Sovereign Rating Methodology

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SOVEREIGN
RATING METHODOLOGY

This is an update to the methodology previously published in July 2019.
There are no material changes and as such no rating impact.

RATINGS world partners

July 2020

CRITERIA SUMMARY

These criteria are an update to those published in July 2019 and have no material changes in respect of ARC's approach to rating Sovereigns and therefore no rating impact.

INTRODUCTION

ARC's sovereign ratings are a forward-looking assessment of a sovereign government's willingness and ability to honour its financial obligations to private sector creditors in full and on time. This assessment relies on an array of factors including government indebtedness, policymaking flexibility, economic and financial resilience, growth prospects, systemic risk, and access to foreign exchange and liquidity, as well as policy preferences, political pressures and susceptibility to shocks. ARC's sovereign ratings take into account all factors that meaningfully influence a sovereign's willingness or ability to repay its debts.

A sovereign rating is an issuer rating that may also be assigned to a marketable debt issuance.

ARC assigns **Local-Currency Sovereign ratings** – assessing the credit risk of debt issued and payable in the currency of the sovereign – and **Foreign-Currency Sovereign ratings** – assessing the credit risk of debt issued in foreign currencies. Sovereign credit quality is assessed over both the short term and the long term, with separate short-term and long-term ratings being accorded. **Long-term ratings are complemented by a rating outlook** (positive, stable, negative or developing) that highlights the potential direction of a rating during the following year. An outlook is not necessarily a precursor of a rating change or of a future review ahead of schedule.

Sovereign credit ratings look forward over a rolling 5-year time horizon, approximately the average life of a typical bond, especially in emerging markets. The sovereign rating is expected to "look through" cyclical developments except where the business cycle has a strong bearing on debt repayment capacity.

All of **ARC's sovereign ratings are derived from its core analysis of the foreign currency sovereign rating** of a country as described in these criteria. A foreign currency sovereign rating is often the highest credit rating within an economy among all foreign currency issuers from that country, because a government has the unique ability to control the flow of foreign exchange inside an economy, and can mobilize it for its own use in the event of crisis conditions.[1] Similarly, a central government is often the best credit in a country in local currency because of its taxing ability.[2]

Complementary to this, ARC has specific criteria for according **foreign and local currency country ceilings** as outlined in ARC's "Criteria for Assessing Country Ceilings" dated May 2020.

ARC's approach in situations where a reference to a sovereign rating that is not part of the portfolio covered by ARC is necessary is to use as reference for its rating assignments the second best local or foreign sovereign rating, as the case demands, assigned by the set of credit rating agencies considered relevant by the rating panel.

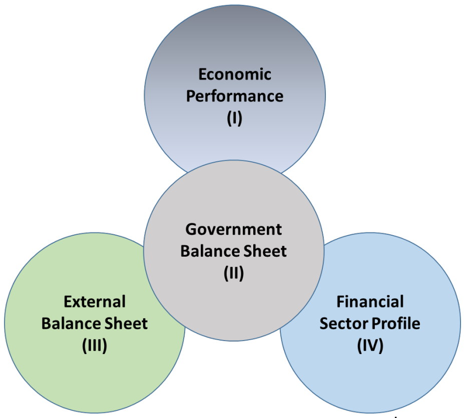
1 In other words, governments can interfere with the payments system in order to ration foreign currency resources. These forces are commonly known as transfer risk. A government also can interfere with conversion of local currency into foreign exchange, convertibility risk. These two sets of risks are referred to as T&C risks. In situations where ARC assesses T&C risk to be lower than the risk of a government debt restructuring, issuers in a country can be rated higher than a government. ARC's T&C assessment is commonly known as the foreign currency country ceiling.

2 ARC's local currency country ceiling assesses the highest possible rating in local currency in a country.

OVERVIEW OF PILLARS–A COMPREHENSIVE APPROACH TO SOVEREIGN RISK ANALYSIS

ARC's sovereign ratings take a holistic approach to assessing sovereign risk. **ARC's criteria are based on a framework that relies on four pillars that incorporate risk across the entire economy**. Government balance sheet analysis is central to our methodology, but the three other pillars impact government finances, and are hence integral to the methodology.

