April 2019

Sovereign Rating Methodology

Summary

This rating methodology adopted by China Chengxin (Asia Pacific) Credit Ratings Company Limited ("CCXAP") is applicable for rating sovereigns. As recognized by the United Nations, there are 195 independent sovereigns including 193 member-states and 2 non-member observer states. This rating methodology is also applicable for some regions, such as Hong Kong and Macau, which are not independent sovereigns but have independent fiscal and monetary policies as well as well-developed financial markets. The sovereign ratings measure the debt service ability of countries or regions, and this rating methodology introduces the key determinants for rating sovereigns. CCXAP assigns credit ratings to them using its rating scale.

This new rating methodology replaces the "Rating Methodology for Sovereign" published by CCXAP in February 2018. The new version follows the core rating principles of the previous version with some amendments, which helps the users to better understand our methodology. No rating changes will be resulted from the implementation of this new rating methodology.

Default Definition of Sovereign Debt

A sovereign debt default is defined as any missed or delayed payment of principal and/or interest which is specified in the debt covenants. In addition, according to the definition of CCXAP's sovereign debt default, regardless of whether the creditors are a voluntary participation in these program or not, the following two scenarios are also classified as defaults: a) in order to avoid default, the government offers a distressed debt exchange plan which could be a new bond of lower value or a new asset package (including bonds, cash and other assets); b) the government unilaterally amends bond covenants to reduce the bond value, and forces creditors to accept the modification.

Introduction of Rating Methodology

There are 3 key aspects for assessing the credit ratings of sovereigns, including fundamental strength, institutional strength and event risk. The key determinants for the assessment of a country or region are divided into qualitative and quantitative determinants. Apart from using historical data, CCXAP also develops a model to forecast future performance.

First, CCXAP would assign a score for the fundamental strength and institutional strength of a country or region by considering both qualitative and quantitative factors. The economic strength, fiscal strength and external payment are considered in the evaluation of fundamental strength while political stability, government efficiency and default history are considered in the evaluation of institutional strength. Then, a fundamental grade is derived from the rating matrix of fundamental strength and institutional strength. Hence, the fundamental grade would be adjusted based on the evaluation of event risk and the adjusted result is the suggested rating of a country or region. At last, the suggested rating would be submitted to the credit rating committee for approval and final rating of a country or region would be assigned.

The following table lists the 3 categories of rating factors and their sub-factors in evaluating the creditworthiness of sovereigns:

Categories	Rating Factors	Sub-factors	Indicators
Fundamental Strength	Economic Strength	National Income	Nominal GDP GDP per capita
		Economic Growth	Real GDP Growth Volatility in Real GDP Growth
		Economic Stability	Inflation Volatility
		Adjustment Factor	Economic Structure, etc.
	Fiscal Strength	Fiscal Deficit Ratio	General Government Financial Balance/GDP
		Debt Burden	General Government Debt/GDP
		Debt Affordability	General Government Interest Payment/Revenue
		Government Income	General Government Debt/Revenue
		Adjustment Factor	Debt structure, etc.
	External Payment	Current Account Balance	Current Account Balance/GDP
		External Assets and Liabilities	Foreign Exchange Reserve/External Debt
		Adjustment Factor	Currency Usage Ratio, etc.
Institutional Strength	Institutional Feature	Government Efficiency	Government Efficiency
		Political Stability	Political Stability
		Adjustment Factor	Government strategy and execution capability, etc.
	Default History	Default History	Default History
Event Risk	Financial System Risk	Financial System Risk	Credit Expansion, etc.
	Geopolitical Risk	Geopolitical Risk	Geopolitical Conflict, etc.

Key Rating Determinants

1. Fundamental Strength

(1) Economic Strength

Economic strength is one of the key factors for the assessment of debt service ability of a country or region. A long-term stable economic growth with diversified and resilient economic structure indicates solid revenue for the government. Also, the government's debt tolerance as well as the flexibility of fiscal and monetary policy can be improved. Therefore, in evaluating its economic strength, CCXAP considers a country's or region's economic operation, such as national income, economic growth, economic stability and economic structure.

(a) National Income

Nominal GDP is the indicator of a country's or region's economic scale. The scale reflects the shock-absorption capability of a country or region since it correlates with the resources of the country or region. A small economic scale country or region is incapable to withstand abrupt changes because it is incapable to deal with the issues timely and effectively.

