PCR | PACIFIC CREDIT RATING

Sovereign Risk Rating Methodology

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1. OBJECTIVE

To describe the risk rating methods and criteria used by PCR for sovereign issuers and issuances.

2. SCOPE

PCR's sovereign risk analysis assesses the vulnerability of a country's willingness and ability to meet its obligations[1] in the face of economic shocks, both internal and external. It also serves to determine the impact on the ability to pay of entities operating in those countries.

The sovereign risk rating does not reflect its willingness and ability to pay the following types of obligations:

- Obligations to other governments (Paris Club or other intergovernmental debt);
- Obligations to supranational organizations such as the International Monetary Fund or the World Bank;
- Obligations to public sector companies or local or regional governments;
- However, this methodology does consider the possible effects of these obligations on the ability and willingness to pay other obligations.

3. TERMS AND DEFINITIONS

a. Competitiveness: Ability to compete, especially in international markets (term introduced in the 1980s).

b. Macroeconomic indicators**:** The numerical expression of the main variables in social accounting; for example: gross domestic product, gross national product, national private consumption, national public consumption, etc. E.g.: macroeconomic indicators

c. Credit risk: The probability that the interest and principal, or both, of a loan will not be repaid. There are two alternatives for studying this type of risk: performance analysis and settlement analysis. E.g.: credit risk

d. Exchange risk: This refers to the possible generation of losses in the value of assets, liabilities, or commitments, which are reflected in memorandum accounts, as a result of fluctuations in the exchange rate of the currencies in which they are denominated. E.g.: exchange risk

e. Default risk: This arises when one of the two parties to a financial swap fails to meet its commitment, leaving the other party with an uncovered position. E.g.: default risk

f. Liquidity risk: Refers to the possibility of incurring losses due to not having sufficient liquid resources to meet obligations. In the case of banks, its current importance is less than in the past, both due to the development and integration of money markets and the support of central banks as lenders of last resort. E.g.: liquidity risk

g. Market risk: Arises when interest or exchange rates move in the opposite direction to that anticipated at the time a financial swap contract is established. E.i.: market risk

[1] Commercial and financial obligations to commercial creditors, in full and on time.

h. Transfer risk: This is the risk faced by foreign creditors with respect to a country that declares itself generally unable to meet its debts due to a lack of the currency or currencies in which they are denominated. E.g.: transfer risk

i. Country risk: The possibility of commercial or financial insolvency on the part of a seller or lender due to political problems or serious economic disturbances[2] , which can occur relatively frequently in developing countries. Country risk requires special insurance with very high premiums to be taken out, as well as provisions to be made in the profit and loss accounts of selling companies or lenders. It has two aspects: sovereign risk and transfer risk. E.g.: country risk

j. Sovereign risk: This reflects the possibility of insolvency of states, institutions, or public companies. The institutional nature or links of these borrowers means they must be treated differently from private borrowers, due to the immunity afforded to them by their sovereignty. E.g.: sovereign risk

4. BASIC CONDITIONS

In order to determine sovereign risk, it must be assumed that economic policies leading to sustained improvements in social welfare will be a foundation for achieving political stability. This, in turn, will allow political leaders to make optimal long-term decisions that may, however, involve short-term sacrifices on the part of the public. For this reason, sovereign risk is considered a continuous cycle in which economic, political, and social decisions must be synchronized, with the evaluation of economic policy focusing on the study of measures taken by the government to maintain economic stability, improve internal and external competitiveness, and promote greater growth and development.

A country's ability to pay does not necessarily imply a willingness to honor its debt. In other words, the government must be willing not to default. As a result, PCR analyzes the political and social structure and the potential incentives that may lead governments to break their financial commitments. In this way, PCR defines the ability and willingness of governments to keep up with their payments as closely related concepts.

The rationale for determining sovereign risk reflects the coherence, consistency, and results of the economic policy employed; thus, the rating is defined based on the state's ability and willingness to honor its debts.

5. SPECIFIC CONDITIONS

A state's ability to meet its obligations is assessed using both quantitative (macroeconomic indicators) and qualitative indicators of its economic, financial, and monetary performance, public finances, balance of payments, and current debt. In simpler terms, a competitive and diversified economy, endowed with good human and physical capital and little concentration of wealth, will have a higher sovereign risk rating.

Sovereign risk ratings will be highly correlated with the past situation and current state of public finances, represented by the stock of debt (external and domestic) and recent fiscal performance. In addition, sound external finances, where debt commitments are manageable and the balance of payments is stable, are signs of high payment capacity.

[2] Political, economic, geographical, and social events in a specific country, which may or may not be under the control of the government or individuals.