CHART 1: THE FOUR PILLARS DETERMINING ARC'S SOVEREIGN CRITERIA



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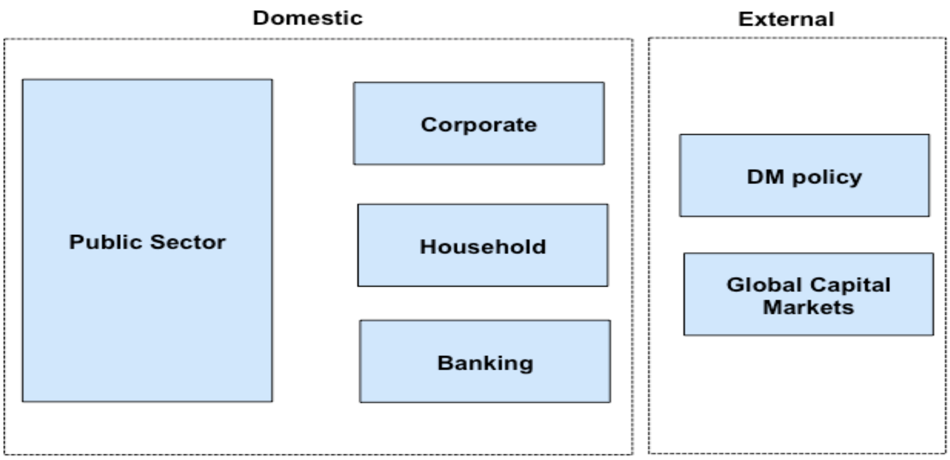
i) economic growth and private sector performance
ii) government balance sheet
iii) external balance sheet
iv) financial sector profile

In addition to incorporating the risk profile of all sectors within an economy, ARC's sovereign methodology also fully considers both domestic and external forces, as shown in Chart 2, as they impinge upon creditworthiness.

CHART 2: THE INTERPLAY BETWEEN DOMESTIC AND EXTERNAL FORCES IN SOVEREIGN RATINGS



Notes: 1. The broader financial sector is also a focus. 2. DM is developed markets. DM's policies, especially reserve currency policies, influence global capital markets profoundly. Global capital markets and financing conditions influence a sovereign's growth prospects and balance of payments.

Source: ARC Ratings.

Economic Growth and Private Sector Performance is central to ARC's evaluation of a sovereign's capacity to pay. Structurally, long-term potential growth directly impacts debt sustainability through its influence on flows (fiscal and current account balances) and the sustainability of both private and public sector debt stocks. Short- and medium-term growth pressures can create unmanageable liquidity problems. Proxies for the institutional environment feature in ARC's criteria, focusing on those that have been directly and causally associated with growth.

Government Balance Sheet reflects the government's financing needs, level and composition of the public sector's debt stock and the ability of the government's balance sheet to absorb domestic and external shocks. The focus is on medium-term drivers of debt sustainability (solvency) and short-term drivers of liquidity, driven by an interplay between the government's fiscal and monetary policy stances, as well as institutional factors like the presence and execution of counter-cyclical fiscal rules and the structure of the tax system.

External balance is revealing of a sovereign's exposure to foreign financial flows through the external credit channel (portfolio inflows that allows the build-up of credit booms, reflected in unsustainable current account deficits). Reliance on external financing, whether reflective of adverse local market financial conditions or shortfalls in exports over imports, exposes the country to volatility in external financial markets and currency depreciation.

Financial sector profile indicators identify monetary system issues that threaten to weaken the public sector balance sheet and the sustainability of government debt. The goal is to assess the issues in the financial sector that can negatively affect the government balance sheet through two conduits: (i) directly through contingent liabilities and sovereign guarantees of banking sector assets (ii) indirectly through the credit channel, with weaker deleveraging in the banking sector following a period of distress leading to tighter financial conditions that, in turn, adversely impact growth.

Overlaying ARC's analysis of these four pillars allows it to gauge a sovereign's **propensity to mitigate / handle shocks** - whether economic, commercial, financial or political in nature. Stress testing for exogenously generated shocks is performed on each pillar. Moreover, systemic risk, which is risk that affects specific sectors that threaten to reverberate to other sectors of the economy, is fundamental to the analysis.

ARC'S SOVEREIGN METHODOLOGY FUNDAMENTALS

BALANCE SHEET APPROACH EMPLOYING A COMPREHENSIVE ANALYSIS OF RISK

ARC's sovereign ratings take a holistic view of a sovereign's willingness and ability to honour its debts that focuses on the balance sheet of the entire economy and the engines or constraints to economic growth.

