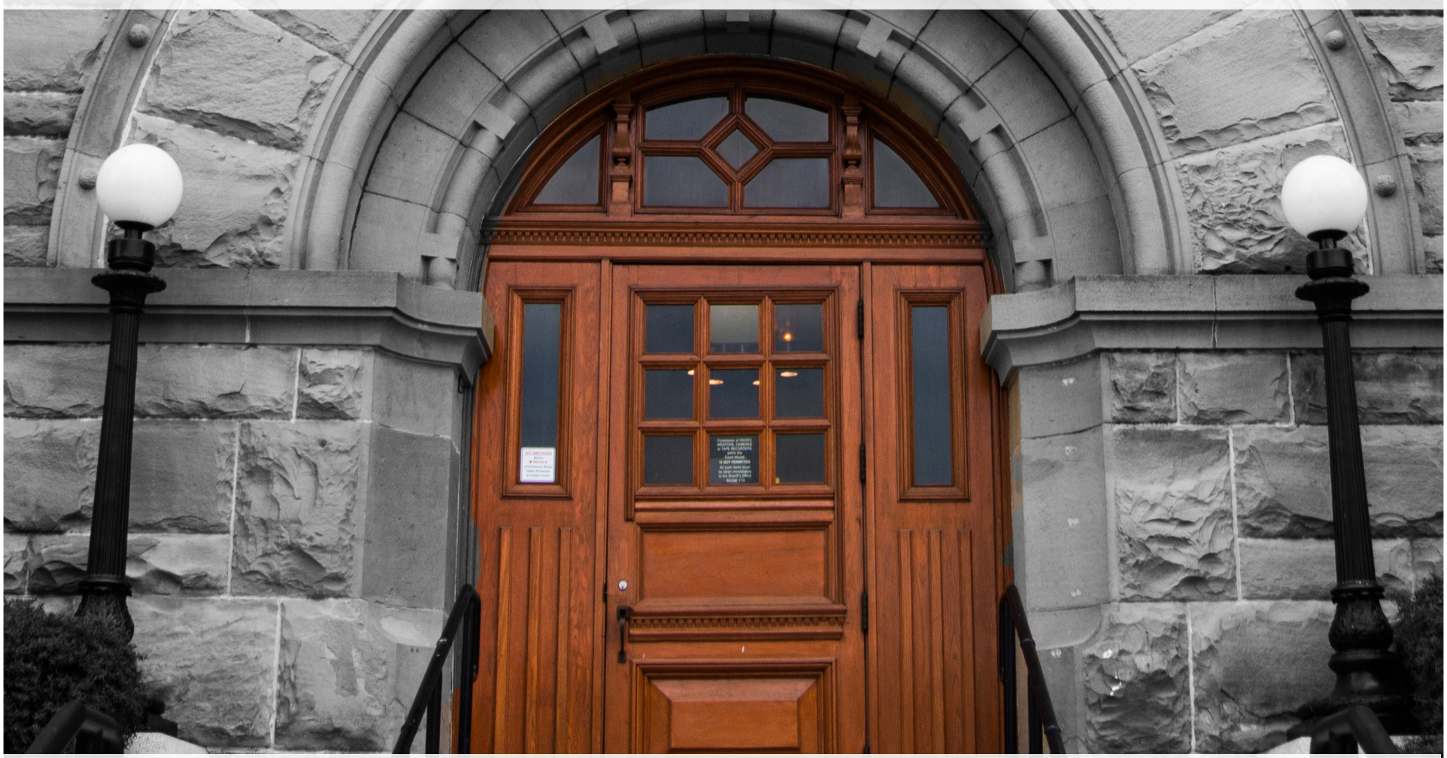
RESEARCH PAPER

ESG Sovereign Analysis

- *Despite sovereign bonds accounting for trillions in assets globally, there is less ESG data available in this segment compared to corporate bonds and equities.*
- *The effects of climate change could have huge implications for a country's debt levels, sovereign bond valuations and credit ratings.*
- *Calculating the carbon footprint of investments can be particularly challenging, and metrics for measuring corporate debt such as revenue or enterprise value are not as applicable for sovereigns.*
- *Beutel Goodman uses its own proprietary sovereign ESG framework to assess sovereigns, local authorities, government agencies and other sovereign-related debt issuers.*



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Sovereign bonds are one of the largest asset classes globally. Total sovereign debt, according to the Organisation for Economic Co-operation and Development (OECD), reached US$66 trillion at the end of 2023,[1] while bonds issued by sovereign governments, government agencies, local authorities and supranationals make up approximately 66% of the Bloomberg Global Aggregate Index. Despite its importance to the global bond market, there are distinct challenges when it comes to conducting ESG analysis on these investments, including availability, comparability and usefulness of data; a lack of access to decision makers at these issuers can also limit engagement on sovereign ESG policies. This has meant that ESG analysis for sovereigns generally lags that of corporate bond and equity issuers.