In PCR, the determination of the sovereign rating begins with the assessment of three risk dimensions, where a value is assigned through a ratio measure[3] ranging from 0 to 8, where 0 means no risk and 8 means the highest risk. Political and social factors are then taken into consideration[4] to combine all risk dimensions into a single score. Finally, after applying the Cobb-Douglas complementarity function between the quantitative and qualitative dimensions[5] , a final score is obtained that represents the assessed sovereign risk level, which will also have a scale between 0 and 8. These dimensions must be given a specific weight that adds up to 1, weights that may vary according to the conditions in each country.

The rating obtained with the model described above represents a country's ability to pay its obligations without yet considering the currency in which those commitments are denominated. The sovereign risk rating in foreign currency is obtained after considering some additional prospective analysis factors. The risk rating in local currency, which is expected to be equal to or higher than that in foreign currency, is obtained by evaluating the unique power that sovereign governments have within their territories, which includes their ability to issue debt in local currency and control the domestic financial system through regulation, an aspect that is reasonably absent when a country is a member of a monetary union or when it uses the currency of another country, where ultimately the sovereign risk in local and foreign currency will be the same.

The macroeconomic indicators used in the analysis to determine the level of risk for each dimension evaluated are taken from various sources. These may be international or national statistics or aggregate statistics that are normally provided by independent government entities and regulatory bodies such as central banks or superintendencies. Macroeconomic and sectoral reports from the countries evaluated are also used.

5.1 Country Risk

Country risk encompasses greater risks and becomes a different and broader concept than sovereign risk. In addition, there are two additional types of risk that are closely related to the latter and, in some cases, share similar characteristics: transfer risk and credit risk.

Sovereign and transfer risk are highly correlated, with the government as the major player in both. For example, the government could implement measures prohibiting foreign currency exchange, preventing private companies from paying obligations incurred in foreign currency.

Credit risk is related to the continuous deterioration of private contracts to the point that they are not fulfilled, even though the government has not imposed any monetary restrictions. The concentration of credit risk is called domestic economy risk and is related to the probability of events occurring throughout a country that negatively affect the quality of the investment portfolio.

Other important factors affecting country risk are the economic openness and interdependence of emerging markets with foreign capital, external economic policy shocks from their main trading partners, the idiosyncrasies of the state, social inequality, environmental and social factors, freedom of expression, and the administration of justice.

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[3] The ratio level, whose name comes from the Latin ratio (calculation), integrates those variables with equal intervals that can place an absolute zero. These variables name order, have equal intervals, and zero means absence of the characteristic. Absolute zero means identifying a position of total absence of the trait or phenomenon.

[4] These qualitative factors are measured on nominal or ordinal scales. Nominal variables are categorical in nature, differing in quality rather than quantity, and are labeled according to the researcher's wishes or convenience. Ordinal variables are not only assigned to groups, but can also be used to establish relationships of greater than, less than, or equal to between elements.

[5] Quantitative or qualitative dimensions that are evaluated with a high level of risk should be given greater weight in the final score.

The rating assigned to a non-sovereign entity in the country where it operates is generally the same or lower than this rating. However, the rating is higher for private companies when they have greater credit strength than the state and the transfer risk is lower than the risk of sovereign default in foreign currency. Such is the case for major local business groups, subsidiaries of companies, international banks, and multinationals.

5.2 Dollarized Regimes

Another important aspect of PCR's sovereign risk rating is the assessment of highly dollarized regimes. PCR has found that countries with a rating below investment grade and with a fixed exchange rate regime, whether dollarized or having adopted another currency as their own, face additional risks. This can increase the risk of a default crisis (e.g., 2002 Argentina and Ecuador), deposit freezes (e.g., 2002-03 Argentina, Ecuador, and Uruguay), and bank solvency (e.g., 2003 Bolivia).

The risk of deposit freezes in highly dollarized banking systems appears to coincide with, precede, or sometimes foreshadow a default on foreign currency bonds. As such, a flight of foreign currency deposits can be an important indicator of poor sovereign creditworthiness, and without the cushion of ample foreign currency reserves, countries with dollarized systems may face a shortage of resources by holding deposits in a currency they cannot issue. In some cases, contingent credit lines have even been found to be insufficient.

5.3 Emerging Market Bond Index

Country risk indices can be used to understand and approximate the effect on economic development. The country risk index is a h[6] y indicator that reflects the movement and prices of bonds and debt securities in emerging countries, both in Latin America and in other regions of the globe. Technically, the indicator is called EMBI+, which stands for *Emerging Market Bond Index*. It is currently widely accepted by the world's leading investment banks.

