VI. A Multilateral Credit Rating Agency

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Introduction

Many developing countries have been struggling under burdens of national debt for years. The Covid-19 pandemic presents an additional challenge because of the need for governments to spend to combat the ill effects on their populaces. Fiscal deficits and national debts have increased as a result. They spent a combined total of $16 trillion in the year to April 2021 (IMF, 2021a). Debt to GDP ratios is rising as well. Globally, the debt to GDP ratio rose to 97.3% in 2020, from 83.2% in 2016; the ratio is expected to increase to 99.3% by 2026. Advanced countries' debt to GDP ratio rose from 105.5% in 2016 to 120.1% in 2020 and is expected to reach 121.1% by 2026. Emerging countries experienced an increase from 48.4% to 64.4% and are expected to reach 73.2% in 2026. Low-income countries debt/GDP rose to 49.5% from 39.8%; and is expected to decline to 45.7% by 2026 (higher than its 2019 figure of 44.3%). Fiscal deficits might moderate from their extremes, but they will remain negative for some time, implying sovereign debt burdens are here to stay.

Under the weight of increased debt burdens, national governments are considering dramatic shifts in budget strategies. These strategies will likely involve austerity measures to achieve sustainability. Rating agencies contribute to that pressure through changes in outlooks and ratings. Since the Covid-19 pandemic began, 21% of sovereigns have been downgraded by the three largest rating agencies: Standard & Poor's (S&P), Moody's and Fitch. In contrast, only 6% of advanced economies were downgraded. Emerging and developing countries have not been so lucky. 35% of sovereigns in the Latin American and Caribbean region were downgraded, and similarly for 24% in the Asia-Pacific region, 41% in the Sub-Saharan Africa and 25% of Middle East, North Africa and Middle Asia (Griffith-Jones and Kraemer 2021, Jones 2021a). It can take time for countries to regain pre-crisis conditions after downgrades, particularly for developing and emerging economies.

At first sight, ratings of sovereigns of developed economies seem to be treated more leniently than those of emerging markets and developing economies. The debt to GDP ratio of advanced economies increased more than the global average (17 percentage points versus 13 percentage points, respectively). The ratios for developing and low-income countries did not increase by this extent (10 percentage points and 5 percentage points, respectively), (ibid).

Could there be a methodological explanation for this observation of leniency? One of the objectives of this chapter is to discuss the possibility that sovereign ratings for emerging markets and developing economies (EMDEs) need longer time horizons underlying their assessments until they reach developed status, at which point their issues can compete for investors on a more even playing field with other developed countries. The lack of recognition of a different time horizon may explain, in part, the pro-cyclical behavior that sovereign ratings appear to exhibit at times and why EMDEs appear to be treated harshly.

A key question is how EMDEs can facilitate economic development, particularly sustainable development goals, under heavy debt loads and weak sovereign ratings. Countries' ability to borrow to implement much-needed programs is compromised. The context also enables conditions conducive to financial instability to take hold as sovereign debt issues or exposures perform a multitude of functions for a financial system, monetary policy, and the economy. Government bonds are not only important for sovereigns to achieve fiscal balance, but they are also important for bond markets since they set the standard by which other bonds are valued. Sovereign debt is generally believed to be the safest debt to hold for avoiding default risk, as a sovereign can print money to complete debt service commitments. Other debt instruments, such as municipal and corporate bonds are riskier than the sovereign debt as their issuers cannot print money and the purposes for funding are different. Increasing sovereign risk also weakens the creditworthiness of entities whose debt is rated relative to the sovereign.

Sovereign exposures facilitate asset management and implementation of monetary policy. Regulatory frameworks and liquidity standards treat sovereign debt favourably, encouraging their use to promote stability. When a sovereign is distressed, banks' balance sheets may weaken through their sovereign debt holdings. This implies their ability to access liquidity may become compromised if they rely on sovereign debt for collateral. Bank fragility can lead to credit rationing which slows economic activity and further deteriorates a sovereign's fiscal position. The sovereign does not have be distressed for these channels to be activated; changes in the prospects of an economy or fiscal position are enough, (BIS, 2017). The sustainability of sovereign debt is an imperative for achieving the public good of financial stability.

Sovereign governments cannot assess their own creditworthiness because of conflict of interest. When sovereigns issue bonds they need a third-party assessment of their creditworthiness, encapsulated in a rating, to attract potential investors. Private credit rating agencies (CRAs) have filled this void as third parties who provide assessments on sovereigns' ability and willingness to service debt commitments. Their assessments constitute financial information. As financial information providers, they "are nothing more than extensions of media at large," (L.C. O'Neill 1999, S&P President and Chief Rating Officer, as cited by Langohr & Langohr (2008)). Their target audience, however, is a narrow one. "Our credit ratings are meant for professional investors. They are not meant for the retail level, for the man or woman on the street. The professional investor understands the ratings definitions and the ratings scales that are published," (Fitch President Ian Linnell, 2021). Presumably, as a result the orientation of risk ratings by CRAs appears to be more closely aligned to the time horizons of investors than the longer-term goals of sovereigns.

The rating agencies rate "through-the-cycle". That is, agencies supposedly look past immediate-term imbalances and focus on the general trajectory of the economy. They understand market economies are cyclical. 'Ratings need to be sufficiently cycle-neutral to bring about stability, but also sufficiently timely to bring enough accuracy to maintain investors' confidence that ratings reflect degrees of fundamental creditworthiness' (Langohr and Langohr 2008). However, events such as the Covid-19 pandemic are not part of a cycle and emerging markets and developing economies (EMDEs) are not developed economies. While credit ratings agencies maintain they account for these differences, the adjustments are not enough to compensate for the difference between the timelines of investors and for cycle-neutrality.

EMDEs face more complicated scenarios. To appeal to foreign investors, sovereign debt is often denominated in foreign currencies to reduce foreign exchange (FX) rate risk. Repayment becomes more complicated for these sovereigns. Their debt burdens in terms of domestic currency are influenced by exchange rate fluctuations. Exchange rate changes are prompted by changes in inflation rates, international interest rates, investor sentiment, concerns over foreign currency reserves, current account deficits, commodity prices, political stability, and so on. EMDEs debt service commitments evaluated in terms of the domestic currency are much more unstable. There are also impact on banks, where assets and liabilities can shift quickly with investor sentiment regarding policy changes. Bank assets can deteriorate if a central bank raises interest rates to thwart a currency devaluation. Sovereign debt of EMDEs is also riskier than that of developed countries because their economies are smaller and typically less diversified.

Being at lower stages of development, EMDEs are keen to build up their infrastructure. The appropriate timeline underlying traditional sovereign ratings methods needs consideration. Infrastructure investment carries a timeline of up to 30 years. Credit ratings prefer the shorter timelines, 3 to 5 years, so that ratings convey accurate information about present states of sovereigns to investors. The inherent tension between what investors and sovereigns expect from assessments of fundamentals of creditworthiness is starker for EMDEs. This suggests EMDEs need a dedicated ratings scale with longer-time horizons by which to assess their creditworthiness. The underlying cycle associated with a 3–5-year timeline is the inventory cycle, whereas a 10–30-year timeline suggests the infrastructure cycle as the proper basis for a sovereign risk assessment, at least for EMDEs.

A multilateral credit rating agency (MCRA) could create new approaches for assessing sovereign creditworthiness, for both EMDE's and developed economies, and for working out resolutions in a way that sustainable development goals can be actioned during an ecological transition. This is a complex and multifaceted challenge. To understand the challenge more fully, the functions (and malfunctions) of private rating agencies need to be revisited, along with their methods. Section 2 critically evaluates the functions and methods of private credit rating agencies. We focus on the big three —Moody's, S&P, and Fitch— as the market structure for ratings is dominated by these three agencies. Their domination poses risks for stability because of the similarity in their assessments. The methodological issues and domination suggest the need for a public entity to counterbalance and provide guidance and locate support for consistent debt servicing. The functions of a multilateral credit rating agency (MCRA) would include validation of approaches to sovereign creditworthiness and the development of improvements.

Besides the timeline issue, the methods share the feature that all goods and services produced for sale in the marketplace are treated as productive of new wealth. Not everyone agrees with this orientation. That is, some activities are productive of new wealth and other activities are not, possibly even consuming wealth. Some of the industries, moreover, could be instrumental in worsening inequality, financialization and dependence on speculative activities. This suggests industrial configuration is important for understanding the health of an economy and its ability to support social reproduction. The distinction carries implications for the interpretation of indicators of economic vitality, such as gross domestic product (GDP), and key indicators of sovereign debt sustainability, such as the debt to GDP ratio. This is important as EMDEs are likely to be more reliant on agriculture, mining, fishing, and forestry industries, and, as such, have greater exposure to fluctuations of commodities markets.

Knowledge of how climate change impacts the industries and the communities which depend on them will assist the design and implementation of sustainable development goals (SDGs). Section 3 discusses the MCRA's functions as they relate to their main objectives, engagement of stakeholders, an innovative institutional design that readily incorporates the influence of botanical regions, funding possibilities and governance structure. As sovereign exposures touch upon many aspects of productive activities, financial activities, fiscal and monetary policies, an MCRA will have a range of stakeholders, including the rating agencies themselves. As such, fascinating challenges emerge for it.

Challenges range from regulatory capture, funding, conflict of interest, and its engagement with stakeholders, such as sovereigns, the communities they serve and financial institutions. These are addressed in section 4. There is a one challenge, however, that the MCRA would be in a unique position to front: facilitate new solutions to achieve debt sustainability. One possibility is a wealth tax on gross, private assets. The size of the tax is set to promote repayment of net interest outlays, at least, in a consistent way; it can be adjusted to modify revenues as need. A solution such as this could make austerity policies a thing of the past. A sovereign risk assessment structure can be created and validated with the intention for use in regulations pertaining to sovereign issues. Section 5 concludes with additional policy suggestions.

A. Characteristics of the credit rating industry

The rating industry has come a long way since Poor's *Manual of the Railroads of the United States* (1868), *Moody's Manual of Industrial and Corporation Securities* (1900), and Fitch's introduction of the lettered rating system in the 1920s. Today, rating agencies assess financial institutions (banking systems, finance companies, real estate finance, securities, and exchanges), funds and asset management (bond funds, money market funds), insurance companies, supranational organizations (multilateral lending organizations), structured finance, healthcare & healthcare providers, higher education, housing, utilities, transportation authorities, and sustainable finance.

The rating agencies act as gatekeepers to funding acquired from financial markets. Their assessments or "opinions" of creditworthiness of issuers and issues provide potential lenders/investors with information which is difficult to obtain. During their risk evaluations the rating agencies have access to information of borrowers which is not publicly available. The assessments incorporate that information into ratings relative to a scale. The ratings can be made public. As such, the agencies reduce asymmetric information and facilitate the flow of information between borrowers and lenders/investors. By disseminating ratings to the public, they enhance liquidity by increasing the pool of potential investors.

Because of their ability to discriminate ratings, they have been helpful for regulatory purposes, although explicit reference to their use has been weakened with regulatory changes in the wake of the Global Financial Crisis. Financial institutions, such as, insurance companies, pension funds and mutual funds that manage portfolios of assets hold investment-grade assets, generally, to account for the quality of their portfolios. Ratings help discern which instruments are investment grade and which are not. The differentiation is expressed by regions of their rating scales for long-term and short-term debt (see tables VI.1 and VI.2). Regulatory frameworks, such as The Basel Accords, classify assets for use to meet capital requirements. Under their risk-weighted approaches, sovereign debt is treated more favorably than others because of its liquidity.

