a broad sense) in which economic processes take place, because this environment models the lasting expectations of economic agents. The extent to which the institutional and legislative frameworks are sound and immune to internal or geopolitical interferences is monitored, as well as how the rated sovereign ranks among the others in terms of economic and political freedom. The ability and willingness of the sovereign to service its debt is a function of numerous non-economic factors. For example, the likelihood of popular unrest and civil war or an unpredictable overthrow of the government is analysed, considering the chances for sovereign debtor's legitimacy being forcibly renounced.

The Worldwide Governance Indicators, prepared annually by a team of World Bank experts, are an important starting point for our risk assessment in this section. Based on these, we can quantitatively measure the qualitative indicators related to the capacity and willingness of the sovereign to mobilize resources to finance debt payments. The choice of these indicators justifies by their methodological transparency and the maximum completeness of their geographic and temporal coverage.

The stability and legitimacy of government institutions constantly underlie the smooth functioning of the country's economy and public finances. The rating would be positively impacted by a smoothly running system, designed to protect the property rights, freedom of the press, political transparency, regulatory quality, and rule of law. On the other hand, sovereigns whose institutions operate without adequate cooperation and proper checks and balances would be negatively assessed.

The lack of political stability can be taken as symptomatic of underlying socio-economic issues or political failures, but it can also itself lead to a deterioration of the sovereign budget. We analyse the presence of alarming trends in crime, corruption, and demographics. We also take into consideration incidents of public unrest and civil disobedience, as well as the authorities' ability and willingness to handle those diplomatically.

Geopolitical risks may have a significant destructive impact on sovereign creditworthiness. These risks can take many different forms, including embargoes or economic sanctions, involvement in military or armed conflict, disputes with other countries, or international isolation. Here, as well as elsewhere in the Methodology, expert risk assessments come first.

1.1. Effectiveness of the institutions

The main quantitative factors underlying the risk assessment in this subsection are presented in the following table:

Quantitative risk factors:	Description:	Risk:	Weight:
1.1.1. Rule of law	Rule of law (WGI) – rank percentile; most recent data	1-5	33.3%
1.1.2. Regulatory quality	Regulatory quality (WGI) – rank percentile; most recent data	1-5	33.3%
1.1.3. Voice and accountability	Voice and accountability (WGI) – rank percentile; most recent data	1-5	33.3%

1.1.1. Rule of law

The rule of law indicates the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

1.1.2. Regulatory quality

The indicator evaluates the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.

1.1.3. Voice and Accountability

The indicator evaluates the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.

1.1.4. Additional risk adjustment factors

Risk adjustment factor	Extent
Recent default event	from -1 to 0

- **Track record of default** - The sovereign's perceived willingness to pay is examined as recent default events or debt restructuring would negatively affect the final risk score of this subsection. A turnover of government officials (especially during economic crises) could bring extreme or populist measures concerning debt repayment if the new sovereign authorities lack continuity in responsibility for the obligations. In this regard, a strategic default could occur, hardly forced by impossibility rather than the reluctance to service debt. On the one hand, a default event is indicative of weak public institutions, and on the

other, it further reduces the sovereign’s access to financing. The negative adjustment is based on our expectations around the risk of re-default, the time elapsed since the last event, and the amount of investor loss. Also, the sovereign's access to global financial markets and its dependence on foreign debt relief programmes are taken into consideration.

1.2. Political risk

The main quantitative factors underlying the risk assessment in this subsection are presented in the following table:

Quantitative risk factors:	Description:	Risk:	Weight:
1.2.1. Control of corruption	Control of corruption (WGI) – rank percentile; most recent data	1-5	33.3%
1.2.2. Government effectiveness	Government effectiveness (WGI) – rank percentile; most recent data	1-5	33.3%
1.2.3. Political stability and absence of violence/terrorism	Political stability and absence of violence/terrorism (WGI) – rank percentile; most recent data	1-5	33.3%

1.2.1. Control of corruption

This indicator shows the extent to which public power is executed for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Corruption undermines the rule of law as well as societies’ confidence in democratic values, thus hampering the development of the economy. The corruption among senior government officials is especially dangerous, as it is a major factor in shaping the corruption environment and hinders the effective implementation of anti-corruption policies and measures.

1.2.2. Government effectiveness

The indicator captures a wide range of the country’s political governance practices such as the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

1.2.3. Political stability and absence of violence / terrorism

This indicator evaluates the likelihood of political instability and / or politically-motivated violence, including terrorism. Frequent change of government and early termination of mandates are viewed negatively. Popular unrest and protests are especially damaging when they are targeted not simply at a particular policy, but at the very basic question of the government election legitimacy and fundamental domestic and foreign priorities. On the other hand, a broad consensus on fundamental social and economic issues would be positively assessed.