There are two types of EMBI+, the general EMBI+ and the country-specific EMBI+. The first groups together 16 emerging countries from around the world that are characterized by having issued, or in some cases continuing to issue, debt in recent decades, resorting to the international market to carry out new issues. The second reflects the price of bonds issued by each individual country, i.e., it constructs a particular basket of bonds issued internationally by each country, assigning different weightings to each of the securities that make up that basket. In this way, the country-specific EMBI+ is a weighted index that measures the variation in sovereign debt on international markets.

The country risk index generated by JP Morgan is measured in percentage basis points, where every 100 percentage basis points correspond to 1% of the rates used in the financial market. These points indicate the surcharge that a given basket of bonds from a given country must pay with respect to the US bond basket (above the issues made by the US government through the US Treasury).

The index takes the yield on US bonds as a reference and compares it with government securities from emerging countries with similar characteristics—term, coupon, amortization, etc. The consulting firms that develop and use the EMBI+ understand that US debt securities are the safest in the world. For example, the country risk index for a medium-risk country could fluctuate around 440 bp in the bond and government securities market. Therefore, a medium-risk bond issue would have to carry an implied interest coupon rate of approximately 5.4% per annum, as the rate of US Treasury

[6] Prepared by JP Morgan Chase

debt securities on the calculation date would have to be added to the 4.40% per annum derived from the aforementioned index.

In practice, international financial markets accept a maximum risk of 1,000 basis points, which translates into an interest rate of approximately 11% per annum (considering 1% of US T-bonds). For investment funds and financial institutions, an asset that accrues more than 13-15% interest per annum is considered very risky and unfinanceable. For this reason, it is said that once the 1,000 basis point barrier is exceeded, country risk ceases to serve as a reference for access to secondary financial markets.

5.4 Sovereign Risk Rating Methodology

The macroeconomic indicators[7] used to assess each dimension of sovereign risk used by PCR are shown below:

- **Economic policy**
  - Economic performance
    i. Gross Domestic Product (GDP) per capita
    ii. Real GDP growth
    iii. Evolution of aggregate supply and demand
    iv. Unemployment rates
    v. Disparities in income distribution
    vi. Labor flexibility
  - Financial and monetary performance
    i. Inflation trends
    ii. Real/nominal exchange rate trends
    iii. Evolution of the monetary base
    iv. Institutional factors
    v. Range and efficiency of monetary policy tools
  - Fiscal performance
    i. Central government results in relation to GDP
    ii. Primary result in relation to GDP
    iii. Tax revenue relative to GDP
    iv. Government interest payments relative to GDP
    v. Public sector debt relative to GDP
- **External Sector**
  - Current account balance relative to GDP
  - Foreign direct investment (FDI) relative to GDP
  - Balance of payments performance
  - Growth rate of exports of goods and services
  - Exports in relation to GDP

[7] The indicators, descriptions, and formulas are found in Appendix A.

- Main exports and imports (price and volume)
- Growth rate of imports
- Net international reserves (NIR) in relation to imports and maturing obligations

- **External or internal debt**
  - Total external debt of the public sector in relation to GDP
  - Total external debt relative to GDP
  - Net external debt relative to GDP
  - Total external debt relative to exports
  - Public debt in local currency plus net external debt relative to exports
  - Debt service relative to exports
- **Political and social factors**
  - Stability and legitimacy of political institutions
  - Popular participation in political processes
  - Transparency in public policy decisions
  - Public safety
  - Geopolitical risk
  - Separation of powers
  - Administration of justice
  - Institutional framework

5.4.1 Economic Policy

In its analysis of economic policy, PCR focuses on evaluating the scope of government measures employed to maintain macroeconomic stability, improve national competitiveness, and promote greater growth and development.

Competitiveness is affected by structural policies that impact the efficiency with which local products are offered in the markets. Economic development is based on generating greater domestic savings, as well as investments that increase human and physical capital stocks. The aim of the various policies implemented (fiscal, monetary, exchange rate, and trade) is macroeconomic stability that seeks long-term growth, as well as a reduction in inflation and the balance of payments deficit. Similarly, special emphasis is placed on economic planning and the coherence of the various policies implemented.

1) Productive performance indicators

Productive performance indicators seek to outline the prospects for economic growth. A country with sustained growth, macroeconomic stabilization policies, and high standards of employment and quality of life are good indicators for sustaining considerable debt levels and cushioning unexpected shocks, both economically and politically.

Usually, non-speculative sovereign risk ratings (above BBB) reflect an advanced level of development and a tendency toward high growth rates. On the other hand, clearly speculative ratings reflect erratic growth and significant structural impediments in the economy.