Table VI.1
Global *long-term* ratings for major three credit rating agencies

Descriptor	Moody's	S&P	Fitch
Investment grade			
Prime (extremely strong)	Aaa	AAA	AAA
High (very strong)	Aa1, Aa2, Aa3	AA+, AA, AA-	AA+, AA, AA-
Medium – upper (strong)	A1, A2, A3	A+, A, A-	A+, A, A-
Medium – lower (adequate)	Baa1, Baa2, Baa3	BBB+, BBB, BBB-	BBB+, BBB, BBB-
Non-investment grade			
Speculative	Ba1, Ba2, Ba3	BB+, BB, BB-	BB+, BB, BB-
Highly speculative	B1, B2, B3	B+, B, B-	B+, B, B-
Extremely speculative (vulnerable)	Caa1, Caa2, Caa3	CCC+, CCC, CCC-	CCC
Default			
Immanent (highly, extremely vulnerable)	Ca	CC, C	CC, C
Default	C	D, SD	RD, D

Source: Fitch (2021a); Moody's (2021); Standard & Poor's (2021); Van Gestel and Baesens (2009: 116).

Table VI.2
Global *short-term* ratings for major three credit rating agencies

Descriptor	Moody's	S&P	Fitch
Investment grade			
Prime	P-1	A-1+	F1+
High	P-1	A-1+	F1+
Medium - upper	P-1, P-2	A-1,A-2	F1, F2
Medium - lower	P-2, P-3	A-2, A-3	F2, F3
Non-investment grade			
Speculative	Not prime	B	B
Highly speculative	Not prime	B	B
Extremely speculative	Not prime	C	C
Default			
Immanent	Not prime	C	C
Actual	Not prime	D (and SD for issuer)	RD, D

Source: Fitch (2021a), Moody's (2021), Standard and Poor's (2021).
Note: Short-term ratings pertain to issues with durations of approximately one year or less.

Investment grade ratings suggest a sovereign has the financial capacity to service its debt obligations. The prime ratings, the highest level attainable, further suggest financial capacity is so strong that unforeseen events are not likely to impact that. As one proceeds down the investment grade sections, financial capacity weakens, and events may have an impact (economic and financial conditions becomes less resilient to shocks). Non-investment grade ratings are speculative in nature. They entail much more risk with respect to financial capacity and ability to withstand unforeseen events. In this range, the most one can expect is a sovereign can service its commitments in the current context. Financial capacity becomes increasingly questionable as one proceeds down the scales. The C-ratings suggest heightened probability of default (at best) to default immanent (at worst). D is default. The numbers and signs (+, -) indicate graduations within the sections.

Ratings improve market efficiency by enabling prices of issues to reflect all publicly available information. The allocation of investment becomes more efficient as a result, and the cost of capital becomes more accurate. Ratings also act as benchmarks to validate the internal systems of financial institutions.

Sovereign ratings have been used as proxies for the health of an overall economy. A strong rating, for instance, is indicative of high-quality management of the economy and resilience to shocks. A weak rating reflects poor management and resilience to shocks. Ratings are meant to be through-the-cycle so that the cyclical (short-term) behavior of an economy will not influence the rating on sovereign debt unless the economy slumps so severely over a period that the structure of the economy begins to change.[1]

Sovereign exposures play complex roles in banking systems, financial markets, fiscal policy, monetary policy and, thus, the overall economy. Negative changes in sovereign risk can weaken banks' balance sheets, influence ratings of other entities, trigger a recession during which credit becomes rationed by quantity or price (interest rate), and lead to the implementation of austerity programs. Sovereign distress takes a range of forms: default or restructuring, currency re-denomination (actual or perceived), monetary policy of inflating away the debt, and sovereign downgrades. Rating agencies evaluate the probability of default and/or loss given default, considering that other forms of distress may impact the risk and loss.

[1] Rating agencies have begun to offer evaluations of country risk or the overall macroeconomic health of a country.

A host of concerns have dogged the ratings industry. They often emerge during moments where opinions deviate from actual outcomes. For instance, why were ratings of sovereign debt for Asian sovereigns so robust prior to the onset of the Asian crisis? Why were ratings of asset-backed securities overly optimistic in the lead up the Global Financial Crisis? Why was Enron's corporate rating also robust prior to its collapse? The rating agencies are known to experience "blown calls". These episodes lead to concerns about the quality of assessments and whether they could be improved.

A key concern pertains to the lack of transparency of their methods and processes. While some information is available to the public on their websites, not every aspect is accessible. Their methods are proprietary and entail a lack of complete transparency to the public. When a divergence between assessments and actual outcomes occurs, it is difficult to perform a validation to ascertain and understand exactly what happened. A related issue is that validation, as part of due diligence, is performed within the agencies. There are firms that conduct due diligence, but these activities can be costly. This begs the question as to whether due diligence performed as well as it could be.

A related issue is the lack of accountability. As assessments are interpreted as opinions there is an element of free speech attached to them. In the United States, the Securities Act of 1933 has shielded the rating agencies for decades. This makes it difficult to establish liability when an opinion is inaccurate. It is also believed to remove the incentive to improve quality and rigorously perform due diligence on rating methods. That said, the quasi-immunity of CRAs is eroding.

There have been lawsuits filed against rating agencies for what appeared to be inaccurate assessments of risk. In 2018, S&P settled a class action lawsuit in Australia pertaining to collateralized debt obligations. The lawsuit involved two local governments and pension funds, citing "weakening of its risk assessment criteria to win business and turn out high ratings opaque debt products" (Westbrook 2018). S&P reportedly paid AU$215 million. S&P reached a US$125 million settlement with a Californian public pension fund in 2015, and in the same year it agreed to pay US$687.5 million to each of the U.S. Department of Justice and to 19 states along with the District of Columbia. The lawsuits alleged that the ratings were driven more by economic interest rather than objective analysis, (Viswanatha and Freifeld 2015). Moody's, similarly, paid US$864 million to the U.S. Department of Justice, 21 states and the District of Columbia.

More recently, in December 2019, Lehman Brothers Australia filed a lawsuit against Fitch over the credit ratings it assigned to collateralized debt obligations (CDOs). The focus here is Fitch's use of an undisclosed "Significance Table" which generated discrepancies between the output of Fitch's VECTOR model, as described in the user's manual, and the output derived by using probabilities of defaults associated with the table. The Significance Table was apparently "hidden and password protected to prevent user discovery," (Amicus Advisory 2020). If true, this would suggest the presence of inaccuracies in published methods. The extent of discrepancies needs to be investigated across the ratings industry.

The lack of competition is yet another concern. The global market for ratings is dominated by Standard and Poor's, Moody's, and Fitch. They control approximately 95% of the international market for credit ratings, and 98.7% of the ratings for government securities (SEC 2020a). The industry has often been characterized as imperfectively competitive. There are a few reasons for this. The industry rewards these firms with market power because of the economies of scale they have established over the years in gathering, processing, evaluating, and disseminating information. There are strong barriers to entry in this market. Their status and market power are reinforced with their Nationally Recognized Statistical Ratings Organization (NRSRO) status in the United States. This status is granted to selected rating agencies for use in regulatory purposes, such as the discrimination of investment from non-investment issues.[2] [3] The status is thought to make the agencies complacent about improving their methods and due diligence. The market share of the top three ratings has raised concern about the potential for collusion (Malik 2014).

[2] While regulatory changes in the wake of the Global Financial Crisis weakened explicit reference to use of credit ratings for regulatory purposes, investors can still refer to them (Gaillard and Waibel, 2018; Darbellay, 2013).

[3] There are smaller agencies with this status: A.M. Best Rating Services, Japan Credit Rating Agency Ltd., DBRS, Inc., Kroll Bond Rating Agency, Inc., Egan Jones Co., and HR Ratings de Mexico S.A, de C.V.

An issue that often surfaces in debates about the rating industry is the conflict of interest with the issuer-pays model. A conflict of interest pertains to a situation in which one party to a transaction or decision is swayed to bias the outcome for personal or professional gain. Income from issuers could lead to pressure on rating staff for an upward bias on ratings to appeal to investors. The presence of a conflict of interest could lead to inefficient decisions of investors and lenders. This situation is thought to arise at some point during the rating process because of the remuneration structure of the firms, the use of ratings for regulatory purposes, and relationships between issuers, regulators and rating staff.

Negative changes in ratings can act as triggers by prompting investors to shift the composition of their portfolios, particularly if they are required to hold investment grade securities. Instability in financial markets can occur when a large rating agency downgrades a widely held asset and investors shift *en masse*. A downgrade can also prompt lenders to re-consider financing terms, rolling over existing debt or issuing new debt. Investors tend to view emerging markets as an asset class. Rating agencies reinforce this perception when they downgrade countries within a short time span (Bouchet et al. 2018).

This raises the concern about the procyclical nature of sovereign ratings. What this means is as economic activity softens, and a government's fiscal position weakens, sovereign risk increases, and the rating comes under downward pressure. The U.S. Securities and Exchange Commission recently began a monitoring group to investigate the phenomenon (SEC 2020b). It is evaluating how rating agencies have responded to the effects of the pandemic, the impact of changes in ratings and outlooks on financial markets, and whether the agencies are adhering their policies, methods, and procedures. There Financial Stability Board is also assessing the procyclical nature of ratings, particularly sovereign ratings (Business Standard 2021). Procyclical changes to ratings and outlooks will have knock on effects for all securities whose ratings are set relative to sovereign ratings, such as corporate bonds.

There is concern about potential inconsistencies between solicited and unsolicited ratings. Solicited ratings are created using a combination of public and private information. Unsolicited ratings are created using public information only, as the agencies do not have access to the private information. The assessments involving unsolicited ratings are thought to be less favorable because of the lack of private information.

As sovereign exposures influence many facets of an economy, there is a wide range of stakeholders. This includes sovereigns and other public borrowers, such as states and municipals, investment and commercial banks, insurance companies, pension funds, money market funds, mutual funds, and non-financial firms and the Paris club of official creditors. All these entities relate in various ways to households and their communities. Stakeholders will be of interest when we discuss the functions and funding of a MCRA.

1. How do rating agencies evaluate creditworthiness of sovereigns and their issues?

There are generalities across the three major agencies. Sovereign creditworthiness pertains to the ability and willingness of sovereigns to service their debt obligations. This is akin to sovereign debt sustainability. The agencies are primarily concerned with default events, considering other risk events such as currency redenomination (actual or anticipated), a shift in monetary policy towards inflating debt away, default by a quasi-sovereign entity or market stress as influences on sovereign default risk.

After being approached to compile an assessment, the agencies will collect publicly available data and conduct interviews with the sovereigns for additional information. The information pertains to public finances (includes fiscal position, public debt, and financing), economic structure and performance, external position, quality of institutions and effectiveness of management (includes monetary authorities). The selection of data indicators used to gauge these factors will vary as will the methods used to compile the data into ratings. Scorecards and weighting systems are common, as is discretion of rating staff to suggest adjustments to outcomes at various points in the construction of assessments. It is through the adjustments that qualitative considerations are often captured.

Indicators are combined using weights into a composite indicator to represent the factor they gauge. Notches are used to adjust for qualitative factors. The factors are then combined into a preliminary assessment and discussed among a committee, typically a team of analysts and senior executives. The outcome rating is relayed to the issuer who has the right to comment before the rating is released publicly. Sometimes the indicators are decomposed into sub-indicators for another set of weights to be applied for better accuracy. Tables VI.3 through VI.5 summarize the indicators used in ratings constructions by the three major agencies.