1.2.4. Additional risk adjustment factors

Risk adjustment factor	Extent
Geopolitical risk	from -1 to +1

The risk adjustment in this subsection is made at the expert discretion of the lead analyst, taking into account the overall impact of the following factors:

- **Existence of disputes, military or armed conflicts with other countries** - Both directly, through the strain on the budget, and indirectly, through the overall effects on the economy, military actions can literally bankrupt a country overnight. It is important to take note of whether the sovereign is currently or is expected to be engaged in military actions, whether those actions are at home or abroad, and what the intensity of those actions is. Armed conflicts between third parties in close proximity are also taken into consideration, due to effects such as refugee flows and severed trade or energy routes.
- **Economic sanctions** – Sanction imposition target political and economic impact. There are many examples that a trade embargo can damage even to a large economy, while, on the other hand, economic activity can be revived by state’s inclusion in free trade zones.
- **International cooperation and integration** - We consider questions such as the international recognition of the sovereign and whether it is a party of a multilateral framework, as the membership in potent international systems of integration and cooperation can bring some much-needed stability in an otherwise volatile geopolitical environment.

2. Macroeconomic sustainability



This section analyses the economic fundamentals of the rated sovereign, as well as the existence of external imbalances that pose potential risks to its future development. A strong economy supports the stability of public finances. Also, a diversified and market-based economy that grows sustainably provides the government budget with a stable revenue base, and thus, improves fiscal and monetary policy flexibility.

Relatively large and wealthy economies tend to be more resilient, *ceteris paribus*, as they are characterized by well-developed financial markets and wider tax base to make up for temporary hikes in government expenditures. Quickly growing economies are also safer, but not if their hectic growth also leads to uncontrollable volatility. Open market economies, well-integrated into international trade systems are more diversified than autarkies. Thus, they are less subject to internal supply or demand shocks, albeit at increased susceptibility to external shocks. In one way or another, all these factors ultimately contribute to the sovereign creditworthiness, however, the expert analysis has to account for the bigger picture and move beyond the simple correlations that, even if true on average, may be misleading for a particular sovereign.

2.1. Macroeconomic fundamentals

The main quantitative factors underlying the risk assessment in this subsection are presented in the following table:

Quantitative risk factors:	Description:	Risk:	Weight:
2.1.1. Scale of the economy	Nominal GDP (US\$ bln); latest data	1-5	16.7%
2.1.2. Economic growth	Real GDP growth; 3-year average	1-5	16.7%
2.1.3. GDP per capita	Nominal GDP per capita (US\$); latest data	1-5	33.3%
2.1.4. Economic volatility	10-year standard deviation of real GDP growth	1-5	16.7%
2.1.5. Unemployment	Unemployment rate (% of active population); 3-year average	1-5	16.7%

2.1.1. Scale of the economy

In assessing this factor, BCRA assumes that large-sized economies are more sustainable in their development and less vulnerable to unfavourable influence. The smaller a country, the greater the potential impact of a natural disaster or severe exogenous shock on its economy. Generally, smaller economies are less diversified, which strengthens the impact of specific sectoral shocks of local or exogenous origin.

2.1.2. Economic growth

Sovereigns experiencing strong economic growth tend to feature also better creditworthiness. Growth potential reflects economies' ability to generate government revenues and create employment as well as to facilitate fiscal flexibility and structural reforms. Our assessment also considers the dynamics of individual GDP components so as to judge for whether the growth is sustainable, that is, it does not induce inflation episodes, asset price bubbles and other macroeconomic imbalances.

2.1.3. Economic volatility

Macroeconomic volatility constrains savings and investment, distorts the development of the financial sector, worsens the institutional environment and obstructs long-term business decisions. Protracted volatility periods make the economy and public finances of a country much more vulnerable to shocks and pose a higher risk of interruptions in government debt service, respectively.

2.1.4. GDP per Capita

GDP per capita is the most commonly used measure for countries' economic development, wealth and prosperity. High income per head generally implies a well-diversified economy dominated by high value-added activities. We assume that wealthy economies are less vulnerable to adverse shocks and hence – able to tolerate higher public debt levels. However, this assumption is not necessarily the case for commodity producers, which requires particular consideration in the analysis.

2.1.5. Unemployment

Economic growth that is not supported by improvement in the unemployment rate is unsustainable in the long run and may lead to a destabilizing level of economic inequality and dual labour markets. Unemployment is also a major problem for any government as it provokes social tension.

Long-run unemployment, in particular, can leave lasting damage to the labour market equilibrium due to the unemployed labour disqualification. On the other hand, unemployment requires a proper projection of social expenditures that should be borne by the state budget and thus, can directly affect government creditworthiness.