2) Financial and monetary performance indicators

With regard to monetary policy, the commitment of monetary authorities to control inflation is analyzed, assessing their predictive capacity and sophistication and the effectiveness of the instruments available. In addition, given that monetary policy affects the exchange rate, monetary aggregates, and credit allocation, the consistency of monetary policy within the overall macroeconomic policy framework is studied.

It is important to note the importance of consistency between the policies used and the economic reality of the country. However, a combination of increases (and dependence) in commodity prices and higher deficits and debt burdens suggest increases in future inflation greater than those recorded in recent years, indicating the possibility of the onset of a crisis.

Consequently, when assessing financial and monetary flexibility, PCR considers:

- The behavior of the Consumer Price Index (CPI) during economic cycles and in relation to its trading partners.
- The orientation of monetary policy tools and their degree of effectiveness, together with a transparent, well-regulated, and developed financial sector.
- Institutional factors, such as the independence of the Central Bank; and
- The compatibility of the exchange rate regime with monetary targets.
- Along with monetary flexibility and the effectiveness of policy tools, the depth and capacity of the country's capital markets act as an important disciplinary tool. A sovereign has less incentive to default when it has the ability to quickly access investors.

3) Fiscal performance indicators

The country's fiscal policy must monitor trends in primary and fiscal results, public sector borrowing requirements, and trends in operating balances. A vitally important issue is the viability of the fiscal deficit and the degree to which it is compatible with the country's economic development.

Trends in fiscal policy, in addition to deficit financing methods and inflationary impact, are important indicators of sovereign credit quality. The assessment is based not only on surpluses or deficits, but also on flexibility in managing expenditure and revenue and the effectiveness of public investment programs.

5.4.2 External Sector

The analysis of the external sector focuses on the impact of economic policies on that sector and its structural characteristics. In the short term, the ability of financial actors to manage external financial pressure depends, in part, on the structure of the current and capital accounts. However, for purely structural reasons, pressures on the balance of payments do not arise spontaneously. In most cases, these pressures stem from poor economic policies in the past.

The size of the current account deficit, which reflects the excess of investment over savings, is not in itself important for assigning a sovereign risk rating. There is abundant literature available on the debate between maintaining a current account deficit or surplus. As is well known, it is the product of many factors that are not entirely negative or related to government policies.

In the capital account, it is necessary to differentiate between foreign direct investment and speculative capital since, while the former is positive because it is considered long-term and reveals greater confidence in the domestic economy, the latter demands a return on its investments (in fixed income and equities) and tends to be volatile. The analysis also assesses the level of international

reserves, as well as the regularity with which information is distributed. In countries where such information is very restricted, the risk arising from uncertainty in the information is greater.

Net international reserves (NIR), which include only reserves available for foreign exchange operations and external debt payments, act as a financial buffer for the government during periods of balance of payments crisis. The gross external financing gap, exchange rate policies, and the vulnerability of reserves to changes in current and capital account flows determine whether or not the level of net international reserves is adequate. Reserves deposited in domestic banks are not included in net international reserves.

Other factors considered are the treatment of foreign direct investment and the repatriation of income and dividends as part of the assessment of the country's growth potential. Factors such as productivity trends in both tradable and service sectors are also analyzed in order to assess the viability of businesses in the economy.

A key quantitative measure is the gross external financing gap[8] . The ratio of the gross external financing gap to reserves tends to be less than 100% for investment-grade sovereigns and greater than 100% for speculative-grade sovereigns. Factors that mitigate the risk of a financing gap are high foreign direct investment (FDI) inflows and expectations of high export growth, due to the result of investment contributing to the gap.

On the other hand, given that competitiveness is affected by structural policies that impact the efficiency with which resources are allocated to production, labor, and financial markets, the role of the government should be that of a provider of social goods and an administrator of regulations that promote competition and limit the power of natural monopolies.

5.4.3 Internal and External Debt

Government obligations, both domestic and foreign, as well as the financing used, are analyzed in detail. The amount of debt held by foreign investors in local currency is an important variable, as this allows them to exert greater control over the policies employed than other creditors. High levels of short-term debt and amortizable payments undermine investor confidence. A country with high volumes of external assets and liabilities will be more integrated into the international financial market and, therefore, will have a greater incentive to adequately service its debt.

5.4.4 Political and social factors

Finally, both political and social factors are considered in the process of determining country risk: the flexibility with which political institutions respond to different scenarios, the representativeness of different sectors of society, and the conviction and degree of acceptance of different measures are important for ensuring that planned goals are met.

Stability, predictability, institutional transparency, and the ability to identify and correct errors are important considerations when analyzing the development of a government's domestic policies. The separation of powers, particularly the judiciary, is as important a factor as the development of civil institutions, with an emphasis on freedom of the press. Likewise, relations with neighboring countries, citizen and internal security, and the degree of influence of the military authorities are evaluated; the latter as a threat to fiscal policy, reduction of foreign direct investment, and the effect on the balance of payments.