ESG Matters for Sovereigns

Sovereigns face a unique set of material risks in ESG that could impact the long-term financial sustainability of an investment. Factors such as climate resiliency spending (preventive) and relief spending (reactive to a climate event) are likely to increase a country's debt levels, which may impact its debt burdens, valuations and credit ratings; the ultimate negative impact for a sovereign bondholder is a sovereign default. A study of 23 OECD countries from 2007 to 2012 found that countries with higher ESG ratings traded at lower bond spreads relative to their lower-rated peers.[2] While sovereigns can default on debt payments for different reasons, specific ESG risks such as political instability can have a major impact. For example, a scenario where civil unrest prevents a government from implementing austerity measures, thereby leaving the state incapable of paying its debts.

Physical and transition risk are also important ESG factors for sovereigns. By 2050, if global warming does not stay well below 2°C, it is estimated that up to 4.4% of the world's GDP could be lost annually. The data also shows geographic disparities, with emerging markets facing a larger share of potential damage related to physical risk.[3] Approximately 3.3 billion to 3.6 billion people live in areas that are highly vulnerable to climate change.[4] The rising number of extreme weather and climate events have also exposed millions of people to acute food insecurity and reduced water security.

Case Study: Russia

A study by Bloomberg released just after Russia invaded Ukraine in February 2022 found that ESG-focused funds held US$40 billion in Russian sovereign debt.[5] This is notable as prior to the invasion, Russia would have been flagged for material ESG risks for its rule of law and political

[1]OECD (2024), Global Debt Report 2024: Bond Markets in a High-Debt Environment, OECD Publishing, Paris, https://doi.org/10.1787/91844ea2-en.
[2]Crifo P, Diaye MA, Oueghlissi R. "Measuring the effect of government ESG performance on sovereign borrowing cost." 2015.
[3]"Lost GDP: Potential Impacts of Physical Climate Risks" S&P Global, November 27, 2023.
[4]IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.
[5]Schwartzkopf, Frances "ESG Funds Get Brutal Wake-up Call on Russian Bond Holdings" Bloomberg, March 2022.

stability; in fact, it ranked near the bottom of the Institute for Economics and Peace's Global Peace Index.[6] All three major global credit rating agencies subsequently withdrew their credit ratings on Russian debt after sanctions were imposed against the country. The Russian government also threatened to repay its foreign currency debt not in the currency in which it was issued, but in rubles. This example highlights the importance of robust ESG analysis on sovereign debt as ESG risks are not limited to corporate issuers.

Metrics

One of the more significant challenges in sovereign ESG analysis is calculating the carbon footprint of investments. Corporate emissions are generally calculated using revenue or enterprise value. We find that neither of those two factors adequately captures the carbon footprint of a sovereign, since government revenue is not as straightforward and cross-comparable as corporate revenue and governments do not have equity with which to calculate an enterprise value. Therefore, in our view, sovereign emissions should be reported separately to corporate emissions in a portfolio since they cannot be expressed as a per revenue or per enterprise value including cash (EVIC) basis.

There are many methods to base sovereign GHG emissions, such as per capita, per unit GDP and per unit of debt. Additionally, adjustments are needed to the definitions of Scope 1, 2 and 3 emissions to fit a sovereign's emission profile. Therefore, it is not possible to have one carbon footprint metric for a fixed income portfolio, it must be broken out as two measures — one for sovereigns and one for corporates.

It is important to note that if corporate methodology was applied to a sovereign, then a government would only be responsible for public sector emissions; arguably, it should be responsible for the emissions of the whole country. The Partnership for Carbon Accounting Financials (PCAF) recommends sovereign emissions to be classified as:

- Scope 1 Emissions: domestic GHG emissions from sources located within the country's territory, including emissions from exported goods and services;
- Scope 2 Emissions: GHG emissions occurring as a consequence of the domestic use of grid-supplied electricity, heat, steam and/or cooling that is imported from another territory; and
- Scope 3 Emissions: GHG emissions attributable to non-energy imports as a result of activities taking place within the country's territory.

Timeliness also seems to be an issue in conducting ESG analysis; for example, the latest emissions data available for Canada is for 2021. The Assessing Sovereign Climate-related Opportunities and Risks (ASCOR) project is attempting to remedy this issue, similar to what the Task Force for Climate-Related Disclosure has done on the corporate side. ASCOR is an investor-led project to develop a free, publicly available, independent tool that assesses countries on their progress in managing the low-carbon transition and the impacts of climate change. The framework has

[6] https://www.visionofhumanity.org/wp-content/uploads/2023/06/GPI-2023-Web.pdf

been developed in part by the Transition Pathway Initiative. ASCOR released its first version of its assessment tool in December 2023 and the initiative initially assessed 25 countries that represent approximately 70% of the world's GHG emissions. Based on the results, ASCOR noted three gaps:

1. A large emission gap due to a lack of ambition in countries' targets and trends;
2. An implementation gap with insufficient sectoral policies to meet their targets; and
3. An international climate finance gap, which high-income countries need to work towards closing.[7]

The results provide a basis for sovereign bond investors to engage with national issuers on climate risk.