2.1.6. Additional risk adjustment factors

Risk adjustment factor	Extent
Long-term growth potential	from -1 to +1

The risk adjustment in this subsection is made at the expert discretion of the lead analyst, taking into account the overall impact of the following factors:

- **Credit boom** – In cases where we believe that credit growth is excessive and the risk of a “credit boom” is greatly elevated, the risk score of this subsection would be negatively adjusted. Loans to the private sector should be expanded enough to provide adequate financing for investment, but not excessively so as to prevent asset price bubbles. We assume that credit growth, which exceeds twice the nominal GDP growth for more than 2 years, is excessive and unsustainable.
- **Economic diversification** - We evaluate the potential macroeconomic imbalances arising from the lack of diversification in various aspects. The relative shares and trends in the development of individual sectors within the national economy are analysed, as significant exposure to an industry with pronounced cyclical development may pose risks to the sovereign's long-term economic growth. The vulnerability of the economy to natural disasters or adverse weather conditions is also negatively assessed. It is also important to consider diversification in the structure of foreign trade. For example, some countries are highly dependent on exports of energy commodities such as oil and natural gas, which makes them extremely vulnerable to global price fluctuations. Concentration risk reduces when a country produces a wide range of commodities whose price movements and international demand trends show limited correlation.

2.2. Foreign competitiveness and external imbalances

The main quantitative factors underlying the risk assessment in this subsection are presented in the following:

Quantitative risk factors:	Description:	Risk:	Weight:
2.2.1. Current account balance	Current account balance (% of GDP); 3-year average	1-5	25%
2.2.2. Net international investment position	Net international investment position (% of GDP); 3-year average	1-5	25%
2.2.3. Reserve coverage over imports	Reserves expressed in terms of the number of months of imports of goods and services they could pay for; 3-year average	1-5	25%
2.2.4. Global competitiveness index	Global competitiveness index of the World Economic Forum; latest data	1-5	25%

2.2.1. Current account balance

There are a lot of examples of economic crises triggered by high current account deficits that have resulted in external debt accumulation, overall volatility and currency crises. The current account of the balance of payments is a record of a sovereign's current transactions with non-residents and can be regarded as an integral part of the macroeconomic equilibrium in an open economy. Chronic and large current account deficits are a source of risk to macroeconomic stability, especially when they are financed by potentially volatile capital flows such as portfolio investment, short-term debt or international loans.

2.2.2. Net international investment position

The net international investment position (NIIP), representing the difference between the market value of a country's foreign assets and that of its foreign liabilities, serves as an indicator of country's external resilience. We assume that a net liability position heightens the country's exposure to external shocks and has the potential to emerge balance-of-payments stresses. The structure of the NIIP (broken down by articles; currency structure; and institutional sectors) is also crucial in the assessment. For example, the lower the ratio of foreign direct investment to foreign debt, the higher the risk of a crisis.

2.2.3. Reserves coverage over imports

Central banks hold foreign currency reserves to meet the needs of international payments and as a buffer against potential external shocks. Matching imports to reserves easily scale the level of reserves to the economy's size and openness. Reserves expressed in this manner represent the extent to which the economy can continue to finance its imports in the absence of access to external funding. A decrease in reserves signals for a weakening of sovereign's external resilience and an increased likelihood of default on its external obligations. Reserve coverage of at least three months is considered adequately enough. However, the interpretation of this indicator is not always straightforward, since the optimal level of foreign exchange reserves is also largely related to the status of the national currency and the chosen currency regime. Managed or fixed exchange rates would require a higher level of reserves to be credible while countries whose currencies have reserve status would maintain significantly lower levels.

2.2.4. Global competitiveness index

Due to ever-increasing globalization, few factors are more crucial for a country's economic development than its competitiveness. We analyse this factor in a broader sense, summarizing the efficiency of the functioning of the sovereign's economic, social, financial, institutional and other subsystems. Competitiveness represents the ability of the economy to increase its overall national productivity and compete with other economies in the regional and global markets. The Global Competitiveness Index, presented annually by the World Economic Forum, ranks countries based on their degree of competitiveness. The index is based on 12 pillars that attempt to capture the overall economic and social development of the countries: institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market development, technological readiness, market size, business sophistication and innovation.

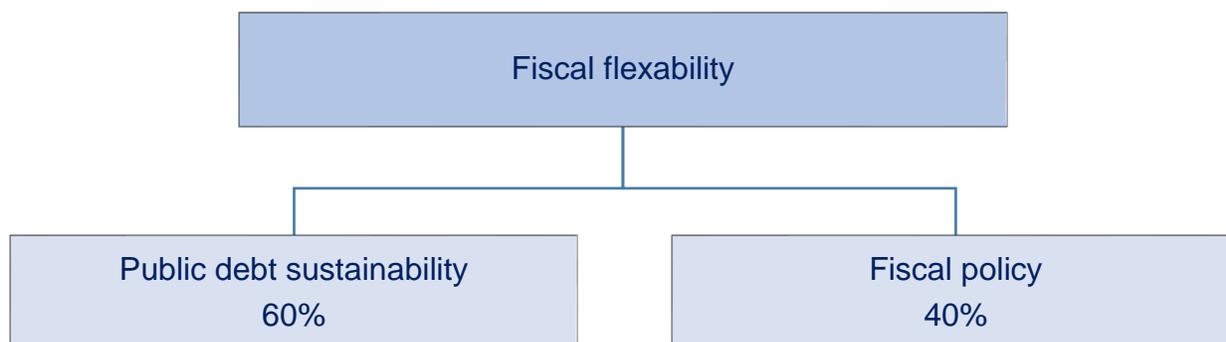
2.2.5. Additional risk adjustment factors