[8] The deficit/(current account surplus + short-term obligations to non-residents—including deposits and principal maturing in the medium term—+ long-term public and private debt).

Countries with open institutional frameworks, considerable popular participation, a clear process for electing authorities, and transparent government behavior that responds to exogenous changes will receive a positive rating. Consolidated institutions provide transparency, especially with regard to property rights. On the other hand, a negative rating is given to political institutions that are new and/or not very open or effective. The decision-making process is highly concentrated in the hands of a few people, and therefore a high percentage of the population is left out. Likewise, there are internal divisions, whether due to social or economic problems, and there is a geopolitical and public safety risk.

With regard to political risks, it is worth asking whether the political agreement is durable and stable. What PCR seeks to determine is the ability of leaders to gain popular support regardless of the popularity of the measures adopted. It also considers the existence of political and social tensions and their origins.

5.5 Determination of the Final Rating

5.5.1 Short-term sovereign obligations

In its sovereign risk ratings, PCR evaluates two horizons: long-term and short-term. In the past, some emerging market countries have demonstrated that they can manage their short-term liquidity needs. In other words, it is possible for a country with a low long-term sovereign risk rating to obtain a relatively high short-term sovereign risk rating.

PCR considers that a key factor in assigning a short-term sovereign risk rating is the country's official level of net international reserves in relation to its imports. In this way, it assesses the possibility of meeting its short-term obligations in the event of liquidity shortages. However, factors such as export volatility, the level of short-term foreign investment, and the availability of credit lines must also be considered in order to analyze the country's foreign exchange generation capacity. Evidence of the monetary position and knowledge of the maturities of short-term obligations are also necessary.

This analysis becomes more important as the maturity of long-term sovereign issues (between 5 and 10 years) approaches. While long-term analysis assesses the ability to meet goals over broader horizons, short-term analysis can be a very important indicator for evaluating investments over shorter periods.

5.5.2 Differences between local and foreign sovereign debt ratings

PCR differentiates between the ratings of sovereign bonds in local currency and foreign currency within the same country, reflecting the credit risk of each type of debt. For example, to achieve a sovereign bond rating in local currency above investment grade, it is necessary to have a stable, healthy, diversified, and predictable economy, with monetary and fiscal policies that lead to low inflation, sustained growth, and employment. If we add to this responsible government management of its external debt, consistent exchange rate policies, adequate management of NIR, and promotion of foreign direct investment, then the foreign currency sovereign debt rating will also be above investment grade.

However, what happens to sovereign debt ratings that are below investment grade? In this case, PCR perceives two behaviors: the first for sovereign debt with non-critical speculative characteristics (between BB+ and B+) and the second for speculative sovereign debt close to sovereign default (between B and D).

The differences between sovereign debt ratings in foreign and local currency can widen when sovereign bonds are below investment grade, but when the speculative grade is not critical. These sovereign bonds are typically distributed and analyzed in two ways:

- Sovereign obligations of countries that have made timely debt payments in both local and foreign currency. Inflationary pressures are moderate and public finances are well managed, but the probability of defaulting on foreign currency payments is (or will be in the future) relatively high.
- Countries that have met their sovereign obligations in local currency but have a history of defaulting on foreign currency debt. Foreign and domestic currency ratings assess improvements in inflation and public finances against the risk of not being able to accumulate reserves to meet foreign currency debt obligations.

On the other hand, when ratings are below speculative grade, the differences tend to narrow. Sovereign obligations in this category have defaulted in both local and foreign currency and still carry a high risk of further default due to changes in domestic policies and finances. Other sovereign bonds in this category may not have defaulted, but restrictions on fiscal and monetary policy management, high inflation, and political risk make them candidates for default.

It is worth noting that government defaults in local currency are not frequent due to the ability to impose taxes and controls on domestic banks, even when sovereign obligations in foreign currency are defaulted. On the other hand, if the main constraint is geopolitical risk, there will be little difference between the ratings of sovereign obligations, since financial, fiscal, and monetary control will not carry sufficient weight in a catastrophic event.

5.5.3 Sovereign and non-sovereign risk ratings

PCR notes that one of the main characteristics of governments is their ability to affect financial decisions and entities under their jurisdiction. Therefore, it is assumed that sovereign risk is the "ceiling" for the rating of non-sovereign obligations (i.e., third parties to foreigners), as it has been shown that the risk of default can be increased by exchange rate controls preventing the payment of acquired debt.