Table VI.3
Standard & poor's sovereign factors and indicators

Institutional assessment	Payment culture and debt sustainability. Promotion of balanced economic growth. Ability to respond to economic and political shocks. Transparency, stability and reliability of data and statistical information. Institutions, and payment culture. Possible geopolitical risks (external security risk).
Economic assessment	Income levels (e.g., GDP/capita). Growth pattern and prospects (e.g., trend GDP/capita). Economic diversity and volatility (exposure to a cyclical industry).
External assessment	Presence of a sovereign's currency in international transactions. Country's external liquidity (e.g., current account receipts, office reserves). External indebtedness (e.g., net external debt to current account receipts). Residents' assets and liabilities relative to ROW.
Fiscal assessment	Sustainability of a sovereign's deficits and its debt burden (e.g., general government debt/GDP, size of liquid assets, ability to raise revenue or cut expenditure). Fiscal flexibility (debt burden assessment, interest cost). Long-term fiscal trends and vulnerabilities, Debt structure and funding access, and potential risks arising from contingent liabilities.
Monetary assessment	Monetary authority's ability and credibility to implement monetary policy (exchange rate regime). Control of dominant currency used in transactions, monetary base and money supply and domestic liquidity conditions. Effectiveness of monetary policy, as evidenced by inflation (e.g., % change in CPI). The breadth and depth of the domestic financial system.

Source: Standard & Poor's (2017).

Table VI.4
Moody's sovereign factors and indicators

Economic strength	Growth Average GDP growth, volatility of GDP growth Scale Nominal GDP National income GDP/capita Adjustment factors Diversification, credit boom
Institutions and governance strength	Quality of institutions Quality of legislative and executive institutions Strength of civil society and judiciary Policy credibility and effectiveness Inflation's level and volatility Adjustment factor Default history

Fiscal strength	Debt burden General government debt relative to GDP and to revenues Debt affordability Government interest payments relative to GDP and to revenues Adjustment factors Debt trend Other government debt/GDP Foreign currency debt/total debt Public sector financial assets or sovereign wealth funds/GDP
Susceptibility to event risk	Political risk Domestic Geopolitical Government liquidity risk Fundamental metrics Market funding stress Banking sector risk Size Strength Funding vulnerabilities External risk Vulnerability indicator Net international investment position/GDP (Current account balance plus FDI)/GDP

Source: Moody's (2019).

Table VI.5
Fitch's sovereign factors and indicators

Structural features	Governance quality Wealth and flexibility of the economy Political stability and capacity Financial sector risks (Variables for modelling: World Bank's governance indicators, GDP/capita, share in world GDP, years since default, money supply)
Public finances, General Government	Government debt Fiscal balance Debt dynamics Fiscal policy (Variables: gross general government debt/GDP, general government interest/revenue, general government fiscal balance/GDP, foreign currency government debt/general government debt)
External finances	Balance of payments External balance sheet External liquidity (Variables: reserve currency flexibility, commodity dependence, sovereign net foreign assets/GDP, external interest service/CXR, current account balance plus net foreign direct investment/GDP, foreign exchange reserves (months of CXP))
Macroeconomic performance, policies, and prospects	Policy framework Domestic GDP growth Inflation Real effective exchange rate (Variables: real GDP growth volatility, consumer price inflation, real GDP growth)

Source: Fitch (2021b).

Moody's approach is a nested scorecard in the sense that economic strength is combined with institutions and governance strength to yield a country's economic resiliency. When resiliency is combined

with fiscal strength, they form government financial strength. When government financial strength is combined with susceptibility to a risk event, the scorecard's indicated outcome is obtained and expressed within a range. Other considerations are made to adjust the outcome to obtain issuer- and instrument-level ratings (Moody's, 2019).

Standard & Poor's also employs a nested approach. The institutional and economics assessments, together, form the institutional and economic profile. Flexibility and performance profile is comprised of the external, fiscal, and monetary assessments. Together the two profiles yield an indicative rating level. The indicative rating level may experience a supplement adjustment to yield the foreign currency issuer rating. One notch of uplift over the foreign currency rating yields the local currency issuer rating (Standard and Poor's, 2017).

Fitch is the most forthcoming about a specific quantitative model. Each of Fitch's factors is weighted according to their importance, with structural features given the heaviest weight. The weights are determined from standardized coefficients derived from an ordinary least squares regression on standardized data (Fitch, 2021b). Its sovereign rating model (SRM) is a multiple regression rating model that employs 18 variables.

The agencies have been working with market-based approaches to evaluate sovereign risk. The idea is that in a perfect world, a traditional credit rating and a rating implied with a credit default swap (CDS) would be the same. As the world is not perfect, they are not the same. Market-based versions of ratings are thought to lead traditional ratings in terms of sovereign creditworthiness because the market-based version incorporates new information and market opinion much more quickly (Schroeder, 2015). There is an implicit recognition by the rating agencies that traditional ratings are rather sluggish.

The International Monetary Fund (IMF), itself, is looking for ways to improve its own framework for predicting sovereign risk (IMF, 2021b). In the wake of the most recent review, it will adopt probabilistic assessments into its framework along with tools involving multiple time horizons, better incorporation of structural characteristics, and enhanced transparency of assessments. It comes with a new name: Sovereign Risk and Debt Sustainability Framework for Market Access Countries (MAC SRDSF). The IMF also suggests expanding debt coverage to general government as opposed to central government. Developing countries are more apt to report central government debt rather than general government.

The rating agencies and the IMF appear to concede there is still room for improvement when it comes to evaluating sovereign creditworthiness. What could be improved? The IMF has noted debt sustainability requires debt to stabilize with low financing risks under a feasible set of policies, but not necessarily under the policies assumed in a baseline scenario, (IMF, 2021a). Unsustainable debt entails a lack of politically and economically feasible policies for stabilizing the debt to GDP ratio with suitably low rollover risk.

This brings us to the time horizons used to evaluate sovereign creditworthiness. The traditional ratings are evaluated on 3- to 5-year trends (Griffith-Jones and Kraemer 2021). S&P's growth trend is based on ten years of data on GDP per capita: six years prior, the current year, and the forecasts of three years hence. The trend is meant to capture at least one economic cycle. Apparently, six years of actual data capture the good part, if not all, of one cycle (S&P 2017: 11). Moody's does likewise. The timeline for its average rate of growth of GDP is defined on ten years of data: five years of prior data and forecasts of the next five years (Moody's 2019: 6). Fitch employs 3-year centered averages of annual % change in real GDP in its Sovereign Risk Model; the time horizon for its Debt Dynamics Model is 5 years (Fitch 2021b: 19).

These timelines are relatively short and better aligned with the informational needs of financial investors. Sovereigns of EMDEs require longer time horizons underlying their assessment of creditworthiness because of the heavy influence of infrastructure development. Without that recognition, cycles and instability transmitted into these economies from other global regions will adversely influence their risk assessments (constructed with short time horizons). For instance, if interest rates were to rise in the United States, several EMDEs may find their trends, and outlooks, weaken under a 3–5-year time horizon, but still be near trend according to a 10–30-year time horizon. In other words, what impacts a 3- to 5-year

trend may not impact a 10- to 30-year trend so strongly, if much at all. A longer-time horizon under credit risk assessment of sovereign debt for EMDEs would stabilize their ratings and promote stability. Dedicated time horizons will force market participants to recognize how unique these economies are. Better accuracy in the assessments will give investors who are interested in longer-term horizons the confidence to engage. If it were profitable for CRAs to rate EMDEs on a scale with a longer-time horizon, they would have done so long ago. Apparently, their target audience would not find this appealing.

Discrepancy in the time lines is a likely source of the perception of bias in sovereign ratings of EMDEs. Developed countries have infrastructure in place. The influence of infrastructure development is not as strong than with EMDEs. For developed countries, shorter time horizons are more suitable for sovereign risk assessment. Rather than recognize the influence of infrastructure more explicitly, the agencies promote comparability of sovereign ratings of EMDEs with ad-hoc qualitative adjustments for their features, as viewed by analysts.

This introduces an element of subjectivity. Research suggests home bias in risk assessment is introduced through subjective judgements. Subjectivity is influenced by culture and shared through cultural proximity, as gauged by linguistic proximity (Fuchs and Gehring (2017)). Shared culture may cause analysts to be more positive in their evaluations. Evaluations of sovereign risk are conducted by analysts employed at CRAs who control 98% of the market for sovereign ratings. At present, the headquarters of S&P, Moody's and Fitch are in the United States (New York City). The home bias is American. It is likely that the analysts do not fully comprehend the influence of cultural differences in unfamiliar contexts, such as the EMDEs. This leads them to miscalculate adjustments to standard risk criteria. There is evidence that "American rating agencies favor countries which have a geopolitical alignment with the U.S.," (Luitel et al 2016: 288). The influence of home bias has also been found in sub-sovereign government debt (Ioannou et al. 2021).

Another issue is what constitutes a productive activity. If one looks closely at the criteria or data indicators, all three agencies recognize diversity of economic activity to some degree. They do so out of concern about dependence on a particular industry, such as real estate investment or the exports of commodities. There is an implicit understanding that all industries, and the activities they pursue, are productive in the sense they contribute to the creation of new wealth (goods and services). However, not everyone agrees that all activities and industries are productive of new wealth in terms of goods and services, that is, objects of social use which facilitate social provisioning (the reproduction of society).

If true, this carries important implications for how the GDP indicator is interpreted. When evaluating overall economic performance one often finds the level, volatility, and sustainability of GDP growth. Evaluations of sovereign debt sustainability and risk rely on the debt to GDP indicator. If not all industries are productive, the role of GDP in sustainability analyses needs to be supplemented with a systematic analysis of industrial configuration and their associated activities. Let's look at this more closely.

Activities associated with social reproduction include (i) production (the creation of objects and services in a production or labor process in combination with fixed and circulating factors of production), (ii) distribution (objects of social use are employed to transfer other objects from immediate possessors to those who will use them), (iii) social maintenance and reproduction (objects are social use are consumed in private and public administration, maintenance and reproduction of the social order by government), and (iv) personal consumption (objects of social use are consumed directly by consumers), (Shaikh and Tonak 1994).

National accounting records various types of expenditures, value added and incomes. For any country, one will find production activities (such as, agriculture, mining, forestry, manufacturing, construction, accommodation, and food), as well as distribution activities (such as, finance and insurance, real estate, professional services) and social maintenance (for instance, health, education, military). The structure of System of National Accounts (SNAs) has changed over time. One of the ways it has changed is the treatment of financial activities. The 1953 and 1968 versions did not explicitly incorporate the activities associated with financial intermediation, (Assa, 2017). The 1953 version treated financial activities as not productive since they transferred funds and did not generate new goods and services; the 1968 version treated financial activities as an input with no associated output. The 1993 SNA was the first version

that defined financial activities as productive and part of output. Financial activities were defined as risk management and liquidity transformation, activities where institutions issue financial liabilities to acquire financial assets. The scope of financial activities expanded in the SNA 2008 to include "monitoring services, convenience services, liquidity provision, risk assumption, underwriting and trading services," (United Nations (2009), as quoted by Assa (2017)).