Risk adjustment factor	Extent
Increased vulnerability / resilience to short-term external shocks	from -1 to +1

The risk adjustment in this subsection is made at the expert discretion of the lead analyst, taking into account the overall impact of the following factors:

- **Gross external debt** - The gross external debt sums the external debt liabilities of both the public and private sectors. High external debt is a prerequisite for potential debt repayment problems. This is especially important for sovereigns with relatively illiquid financial markets and significant currency risk. The history of debt difficulties in the world shows that the degree to which the debt burden is bearable for the individual sovereign depends on its overall macroeconomic situation, institutional soundness, established credit traditions, etc. Therefore, there is no universally accepted measure of external debt sustainability. Intolerance to high levels of debt is often associated with serious difficulties that emerging economies are experiencing, which may not be the case for advanced economies. Accordingly, the assessment of external debt is based on a thorough analysis of its structure and dynamics. In addition, a particular emphasis is put on short-term external debt as a major source of volatility.
- **Foreign direct investments** - Direct investments are viewed as a stable (non-debt-generating) source of financing the current account deficit and a key factor especially for restructuring and developing economies. By definition, a direct investment relationship arises when an investor resident in one economy makes an investment that gives control or a significant degree of influence on the management of an enterprise that is resident in another economy. Direct investment tends to involve a lasting relationship because of the control or significant influence on the enterprise. The focus and stability of these financial flows depend on both global trends and the investment climate in the recipient country. Over the last decade, many countries in the world have been conducting an open door policy on foreign investment as they are related to the transfer of innovation, knowledge, and experience, which effect in increasing productivity and competitiveness of the recipient country.
- **Type of exchange rate regime** - The type of exchange rate regime is an essential instrument of macroeconomic policy due to its influence on the efficiency of economic processes, especially in small open economies. As an intermediary, the exchange rate regime can mitigate (or vice versa - exacerbate) adverse shocks to the economy. An exchange rate regime that establishes a hard or inflexible exchange rate provides greater opportunities for direct transfer of external shocks. Floating exchange rates give more freedom to react and help to overcome external shocks faster, reducing fluctuations in foreign trade and balance of payments. Under a fixed exchange rate regime, the sovereign's monetary policy is subjected to the requirement to maintain the exchange rate peg, which limits its effectiveness and increases the risk of a crisis emerge.

3. Fiscal flexibility



Fiscal policy should provide budgetary discipline, thus ensuring the stability and sustainability of public finances. Public debt may be defined as "sustainable" if the government has the capacity to service its payments on time, in the short, medium and long term, without significant policy adjustments that are unacceptable in economic and political terms.

Fiscal policy is strongly influenced by politics and, in many cases, its effectiveness is secondary to political manoeuvres. It is necessary to analyse the likelihood that political promises will top the will for fiscal conservatism. The gap between revenues and expenses is a major determining factor for the ability of a sovereign to maintain a sustainable debt policy in the long run. Running a budget deficit inevitably increases the sovereign's financial obligations, while running a budget surplus can serve to reduce leverage and thus default risk.

The assessment of fiscal policy sustainability is strongly dependent on the assumptions made for long-term economic development. It is based on projecting the impact of fiscal policy on debt dynamics and covers both the elements of medium-term fiscal risks and the long-term stability of public finances.

3.1. Public debt sustainability

The main quantitative factors underlying the risk assessment in this subsection are presented in the following table:

Quantitative risk factors:	Description:	Risk:	Weight:
3.1.1. Government debt level	General government gross debt (% of GDP); 3-year average	1-5	25%
3.1.2. Debt trend	Percentage point change in the government debt-to-GDP ratio over the last 3 years	1-5	25%
3.1.3. Debt burden	Ratio of general government debt to total budget revenue; 3-year average	1-5	25%
3.1.4. Interest burden	Ratio of general government interest payments to total budget revenue; 3-year average	1-5	25%

3.1.1. Government debt level

The government debt-to-GDP ratio is a universal and comprehensive measure of sovereign indebtedness. We recognise the fact that there is no simple linear relationship between the size of government debt relative to GDP on one side and the sovereign creditworthiness on the other. Many developed countries have higher debt tolerance, successfully managing debt levels above

100% of GDP, which would prove impossible for others. However, other things being equal, a high ratio would be negatively assessed and interpreted as a signal of an increased likelihood of default.

3.1.2. Debt trend

This indicator offers a retrospective look at the medium-term debt trajectory. The sharply rising debt-to-GDP ratio indicates worrying trends that need to be tracked. The high and continuously increasing debt ratio is leading to fiscal fragility, raising real interest rates and debt service costs. Also, it strengthens the crowding-out effect, thus, worsening the investment environment.

3.1.3. Debt burden

The debt burden reflects the extent to which the sovereign's debt is within its revenue-generation capacity. This factor is a measure of the government's ability to gradually repay its debt, without resorting to potentially dangerous monetary policies or burdening future generations of taxpayers.