However, PCR will evaluate and issue a decision regarding the risk and probability of government intervention. That is, in some cases, this risk may be lower than the risk of sovereign default, so it is possible that the rating of non-sovereign obligations may be higher. This case is strengthened under a monetary union, a reputable central bank, or special considerations that isolate the issuer or the issue (such as a guarantee from the foreign parent company, offshore businesses, or structural characteristics). However, as the international community considers that several sovereign debt restructuring plans may include the imposition of exchange rate controls (transfer risk), the range for assigning high (or low) risk to government intervention should be limited.

Although national governments are often in a position to receive higher national credit ratings, it cannot be assumed, in PCR's opinion, that a country's national government necessarily represents the best credit on the national scale, as it is possible for a government to default on its domestic currency obligations while other issuers continue to meet theirs.

5.6 Rating Categories

1) **Short-Term (CP) Issues**

Level		Detail
High	1	Securities with the highest certainty of timely payment. The debtor has short-term liquidity, protection factors, and access to alternative sources of funds are excellent.
	1	Securities with very high certainty of timely payment. Liquidity and protection factors are very good. Risks are negligible.
	1-	Securities with high certainty of timely payment. The debtor's liquidity is good and is supported by good protection factors. The risks are small.
Good	2	Securities with certainty of timely payment. The debtor's liquidity and other aspects are solid; however, ongoing funding needs may increase total financing requirements.
Satisfactory	3	Satisfactory liquidity and other protective factors make the security an acceptable investment. Timely payment is expected; however, risk factors are greater and subject to variation.
Does not qualify for investment	4	Securities with speculative investment characteristics. Liquidity is insufficient to guarantee debt service. Protection factors are subject to a high degree of variation.
Default	5	Securities where payment terms have been breached.
No Information	E	Corresponds to securities for which there is insufficient information or the information is not representative. This scale does not allow an opinion to be issued on their risk.

The letter "s" will be added as a suffix to sovereign debt rating scales to highlight that it is a sovereign instrument.

These categorizations may be supplemented, if appropriate, by the signs (+/-) improving or worsening, respectively, the rating achieved between categories 2 and 3 inclusive.

2) Medium- and long-term issues and preferred shares (LP)

Level		Detail
Outstanding	AAA	Issues with the highest credit quality. Risk factors are virtually non-existent.
High	AA	Issues with high credit quality. Protective factors are strong. Risk is modest, but may vary occasionally due to economic conditions.
Good	A	Issues with good credit quality. Protective factors are adequate, but in periods of economic downturn, risks are greater and more variable.
Satisfactory	BBB	Risk protection factors are reasonable, sufficient for an acceptable investment. There is considerable variability in risk during economic cycles, which could cause fluctuations in its rating.
Does not qualify for investment	BB	Issues rated below investment grade. It is estimated that their financial flexibility could limit their ability to meet their obligations at maturity. The quality of these issues can fluctuate frequently, so they are considered speculative.
	B	Issues rated below investment grade. There is a higher risk of default. Financial protection factors fluctuate widely across economic cycles, industry conditions, and the ability of company management to navigate them.

Level		Detail
	CCC	Issues rated well below investment grade. They are characterized by a high risk of timely payment. Protective factors are scarce, and the risk can be substantial in unfavorable situations for both the industry and the company.
Default	**DD**	Issues where interest and/or principal payments have been missed or the issuer has incurred other causes of default.
	DP	Preferred shares with arrears in preferred dividend payments.
No information	**E**	Corresponds to those shares for which there is insufficient or unrepresentative information, making it impossible to issue an opinion on their risk.

The letter "s" will be added as a suffix to sovereign bond rating scales to highlight that it is a sovereign instrument.

These categorizations may be supplemented, if appropriate, by the signs (+/-) improving or worsening, respectively, the rating achieved between the categories AA and B inclusive.