ARC's framework for analysing sovereign risk reflects evidence that the financial structure of many developing and emerging economies has been an important source of vulnerability to crisis. The composition of a country's balance sheet provides crucial information about how effectively a country can insulate itself from volatility stemming from changes in global market conditions and how prone it is to external financial shocks.

Weakness in the financial structure can be a trigger for investors to reassess their willingness to finance a country, thereby leading to crisis conditions. As most countries rely on external debt markets – whether because they borrow in hard currencies or because of the holdings of local currency instruments by non-resident investors – changes in financial market conditions threaten debt payment prospects.

ARC's balance sheet approach sets out a systematic analytical framework that relies on evaluating the composition, size and evolution of the liabilities and assets of the country's financial **balance sheet**. An economy's resilience to a range of shocks, including financial shocks, hinges, in part, on the composition of the country's stock of liabilities and assets.

ARC's approach focuses on all segments of the economy and their bearing on the government's propensity to repay its debts in full and on time based on its ability to mobilize revenues and also the expenditure demands on its balance sheet. A government's balance sheet is influenced by policy priorities, demographic developments, growth prospects, systemic risk, foreign exchange generation prospects, indebtedness, and the structure of government finances, all of which are reflected in the four pillars of ARC's sovereign risk criteria. Some of these factors, as identified throughout the criteria, can be categorized as Environmental, Social and Governance (ESG) factors, which are treated in the same way as other factors that ARC identifies as relevant for its analysis.

In addition to structural characteristics, ARC's sovereign methodology incorporates its expectation for **cyclical** developments too, only to the extent that they could result in a measurable deterioration or improvement in credit quality.

ARC's balance sheet approach sets out a systematic analytical framework that looks at the country's entire financial **balance sheet**. We take **both a broad approach**, looking at overall vulnerabilities, and a **granular approach** that focuses on key important sectors, cognizant that often problems in one sector transmit problems to other sectors. ARC also closely studies **balance sheet flows** that indicate changes in a sovereign's vulnerabilities to understand the evolution of risks.

ARC's sovereign risk criteria is a **dynamic analysis** that focuses on **past trends and future prospects**, and the interrelatedness of all sectors in the economy. **Past performance** helps ARC make realistic projections for future evolution, while also providing insights about **crisis management** and the **willingness to honour debt obligations**.

ARC pays close attention to the **maturity and currency** structure of the debt of the main debtors in an economy and if there are important mismatches between the debt service originated by this debt and the expected cash flows of debtors. Maturity mismatches render a debtor vulnerable to rollover risks. Currency volatility is a key trigger for balance of payments crisis, empirically speaking. This is especially the case for emerging economies that rely on foreign currency borrowings because of underdeveloped local markets or confidence issues in their home markets. While reserve currencies have undergone massive swings in their valuations, reserve currency countries are not subject to currency runs.

ARC's balance sheet approach is further nuanced by its analysis of **political considerations** as, ultimately, it is the policy environment that determines a sovereign's vulnerability to crisis conditions and its management of the challenges that these conditions pose. Political economy considerations shape the policy environment, and influence government spending and taxation policies as well as overall structural economic and financial conditions in the economy. These policies determine the overall competitiveness of an economy, including all facets of human and capital infrastructure development, and reflect cultural, sociological and demographic patterns. Political considerations also influence a sovereign's willingness to honour its contractual obligations.

Institutional factors are a feature of ARC's analysis as they influence all four pillars of risk. ARC focuses on the specific institutional factors that best address the four pillars underpinning its analysis. **ARC does not**

overemphasize GDP per capita, but considers this as one factor bearing on all pillars of the analysis to differing extents.

STRESS TESTING

All of the layers of analysis embedded in ARC's four-pillar balance sheet approach to analysing sovereign risk help determine a sovereign's **resilience to shocks**. Shocks can be financial, economic, commercial, political, or security-related. They threaten an erosion of appetite for holding a country's financial assets, and they can also exert tremendous pressure on a government's balance sheet either because of acute revenue shortfalls or through government expenditure demands, or because of depleting foreign exchange reserves and exchange rate depreciation.

Examples of governments more susceptible to shocks include sovereigns with a high dependence on oil exports that are highly vulnerable to supply gluts or sharply decelerated global growth. Countries with border issues are highly susceptible to security risks that have fiscal implications because of security demands. Sovereigns with cyclical overheating in certain sectors of the economy could be generating acute systemic risk that may end up migrating to a government's balance sheet.