3.1.4. Interest burden

We consider the size of interest payments on government debt as a percentage of total government revenue. Should the value of this ratio is high, much of the revenue will be diverted to meet interest payments, which limits the resources available for other spending (e.g. capital expenditures) and the fiscal policy manoeuvrability as a whole.

3.1.5. Additional risk adjustment factors

Risk adjustment factor	Extent
Risk profile of the government debt	from -1 to +1

The risk adjustment in this subsection is made at the expert discretion of the lead analyst, taking into account the overall impact of the following factors:

- **Currency structure** – The high proportion of foreign currency-denominated debt poses serious risks to the debt portfolio and its servicing cost. These risks are particularly pronounced for countries with relatively illiquid financial markets and in times of financial stress. A negative risk adjustment won't be applied in case of a credible currency board or a fully "dollarized" economy for issuances denominated in the currency adopted.
- **Maturity profile** - We assess the liquidity risk and the refinancing risk based on the debt maturity structure. Short-term liquidity needs are analysed in the context of possible difficulties for the budget in meeting short-term government debt payments.
- **Interest rate structure** - Debt interest rate structure is analysed to assess the debt portfolio vulnerability to changes in market interest rates.
- **Contingent liabilities** – Large amount of contingent liabilities may have a significant impact on the public debt sustainability, which is why it is important to assess the potential risk of their crystallisation on the sovereign's balance sheet.
- **Sovereign financial assets** – This factor is taken into account when estimating the net worth of government debt. The presence of high liquid assets in the form of deposits or large portfolio investments in sovereign wealth funds would be positively assessed.

3.2. Fiscal policy

The main quantitative factors underlying the risk assessment in this subsection are presented in the following table:

Quantitative risk factors:	Description:	Risk:	Weight:
3.2.1. Primary budget balance	Primary general government budget balance (% of GDP); 3-year average	1-5	50%
3.2.2. Overall budget balance	General government budget balance (% of GDP); 3-year average	1-5	50%

3.2.1. Primary budget balance

The primary government budget balance represents the difference between revenue and non-interest expenses. A positive balance indicates the amount of additional expenditure that could be financed in the absence of sovereign debt, while a negative balance is interpreted as an inability of the budget to generate sufficient revenue to service the debt burden and therefore - increased dependence on refinancing markets.

3.2.2. Overall budget balance

The budget balance is the most synthesized expression of fiscal policy stance. In times of economic crisis, revenues are likely to decrease (since many taxes are a function of economic activity) and at the same time expenditures are likely to increase (due to the cyclical nature of some social programs or an active Keynesian approach to crisis recovery), which would generate cyclical deficits. In the long run, however, the accumulation of budget deficits and hence - the rise in government debt - poses serious difficulties for fiscal management.

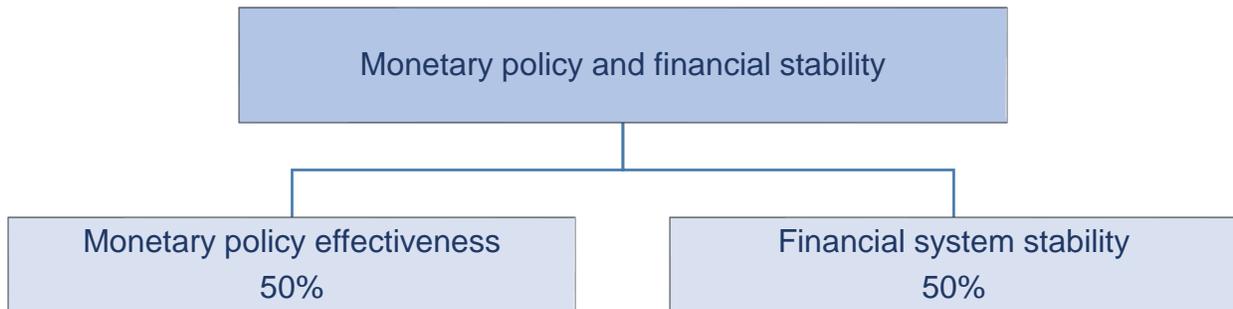
3.2.3. Additional risk adjustment factors

Risk adjustment factor	Extent
Assessment of the medium-term fiscal position	from -1 to +1

The risk adjustment in this subsection is made at the expert discretion of the lead analyst, taking into account the overall impact of the following factors:

- **Fiscal rules** – The fiscal rules set measurable long-term goals anchoring the fiscal policy. Introducing them into the highest possible levels of the sovereign's legislation (e.g. constitution) has a disciplining effect on the government. The optimal version of the fiscal framework also includes independent fiscal institutions to monitor compliance with the defined rules.
- **Medium-term fiscal strategy assessment** – We analyse government's fiscal projections in terms of variability, efficiency, and accuracy. The analysis also focuses on the volatility and diversification of the revenue base as well as the level of budgetary rigidity in terms of current spending.