Financial activities are typically proxied by financial and insurance activities (FI) in SNAs. These are fee-based services treated as productive and are imputed a value added based on net revenue. Another industry whose value added is largely imputed is real estate activities (RE). Taken together FIRE lies at the heart of financialization, a phenomenon where the presence of financial activities plays an increasing role in how incomes and profits are obtained. Incomes and profits are obtained by means that do not create new goods and services. The growth of these activities has the effect of making economies more reliant on speculative activities, such as investment in real estate, and less resilient to shocks. If their presence increases relative to productive activities, in other words, countries become more exposed to sudden shifts in sentiment of speculative investors.

Financialization is thought to be is also an important source of inequality. Piketty (2014) and Saez and Zucman (2020) find inequality is related to high wealth holders' ability to earn passive income on their assets and grow assets more quickly than those who do not hold much wealth. FIRE not only raises financial and economic risk, but also the risk of social unrest and political tensions. Assa (2017) found that when FIRE activities are removed from GDP and treated as a cost, the adjusted GDP figure is a better proxy as a leading indicator measure of aggregate demand and measure of standard of living.

What if we isolate the primary industries rather than simply removing FIRE from GDP? That is, how could recognition of industry configurations add to our understanding of economic health and locate opportunities for sustainable development? Primary activities consist of production activities along with the distribution and transportation needed to realize their sale. Production activities include agriculture, forestry, fishing, mining, quarrying, manufacturing, electricity/gas/steam, construction, accommodation, and food services. Distribution consists of wholesale and retail activities. Transportation activities (land, water, air) include warehousing and storage to support transportation. Primary activities are the engines, so to speak, of an economy and its ability to support social reproduction.

Production activities do not include water supply, sewerage, waste collections, information and communication, professional, scientific, and technical activities, administrative and support services, public administration and defence and compulsory social security, human health and social work, arts, recreation, and entertainment. A number of these excluded activities —such as, water supply, sewerage, waste collection, public administration and defence, human health and social work, and arts and recreation— are part of social maintenance and enable government to support the social order. Others are secondary in orientation and are more likely distributive in nature. It could be that the excluded activities contain sub-categories that may be classified as productive. To include them involves confirmation as to how each country has interpreted and classified the activities. For simplicity, they have been excluded for the purposes of this analysis; the sub-categories are so small, they will not affect the result.

Table VI.6 presents OECD data on the shares of FIRE activities and the primary activities from 1995 to 2019 (or most recent year available). The development of FIRE activities varies over time. For most countries FIRE activities rose over this time. For others, however, they declined (for instance, Germany, Hungary, Lithuania, Slovak Republic, Sweden, Switzerland) or remained stable (such as, Denmark, Iceland, Japan, Korea, The Netherlands). What almost always declined are the primary activities. While they grow, they do so more slowly than other activities and so their shares of value-added decline. There is a divergence between economic health as indicated by GDP and economic health as indicated by primary activities. GDP and variations of it are important for rating agencies assessments of economic vitality (see tables VI.3 and VI.5). If all activities are classified as productive in the sense of being marketable, collectively they suggest stronger economic growth than if the economy's engines (primary activities) are monitored.

Table VI.6
Selected OECD countries[a]: FIRE and primary activities as a percentage of GDP (value added), 1995 and 2019

	1995		2019	
OECD country	Primary	FIRE	Primary	FIRE
Australia	48.8	20.9	44.2	21.3
Austria	55.5	18.6	51.8	20.6
Belgium	46.5	16.4	39.6	17.0
Czech Republic	61.6	12.4	57.4	13.4
Denmark	46.6	15.3	44.8	14.8
Estonia	50.8	12.7	53.0	14.2
Finland	45.2	17.1	44.8	16.3
France	41.2	18.0	37.8	18.8
Germany	48.1	18.4	45.5	16.1
Greece	53.0	17.5	45.7	22.8
Hungary	53.4	20.3	53.0	12.7
Iceland	52.0	18.2	46.3	18.6
Italy	48.8	18.8	44.3	19.4
Japan[b]	57.2	17.8	50.4	17.3
Korea[b]	59.0	14.0	52.8	14.0
Latvia	54.4	13.0	51.8	16.0
Lithuania	60.0	11.8	65.2	9.4
Luxemburg	37.6	33.6	30.0	32.3
Mexico	63.4	12.8	61.0	16.9
Netherlands	45.7	15.3	42.2	15.2
Norway	58.9	9.6	49.1	13.7
Poland	69.9	7.6	60.4	9.5
Portugal	49.9	16.9	49.1	17.8
Slovak Republic	43.5	34.8	53.3	13.8
Spain	57.1	11.6	47.6	16.1
Sweden	45.0	15.4	43.3	14.0
Switzerland[c]	49.4	18.3	47.2	16.9
UK[b]	47.6	18.6	37.1	21.4
USA[c]	41.3	18.6	37.2	19.8

Source: OECD Statistics (2021), https://stats.oecd.org/.

[a] OECD data is not complete or available for all countries.

[b] The most recent year of data is 2018.

[c] Starting year is 1997.

Table VI.7 illustrates that GDP generally grows more quickly than primary activities. What this suggests is that a key indicator of debt sustainability —the debt to GDP ratio— is overly robust. This could be a possible reason as to why traditional ratings seem rosy at a times when sovereign risk events appear. Care needs to be taken when using indicators involving GDP for assessing macroeconomic health and sovereign debt sustainability and risk.

Table VI.7
Selected OECD countries[a]: percentage of GDP (value added) versus primary activities

OECD country	GDP	Primary
Australia	106.4	86.8
Austria	56.4	49.5
Belgium	54.8	31.6
Czech Republic	85.6	72.8
Denmark	48.3	42.5
Estonia	171.2	183.1
Finland	64.0	62.8
France	48.0	37.5
Germany	41.6	34.0
Greece	21.0	4.3
Hungary	90.0	88.2
Iceland	130.9	105.5
Italy	16.1	10.2
Japan[b]	21.0	6.7
Korea[b]	167.9	140.0
Latvia	150.8	138.8
Lithuania	168.2	191.3
Luxemburg	117.1	61.6
Mexico	84.1	77.1
Netherlands	62.3	50.2
Norway	54.7	29.1
Poland	156.2	121.1
Portugal	38.9	36.5
Slovak Republic	148.4	204.4
Spain	65.8	38.2
Sweden	80.6	73.7
Switzerland[c]	55.1	48.2
UK[b]	60.3	25.1
USA[c]	62.3	46.1

Source: OECD National Accounts database.
[a] National base years used as reported to the OECD.
[b] The most recent year of data is 2018.
[c] Starting year is 1997.

Another aspect overlooked in ratings' methods is type of firm organization. While small and medium-sized enterprises (SMEs) are an important source of employment they are peripheral to the agencies' assessments of economic vitality. SMEs are an important element in the network of trade credits, whereby supply chains are cemented both domestically and globally. The volume of trade credit is comparable to outstanding corporate bonds and approximately one-third of non-financial corporations' outstanding loans (Boissay et al 2020). The Covid-19 pandemic has shaken this network as cash flows weakened. SMEs bear the brunt of larger firms' decisions to delay payment to protect their cash flows. Employment by SMEs, and consumption, will suffer, as do trade credit insurers and banks who hold discounted trade receivables.

The informal sector is also underdeveloped within ratings' methods. The informal sector is a range of activities within the social provisioning process which lie beyond market activities. It exists as a pre-condition from which economies transition to increased reliance on markets for what they need. Here, the culture of society helps determine what is produced, how production occurs and who receives the output. The presence of informal sector can be stabilizing, ensuring certain aspects of social provision proceed when the formal sector exhibits instability.

Risks associated with environmental, social and governance (ESG) tend to be peripheral in rating agencies' methods. That is, these risks enter as refinements to the methods. For instance, while climate change and social considerations may not have an explicit presence in Moody's scorecard approach, they will be part of the analysis that rationalizes the rating (Moody's, 2019). Environmental concerns are considered as they impact the factors of economic strength and fiscal strength, and possibly institutional and financial capacity. Social change will pose challenges for institutions and governments and for susceptibility to domestic and geopolitical risk. Demographic factors will influence assessment of economic and fiscal strengths; a spike in domestic violence, for example, may lead to government intervention, and an expansion of its wages bill, which compromises the sovereign's fiscal strength. If a sovereign receives strong revenue from exports of hydrocarbon products, a carbon transition risks its fiscal strength. Fitch makes comparable adjustments to their assessments through its qualitative overlay (QO) feature.

Standard & Poor's maintains its approach has incorporated ESG risks into their credit ratings for some time, where relevant to do so. ESG factors are incorporated into a rating through qualitative adjustments. ESG considerations are reflected in the assessments of a sovereign's institutional quality and governance effectiveness. At this time, S&P believes climate change, on average, will not have much bearing on sovereign ratings of developed economies, climate change will have a more significant impact on EMDEs, particularly in the Caribbean and Southeast Asia. S&P's insights dovetail with a recent observation that climate and ESG risks have negatively impacted approximately 60% of developing countries ratings, (Jones 2021b).

The MCRA has a challenging mandate to support improvements sovereign credit risk assessment, locate ways to moderate sovereign risk, and facilitation of SDGs. It needs to do these while recognizing the elephant in the room —climate change. The mandate will be executed during an ecological transition. The MCRA's functions and structure need to reflect that.

B. Institutional design and governance structure of a Multilateral Credit Rating Agency (MCRA)

The institutional design and governance structure of the MCRA is shaped by its functions. The functions support two key objectives. The first objective is to improve assessments of creditworthiness for sovereigns, particularly those of developing countries. It should be aware of related opportunities to stabilize and moderate sovereign risk. The second objective is to facilitate the implementation of sustainable development goals (SDGs). The MCRA must accomplish both as the global community progresses through an ecological transition. Recognizing the importance of how industries relate to the climates in which they are embedded renders the agency forward-looking in ways the private rating agencies and multilateral institutions are not. This recognition supports evaluating risk assessments for EMDEs on longer-time horizons until they attain developed status. The MCRA would have a unique role, edge, and design for supporting sovereigns in the 21st century.

1. On functions

The first function of the MCRA is to conduct much needed due diligence for the ratings industry's products as an independent third party. Validation of their methods is a labour-intensive process and costly. The process will enable the MCRA to generate insights as to what could be done better. Those

insights would stimulate the basis of formal studies. An advantage of the MCRA is it validates the major agencies collectively, as a group, so as not to reveal their proprietary models. The previous section suggests timelines, industrial configuration, small-and medium sized enterprises and informal economies are underappreciated in their methods. These would be good starting points.

The due diligence process enables MCRA to concretize a forward-looking approach for monitoring economies, a second function, that can be both strategic and flexible in locating vulnerabilities. By understanding economies at the levels of their industries, the MCRA can tap an important spatial aspect with respect to how each industry impacts the environment as it supports a country's regions, employment, and communities. Insights can be located as to how the industries are contributing to the overall social provisioning of goods and services, tax bases and, hence, revenues to service national debts. This will be helpful for locating new ways to attenuate sovereign risk.

To facilitate social development goals, a third function of the MCRA is to identify how adept communities are at producing goods and services both within their regional locale and their dependency on a transport network to access what they do not. The activities and geographic span of industrial configuration will help determine how well societies satisfy human needs. Basic needs involve an optimal level of physical health and autonomy, and intermediate needs involve adequate nutritional food and water, protective housing, healthcare, and basic education (Doyal and Gough, 1991; Gough, 2017). The MCRA could verify what is deficient, and how climate change poses challenges to the processes. By doing so, it would assist sovereigns understand how they could do better with the support of sustainable development programs for eradicating poverty and hunger, improving education, reduce inequality, create sustainable communities and cities, and various climate-related tasks. The programs created to support sustainable development goals will be more strategic and targeted, and possibly more economical. There is a role for indigenous knowledge and informal economies for comprehending the ecosystems and manage how they are changing. The support for an ecological transition will be more effective.