GDP per capita, which is measured in purchasing power parity terms, indicates the average income and living standard of a country or region. A country or region with a higher GDP per capita shows that it is less vulnerable to economic cycle as the country's or region's GDP relies on the high value-added activities which provide more consolidated shock-absorption capability. Furthermore, a country or region with high GDP per capita reflects that it has wider potential tax revenue and stronger financing capability. Therefore, a country or region with improving living standard as well as equally distributed income is worth a higher credit rating as it is more capable to withstand abrupt changes.

(b) Economic Growth

A country's or region's economic strength and global influence are closely related to its economic growth. High economic growth can provide more working opportunities and improve a country's or region's wealth as well as debt service ability. In the evaluation of economic growth, CCXAP considers the real GDP growth and its volatility. A longer sampling period is used in the evaluation as it can provide a more comprehensive understanding of the economic growth. For the evaluation of real GDP growth, the average of a country's or region's real GDP growth from t-5 to t+1 is considered. The standard deviation of the real GDP growth from t-9 to t is employed for the evaluation of volatility in real GDP growth.

(c) Economic Stability

Apart from the economic growth, the economic stability can also affect a country's or region's economic strength. Developing country or region usually has a high economic growth, along with a serious inflation issue. A country or region is difficult to improve its living standard with a high and/or unstable inflation and the inflation problem may cause social conflicts as well as economic fluctuation. Therefore, CCXAP considers inflation volatility as the indicator of assessing economic stability while the consumer price index from t-9 to t is employed in the assessment.

(d) Adjustment Factor

The adjustment factors include but are not limited to: economic structure, monetary policy, unemployment rate, human capital and education level. The economic structure is a key consideration to assess a country's or region's economic stability and sustainability. A country or region with a diversified economic structure is less vulnerable to economic cycles while a country or region with a monotonous economy is exposed to higher risk. The monetary policy also influences the economic strength of a country or region while an appropriate and effective monetary policy is more favorable.

(2) Fiscal Strength

Fiscal strength reflects the overall health of government finances while healthy government finance represents stronger debt service ability. In the evaluation of fiscal strength, CCXAP considers the financial stability of a country or region through quantifying the resources that can be used for debt repayment so as to understand the government's financial fragility.

(a) Fiscal Deficit Ratio

The fiscal deficit ratio is calculated by dividing general government financial balance by GDP. A sustained fiscal deficit indicates a loose fiscal policy which may lead to an increase in the government's indebtedness, and consequently, the government may be incapable to fulfil its debt obligations.

(b) Debt Burden

The debt burden is calculated by dividing the general government debt by GDP while the general government debt includes both central and local government debt. A country or region with high debt burden generally incurs more debt to cover its government expenditures, which indicates that it is more likely to default in economic downturns.

(c) Debt Affordability

The debt affordability is calculated by dividing general government interest payment by revenue. With the same level of interest expenses, a country or region which has higher fiscal revenue is more capable to fulfil its debt obligations and has lower liquidity risk. Weak debt affordability reflects that the government needs to spend a high proportion of its revenue on repaying the debt, resulting in a large fiscal deficit and the need to reduce its fiscal expenditure. Eventually, this will lower the country's long term economic growth.

(d) Government Income

The government income is calculated by dividing general government debt by revenue. This ratio indicates the government's repayment capability of the actual revenue base. A lower ratio reflects that the government is more capable to repay its debt obligations.

(e) Adjustment Factor

Debt structure is the key factor for evaluating the fiscal strength. A high proportion of short-term debt would weaken the debt service ability of a country or region as it needs to have a higher liquidity or stronger refinancing capability. Apart from that, a country or region with high proportion of debt denominated in foreign currency may expose to higher default risk as debt burden and financing cost will increase if the local currency depreciates significantly. CCXAP also considers the financing capability and the scale of sovereign wealth funds of a country or region for the evaluation of fiscal strength.

(3) External Payment

The external payment evaluates a country's or region's ability to access foreign currency for fulfilling its foreign debt obligations. In the evaluation of external payment, CCXAP considers the current account balance, foreign exchange reserves and the local currency usage ratio.

(a) Current Account Balance

The current account balance is calculated by dividing current account by GDP. A current account deficit occurs where the value of goods and services a country or region imports exceeds the value of goods and services it exports. As such, a sustained current account deficit indicates a decrease in the net foreign asset of a country or region, and hence, the local currency is depreciated, and the official foreign reserve is diminished. As a result, the country's or region's external indebtedness increases and its external repayment capacity is weakened.