Sustainable Finance

There is currently $1.89 trillion of sustainable finance bonds outstanding in the sovereign space globally; the majority of issuance is by government-related entities. Countries have issued $586 billion of labelled bonds, the majority of which are green bonds at 50%, followed by social at 30%, sustainable at 19% and sustainability-linked bonds (SLBs) at 1%. For more details on sustainable finance, please read our article: What Colour is my Bond. Of note, Uruguay and Chile have issued SLBs where the key performance indicators are linked to the countries' commitments to the Paris Agreement.

Beutel Goodman Engagement

Beutel Goodman favours an approach that incorporates diligent stewardship and influences positive change in the long-term value of our holdings by having a "seat at the table". Engagement on the sovereign side has traditionally been focused on meetings with federal and provincial departments of finance on fiscal policies. Engaging with sovereigns and local authorities on environmental and social policies and laws can be challenging, and investors need to be mindful of engaging without partaking in political lobbying or exerting political influence. Sovereign engagement can also be conducted through letters of support. For example, in September 2022, Beutel Goodman joined with other asset managers in submitting a joint response on "Canada's Options to Cap and Cut Oil and Gas Sector Greenhouse Gas Emissions to Achieve 2030 Goals and Net-Zero by 2050". We encouraged the Government of Canada to adopt practical and effective regulatory changes to incentivize emission-reduction innovation and implementation to further limit climate change, which would also reduce systemic risk in our portfolios. We also seek to engage with sovereigns and local authorities on their sustainable bond frameworks, where applicable.

Beutel Goodman Framework

Beutel Goodman has a proprietary sovereign ESG framework that it uses to assess sovereigns, local authorities, government agencies and other sovereign-related debt issuers using environmental, social and governance factors to help identify material risks. This framework is in addition to our process we use to analyse the credit metrics or creditworthiness of an issuer, and as such should be used and viewed concurrent to the bottom-up credit process of sovereign and related issuers. The framework is used not only for direct sovereign analysis but also for identifying material sovereign ESG risks in different countries where companies we analyze operate.

[7] "Countries' progress on managing climate change: The first ASCOR assessment results" July 2023, Transition Pathway Initiative

Exhibit 1: Material Sovereign ESG Themes.

Material Sovereign ESG Themes		
ENVIRONMENT	**SOCIAL**	**GOVERNANCE**
Climate Commitments	Working Conditions	Political Regime
Emissions Management	Human Rights	Rule of Law
Biodiversity	Indigenous Rights	War and Conflict
Energy Security	Poverty	Regulatory Environment
Resource Depletion and Deforestation	Affordable Housing	Bribery and Corruption
Renewable Power	Access to HealthCare	Freedom
Climate Adaptation	Education	
	Gender Equality	

Source: Beutel, Goodman & Company Ltd.

ESG performance among countries tends to reflect significant income disparities with developed market (DM) countries outperforming their emerging market (EM) peers, who in turn outperform frontier market (FM) countries. Therefore, meaningful analysis should be done within a country's relevant income cohort or income bias may incentivize capital flows toward only high-income countries. High-income, developed countries tend to have stronger institutions, greater equality and more prosperity, which are typically tied to better ESG scores. To overcome this, we believe that analysing a country's score relative to its peer group is ideal and allows for non-quantitative analysis and considerations to be incorporated. In deciding the peer group, we use the World Bank's income and geographic classifications.

We believe that rather than focusing on a particular point in time, using trends helps to better understand whether a country is working towards ESG improvements. Forward-looking assessments are also critical because the risks from climate change are expected to be more frequent and larger in the future than in the past. Within the constraints of the data that is available, we have made our framework as forward-looking as possible. We expect that as data becomes more uniform and accessible, we will adapt the framework accordingly.

As part of looking forward, we use indicators such as the Notre Dame Global Adaptation Initiative, Coastal Protection, and Sovereign Warming Potential, which look at how a country's actions align with the temperature scenarios from MSCI. Additionally, we compare sovereigns not just within their peer group, but also examine their historical progress by looking at current versus 1-year, 5-year and 10-year levels to assess progress of the metrics or the lack thereof.

Our objective in fixed income investing is to maximize portfolio returns while preserving capital. We believe our ability to reach this objective is hampered by investing in countries that are:

1. Democratically challenged;
2. Involved in armed conflict;
3. Militarized within its borders; and
4. Controlled by authoritarian regimes.