Industrial analysis will be able to ascertain the range of firm organizations within the industries. Again, weak presence of SMEs in evaluations of economic health overlook a substantial source of employment and support for consumption activities. This style of analysis will also lead to a better understanding of the structure of financial sectors. For instance, developing countries in which SMEs are more prevalent means a greater reliance on banks rather than capital markets. Certain segments of the financial sector will exhibit a stronger presence than others. Domestic sources of funding will reflect this structure. Variations will exist across countries.

A fourth function is stakeholder engagement. There is a wide range of stakeholders because of the heavy use of sovereign exposures for asset management, portfolio structure, regulatory purposes, and implementation of fiscal and monetary policies. It is important to canvas stakeholders' opinions for feedback about the MCRA's findings and strategies for developing research. By doing so, the MCRA facilitates understanding of the challenges faced by sovereigns and what they need to accomplish for their societies.

2. On structure

The structure of the MCRA reflects its functions and objectives. The organization proposed here enables the MCRA to identify the impacts of climate change on the industries and countries embedded within each botanical region.[4] In this way the MCRA enhances the coordination of countries across regions to work together on shared issues of concern. The classification of countries according to botanical regions is different from the classification of countries according to political boundaries, as found in the Central Intelligence Agency's World Factbook. For instance, many of the countries located within the CIA's South Asia, Central Asia and East and Southeast Asia groups are located within the botanical regions of Asia-Temperate, Asia-Tropical and Eastern Europe; this botanical classification is attributed to Brummit

[4] A botanical region refers to a geographic area with a relatively uniform composition of plant species.

(2001), update soon to be released through the Hunt Institute. Classification by political boundaries can obscure insights of how the ecological changes within the botanical regions are influencing industries both within and across countries.

Within the MCRA there are four divisions: Analytics, Special Projects, Communication and Market Development and Support. The Analytics Division is segmented according to botanical regions around the globe, where some areas of this classification political considerations override the botanical. The countries are then allocated according to the regions (see annex 1). The regions are segmented into sub-regions or areas. Most countries, particularly small countries, entail one botanical sub-region. However, large countries, such as the United States and Brazil, involve multiple sub-regions.

The organization of countries in this way adds depth to our understanding of how countries relate to each other globally. While trade and finance linkages amongst countries are important, so are the linkages between cultures and communities. The MCRA would have a unique vantage point to harness research being performed at the various United Nations programs, funds, and agencies. It is an edge that private rating agencies do not have and would be hard pressed to replicate.

The Analytics Division will compile data, maps, and other visualizations and basic analysis related to creditworthiness of sovereigns. Techniques include checklists and scorecards, old hands or Delphi approach (country and regional visits), heat maps, and debt projections employing fan charts. Checklists of assessments are dovetailed into categories of riskiness. Fantail maps anticipate various scenarios under different financing, international, environmental, and social-political conditions.

Within this division, one analyst per country is the rule of thumb. Large countries may need more than one analyst, whereas small countries in a particular region may warrant 2-3 countries per analyst. The analysts would be grouped into teams according to their sub-regions and regions. The teams are organized in groups of 4-5 analysts. Each team is coordinated by a leader. The team leader role is rotated every 6-9 months to prevent analysts' skills from deteriorating.

Meetings should occur across the teams to compare and discuss experiences across countries and regions according to, say, their levels of income, states of development, industrial configuration, and so on. The initial segmentation on the basis on botanical regions and industries rather than income groups stimulates deeper analysis and insights of regional experiences with inequality, financialization, climate change and environmental degradation. As the linkages between countries are broader than trade and financial links, the approach will likely reveal how one approach towards sustainable development may work well in one region but not another.

At this level, one can get a sense of industries' reach into the geography of a country, their impacts on the environment, on communities, on the structure of the financial system, and how they collectively influence the macroeconomics conditions of an economy. Savvy analysis can locate overlooked opportunities to support a sovereigns' abilities to enhance the stability, health, and well-being of their constituents.

The Analytics Division monitors the economic health and financing conditions of industries, sectors, and the overall economy in a unique way. Besides the above tasks, a series of benchmarks can be created for each industry to record their rates of return relative to their financing costs, that is, their states of fragility. The idea is that if rate of return on new productive investment for the average or regulating firm in an industry is greater than the financing costs, the industry is in a good position. While there will be firms that do not do as well as the regulating firm, there are firms who are doing better than the industry average. The approach is based upon Hyman Minsky's Financial Instability Hypothesis which is cast at the level of the firm. It was extended and applied to American industries in Schroeder (2015); a rating scheme was created for individual firms. Additional indicators of fragility can be collected for study and use in benchmarks.

The positions of the industries will indicate how the structure of activities is changing, that is, which industries are growing better than average and which industries are declining? Are those declining industries necessary for social reproduction? If the answer is 'yes', then the industry warrants support. What is the configuration of firms in the industry? Are they mainly SMEs? What do they need to do better? What are the challenges the face from climate change? Would funding from a sustainable development program help? Should particular firms re-tool themselves for another industry? These are the types of innovate insights stakeholders like and the Analytics Division would generate.

The Analytics Division is coordinated by a manager and an associate manager. The manager engages with strategy of the MCRA Directors, facilitates improvements to processes, and liaises with the other divisions. The associate manager oversees daily activities across the regions, such as monitoring the outputs and processes and troubleshooting. This division will likely be the first to glean insights across countries within regions. That gleaning process will undoubtedly bring forth issues for additional investigation and contributions to various literatures within economic development and sustainability, economic geography, industrial configuration and organization, climate change and inequality. The Analytics Division will have a strong relationship with the Special Projects Division.

Each regional supervisor coordinates the teams within his/her respective region and engages with strategies and process improvements with the management team and supervisors in other regions. The number of teams varies with the size of the region. It is possible that an associate supervisor needs to be installed alongside the supervisors.

In-depth treatment of issues is relegated to the Special Projects Division. This division investigates issues as agreed upon by the MCRA Director, the Manager of the Analytics Division, and its own Manager. The issues need to be revisited every 6 months for update and possible revision. The Special Projects Division performs validation studies (due diligence on sovereign ratings) and studies related to its objectives, such as sovereign creditworthiness and default, debt sustainability, financialization, inequality and facets of sustainable development and climate change. This suggests a variety of expertise required in its staffing - environmentalists, economic geographers, social and political economists. For professional and personal growth, analysts in the Analytics division could be given opportunity to engage with the Special Projects Division, workloads permitting.

The outputs of this division could be made accessible by the public, thus promoting dissemination of information. There should be a peer-review process involved, suggesting need to develop a network of referees. There would need to be care in handling the models developed in-house due to the intellectual property involved.

A Communications and Market Development Division facilitates the release and discussion of the studies, emerging issues, and industry trends. One way it does so is by conducting semi-annual meetings with stakeholders. There is likely to be opportunity for sharing insights with stakeholders and adapting insights to new contexts. This division would also coordinate a potential, and potent, source of funding for the MCRA —the re-introduction of a subscription series for a nominal fee. The subscription would contain overviews of recent research, activities and its own assessment of credit risk based upon an alternative approach developed by its Analytics and Special Projects Divisions.

Last, there needs to be a Support Division to facilitate processes associated with human resources, payroll, finance, and legal teams. Administrative staff is needed to manage processes, documentation, and dissemination. Finance staff is required to record inflows and outflows of funds. Custodial staff and security are needed to maintain the physical location. Human resources staff is required to oversee human capital acquisition. Information technology specialists are needed to manage data and its storage, software and programming, hardware, visual and graphic artists, equipment, videoconferencing, and cybersecurity. A legal team will be needed.

3. On governance

Each envisaged division is headed, at least initially, by a manager and administrative assistant. The Analytics Division may require an Associate Manager at the start. Additional staff can be added as needed.

The MCRA, itself, is led by a Director, Associate Director and Assistant Director. All positions are 4 year-terms. The Director liaises with other UN agencies, programmes and funds and provides strategy, ensures the agency is accountable to its mandates and bylaws, locates resources and develops the agency's exposure to stakeholders. The functions of a MCRA compliments the work on public finance by multilateral organizations such as the IMF and the World Bank. The Director will need to keep abreast and liaise with these entities and others interested in sovereign exposures and debt sustainability. The Bank for International Settlements (BIS) might also be included as it would give the MCRA more direct exposure to central banks. The Associate Director monitors the activities of research staff and coordinates those with operations (via the Assistant Director). The Assistant Director oversees daily operations and troubleshooting (HR, Finance, IT, administrative support).

An advisory committee should be installed to locate insights and solutions for issues that arise. It can oversee processes and provide counsel. The committee could consist of UN programmes/agencies/funds that work the closest with MCRA. These entities can provide valuable information and advice regarding how the new agency overlays with work already initiated and processes within the United Nations. This configuration is not exhaustive of the possibilities. To avoid regulatory capture, the rating agencies and national governments should be kept off (see section 4).

The suggested structure of the MCRA is summarized in figure VI.1.

Figure VI.1
Structure of MCRA

Composition of directors
- Director (with Executive Secretary)

Associate Director (with Secretary)
Assistant Director (with Secretary)
Analytics Division (as above)
- Manager
- Associate Manager
- Administrative Assistant

8 regions: Supervisor and Administrative Assistant for each region
Visual and Graphic Artists, as needed
Special Projects Division
- Manager
- Administrative Assistant

Communications and Market Development Division
Manager
Administrative Assistant
Communications Ream (with team leaders)
Market Development Team (with team leaders)
Support Division
- Manager
- Administrative Assistant

Finance Team (with team leaders)
Human Resources Team (with team leaders)
Computers, IT, and Security Teams (with team leaders)
Building and Maintenance (with team leaders)
Legal Team
Advisory Committee

Source: Author's own elaboration.

4. On costs and financing

The financing of an MCRA might not be a daunting as one would expect. The MCRA should start with a small structure to test the processes and structure, and then expand as details are settled. A skeletal staff would conduct initial validations, compile data for monitor industries and how they overlay with geography and communities. Their experience will facilitate adjustments to communication, workloads, and processes. The structure can be scaled up after the structure and processes are streamlined. The structure is more horizontal rather than vertical in orientation. This facilitates communication, engagement, and sense of direct contribution to the research being generated.

An initial set of 32 analysts is envisioned as its starting point; supervisors can assist when needed. Given the emphasis on monitoring developments and creation of benchmarks, for the industries. The analysts are strategically placed to cover the botanical regions and areas as widely as possible to record the diversity of contexts and the features of the countries. This initial set could transition to roles as team leaders as new analysts are added to provide additional range of coverage. Skeletal staff will reduce the initial set up costs, and garner material to solicit additional funds through the implementation of a subscription service. Salaries of staff will depend on cost of living in the city selected; a Latin American location would be suitable for its manageable cost of living. The cost of the skeletal structure ranges from US$6.5–7.1 million

At the next level, there could be an additional 200 analysts across the Analytics and Special Projects Divisions (mainly, the Analytics Division), which would add approximately US$10 million to cost. An additional 20 Communications and Market Development staff, at least, will be needed which adds approximately US$1 million; likewise, an additional 35 staff will be needed in the Support Division, adding US$1.225 million. Computers, supporting software and IT support increase to US$4.5 million, and building to US$2million. Travel and incidentals add US$750 thousand. Total cost in this version is approximately US$24–26 million. Pay increases, subject to performance review, is expected to pressure salaries to grow about 5% per year, higher if inflation needs to be accounted for.

