axesor rating

Methodological Assumptions
SOVEREIGN RATING

1. Methodological framework

This document describes the methodology developed by Axesor Rating for the assignment of sovereign ratings, as well as the long term/ short term debt instruments issued by this type of issuers.

The credit rating assigned by Axesor Rating measure the capacity and will of the sovereign government to meet its financial obligations in time and form.

For the evaluation we use macroeconomic, social, financial and political information in addition to other information that we consider as necessary directly from the issuer (if it is a solicited rating) and/or from national statistical offices and other prestigious national and international offices such as the World Bank, OECD, International Monetary Fund, Eurostat or the Bank for International Settlements, among others.

The rating process described consists of two pillars:

- **Quantitative factors**: Reflects our opinion about the capacity of the sovereign government in order to meet its financial obligations **(economic risk)**. We evaluate the macroeconomic situation (economic evolution, social, balance of payments, banking risk and monetary policy), the social environment (wealth, demography and unemployment among others), as well as the intrinsic financial situation (budget situation, debt and liquidity) of the sovereign government.

- **Qualitative factors**: reflects our opinion about the government's will to meet its financial obligations (political risk). For this reason, we evaluate the institutional framework and the governmental situation (political risk).

The assessment of the explanatory factors of each pillar is undertaken through scales that evaluate the quality of each metric, giving a score between 10 (worst) and 1 (best)

Both pillars provide a preliminary score (PS) that can be adjusted (upwards or downwards) according to our economic forecasts if they have not been sufficiently incorporated in the used factors, such as geopolitical risks and other extreme situations. (Ex. extremely deficient liquidity or excessive levels of debt).

Finally, this methodology will map the numeric rating resulting from the analytical process into the scale "*Axesor Long-Term Sovereign and Sub-Soveign Credit Scale*" (available for consultation on the website). In addition, the rating is accompanied by an outlook (over the next year) depending on the prospects of both the sector and the performance of the company (Outlook Methodological is available on the website).

The methodology has been developed by also considering the influence of environmental, social and governance (ESG) criteria on the ability and willingness of sovereign governments to meet their financial commitments in a timely manner. To

this end, and within the quantitative and qualitative pillar, we include various metrics (happiness index, GDP per inhabitant, population ageing, governance, energy dependence, among others) with which we assess the progress of the sovereign government in these aspects.

Although we distinguish between local and foreign currency, in general both are similar in developed economies. There are only exceptions in countries with limited capital mobility and/or access to external resources.

Finally, it should be noted that the methodology described should be understood in a flexible manner given the dynamic nature of the segment addressed. Therefore, the importance of the factors described through this methodology may vary in order to adapt the analysis to these changes, including new analytical factors if necessary.

2. Scope

We define a sovereign government as a state that manages its own resources and has the capacity to make its own decisions on fiscal, monetary, political and other matters.

Decentralised bodies, instrumental entities and companies dependent of the sovereign government are excluded from the scope of this methodology.

Nor does it include obligations to other governments or supranational entities (such as the European Central Bank or the International Monetary Fund).

However, for the rating we consider the effect of the above on sovereign government.

3. Quantitative factors analysis

In the quantitative pillar we measure the capacity of the sovereign government to meet its financial obligations based on a quantitative analysis of several factors (KPIs) which are grouped into the following categories:

- **Economic environment**: Within this category we evaluate the behaviour of its main macro-magnitudes, mainly the Gross Domestic Product (GDP), with which we not only measure the size, but also the evolution and stability of the economy. Additionally, we analyse the competitiveness and composition of its productive structure, as well as the degree of external energy independence.

- **Social environment**: This category is part of the ESG criteria considered in our methodology. Our analysis starts from the assessment of GDP per capita and the level of unemployment, as both influence the government's ability to collect and the need for social benefits. In addition, we focus on demographic trends and distribution because of their importance in determining potential economic

growth. Finally, we extend our analysis beyond wealth to address prosperity with factors such as the happiness index.

- **External economy**: We analyse the interactions of the sovereign government with the rest of the countries, as economic history has shown that some sovereign defaults have been caused by balance of payments mismatches. To this end we not only assess the trajectory of the current account but also take into consideration the size and evolution of external debt, as well as the strength of the currency and foreign exchange reserves measured in terms of months of imports.

- **Financial sector**: The 2008 crisis showed that financial assistance from governments is sometimes necessary to avoid the collapse of the sector. Therefore, our analysis focuses on determining the strength of the domestic financial sector, for which we assess its importance, solvency and liquidity, among other aspects.

- **Monetary policy**: We assess the appropriateness of monetary policy to smooth the depth of economic cycles without neglecting the objective of price stability. To this end, we measure historical developments, prospects and price stability, central bank independence, dependence on the US dollar (mainly in emerging countries) and exchange rate behaviour.

- **Financial situation**: To close the quantitative analysis, we focus on the performance of national finances, including budgetary factors, debt and liquidity.

Each category has an established weight in the final score of the business profile, as indicated in the table below:

Economic risk profile (Quantitative pillar)	
	weight/ total
Macroeconomic Environment	**45%**
Economic Environment	*15%*
Social Environment	*15%*
External Economy	*5%*
Financial Sector	*5%*
Monetary policy	*5%*
Public Finances	**25%**
Fiscal situation	*12%*

Public Debt	*12%*
Liquidity	*1%*

4. Qualitative factors analysis

Within this pillar we assess political risk, i.e. the willingness of the sovereign government to meet its financial obligations. This is particularly important given that sovereign governments have a discretionary choice as to whether to meet their financial obligations.

We also assess the institutional structures that underlie the national economic system to determine whether they are configured to support economic growth and prosperity.

The factors included in this pillar are part of the ESG criteria considered in this methodology.

Specifically, the analysis of this pillar focuses on two categories:

- **Institutional framework**: We assess the strength of its institutions based on factors that include the World Bank's governance indicators, as well as laws, the legal system and the existence of mechanisms for monitoring and controlling government actions, mainly with regard to budgetary stability and debt limits, among others.

- **Government**: We assess the government's situation, its stability, the capacity to prepare, approve and execute general budgets, transparency and consistency in the publication of information, among others. In addition, we review the history of any sovereign defaults that the country may have had over the years.

Each category has an established weight in the final score of the business profile, as indicated in the following table:

Political risk profile (Quantitative pillar)	
	Weight/ total
Institutional framework	**18%**
Government	**12%**

This document updates the previous version while preserving its original methodological assumptions; therefore, all existing ratings remain unchanged.