To assess these material risks, we look at several comprehensive and publicly available indices that are routinely updated. The following tables (Exhibits 2, 3 and 4) illustrate data that we use in our comprehensive sovereign database to track performance and trends.

Exhibit 2. Beutel Goodman's ESG Factors for Assessing Sovereigns.

Factor	Source
Energy Security	
Energy Consumption (per capita)	World Development Indicators - World Bank Database
Energy Imports	World Development Indicators - World Bank Database
Energy Productivity	World Development Indicators - World Bank Database
Energy Resource Depletion	World Development Indicators - World Bank Database
Fossil Fuel Energy Consumption	World Development Indicators - World Bank Database
Renewable Electricity Output	World Development Indicators - World Bank Database
Renewable Electricity Consumption	World Development Indicators - World Bank Database
Energy Resource Management Score	MSCI ESG Research
Energy Security Score	MSCI ESG Research
Transition Risk	
Paris Agreement Ratification Status	UNFCCC
Party to Basel Convention	MSCI ESG Research
Sovereign Warming Potential	MSCI ESG Research
Climate Protection Score	Germanwatch Climate Performance Index
Climate Protection Index Score	Germanwatch Climate Performance Index
Country GHG Intensity	MSCI ESG Research
Germanwatch Climate Performance Index	Germanwatch Climate Performance Rank
CO2 Emissions Final Domestic Demand	IEA, OECD
GHG Emissions (% of World Total)	World Development Indicators - World Bank Database, UNFCCC
GHG Emissions (Per Capita)	EU Emissions Database for Global Atmospheric Research

Factor	Source
Physical Risk	
Environmental Externalities and Vulnerability Risk Management Score	MSCI ESG Research
Environmental Externalities Score	MSCI ESG Research
Environmental Externalities and Vulnerability Risk Factor Score	MSCI ESG Research
Vulnerability to External Events Score	MSCI ESG Research
Environmental Performance Score	MSCI ESG Research
Management of Environmental Externalities Score	MSCI ESG Research
Heating Degree Days	World Development Indicators - World Bank Database
Heat Index 35oC	World Development Indicators - World Bank Database
Water Stress	World Development Indicators - World Bank Database
World Risk Index	UNFCCC
Notre Dame Global Adaptation Index	University of Notre Dame
Coastal Protection	World Development Indicators - World Bank Database, Ocean Health Index
Natural Resource Risk	
Agriculture and Forest Land	World Development Indicators - World Bank Database
Tree Cover Loss	World Development Indicators - World Bank Database
Forest Cover Change	World Development Indicators - World Bank Database
Natural Resource Risk Exposure Score	MSCI ESG Research
Natural Resource Risk Management Score	MSCI ESG Research
Mineral Resource Depletion Score	MSCI ESG Research
Resource Conversation Score	MSCI ESG Research
Water Resource Management Score	MSCI ESG Research

Source: Beutel, Goodman & Company Ltd.

Exhibit 3. Social Factors.

Factor	Source
Human Rights	Civil Liberties by Freedom House, The World Press Freedom Index
Access to Electricity	The World Bank Database
Access to Water	The World Bank Database
Access to Sanitation	The World Bank Database
Fertility Rate	The World Bank Database
Population Aged 65 and Above	The World Bank Database
Hospital Beds	The World Bank Database
Literacy Rate	World Development Indicators - World Bank Database
Female Labour Income Share	World Inequality Database
Unemployment Rate	The World Bank Database
Net Migration	The World Bank Database
Seats Held by Women in National Parliament	The World Bank Database
Gini Index	The World Bank Database

Source: Beutel, Goodman & Company Ltd.

Exhibit 4. Governance Factors.

Factor	Source
Democracy	Democracy Index (World Intelligence Unit)
Peace	Global Peace Index (Institute for Economics and Peace)
Money Laundering and Bribery	The Basel AML Index (Basel Institute on Governance)
Money Laundering and Bribery	United Nations Sanctions List
Freedom	Freedom House Index (Freedom House)
Political Rights	Freedom House
Political Stability	The World Bank
Voice and Accountability	The World Bank
Fiscal Policy	Open Budget Survey (International Budget Partnership)
Corruption Perceptions Index	Transparency International
Control of Corruption	The World Bank
Rule of Law	The World Bank
Regulatory Quality	The World Bank
Government Effectiveness	The World Bank

Source: Beutel, Goodman & Company Ltd.

Conclusion

Even though the sovereign sector lags corporates, incorporating sovereign ESG risks and opportunities into investment analysis is important as those holdings that typically make up a significant portion of fixed income portfolios. We will continue to monitor industry best practices to improve our framework and engagements with sovereigns and local authorities.

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