Initial funding of the MCRA could be raised through grants and contributions of sovereigns and central banks. The MCRA needs to shift quickly towards a self-sustaining state. The MCRA is in a unique position to shift towards self-financing by reverting to the old subscription model rating agencies used to rely on for revenue. Prior to the issuer-pays model that rating agencies currently employ revenues came from subscriptions to a publication that announced ratings of issuers. That model was abandoned because revenues could not keep up with the costs of compiling the information with enough profit to permit expansion. While the MCRA is not a profit-generating enterprise, it would not hurt to think entrepreneurially going forward. It has as the advantage of an historical context in which the number of financial institutions around the globe has increased tremendously. The fee for a subscription could be set on a sliding scale according to firm size and locale.

An example of the potential revenue from a subscription service is the following. One of the stakeholders of the MCRA is the insurance industry. As per Statista, in 2019 there were nearly 6000 insurance companies in the United States and nearly 7000 in Europe; approximately 13,000 total. If the average, annual subscription rate —for an annual report, quarterly updates, and a newsletter— was $2,500, the revenue from the US and Europe, alone, would amount to US$26 million. That's one year of cost at the expanded level (as suggested above) funded by a small snippet of the global configuration of stakeholders in this agency. Other stakeholders who would find MCRA subscriptions useful are pension funds, mutual funds, holding companies, the range of banks and the entities which rating agencies rate. There is strong revenue potential from a subscriptions model to fund the MCRA because of the United Nation's reputation and global reach and the role of sovereign bonds in banking systems, financial markets, monetary policies, fiscal policies, and the use in satisfying capital requirements for financial institutions.

So, it conceivable to envision a much larger scale for the MCRA. In fact, the MCRA could become a mechanism to generate funds for the UN and its SDG initiatives. The MCRA could easily warrant a larger size comparable with S&P, with over 1500 analysts and satellite offices.

C. Challenges faced by an MCRA

A MCRA would face challenges, none of which is insurmountable. The first challenge is it must establish a track record of improvements to assessment of sovereign creditworthiness. Toward this end it needs to establish a body of work that objectively validates the accuracy of private ratings. What do the rating agencies get right, and what could be better? This will establish the agency with a reputation for integrity and transparency.

The MCRA also needs to pilot new methods of credit risk assessment and for achieving debt sustainability. The agency must be bold in breaking new ground because the global community needs it to be so. The new paths cannot simply adjust or provide minor updates to the methods of the private rating agencies. Simply generating modest changes or adjustment would risk their absorption by the agencies into their own methods and make the MCRA's approaches redundant and the agency itself unnecessary. The basis of the MCRA must be such that it will be daunting for the private rating agencies to replicate.

Recognition of the complex relationship between the economy and ecology would be a strategy for creating something bold, forward-looking, and innovative. Paying close attention to the industrial configurations and how they interact with botanical regions will provide a clearer picture of how well productive activities are supported by climate conditions. Rating agencies are concerned with industries only so far as they may facilitate cyclical behavior or shocks. They also do not distinguish between productive and non-productive activities or the importance of legal form of organizations within the industries.

A bold approach is possible due to the access the MCRA has to the wealth of information and research generated by the various programs, agencies and funds housed within the United Nations. This approach enhances it support for the United Nations' Sustainable Development Goals. Sustainable development involves understanding how societies can reproduce themselves in ways that improve opportunities and living conditions during an ecological transition climate change. MCRA's clarification of the links between economy and ecology via industrial configuration will reveal how communities relate to their current systems of social reproduction, and how those systems are underperforming. The knowledge and data generated by the MCRA would facilitate the implementation of SDGs.

Another challenge will be to convince national governments to incorporate MCRA improvements and assessments into regulations and guidelines. To do this requires a track record of assessments of sovereigns which are at least as discerning as those of the rating agencies. It is important that the MCRA hits the ground running, so to speak, with validation studies that facilitate an improved methods of sovereign credit risk assessment. If it can make improvements to sovereign assessments, it could conceivably be able to evaluate the interactions between sovereigns and other instruments such as corporate bonds.

The MCRA could target NRSRO status from the U.S. government. This would facilitate use of its innovations for regulatory purposes. An application for NRSRO status includes a track record ("performance measurement statistics") of its methods, as well as the class of ratings, a statement of accessibility, policies to prevent misuse of non-public information, organization structure, code of ethics, and conflicts of interests related to its issue of credit ratings, pertinent information about its analysts, including their remuneration, and compliance officers, users of its ratings and sources of revenue. It can file additional forms if the MCRA expands to add classes of ratings. (SEC n.d.).

Having NRSRO does not protect the rating agencies from liability on blown calls? How would an MCRA be different? Firms in the rating industry create and sell financial information to professional investors. That is, ratings are a form of commercial speech, and not necessarily free speech. Credit rating agencies do not readily publish their opinions to the public at large. Their opinions are available to a particular group of investors, and, as such, are private. They do not constitute a matter of public concern, and freedom of speech immunity does not apply (Gaillard and Waibel, 2018). The opinions of the MCRA are of public concern as they would be disseminated widely, it would not have conflict of interest in providing opinions and would be mindful of maintaining quality in the construction of its opinions (ibid). Its statements would be made to the global public at large, and not restricted to a particular group of individuals (investors).

Of course, funding will be a challenge. Funding of a MCRA could be initiated through institutional donations from the UN, sovereigns, and central banks. The challenge will be to shift away from donations towards a self-funding state. However, the experience of Bertelsmann's INCRA may prove valuable. The Bertelsmann foundation proposed the creation of an international non-profit credit rating agency (INCRA) in 2012. The idea was to improve ratings accuracy by reducing the influence of conflict of interest in the issuer-pays model. The issuer-pays model was to be replaced with an endowment funded by governments,

non-governmental organizations, civil society foundations and financial services industries. Sufficient funds could not be gathered, let alone be maintained. A key problem was the ratings were not distinctive enough with those of the three main rating agencies, which had tremendous history and global reach.[5]

The key to funding is to create a body of work that could be used as the basis for a subscription service. While the MCRA would dissemination information about its research to the public realm, its own assessments, and outlooks on an annual and quarterly basis as part of a subscription service. The data could be released with a time lag to researchers and community members. The subscriptions would be of helpful to stakeholders —such as insurance and assurance companies, banks, pension funds, mutual funds— who purchase sovereign bonds assets for their portfolios and/or as part of their capital requirements.

What will influence cost is location and competition for staff. Cost of living is more forgivable if the MCRA is in a major city which is not a major financial centre. The major financial centres of London, New York, Tokyo, Shanghai, Hong Kong, and Singapore are frequently noted for high costs of living (Mercer 2021).

Triggers are another challenge. A change in a sovereign's fiscal position and ability to service its debt commitments may trigger shifts in portfolio and instability on financial markets. While the MCRA could press for moratoriums on negative outlooks and rating downgrades, investors will come to view a moratorium as another form of a default. As such, a moratorium cannot occur in isolation from a plan for how to adjust to the challenges being posed to the sovereign. This would not only maintain investor confidence but also keep distressed debt from falling prey to vulture funds. One possible strategy is for some international entity or consortium of organizations to buy distressed debt on secondary markets. This would seem to be the most expedient route as anti-vulture legislation has been introduced by few countries (UK and Belgium), and an international bankruptcy mechanism may be years away (Brutti, 2020 and UN, 2018). It is conceivable that the MCRA could house such a fund and work with distressed sovereigns to implement sustainability development goals to stimulate growth and development. A small fraction of debt service payments contracted to creditors could be financed from the fund. Even better would be to locate untapped sources of tax revenue to service and retire sovereign debt.

This leads to yet another challenge: to support innovative ways to service government debt. Debt forgiveness and restructuring may lighten the burden, but the burden remains for generations. Raising income taxes is a possibility, but they will ultimately burden firms and workers. The time has come change the game on how sovereign debt sustainability is achieved. A wealth tax based upon gross private assets has potential, and an initial estimate was provided in Schroeder (2021). The tax is defined as a rate on private gross assets which equated with interest rate on national debt. The tax generates the revenue to cover net interest obligations on the national debt. Sustainability is linked to tax on wealth, as opposed to a tax on income. The tax is equitable in the sense that everyone's assets are subject to the tax, with possible exemptions for the poor, owner-occupied dwellings (under a certain threshold), small business owners and tradespersons. It is important that a wealth tax be equitable to avoid distorting investment and consumption decisions. How big would it be?

Due to data availability, the United States will be used as an example. At the end of 2020, the national debt for the United States was US$26.95 trillion. The size of gross private assets is US$322.2 trillion.[6] With respect to the interest rate, the Congressional Budget Office (2020) notes the highest interest rate in a 10-year forecast period is 3.15%; we use this as the worst-case scenario. With this information, the wealth tax is 0.263%. When applied to private assets it yields revenue of US$847.4 billion. Net interest outlay is projected to be US$345 billion, which leaves US$502.4 billion left over. That money could be used to reduce reliance on new borrowing in plans for fiscal spending and keep austerity at bay. Over a 10-year period, it will generate nearly $10 trillion in revenue. This is enough to cover the net interest outlays in the forecast period, about $4 trillion, and leave nearly $6 trillion as a surplus to reduce reliance on new borrowing, fund green

[5] While the INCRA did not survive it left in its wake the Bertelsmann transformation indicator and sustainable governance indicators.

[6] $137.8 trillion for households, $21.9 trillion for non-financial, non-corporate firms, $47.2 trillion for non-financial corporate firms, $115.4 trillion for the domestic financial sector, as per the FRED databank at the St. Louis Federal Reserve.

initiatives associated with a Green New Deal and reinforce the social safety net. The reduction in reliance on new borrowing can slow, if not reverse, the debt to GDP ratio, by slowing the growth of the numerator.

A key point is if a sovereign finds itself in difficulty for completing debt commitments it simply raises the tax temporarily to generate the funds and returns the tax to its original rate after the period of stress has subsided. The approach can could be adapted to cases where there are negative interest rates to cases where sovereign debt is denominated in foreign currencies by converting foreign currency denominated national debt into a domestic currency estimate to cases where general government debt is used in place of sovereign debt, and to cases where gross financing needs rather than net interest outlays need to be covered. The tax not only releases fiscal budgets from the threat of austerity, but also enables governments to spend much more liberally on initiatives which strengthen social safety nets and enable green transitions. The mechanism has potential for developing and emerging countries, particularly in Latin America and the Caribbean, which recently experienced downgrades to reverse the situation while thwarting the threat of austerity once and for all.

Degrees of sovereign creditworthiness come down to how much tax revenue can be generated by a wealth tax more than net interest outlays. A rating system could be constructed to capture variations in creditworthiness or debt sustainability through the margins of safety defined as estimated tax revenue and forecasted net interest outlays. For instance, an "A" rating is awarded for tax revenues that are 20% + in excess of net interest outlays; "B" for 11–20% of outlays; C for 5-10% of outlays; D for < 0% of net interest outlays. Graduations could be developed according to government's effectiveness in managing the tax and ability to locate assets, changes in economic and financial conditions that prompt new expenditures and/or declining revenues.