Some sovereigns' economic and political makeups make them especially vulnerable to shocks, but these same sovereigns could also be very well-positioned to withstand the fallouts. ARC takes a very thoughtful approach towards evaluating shocks, given that the susceptibility to shocks is not synonymous with vulnerability in those countries with strong institutions and solid financial structures. ARC's stress tests of shocks incorporate our analysis of the flexibility of the policy thrust to respond to shocks as well as the availability of liquidity to bridge the path towards stability.

Countries with deep capital markets and large appetites for domestic assets are generally more insulated to exchange rate risk, another example of a potential shock, because they are less exposed to foreign borrowings. Reserve currency countries have exceptional financial resilience.

ARC'S SOVEREIGN RATING RUBRIC: THE FOUR PILLARS

ARC's methodology for rating sovereigns incorporates multifaceted moving parts: balance sheet stocks and flows of all sectors in the economy, political risk, institutional capacity, liquidity and solvency assessments, currency and maturity mismatches, engines for sustainable growth, affinity for leverage, and susceptibility to political, economic, commercial and financial shock. These data points and analyses are synthesized into the four main pillars of our sovereign credit rubric:

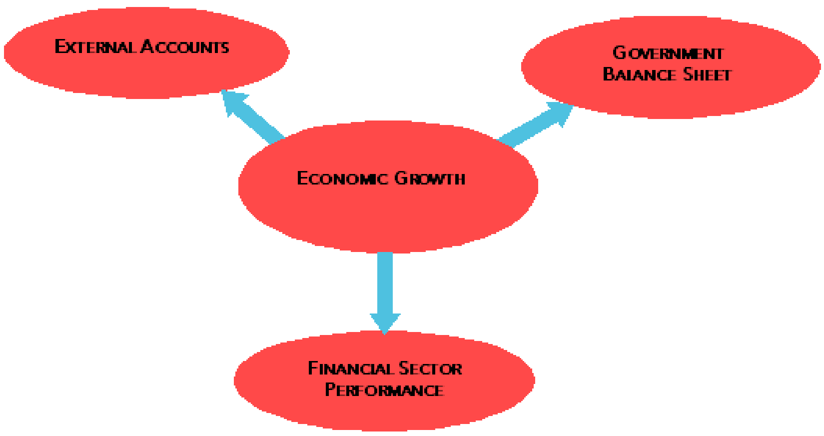
Economic Growth and Private Sector Performance, Government Balance Sheet, External Balance Sheet, and Financial Sector Balance Sheet.

PILLAR 1: ECONOMIC GROWTH AND PRIVATE SECTOR PERFORMANCE

Economic growth performance and prospects are often the most important variable market participants consider when **investing in an economy. Sustainable economic vibrancy is critical to ensuring investor confidence. The private sector balance sheet – corporate and household sectors - provides an important view to the economic** performance of a country. It also influences the performance of other sectors of the economy too - the public, financial and external sectors - and hence impacts all pillars of ARC's sovereign criteria. A country's ability to grow and its resilience to sharp swings in business cycles is a seminal pillar of ARC's criteria for assigning sovereign ratings. ARC analyses closely the factors supporting an economy's growth performance to assess if imbalances are being created and if the performance is sustainable.

A country's macro performance picture is also viewed in the context of vulnerability to shocks. For example, lack of economic diversification or over-dependence on imported commodities oftentimes render a country vulnerable to changing market conditions. Macro conditions, such as inflation, speak to the efficiencies within which an economy is managed and also the likelihood of abrupt policy shifts, with implications reverberating throughout the economy, through the financial sector. Well-anchored inflation expectations, supported by a nominal anchor or a credible inflation-targeting regime, are a key factor driving investment and consumption decisions. A country's savings and investment picture provides information on its propensity to borrow externally, linked to the external balance pillar of ARC's sovereign ratings methodology.

CHART 3: ECONOMIC GROWTH PILLAR INFLUENCES OTHER PILLARS OF ANALYSIS



Source: ARC Ratings

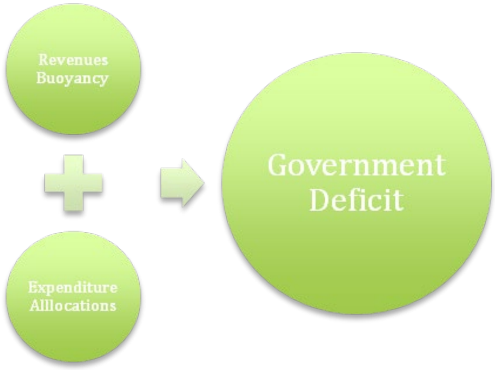
RELATIONSHIP WITH SOVEREIGN DEBT PAYMENTS CAPACITY

Related to risk of a government debt restructuring or default, countries with troubled private sectors are often over-dependent on government spending. This exerts pressures on government finances, and spending may not be economical, but rather highly politically motivated. The result, potentially, is increased payments difficulties for the sovereign.