4. Monetary policy and financial stability



Sovereign ability to pursue efficient and coordinated set of fiscal and monetary policies is a key risk factor. The joint achievement of the two policies' objectives - accelerating economic growth and maintaining price stability – ensures less volatile and more sustainable economic development. On the one hand, liberal monetary policy could allow sovereigns to avoid excessive taxation or new debt accumulation to make up for a shortfall in budgetary receipts. On the other hand, manipulating money supply without considering the real side of the economy has been linked directly with fluctuating interest rates and price levels, with pro-cyclical effects on the economy.

Monetary policy is effective when it is trusted, that is, when it is consistent and predictable for economic agents. Low inflation maintained in an economy contributes to the national currency stability. The currency regime creates conditions that stimulate or restrict international trade and investment activity, and economic growth, respectively. Currency crises characterises developing countries and may have serious adverse effects on economies, so the build-up of investor confidence in international long-term contracts is crucial for the long-run functioning of an economy.

Underdeveloped and non-diversified financial system and capital market can limit the effectiveness of monetary policy by weakening its transmission mechanisms. The financial system, and in particular the banking system, is vulnerable to a number of risks, which may be both externally or internally generated. Shocks may affect single institutions, or the entire financial system and the real economy, the last referred to as “systemic”. Asset price bubbles, excessive risk taking by banks, and corporate or household over-indebtedness are among the examples of systemic risks. The failure of a single large bank may result in a collapse in confidence in the system as a whole, which leads to capital outflows and jeopardise the sovereign's access to funding from domestic or international financial markets. Financial stability characterises the financial system, when the last is able to withstand shocks without significantly disrupting its functioning. The efficiency of the central bank as a major institution in the financial system is a key factor in the stability of the banking system, interest rates and credit activity in the country. We track the development of the financial system in order to timely identify potential risks and weaknesses and evaluate the possible effects of their materialization.

4.1. Monetary policy effectiveness

The main quantitative factors underlying the risk assessment in this subsection are presented in the following table:

Quantitative risk factors:	Description:	Risk:	Weight:
4.1.1. Exchange rate volatility	10-year standard deviation of real effective exchange rate;	1-5	33.3%
4.1.2. Inflation level	Annual percentage change in the consumer price index; 5-year average	1-5	33.3%
4.1.3. Inflation volatility	10-year standard deviation of annual percentage change in the consumer price index;	1-5	33.3%

4.1.1. Exchange rate volatility

A stable exchange rate provides for a safer environment and expansion of investment and economic activity, so that reliable investor and consumer expectations can be formed. Conversely, high volatility is interpreted as an increased risk. Uncontrolled and chaotic exchange rate movements naturally turn into distrust of monetary institutions, thus, diminishing economic initiative and confidence in long-term business planning.

4.1.2. Inflation level

Inflation rate gives a major indication of conducted monetary policy effectiveness. Price stability accompanies sustainable economic growth and inflation defines to a great extent the price competitiveness of the economy. Inflationary episodes often indicate economic and political instability as high inflation destroys confidence in the national currency, which could lead to capital outflows and balance of payments crises. At the same time, deflation is also negatively assessed due to its direct adverse effects on real interest rates; expectations of households; financial stability and investment activity of enterprises; and government revenues.

4.1.3. Inflation volatility

The risk analysis requires a longer-time historical assessment of price level movements and that is why we consider the volatility of the inflation rate over the last ten years. High volatility in inflation is associated with high monetary policy uncertainty and questionable control by the central bank due to structural economic characteristics and institutional weaknesses or due to broad price indexation.

4.1.4. Additional risk adjustment factors

Risk adjustment factor	Extent
National currency status	from 0 to +1

- **National currency status** – A positive adjustment would be applied to sovereigns with national currencies that exhibit reserve currency characteristics as they enjoy exceptionally strong financial and policy flexibility. A reserve currency is a currency that is held in significant quantities by central banks as part of their foreign exchange reserves. The international use of these currencies stems from the credibility of the country's policies and institutions, their financial systems' strength, and their large and open capital markets. In

assessing reserve currency characteristics, we use the IMF’s COFER database to determine the share of currencies in global reserve portfolios. This currently includes eight currencies: the US dollar, euro, yen, pound, Chinese yuan, Canadian dollar, Australian dollar and the Swiss franc. It should be noted that the euro is seen as a reserve currency, but this adjustment would be applied only to Germany and France as we assume that these member states have the largest extent of influence over the ECB’s monetary policy. The positive adjustment would not be applied to countries that are simply dollarized rather than being members of monetary unions.