ANNEX 1. QUANTITATIVE INDICATORS (MACRO-MAGNITUDES) SOVEREIGN RISK

Risk dimensions / Indicators	Definition	Formula
Economic and Socioeconomic Performance		
Nominal GDP	The sum of the monetary values of goods and services produced in a country during a fiscal year, expressed in current national currency. The term "nominal" or "current" refers to prices measured without discounting the effects of inflation. Its calculation is based on the real values of the components, which are previously indexed using deflators for each of the components.	*GDP = Consumption + Government Spending + Investment + Net Exports*
GDP per capita	The ratio between a country's gross domestic product and its population in a given year. It is generally associated with a country's relative level of development. The World Bank classifies countries according to their GDP per capita.	$\frac{PBI\ Real}{Población}$
Real GDP growth rate (%)	An inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year, expressed in the prices of a base year, and usually referred to as constant prices.	$\frac{PBI_t - PBI_{t-1}}{PBI_{t-1}}$
Real GDP growth rate per person (%)	This measures the real GDP growth rate per person.	$\frac{PBI_{real\ per\ capita\ t} - PBI_{real\ per\ capita\ t-1}}{PBI_{real\ per\ capita\ t-1}}$
Investment growth rate (%)	Measures the growth rate of investment in real terms.	$\frac{Inversión_{\ t} - Inversión_{\ t-1}}{Inversión_{\ t-1}}$
Investment as a percentage of GDP	Measures the level of investment in terms of Gross Domestic Product.	$\frac{Inversión}{PBI}$
National savings as a percentage of GDP	Measures the level of savings in terms of Gross Domestic Product. .	$\frac{Ahorro\ Nacional}{PBI}$
Exports as a percentage of GDP	Measures the level of exports in terms of Gross Domestic Product.	$\frac{Exportaciones}{PBI}$
Measures the percentage of people of working age and willing to work who are actively seeking employment but unable to find it.	Measures the percentage of people of working age and willing to work who are actively seeking employment but unable to find it.	$\frac{Nivel\ de\ desempleo}{Total\ de\ la\ fuerza\ laboral}$

Risk dimensions / Indicators	Definition	Formula
Economic activity index	This index measures the evolution of economic activity, approximating the monthly behavior of the added value of the different industries included in the calculation of Gross Domestic Product.	*Indicedeactividad economic*
Gross Domestic Product by sector	Value of a country's production of goods and services over a given period of time, referring to primary and non-primary sectors.	*PBI por sectores economic*
Poverty	Poverty is a condition in which one or more people have a standard of living below the socially accepted minimum.	*Nivel de pobreza*
Social spending	Part of public expenditure allocated to the financing of basic social services. According to the classification proposed by the United Nations, this includes expenditure on education, health, social security, housing, sports, and other similar items.	*Social Expenditure*
Financial and Monetary System		
Inflation	A persistent increase in the general price level of the economy, with a consequent loss in the purchasing power of the currency. It is generally measured by the change in the consumer price index.	$\frac{IPC_t - IPC_{t-1}}{IPC_{t-1}}$
GDP Deflator Growth Rate	Measures the growth rate of the price index, which is applied to convert nominal values to current values, or real values to constant values.	$\frac{Deflactor\ del\ PBI_{\ t} - Deflactor_{\ t-1}}{Deflactor_{\ t-1}}$
Exchange Rate	The price at which one currency is exchanged for another. These transactions are carried out on a spot or forward basis (spot market and forward market) in the currency markets. It is usually expressed in terms of the number of units of the domestic currency that must be delivered in exchange for one unit of foreign currency.	*Exchange Rate*
Net international reserves	Difference between a central bank's reserve assets and international liabilities. NIRs show a country's international liquidity and its financial capacity to meet its short-term foreign currency obligations.	*NIR = Foreign currency funds + Foreign deposits + Securities in international institutions + Gold + SDR*
Interest Rate	This is the percentage charged by banks for financing arrangements known as overdrafts, discounts, and loans (with various terms). They are assets because they are resources in favor of the bank.	*Lending rate*
Brief overview of the financial system	Brief overview of the financial system.	*Brief overview of the financial system*
Fiscal performance		