Economic vibrancy is an important variable in economic and public policy formation. As "rising tides lift all boats," managing an economy is easier when revenues or liquidity are plentiful. Painful, reform-minded policy initiatives are easier to implement during favourable economic circumstances.

Economic conditions strongly influence both sides of a government's balance sheet, providing insights on revenue buoyancy and expenditure pressures. For emerging market economies with large public infrastructure investment needs, a growing economy helps finance these projects through providing steady revenue inflows to the government coffers.

CHART 4: ECONOMIC CONDITIONS INFLUENCE THE GOVERNMENT'S BALANCE SHEET



Source: ARC Ratings

INSTITUTIONAL INDICATORS AND MACRO PERFORMANCE

Institutional indicators utilized in ARC's sovereign methodology framework for this pillar target those measurements that relate explicitly to growth potential, productivity, and efficiency. We also rely on these institutional measures to inform us about the overall operating environment and the scope for abrupt shifts in policies.

Per capita income often, not always, is revealing about the institutional development of an economy. ARC relies on this data point as one of many factors in its analysis of country risk.

ECONOMIC GROWTH AND PRIVATE SECTOR BALANCE METRICS

Indicator	Dimension and Rationale
Real GDP Growth	Level and volatility, historical and forecast
Sources of Growth	(Consumption + Investment + Government +Exports - Imports); openness to trade
Output gap	Growth relative to potential
Balanced Growth	Pockets of Overheating
Economic Concentration	Dutch Disease; vulnerability to shock
Commodity Dependency	Susceptibility to commodity price swings, whether importer or exporter
Inflation	Historical and prospective price volatility
Private Sector Leverage	Corporate Indebtedness; Household indebtedness
Productivity	Competitiveness and utilization of labour inputs
Employment	Unemployment Growth; Employment Growth (ESG Factor)
Demographics	Productive capacity and unproductive capacity (ESG Factor)
Terms of Trade	Export Sector Competitiveness; Import attractiveness
Institutions	Attraction of investment including competitiveness, ease of doing business, corruption, respect for property rights, corporate governance, rule of law, contract enforcement, strength of legal system; government effectiveness indicator (ESG Factor)
Wealth	Per capita income (nominal and real PPP-basis to assess value-added growth potential; competitiveness
Economic System	Private or public sector growth model
Political Risk	Susceptibility to sharp shifts in economic or financial policy (ESG Factor)
Security Risk	Susceptibility to security-related shocks such as war or invasion that would have damaging consequences for the economy (ESG Factor)
Commercial Risk	Susceptibility to shocks from global trading partners, or sector-specific risks

PILLAR II: GOVERNMENT BALANCE SHEET

The financial profile of the government forms part of the bedrock of ARC's architecture for sovereign ratings. A government's balance sheet is fundamental to ARC's sovereign rating methodology because, essentially, a sovereign rating speaks to a government's willingness and ability to honour its marketable debts. An unhealthy government financial situation is naturally an important constraint on a country's sovereign credit rating, even if the other pillars have favourable profiles.

ARC analyses government finances in terms of solvency and liquidity, both being seminal features underlying capacity to pay debt. While liquidity concerns exert near-term pressure on a government's financial capabilities, a government's solvency picture will fundamentally determine the likelihood it will enter a debt trap over the medium- to long-term. Moreover, at a certain cost of funding point, liquidity constraints will eventually translate into insolvency, when servicing debt becomes so burdensome on a sustainable basis that it becomes suffocating. ARC also considers willingness to pay and default history.

Stresses On Government Revenues And Expenditures

The government's ability to repay its debt rests on its ability to mobilize revenues, contain expenditures, and finance itself affordably. Political economy priorities and demographics colour a sovereign's government financial profile and its fiscal health. Countries with acute poverty oftentimes have shaky financial profiles because of weak revenues and also because of the importance of subsidies on the expenditure side of the balance sheet for basic goods items. Countries with aging populations need to address public pension system solvency to preserve fiscal stability. Pension reforms are often costly in the near term but generate long-term benefits.