4.2. Financial system stability

The main quantitative factors underlying the risk assessment in this subsection are presented in the following table:

Quantitative risk factors:	Description:	Risk:	Weight:
4.2.1. Financial development index	Financial Development Index of the International Monetary Fund; latest data	1-5	40%
4.2.2. Capital adequacy	Total capital adequacy ratio of the banking system; 3-year average	1-5	10%
4.2.3. Liquidity	Liquid asset ratio of the banking system; 3-year average	1-5	10%
4.2.4. Non-performing loans	Ratio of non-performing loans to total gross loans of the banking system; 3-year average	1-5	40%

4.2.1. Financial development index

The Financial Development Index issued by the International Monetary Fund summarises how developed financial institutions and financial markets are in terms of their depth, access and efficiency. Financial system influence on the real sector, aiding the processes of maintaining and increasing the welfare of the nation. Enhancing financial development contributes to the efficient distribution of capital, which is a prerequisite for accelerating the pace of economic growth.

4.2.2. Capital adequacy

Capital adequacy represents the banking system’s ability to absorb losses through equity, or in other words, it is the buffer that a banking system holds against future losses. The higher the ratio, the higher is the loss-absorbing capacity of banks, which does not jeopardise their solvency and thus the sovereign’s solvency.

4.2.3. Liquidity

The share of liquid assets that a banking system holds i.e. its liquidity is an important measure of the system ability to effectively meet the reduction in its deposit base and other liabilities and to finance its asset growth. Ensuring liquidity in operations with financial instruments, regardless of the economic conditions in the country, is of great importance for the stability and credibility of the system.

4.2.4. Non-performing loans

The level of non-performing loans in a banking system is a substantial indicator for the quality of banks’ asset portfolio which is also crucial for security and stability of the system as a whole. Banking systems should maintain a minimum level of non-performing loans in order to be able to

record profits from lending activities and be successful in the long run. An increase in the share of non-performing exposures poses serious risks to the sovereign's financial stability, as it reduces the profitability and viability of the banking system and has an indirect impact on economic growth through reduced lending.

4.2.5. Additional risk adjustment factors

Risk adjustment factor	Extent
Risk of spill-over effects on the government's balance sheet	from -1 to +1

The risk adjustment in this subsection is made at the expert discretion of the lead analyst, taking into account the overall impact of the following factors:

- **Loans-to-deposit ratio** - This ratio indicates the extent to which total bank loans are covered by stable sources of financing in the form of deposits, i.e. the extent to which the banking system has used its borrowed funds to lend to households and businesses. The lower the value the more conservative the system is, and vice versa, the higher the ratio the more aggressive the banking policy is, also posing a risk of lacking liquidity for unforeseen withdrawals. Other things being equal, the higher the ratio, the greater the sensitivity of the sovereign to risks in the banking sector.
- **Size of the banking system** - The size of a banking system is measured by the total bank assets relative to GDP. Banking sector liabilities are seen as a contingent liability for the sovereign, due to the track record of governments' support schemes to banks. In assessing this factor, we assume that a small-sized banking system may pose limited risks to the government balance sheet, while a large system represents a greater source of risk.
- **Deposit dollarization ratio** – The share of foreign currency deposits indicates for the economic agents' confidence in the national currency. The dollarization is a process that characterises developing countries with unstable economic and/or political environment. The financial dollarization of the economy weakens the transmission mechanisms of monetary policy, increases the vulnerability of the financial system to fluctuations in the exchange rate, and can accordingly trigger an outflow of foreign exchange reserves from the country.

Effective as of November 11th 2019

Appendix 1: BCRA's definition of Default

Default events (resulting in 'D' Rating):

- ✓ Failure to make full payment on principal or interest due or a delay thereby outside the stipulated grace period. Missed, delayed, or partial payments are considered below the materiality threshold of this definition when those are due to a mere oversight and are corrected in a matter of days with full compensation for creditor losses;
- ✓ Troubled restructuring of the obligation or a distressed debt exchange at conditions less favourable to the creditor, i.e., when the creditor suffers uncompensated losses due to a delay in repayment, interest forgiveness in part or in full, principal forgiveness in part, change in the currency of the payment, etc.;
- ✓ Moratorium on debt service or another contingency which makes timely debt service impossible.

Note: For purposes of the definition above, troubled restructuring does not include restructuring where the creditor is fully compensated for any losses. The Sovereign Credit Rating only relates to the probability of default on debt-related financial obligations owed to private creditors. Reported failure to pay debt owed to other governments and/or official creditors by the sovereign, including multilateral institutions such as the International Monetary Fund or the World Bank, would not be considered a default event. BCRA's ratings do not refer to risks faced by these official sector institutions as they typically enjoy preferential treatment.