Risk dimensions / Indicators	Definition	Formula
General government balance / GDP (%)	This includes all expenditures belonging to entities constituted by ministries, offices, and other agencies under the Executive Branch, with respect to Gross Domestic Product.	$\frac{Balance\ del\ Gobierno\ General}{PBI}$
Change in the debt of the G.G. / GDP (%)	Measures the change in general government debt relative to Gross Domestic Product.	$\frac{Deuda\ GG_t - Deuda\ GG_{t-1}}{PBI}$
General government primary balance / GDP (%)	Measures the general government primary balance relative to Gross Domestic Product.	$\frac{Balance\ primario\ del\ GG}{PBI}$
General government revenue / GDP (%)	Measures general government revenue relative to Gross Domestic Product.	$\frac{Ingresos\ del\ GG}{PBI}$
General government expenditure / GDP (%)	Measures the ratio of general government revenue to Gross Domestic Product.	$\frac{Gasto\ del\ GG}{PBI}$
General government interest expenditure / revenue (%)	Measures the ratio of general government interest expenditure to its revenue.	$\frac{Gasto\ de\ interés\ del\ GG}{Ingresos}$
General government gross debt / GDP (%)	Represents general government gross debt relative to its revenue.	$\frac{Deuda\ bruta\ del\ GG}{PBI}$
Debt / revenue (%)	These are the liabilities recognized by the public sector vis-à-vis the rest of the economy and the world, pending payment in relation to its revenue.	$\frac{Deuda}{Ingresos}$
General government net debt / GDP (%)	Represents the net debt of the general government relative to its revenue.	$\frac{Deuda\ neta\ del\ GG}{PBI}$
Liquid assets / GDP (%)	Ratio measuring liquid assets in relation to Gross Domestic Product.	$\frac{Activos\ Liquidos}{PBI}$
Tax revenue (General state budget)	Current revenues are obtained on a regular or periodic basis and do not immediately alter the financial position of the State. They are classified as tax and non-tax revenues.	*Tax revenue*
Fiscal expenditures (General state budget)	Expenditures corresponding to periodic outlays for the acquisition and contracting of goods and services, as well as the transfer of resources to other public sector entities and/or the private sector.	*Fiscal expenditures*
Deficit/Surplus (General State Budget)	Budget approved by law and its subsequent extensions, including legal provisions that incorporate new revenues or expenditures not foreseen at the beginning of the fiscal year.	*General government balance*
Public debt	Liabilities recognized by the public sector to the rest of the economy and the world pending payment, generated by past public sector operations.	*General government net debt*
External sector		
Export growth rate	Measures the growth rate of real exports .	$\frac{Exportaciones_t - Exportaciones_{t-1}}{Exportaciones_{t-1}}$
Current account balance Current account	Represents the current account balance in terms of Gross Domestic Product.	$\frac{Balances\ de\ cuenta\ corriente}{PBI}$

Risk dimensions / Indicators	Definition	Formula
balance / GDP (%)		
Current account (payments)	Balance of payments account that records all transactions (other than those involving financial resources) involving economic values that take place between residents of an economy and the rest of the world. Specifically, it records the difference between the value of exports and imports of goods and services, as well as net factor income flows (the difference between private and public income and expenditure) and current transfers.	*= Trade Balance + Services Balance + Factor Income + Current Transfers*
Trade Balance	Within the balance of payments, it records a country's exchange of goods with the rest of the world. Its balance is the difference between export revenues and import expenditures.	*= Exports - Imports*
Foreign Direct Investment	Investment by non-residents primarily aimed at purchasing equity securities, bonds, promissory notes, debt securities, money market instruments, and financial instruments.	*Foreign direct investment*
Gross external financing	Movement of net liabilities of the non-financial public sector arising from credit operations with non-residents. It is calculated as the difference between disbursements plus the net accumulation of arrears (unpaid maturities minus the regularization of arrears) and amortization (total maturities), i.e., it represents the change in the balance of external public debt.	*Gross external financing*
Terms of trade	Index that relates an export price index to an import price index. It reflects the purchasing power of our exports relative to the products we import from abroad.	$\frac{Índice\ de\ precios_{Exportaciones}}{Índice\ de\ precios_{Importaciones}}\ x\ 100$
Net international reserves	Difference between a central bank's reserve assets and international liabilities. NIRs show a country's international liquidity and its financial capacity to meet its short-term foreign currency obligations.	*NIR = Foreign currency funds + Foreign deposits + Securities in international institutions + Gold + SDR*
Roll-over ratio	Measures the percentage of renewal of an expired contract, whether through a foreign exchange transaction or a transaction in the money or metals market, with in relation to the level of debt.	*Roll-over ratio*
Domestic Debt	Debt incurred in the domestic market with economic agents resident in the country, through net credit with the banking system, the issuance of bonds and treasury bills, and floating debt (accrued expenses pending payment and documents valued for application).	*Domestic Debt*
External Debt	Refers to debt incurred with non-residents by a country, sector, or unit, which requires the debtor to pay interest and/or principal at a future date. External debt statistics, which include data on debt service payments, are used in the analysis of vulnerability to solvency and/or liquidity problems. They are useful for general macroeconomic analysis, debt rescheduling	*External Debt*

Risk dimensions / Indicators	Definition	Formula
	negotiations, and estimates of international currency flows.	
Interest on domestic debt service	It consists of the corresponding interest that, in an issue of debt, bonds, debentures, and other fixed-income securities within the country, is paid periodically by the borrower.	*Interest on domestic debt service*
External debt service interest	This consists of the corresponding interest that, in an issue of debt, bonds, debentures, and other fixed-income securities outside the country, is paid periodically by the borrower.	*Foreign debt service interest*
Country risk		
EMBI	This is the main indicator of country risk and is calculated by JP Morgan Chase. It is the difference in interest rates paid on dollar-denominated bonds issued by developing countries and US Treasury bonds, which are considered "risk-free."	$= i_{Bono\ de\ país\ emergente} - i_{Bono\ de\ EE.UU}$