(b) External Assets and Liabilities

The external assets and liabilities are determined by dividing foreign exchange reserves by external debt. Foreign exchange reserves are assets in foreign currencies held on reserve by the country's central bank. It can be utilized to stabilize the country's or region's economy or repay debt. Higher foreign exchange reserve reflects the country or region has a higher liquidity as well as debt service ability.

(c) Adjustment Factor

The currency status is one of the adjustment factors, which is decided by the proportion of usage in international transaction. The currency status can influence the external payment ability of a country or region. Apart from that, the currency status reflects the credibility of the country's or region's policy, the scale as well as the openness of local capital market and the frequency of the currency used in international transactions. The country or region with a higher currency status has stronger refinancing capability in economic downturn as the domestic currency value and liquidity are more stable.

2. Institutional Strength

(1) Institutional Feature

Government efficiency and political stability are the key factors in the evaluation of institutional feature. CCXAP considers the Worldwide Governance Indicators of World Bank as well as the sovereign studies conducted by CCXAP for assessing the government's efficiency and political stability.

(a) Government Efficiency

Government efficiency reflects the quality of governmental bureaucracy and administration. It also attempts to capture policy making and implementation capabilities, resource utilizations and the independence of the judiciary from political interference. The more efficient a country's government, the more it can improve or stabilize the economy with stricter control of debt. This will lead to a lower default probability.

(b) Political Stability

In the evaluation of political stability, CCXAP considers the structure and sustainability of the political institution. A country or region with stable political environment has a higher creditworthiness as its policymaking direction is coherent. On the other hand, for a country or region with unstable political environment, the government focuses on addressing the political and social issues which will undermine its ability to conduct effective economic and financial policy. Political instability may also cause capital flight which can make it more difficult for a sovereign to repay its debts.

(c) Adjustment Factor

Government strategy and execution capability are the adjustment factors of institutional feature. Government strategy is developed based on the national power, local and international circumstances while a successful strategy is the key factor to achieve the country's or region's targets. In the evaluation of government strategy, CCXAP considers the cautiousness of strategy as well as its influence on economic growth and social stability. The execution capability of a country or region is an important factor for evaluating the institutional feature while CCXAP considers the progress and continuity of the structural revolution in the assessment of execution capability.

(2) Default History

The default history of a country of region is an adjustment factor for institutional strength, and it reflects a country's or region's debt payment culture or propensity to default. In the evaluation of default history, CCXAP considers the track record for last 30 years. Since creditors have limited legal redress to deal with sovereign default, and hence, the sovereign can default selectively even though it is capable to fulfil its debt obligations in a timely manner. Therefore, the propensity to default is an important factor in the evaluation of a country's or region's creditworthiness. A country or region with default history may find it difficult to finance its debt. As a result, a country or region with no default history is reluctant to default in order to sustain their financing capability.

3. Event Risk

The event risk analysis studies the possibility of unexpected events that could weaken a country's or region's fundamental and institutional strength. In the evaluation of event risk, financial system risk and geopolitical risk are the key considerations as they can significantly influence the creditworthiness of a country or region.

(1) Financial System Risk

The level of exposure to the financial system risk can influence creditworthiness of a country or region as financial system issues can reduce a country's or region's revenue, or even cause a spillover effect and trigger global financial crisis. Factors which are considered in the evaluation of financial system risk include but are not limited to: monitor of financial system, interference or support to the financial system from the government, stability of the banking sector, the social and private sector credit expansion. Banking sector is a vital part of a country’s or region’s financial system while a stable banking system can support the development of a country or region. Capital adequacy ratio, bad debt ratio and profitability are the indicators for assessment of the stability of banking system. The social credit expansion goes along with the economic cycle which reflects a country’s or region’s economy as well as the potential financial risk, while the private sector credit expansion can influence the resilience of financial system.

(2) Geopolitical Risk

Due to the globalization, the geopolitical has more significant influence on the creditworthiness of a country or region while an intense relationship with the neighboring countries or regions can damage the creditworthiness. CCXAP evaluates the relationship between neighboring countries or regions through assessing the geopolitical conflicts, religious conflicts, border conflict and supranational relationship.

Important Information

China Chengxin (Asia Pacific) Credit Ratings Company Limited

Address: Suites 805-808, 8/F, Jardine House,
1 Connaught Place, Central, Hong Kong

Website: www.ccxap.com

Email: info@ccxap.com

Tel: +852-2860 7111

Fax: +852-2868 0656