Systemic risks and contingent liabilities are also central to ARC's analysis. While also covered in the other pillars of the criteria, the risks that a government will need to "bailout" sectors of the economy are considered in this pillar as well, although with a focus on the ability of the government balance sheet to withstand such financial pressures.

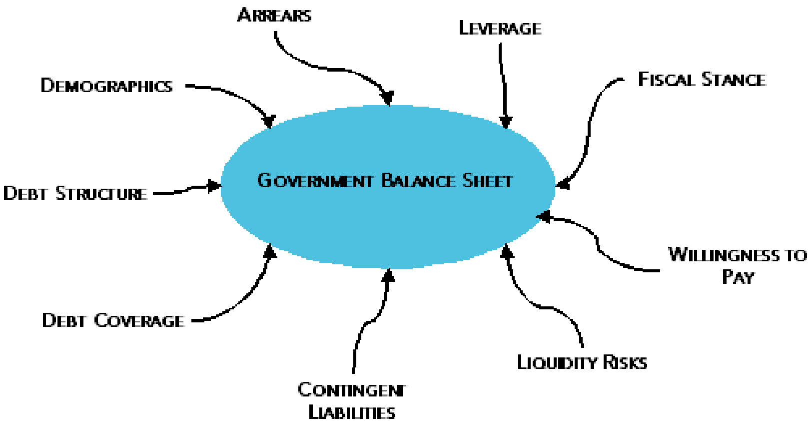
Institutional indicators teach us about transparency of fiscal accounting and governance, and are also instructive about financing conditions in the local debt markets. The monetary framework for a country is important to government finances as it impacts economic and financial conditions and the cost of borrowing in a country. The existence of sovereign wealth funds – if ARC is confident that they would be mobilized for debt service and to safeguard a country's stability – are another consideration.

Liabilities Management

Gross debt indicators paint a picture of how manageable debt is, as well as how much flexibility a government has to ramp up spending in the event of a crisis. The interplay between monetary and fiscal policy is an important feature of this analysis too, as monetary conditions in an economy affect the balance sheet of the government through the cost of financing.

A government's access to liquidity and its ability to manage its debt load are also key pieces of the analysis. The specifics of a government's debt profile inform us of weaknesses in its financing sources. For example, high levels of indexation suggest confidence in the economic management of the economy and reduced appetite to hold non-indexed debt. The accumulation of arrears as a financing item suggests a propensity for payments problems that also extends to the real economy, creating a cycle of arrears economy-wide.

CHART 5: GOVERNMENT BALANCE SHEET ANALYSIS HAS MANY FACTORS



Source: ARC Ratings

The following criteria – many of which are interrelated - outlined in the table below address the ability of a sovereign to manage its own debt load and borrowing needs on a sustainable basis.

GOVERNMENT FINANCIAL METRICS

Indicator	Dimension and Rationale
Leverage	Gross general government debt % GDP and % revenues
Fiscal Stance/Policy	Fiscal balance/GDP; primary balance/GDP; structural balance indicators; tax take; size of grey economy
Contingent Liabilities	Public sector companies; systemic risks from corporate, financial or household sectors
Vulnerability to Shocks	Real economy, security, natural disasters, domestic political
Liquidity Risks	Financial markets volatility/aversion; non-resident holdings; access to emergency financing from official creditors or the diaspora; sovereign wealth funds
Demographics	Population demographics; population skill profile; poverty (ESG Factor)
Debt Coverage	Interest cost (interest/GDP and interest/revenues); gross borrowing needs
Arrears	Stock and flow of public sector arrears
Debt Structure	FX denomination vs FX earnings; maturity structure (ST debt % reserves, ST debt % total); investor base; creditor base; inflation indexation; public debt % total external debt
Institutional Factors	Depth of capital markets; public sector corruption; adherence to fiscal rules; transparency of budgets; debt management capacity; central bank independence; monetary union membership (ESG Factor)
Willingness to Pay	Default record, propensity to run arrears

PILLAR III: EXTERNAL BALANCE

A sovereign's external balance is critical to ARC's methodology because it reveals how susceptible an economy is to external financial pressure. Countries with large, external deficits and debts undersave and resort to external finance. Countries that enjoy large inflows of Foreign Direct Investment to finance current account deficits benefit from non-debt creating inflows that help boost a country's value added production. In contrast, countries that run large current account deficits financed by debt capital inflows, particularly those of a short-term nature, are vulnerable to balance of payments risks. With globalization of capital flows, the capital account is also a potential source of vulnerability for a country. The risk and impact of a "sudden stop" of external capital flows into a country is also something ARC considers in its analysis of sovereign risk.