Appendix 2: Sovereign Rating Model

SOVEREIGN RATING MODEL							
1. Institutional and political risk	1.1. Institutions effectiveness	1.1.1. Rule of law	33.3%	50%	30%		
		1.1.2. Regulatory quality	33.3%				
		1.1.3. Voice and accountability	33.3%				
		Adjustments					
	1.2. Political risk	1.2.1. Control of corruption	33.3%	50%			
		1.2.2. Government effectiveness	33.3%				
		1.2.3. Political stability	33.3%				
		Adjustments					
	2. Macroeconomic sustainability	2.1. Macroeconomic fundamentals	2.1.1. Scale of the economy	16.7%		70%	30%
			2.1.2. Economic growth	16.7%			
2.1.3. Economic volatility			16.7%				
2.1.4. GDP per capita			33.3%				
2.1.5. Unemployment			16.7%				
Adjustments							
2.2. Foreign competitiveness and external imbalances		2.2.1. Current account balance	25.0%	30%			
		2.2.2. Reserves coverage over Imports	25.0%				
		2.2.3. Net international investment position	25.0%				
		2.2.4. Global competitiveness index	25.0%				
	Adjustments						
3. Fiscal flexibility	3.1. Public debt sustainability	3.1.1. Debt size	25.0%	60%	20%		
		3.1.2. Debt trend	25.0%				
		3.1.3. Debt burden	25.0%				
		3.1.4. Interest burden	25.0%				
	Adjustments						
	3.2. Fiscal policy	3.2.1. Primary budget balance	50.0%	40%			
		3.2.2. Budget balance	50.0%				
	Adjustments						
4. Monetary policy and financial stability	4.1. Monetary policy effectiveness	4.1.1. REER 10-year volatility	33.3%	50%	20%		
		4.1.2. Inflation level	33.3%				
		4.1.3. Inflation 10-year volatility	33.3%				
	Adjustments						
	4.2. Financial sector performance	4.2.1. Financial development index	40.0%	50%			
		4.2.2. Capital adequacy ratio	10.0%				
		4.2.3. Liquid asset ratio	10.0%				
		4.2.4. Non-performing loans	40.0%				
	Adjustments						
	SOVEREIGN RATING MODEL						

Appendix 3: Sovereign rating scale

Short-term credit rating reflects the possibility of servicing the short-term financial obligations (within one year), while the **long-term credit rating** reflects the possibility of servicing the long-term financial obligations.

Long-term rating	Short-term rating	
AAA	A-1+	Investment grade
AA+	A-1+	
AA	A-1+	
AA-	A-1+	
A+	A-1+ or A-1	
A	A-1	
A-	A-1 or A-2	
BBB+	A-2	
BBB	A-2 or A-3	
BBB-	A-3	Speculative grade
BB+	B	
BB	B	
BB-	B	
B+	C	
B	C	
B-	C	
CCC+	C	
CCC	C	
CCC-	C	
CC	C	
C	C	
D	D	

Short-term rating scale definitions:

A-1+	Considerable financial stability and excellent capability for timely and full payment of debt-related financial obligations to a great extent regardless of the changes in the political or economic environment.
A-1	Financial stability. Weak or inconsiderable vulnerability to the changes in the political or economic environment.
A-2	Good financial condition. Certain vulnerability exists to unfavourable changes in the political or economic environment.
A-3	Good financial condition. Moderate vulnerability to unfavourable changes in the political or economic environment.
B	Relatively fair financial condition and presence of certain risk of untimely and incomplete payment of the debt-related financial obligation. High vulnerability to unfavourable changes in the political or economic environment.

C	Substantial problems in the financial condition. Presence of dependence on favourable changes in the political or economic environment in order to avoid untimely or incomplete payment of debt-related financial obligations.
D	In default, according to BCRA's definition.

Long-term rating scale definitions:

AAA	Extremely high capability for servicing debt-related financial obligations in a timely manner. Substantial financial stability. Excellent prospects for development. Exclusively low credit risk.
AA	Very high capability for servicing debt-related financial obligations in a timely manner. Substantial financial stability. Very low credit risk.
A	High capability for servicing the debt-related financial obligations in a timely manner. Low vulnerability to unfavourable changes in the political or economic environment. Financial stability. Low credit risk.
BBB	Fair capability for servicing the debt-related financial obligations in a timely manner. Fair financial condition. Moderate vulnerability to unfavourable changes in the political or economic environment. Moderate credit risk.
BB	The ability to service debt-related financial obligations is to a large extent influenced by the unfavourable changes in the political or economic environment. The financial condition is relatively fair. Substantial credit risk.
B	High level of insecurity with regards to the financial stability and capability for paying off the debt-related financial obligations. High vulnerability to unfavourable changes in the political or economic environment. Relatively high credit risk.
CCC	Unfavourable changes in the political or economic environment may bring to a considerable deterioration of creditworthiness and a failure to fulfil the debt related financial obligations. Weaknesses in the financial condition. High credit risk.
CC	A high risk of going into default exists. Low capability for paying off the debt-related financial obligations. Substantial problems in the financial condition.
C	Very high risk for going into default exists. Substantial danger of failure to fulfil the debt-related financial obligations and significant dependence on favourable changes in the political environment. Very weak financial condition
D	In default, according to BCRA's definition.

Note: The symbols „+” and „-” modifying rating categories AA through CCC are used to represent the relative creditworthiness within a single rating category.

Outlook:

- **Positive** – reflecting expectations for passing into an upper category rating within 1 year;
- **Negative** – reflecting expectations for passing into an upper category rating within 1 year;
- **Stable** – reflecting expectations for keeping the rating category within 1 year;
- **In development** – reflecting expectations of occurrence of an event, which may have negative / positive effect on the rating.