A challenge for implementing a wealth tax is the accuracy of data on assets. What is available is likely to be underreported because of the use of tax havens by high wealth holders; Saez and Zucman (2020), for instance, have documented the extent of tax havens and opportunities to improve data on assets. Obtaining data is not insurmountable. It is in the wealth holders' benefit to be forthcoming on assets because more complete information will lower the tax. The United States has already begun a process of locating overseas wealth. In 2010 it enacted the Foreign Account Tax Compliance Act which implemented an automatic exchange of data between foreign banks and the Internal Revenue Service. Other countries have followed suit. Possibly, those efforts could be reinforced with a sub-division within the MCRA that facilitates this process.

Regulatory capture is yet another challenge for the MCRA. Regulatory capture is the result or process by which regulation, in law or application, is consistently or repeatedly directed away from the public interest and towards the interests of the regulated industry. In our context, it is concern that the rating agencies will exert control over the MCRA. The MCRA may not be able to directly regulate the industry, although it may be able to coordinate moratoriums on ratings downgrades.

Regulatory capture exists in degrees, from weak to strong to corrosive. Weak regulatory capture is influence exerted by the regulated industry or special interest in a way that does not influence heathy regulatory functioning (Carpenter and Moss 2014: 12). With respect to the MCRA, it is the influence by ratings agencies in a way that the MCRA's functions are not compromised. The agencies may seek to be informed about the developments and research outcomes of the MCRA. It is possible the insights gleaned by the MCRA teams could be incorporated into the methods of the agencies. As an entity of the United Nations system the MCRA cannot stop this from occurring.

However, a structure, like the one outlined above, is so unique that while the rating agencies may be able to adapt insights, they cannot replicate the outcomes entirely. The basis —a systematic treatment of industrial configurations, distinction between productive and non-productive activities, nested within respective botanical regions, and supported by teams of specialists (within and outside the UN) would be very distinctive and costly to replicate. Even if they could replicate it, they would be hard-pressed to locate the intellectual expertise to competitively complete with the MCRA's research and projects.

Strong regulatory capture pertains to an industry or special interest that interferes with the functioning of regulation (here, the MCRA), rendering it useless for purposes for which it was designed. That is, the benefits of regulation are less than the costs of capture. The difference between strong regulatory capture and corrosive regulatory capture is that strong regulatory capture involves an intention to seek rents by shaping the regulation in its interests, whereas corrosive capture involves deregulation or thwarting new regulations (without public support for deregulation). With respect to the MCRA, there is a risk that rating industry could shadow the MCRA, allowing the private agencies to locate opportunities for credit risk assessment of sovereigns for which they currently do not cover. It would seem to be a way to erode the role for the MCRA for gain. This would be strong regulatory capture. Corrosive regulatory capture is unlikely, as the MCRA, technically, does not regulate the industry. The UN is oriented to promote cooperation, uncooperative behavior on the part of private rating agencies is not in their or the UN's interests. In these instances, the MCRA would likely have an advantage in rendering assistance since it would come as part of the UN's promotion of programs associated with sustainable development goals. Many of the stakeholders would be receptive to what an independent agency would generate in terms of improvements.

What could the MCRA do further to thwart regulatory capture or influence by the agencies? The MCRA's division structure and its engagement with multiple (stakeholders) satisfies one of the criteria that Carpenter and Moss (2014) suggest for avoiding regulatory capture. Other criteria include empowering diffuse interests, employing experts with diverse and independent opinions, locating devil's advocates, and involving the press. The expertise embodied in the MCRA's labor force and engagement with external interests will provide a stimulating working environment and a means to avoid shaping its viewpoints on, for instance, research design and methodology. Devil's advocates could come in the form of soliciting the opinions of private rating agencies (major and minor) during workshops and seminars. The agencies ought not to be part of the MCRA's advisory committee. While they have a role just as any entity who has a stake in the efforts of the Agency, they are welcome during public events but need to be kept at arm's length on day-to-day activities and management.

Before we leave regulatory capture, cultural capture needs to be mentioned. Cultural capture is a form of indirect capture where nonrational influence can occur during human interactions. Such interactions will likely occur with engagement with the rating agencies at workshops and seminars. In-house staff may be convinced to change tactics and approaches after such interactions. The changes may ultimately benefit the agencies at the expense of the MCRA. Another way cultural can occur is through revolving doors of employment opportunities. Employees of the MCRA may wish to migrate to the private rating agencies, and vice versa. The advice here is to limit this type of migration by establishing a mandatory time between migration (2-3 years) after resigning from the MCRA to ensure sensitive knowledge of the MCRA is not transferred to the agencies. Migration into a sovereign or another U.N. programme/fund/agency might be more suitable for career advancement.

A final aspect to consider is how the MCRA relates to other multilateral agencies and the rating agencies, themselves. The activities of the MCRA could be viewed as complimentary to IMF's and World Bank's efforts on public debt sustainability. Both work jointly on the debt sustainability framework to assist low-income countries to mobilize financing and evaluate their debt loads so as not to allow them to become excessive (IMF, 2021c). As noted above, the IMF is keen to improve its ability to predict sovereign defaults. It also publishes the Fiscal Monitor, which is part of its surveillance of fiscal developments and provide medium-term fiscal projections. The MCRA is interested to improve sovereign credit risk assessment, not projections. While being mindful of advances being made by the IMF, the MCRA is more attuned to monitoring for vulnerabilities. While this seems to overlap with the IMF and World Bank's efforts, its unique methods and organization will generate insights that are distinctive. Its distinctiveness gives it an edge, enabling it to survive and contribute to debates and innovative sustainable development programs. It may be possible to require national governments to obtain two assessments for their issues —one private and one by the MCRA— to promote complementarity.

D. Conclusion and policy discussion

The rationale for an MCRA is to promote the global public good of economic and financial stability. These, in turn, will promote political and social stability. Sovereign risk exposures are an integral part of our financial systems, monetary and fiscal policies. They serve as assets in portfolios and as part of capital requirements. They also serve as benchmarks for other types of funding associated with production of new wealth. The rating industry arose in the context of sovereign risk evaluation because there was no independent third party to perform the task. Sovereigns cannot evaluate their own creditworthiness. The task was effectively outsourced to the market. While multilateral agencies such as the IMF and World are concerned about fiscal and sovereign debt sustainability, they do not provide ratings that are used to discern creditworthiness for use by investors.

The use of NRSROs' opinions to discern between investment from non-investment grade issues endows them, in a sense, with pseudo-regulatory presence. There is tension in that regulations and supervisory frameworks are intended to promote the public good of stability. Rating agencies generate financial information targeted to a particular investor audience, for profit; the speech is commercial speech, intended to enhance profit and not necessarily the public good. The MCRA would be generating financial information to parallel the opinions of the rating agencies, but with a different focus —the public good. The information is created according to best practice and good intent for that purpose and is disseminated to the public to inform; the information constitutes free speech.

Rating agencies have developed their methods to facilitate the comparability of assessments of sovereign risk across countries. The methods are constructed for use by professional investors. At present, the timeframe preferred by investors (3-5 years) is not consistent the stage of development of emerging market and developing countries. To force assessment of credit risk for sovereigns of these countries into a 3- to 5-year a time horizon renders their assessments more sensitive to shocks, particularly those transmitted from overseas. Time horizons needs to be lengthened to reflect the strong influence of infrastructure development.

Longer time horizons would render sovereign risk assessments more resilient and stable in the face of instability. Increased accuracy and stability of assessments of EMDEs will clarify their funding needs. SDGs will be better targeted and adequately funded. The increased accuracy and stability of assessments will also benefit investors by enhancing their ability to make robust investment decisions. There will be investors who may not be interested in investments with long time horizons. A dedicated assessment/rating system for EMDEs would direct these investors elsewhere.

Stabilizing the ratings of EMDE sovereigns would also be helpful for thwarting the predatory activity of vulture funds. Vulture funds purchase distressed debt at low prices with the intention of using legal structure to thwart restructuring and litigate forced payment for a short-term, speculative gain. The gain comes at the expense of the public good (economic and financial stability) which a sovereign is supposed to protect and support. Moreover, the delaying a restructuring may increase its cost (UNCTAD, 2016; Bradlow, 2020; Brutti, 2020).

The MCRA may be deemed with the power to enact moratoriums when downgrades are immanent. However, they cannot be enacted without support to allay investors' concerns and keep them holding the debt instruments. Debt forgiveness and haircuts in combination with debt restructurings are ways to allay concern. Another possibility is the creation of a fund to buy distressed debt and give the sovereigns the opportunity to return to a healthier position before addressing their debt burdens. The MCRA could coordinate such a fund.

Besides stability of assessments and ratings, the MCRA needs to be bold in locating new solutions for debt sustainability. A promising solution is a wealth tax on private, gross assets. The tax is likely to be very modest and can be adapted for contexts where sovereign debt is denominated in multiple currencies and where negative interest rate exists. It can also be adjusted quickly, and temporarily, to obtain additional funds when needed. There are challenges here in terms of locating where assets are and pushing through legislation to enact it. However, it is politically feasible if it is designed to be equitable, with allowances for the poor, equipment of tradesmen, and homeowners.

Stability and sustainability need to be conducted in the contexts of climate change, inequality and financialization. An MCRA would entail multidisciplinary approaches involving economic geographers, visual/graphic artists to record how industries are dispersed over a landscape and where communities are located, sociologists and anthropologists to understand the cultures of social provisioning within and between communities. Political economists are needed to understand the interplay between political structures and policy and the ability of an economy to socially provide goods and services for its constituents.

The MCRA's approach is envisioned to incorporate industrial configuration more explicitly. This will reveal a host of opportunities for not only improving sovereign credit risk assessment, but target funding for funding of SDGs. Observing the relationships between industries and geographical regions can yield important insights on how climate change affects each society's ability to reproduce itself and how industrial configuration may need to adjust to support communities in more sustainable ways.

Industrial configuration is important as not all industries are productive in the sense that they produce new goods and services which add to a countries wealth. Some industries are non-productive. That is, they do not produce goods and services which directly add to wealth but enhance the efficiency of the market activities by facilitating the sale the products, transferring ownership and titles, locating resource for future activities, distribute products, etc. The greater proportion of non-productive activities the less resilient an economy is to shocks, that is, the higher development of fragility in the system.

Orienting the MCRA to allow more detailed analysis of industrial configuration paves the way for re-orienting industrial policy. Industrial policy became implicit in the neoliberal era when free markets were relied upon to determine market structure and industrial development. There is a resurgence of interest in industrial policy. As per Noman and Stiglitz (2017), "industrial policy refers to public policy measures aimed at influencing the allocation and accumulation of resources, and the choice of technologies. A particularly important set of industrial policies, ..., comprises those targeted at activities that promote learning and technological upgrading." One could read into this definition that climate change has an underlying presence to influence allocation and accumulation of resources, with the support of technology. One could just as easily not read that into the definition.

The MCRA will render explicit what is implicit. It will unlock how industries influence the ability of societies to reproduce themselves. It will glean information on what communities need, what could be done better and how they can be made more self-sufficient. The MCRA's organization engages the environment and climate change directly. By doing so, it will garner insights into how climate change impacts the primary activities that generate new wealth or goods and services. What are the speeds at which industries are deteriorating? Is something about to collapse? How could national governments support it? Could sustainable development programs assist their efforts? How are tax revenues impacted by climate change's influence on industrial configuration and, by implication, employment? How is sovereign risk changing?

The MCRA's orientation is forward-looking. Industrial policy needs to be different during an ecological transition. Sustainable development programs will be invaluable. An MCRA will be strategic tool for facilitating their design and funding needs. It can accomplish this, in part, by exploiting a key weakness in how activities and industries are treated in assessment methodologies. They are not alike in their roles for social provisioning.