EXCHANGE RATE AND RESERVES

Balance of payments crises often result in a loss of foreign exchange reserves and large exchange rate depreciations that dampen debt affordability for foreign obligations for any obligor in foreign currency.

These exchange rate and foreign exchange reserves dynamics directly influence sovereign risk for governments with foreign currency obligations falling due. Indirectly, the potential negative effects of depreciation on growth are transmitted to the government's balance sheet. Acute shortages of foreign exchange could cause governments to introduce multiple exchange rate regimes, and ration foreign currency, all forms of capital control. Countries heavily reliant on debt inflows to finance current account deficits, which also actively manage their exchange rates, are especially vulnerable to sudden adverse investor sentiment if official reserves are deployed to prop up the currency.

ARC looks closely at export growth performance and potential, and the sustainability of all forms of foreign exchange earnings. ARC also looks at the nature and sources of financing to evaluate the risks associated with highly speculative flows and hot money, which are especially vulnerable to sudden shifts in market sentiment.

A Central Bank's management of crisis conditions often involves sharp hikes in interest rates to bolster the value of the falling currency, translating into problematic conditions for the real economy and potentially threatening the financial sector because of deteriorating asset quality.

ARC also evaluates institutional determinations that influence a country's external leverage such as exchange rate regime, and capital account openness.

ARC assesses as part of its criteria for evaluating sovereign risk all metrics related to the external debt profile including maturity structure and currency mismatches borne by the borrower to determine the extent of risk from external leverage.

EXTERNAL SECTOR METRICS

Indicator	Dimension and Rationale
External Imbalance	Current account deficit; export growth; import dependency; analysis of sources and uses of foreign exchange; commodity dependence; interest costs on the balance of payments; terms of trade; competitiveness
Financing	FDI; equity flows; debt flows; propensity for capital flight
External Solvency/Liquidity/ Reserve Adequacy	External Debt/GDP; external debt/current account receipts; currency mismatches and leverage of debtors; net IIP/GDP; external or foreign currency debt by sector; dollarization of financial system (also pillar IV); foreign/external debt % reserves; short term liabilities due % reserves; M2/foreign exchange reserves
Debt Structure	Maturity structure; investor base; creditor base
Debt Service	Interest and Principal % Current Account Receipts
Exchange Rate/Institutions	Real effective exchange rate over/undervaluation; exchange rate regime; exorbitant privilege/safe haven/reserve currency status; capital account controls/openness
Susceptibility to Shocks	Financial markets shocks; commercial shocks

PILLAR IV: FINANCIAL SECTOR PROFILE

The financial sector features prominently in ARC's sovereign ratings criteria because of its role in financial stability. Recent crises were caused by excessive exuberance in the financial sectors across many economies, facilitated by the globalization of capital flows. The problems that developed required sovereign governments to use their balance sheets to stabilize the financial system, exerting pressure on government finances and increasing government default risk. Hence the risks associated with financial system are dual-fold: financial stability risk for the economy and contingent liability risk for the government.

A well-managed banking system is a credit strength in an economy, enhancing growth by efficiently allocating savings and investment. A financial system that does not enjoy the confidence of its citizens is vulnerable to sudden deposit outflows that could trigger crisis, and funding pressures from other creditors. A poorly managed banking system, one that takes on excessive risk or that does not follow best practices in lending and investment decisions, is a pronounced credit weakness.

ARC studies financial system performance, capitalization, leverage, lending practices, asset quality, credit growth, liquidity, risk management, governance as well as financial depth of the economy. Macro-based financial sector analysis is instructive to our evaluation of country risk because the more financially developed an economy, the less the potential concentration of risk in the banking system. Institutional capacity is very important for this sector given the systemic risks it portends to create, plus the importance of the sector to the economy's growth and development prospects.

CREDIT CONDITIONS

Credit growth is a key indicator that serves as an early warning for crisis. Credit booms are typically accompanied by inefficient lending and asset bubbles. Insufficient credit growth is often symptomatic of structural deficiencies in an economy, such as overleveraged and high and rising non-performing loans.

FINANCIAL SECTOR METRICS

Indicator	Dimension and Rationale
Credit	Credit/GDP; growth of credit; credit allocation
Financial Depth	Financial system assets/GDP; equity and debt market capitalization/GDP
Banking Stability	Capital/Assets; ROA; ROE; NPLs; reserves and provisions; concentration of the banking system; lending practices; loan/deposits; liquidity; currency mismatch and dollar/euroization; asset quality; external liabilities % external assets (BIS)
Institutions	Share of banking system assets controlled by government; directed credit; central bank LOLR capacity; foreign ownership of banking system; macro prudential leverage limits; financial sector oversight quality
Susceptibility to Shocks	Asset quality-related; liquidity-related (liabilities falling due% assets)

MECHANICS BEHIND THE CRITERIA

ARC's rating panel's examination of all four pillars determine a rating bracket for each sovereign issuer. The rating brackets correspond to ARC's universe of global ratings (AAA, AA, A, BBB, BB, B, CCC, CC, C, D), comparable to structured finance ratings and corporate ratings. Comparisons with similar credit quality countries forms an important step in determining ARC's sovereign rating outcomes. Sovereigns in default are automatically placed in the D range. All of ARC's ratings, sovereigns inclusive, are determined by a rating panel of credit rating experts.

ARC's analysis is forward looking, a rolling 5 years out, and is based on our consideration of the most likely policy path that will be followed and our expectations for global developments. Based on this analysis, ARC determines a rating range. Depending on our degree of confidence in the chosen forward-looking scenario, we also determine our rating outlook.

ARC's sovereign methodology also contains a conditional decision tree structure depending on certain characteristics of an economy. For example, sovereigns with "exorbitant privilege" such as the United States or United Kingdom, are not penalized much for a large current account deficit. In contrast, this is a very important credit feature for emerging market economies. **ARC's use of overrides and conditional decision trees allows for a more dynamic analysis that reflects risks more accurately.**

Where possible, ARC relies on quantitative factors. However, there are many qualitative parameters that influence our analysis as well. ARC is obliged to substantiate its qualitative assessments in its credit reports and rating related press releases.

FOREIGN VERSUS LOCAL CURRENCY SOVEREIGN RATINGS

ARC's four-pillar balance sheet structure is used to determine the foreign currency sovereign rating. Local currency ratings are also formulated from this structure. In according local currency sovereign ratings, the External Balance Sheet pillar, Pillar III, has a much lower weight, however it is still important given the globalization of economies and a country's exposure to externally generated risks and shocks.

ARC's local currency sovereign ratings are based on the same fundamental analysis of willingness and ability to pay. Local currency ratings are oftentimes higher than foreign currency sovereign ratings reflecting a sovereign's ability to mobilize local currency revenues and monetize local currency-denominated debts.

ARC's Local Expertise Provides for Refined Sovereign Analysis

ARC's in-house assessments of institutional and sector-related factors are integrated into our sovereign methodology alongside the many standardized sources. Moreover, the fact that ARC's experience of emerging market economies increases its sensitivity to their challenges and opportunities.

ARC's sovereign ratings provide more than a fundamental credit assessment for a sovereign's debt payments prospects. ARC's sovereign ratings can be used as a benchmark for assessing overall country risk and investment opportunities for several key reasons:

1. The fundamental question ARC sovereign analysts ask themselves in analysing trends impacting a sovereign rating is "how does this affect the government's *willingness* and *ability* to pay its debt?" In the process we examine, very comprehensively, a myriad of financial, economic and political factors to determine our sovereign ratings stance.
2. ARC has unique expertise in local markets in United Kingdom, Portugal, Malaysia, South Africa, India, Ecuador and Brazil thanks to our local offices and/or local partnerships. This expertise lends itself to the highest quality bottom-up analysis.
3. ARC does not limit its analysis to bottom-up factors. Our sovereign unit endeavours to understand global developments and the flow of capital across the globe. Our vigilance towards following global macro developments helps us to make robust predictions about how the countries we rate will fare from global macro shocks.
4. ARC's sovereign ratings methodology relies heavily on our assessment of the sustained availability of liquidity to the sovereign at an affordable cost. Market developments, the attractiveness of investment opportunities, sectoral trends, systemic risks, and the general operating environment for businesses – including the scope for radical shifts in macro policies - are all important building blocks of ARC's sovereign analysis that are also important for the evaluation of country risk.

A credit rating is only one of many factors that investors rely on in determining an investment.

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