Besides the invaluable services of performing due diligence, locating areas to improve credit risk assessment of sovereigns, and supporting SDGs the MCRA can be bold and recognize another elephant in the room —severe wealth inequality— and finds ways to exploit it for the social good. For some time, the focus for alleviating heavy debt burdens has been on changing the terms of debt (maturity, financing costs and structure) and finding ways to increase taxes on income (wages, profit) to service debt obligations. The time has come for a wealth tax to promote sustainability of national debts. The wealth tax presented above is just one possibility. In whatever form, the MCRA could be an important advocate for changing the game.

Bibliography

Amicus Advisory (2020), Lehman Australia files Lawsuit Against Fitch Ratings Agency over CDOs. 5 January, available at https://www.amicusadvisory.com.au/lehman-australia-files-lawsuit-against-fitch-ratings-agency-over-cdos/.

Assa, Jacob (2017), *Financialization of GDP: Implications for economic theory and policy*. New York and London: Routledge.

Atlas Magazine (2021), Sovereign ratings during the Covid-19 period. April 2021. Available at: https://www.atlas-mag.net/en/article/sovereign-ratings-during-the-covid-19-period.

Bank for International Settlements (BIS) (2017), The regulatory treatment of Sovereign Exposures. Basel Committee on Banking Supervision. BIS Discussion Paper, December 2017.

Boissay, Frederick, Nikhil Patel, and Hyun Song Shin (2020), Trade credit, Trade Finance, and the Covid-19 Crisis. BIS Bulletin No. 24, June 19. Bank for International Settlements, Basel, Switzerland.

Bouchet, Michel, Charles Fishkin and Amaury Goguel (2018), *Managing Country Risk in an Age of Globalization: A Practical Guide to Overcoming Challenges in a Complex World.* Cham, Switzerland: Palgrave Macmillan.

Bradlow, Daniel (2020), Deterring Debt Vultures in Africa. Commentary, Project-Syndicate.org, May 20. Available at: https://www.project-syndicate.org/commentary/new-fund-can-deter-africa-sovereign-debt-vultures-by-daniel-d-bradlow-2020-05?barrier=accesspaylog.

Brummit, Richard (2001), World Geographic Scheme for Recording Plant Distributions, edition 2. International Working Group on Taxonomic Databases for Plant Sciences. Carnegie Mellon University, Pittsburgh: The Hunt Institute for Botanical Documentation.

Brutti, Daniel J. (2020), Sovereign Debt Crises and Vulture Hedge Funds: Issues and Policy Solutions. Boston College Law Review, 61(5): 1819 – 1854.

Business Standard (2021), Economic Survey FY21 slams 'biased' sovereign credit ratings, January 29. New Delhi, India.

Carpenter, Daniel, and David Moss (2014), *Preventing Regulatory Capture: How Special Interest Influence and How to Limit It*. Eds. Daniel Carpenter and David Moss. New York and Cambridge, UK: Cambridge University Press.

Congressional Budget Office (2020), Federal Net Interest Costs, A Primer. 20 December, Washington, DC: CBO.

Darbellay, Aline (2013), *Regulating Credit Rating Agencies*. Cheltenham, England and Northhampton, Massachusetts (USA): Edward Elgar Press.

Doyal, Len and Ian Gough (1991), *A Theory of Human Need*. London: The Macmillan Press.

Fitch (2021a), Rating Definitions. FitchRatings. Available at: fitchratings.com.

_____(2021b), Sovereign Rating Criteria: Master Criteria. Global Sovereigns, FitchRatings. Available at: fitchratings.com.

Fuchs, Andreas and Kai Gehring (2017), The Home Bias in Sovereign Ratings. *Journal of European Economic Association*, 15(6): 1386-1423.

Gaillard, Norbert and Michael Waibel (2018), The Icarus Syndrome: How Credit Rating Agencies Lost Their Quasi-Immunity. *SMU Law Review*, 71(4): 1077-1116.

Gough, Ian (2017), *Heat, Greed and Human Need: Climate Change, Capitalism and Sustainable Wellbeing*. Cheltenham, UK: Edward Elgar.

Griffith-Jones, Stephany and Moritz Kraemer (2021), Credit Rating Agencies and Developing Economics. DESA Policy Note, United Nations Department of Economic and Social Affairs.

International Monetary Fund (IMF) (2021a), Fiscal Monitor Update, April 2021. IMF Fiscal Monitor Reports. Washington, DC: International Monetary Fund.

_____(2021b), Review of the Debt Sustainability Framework. IMF Policy Paper, January 21. Washington, DC: International Monetary Fund.

_____(2021c), Joint World Bank-IMF Debt Sustainability Framework for Low-Income Countries: Factsheet, March 17. International Monetary Fund, Washington DC.

Ioannou, Stefanos, Dariusz Wojcik, Vladimir Pazitka (2021), Financial Centre Bias in Sub-Sovereign Credit Ratings. *Journal of International Financial Markets, Institutions and Money*, 70: 101261–101279.

Jones, Marc (2021a), Covid has caused rich-poor split in sovereign ratings cuts, study says. Reuters Business News, March 18. Available at https://www.reuters.com/article/us-ratings-sovereign/covid-19-has-caused-rich-poor-split-in-sovereign-rating-cuts-study-shows-idUKKBN2B92OY.

_____(2021b), Climate and ESG risks hurting 60% of developing countries' ratings – Moody's. Reuters Business News, January 19. Available at: https://www.reuters.com/article/ratings-sovereign-esg-moodys-idUSL1N2JT0XW.

Langohr, Herwig and Patricia Langohr (2008), *The Rating Agencies and Their Credit Ratings: What They Are, How They Work, and Why They are Relevant.* Chichester, West Sussex, England: John Wiley & Sons Ltd.

Linnell, Ian (2021), Remarks for Bond Rating Agencies: Examining the "Nationally Recognized" Statistical Rating Organizations, U.S. Subcommittee on Investor Protection, Entrepreneurship and Capital Markets, House Committee on Financial Services, Washington, DC July 21.

Luitel, Prabesh, Rosanne Vanpee, and Lieven De Moor (2016), Pernicious Effects: How Credit Rating Agencies Disadvantage Emerging Markets. *Research in International Business and Finance*, 38: 286 – 298.

Malik, Khyati (2014), Is Competition the Right Answer? A Case of Credit Rating Agencies. The Public Sphere: Journal of Public Policy, 2(1): 57 – 71.

Mercer (2021), Organizations revamp mobility programs with alternative forms of international assignments and a focus on employee well-being. Mercer Cost of Living Survey. Available at: Cost of Living 2020 Ranking | Mercer.

Moody's (2019), Rating Methodology: Sovereign Bond Ratings. Moody's Investors Service. Available at moodys.com.

Moody's (2021), Rating Symbols and Definitions. Moody's Investors Service. Available at: moodys.com.

Noman, Akbar, and Joseph Stiglitz (2017), *Efficiency, Finance and Varieties of Industrial Policy: Guiding Resources, Learning, and Resources for Sustained Growth.* New York: Columbia University Press.

O'Neill, L.C. (1999), Building the New Global Framework for Risk Analysis, Remarks to Professional Bankers' Association at World Bank headquarters in Washington, D.C., March 26, 1–5.

Piketty, Thomas (2014), *Capital in the Twenty-First Century*. Cambridge, Massachusetts and London, England: Harvard University Press.

Saez, Emmanuel and Gabriel Zucman (2020), *The Triumph of Injustice: How the Rich Dodge Taxes and How to Make Them Pay.* New York: W.W. Norton.

Schroeder, Susan (2021), A Kaleckian wealth tax to support a Green New Deal. *Economic and Labour Relations Review*, 32(2): 190 – 208.

_____(2015), *Public Credit Rating Agencies: Increasing Capital Investment and Lending Stability in Volatile Markets.* New York, NY: Palgrave Macmillan.

Securities and Exchange Commission (SEC) (2020a), Annual Report on Nationally Recognised Statistical Rating Organisations, December. U.S. Securities and Exchange Commission, Washington, DC.

_____(2020b), Credit Ratings, Procyclicality and Related Financial Stability Issues: Select Observations. Covid-19 Market Monitoring Group, U.S. Securities and Exchange Commission Public Statement, July 15. U.S. Securities and Exchange Commission, Washington DC.

_____(n.d.), Application for Registration as Nationally Recognized Statistical Rating Organization. Form NRSRO. Available at SEC.gov.

Shaikh, Anwar, and Ahmet Tonak (1994), *Measuring the Wealth of Nations: The Political Economy of the National Income Accounts.* New York and Cambridge, UK: Cambridge University Press.

Standard & Poor's (S&P) (2021), S&P Global Ratings Definitions. Standard and Poor's Ratings Services. Available at: standardandpoors.com.

_____(2017), Sovereign Rating Methodology. Standard and Poor's Ratings Services. Available at: standardandpoors.com.

United Nations Conference on Trade and Development (UNCTAD) (2016), Vulture Funds in Action: Economic and Social Impact. Background note for Sovereign Debt Restructurings: Lessons Learned from Legislative Steps taken by certain countries and other appropriate action to reduce the vulnerability of sovereigns to holdout by creditors. Side-event of the Second Committee of UNGA, 26 October. United Nations Headquarters, New York.

Van Gestel, Tony, and Bart Baesens. (2009), *Credit Risk Management*. Oxford and New York: Oxford University Press.

Vishwanatha, Aruna and Karen Freifeld (2015), S&P Reaches $1.5 billion deal with U.S., States over crisis-era ratings. Reuters, 5 February.

Volz, Ulrich, Shamshad Akhtar, Kevin Gallagher, Stephany Griffith-Jones, Jorg Haas, and Moritz Kraemer (2021), Debt Relief for a Green and Inclusive Recovery: Securing Private-Sector Participation and Creating Policy Space for Sustainable Development. Berlin, London, and Boston, MA: Heinrich-Böll-Stiftung; SOAS, University of London; and Boston University.

Westbrook, Tom (2018), S&P Settles a Landmark Lawsuit over its Role in the GFC. *Sydney Morning Herald*, 10 August.

Annex VI.A1

Region 1: Europe
- *Northern*
- *Middle*
- *Southwest*
- *Southeast*
- *Eastern*

Region 2: Africa
- *Northern*
- *Macaronesia*
- *West Tropical*
- *West-Central Tropical*
- *Northeast Tropical*
- *East Tropical*
- *South Tropical*
- *Southern Africa*
- *Middle Atlantic*
- *Western Indian Ocean*

Region 3: Asia-Temperate
- *Siberia*
- *Far East Russia*
- *Middle Asia*
- *Caucasus*
- *Western Asia*
- *Arabian Peninsula*
- *China*
- *Mongolia*
- *Eastern Asia*

Region 4: Asia-Tropical
- *Indian subcontinent*
- *Indo-China*
- *Malesia*
- *Papuasia*

Region 5: Australasia
- *Australia*
- *New Zealand*

Region 6: Pacific
- *Southwestern*
- *South-central*
- *Northwest*
- *North-central*

Region 7: Northern America
- *Subarctic America*
- *Canada*
- *Mexico*
- *The United States*

Region 8: Southern America
- *Central America*
- *Caribbean:*
- *Northern South America*
- *Western South America*
- *Brazil*
- *Southern South America*

Region 9: Antarctica
- *Subantarctic islands,*
- *Antarctic continent*

Source: Brummit (2001); The Hunt Institute indicates an update is immanent.