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Sovereign Environmental, Social, and Governance (ESG) Investing: Chasing Elusive Sustainability

Ekaterina Gratcheva (IMF) and Bryan Gurhy (IMF)

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WORKING PAPER

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Sovereign Environmental, Social, and Governance (ESG) Investing: Chasing Elusive Sustainability

Prepared by Ekaterina Gratcheva and Bryan Gurhy

Authorized for distribution by Fabio Natalucci and Prasad Ananthakrishnan
May 2024

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ABSTRACT: This paper evaluates the progression of the sovereign ESG landscape since the initial comprehensive assessment of the sector in 2021 in “Demystifying Sovereign ESG” by conducting a comparative analysis of the current sovereign ESG methodologies of commercial ESG providers. The 2021 study articulated the distinct nature of the sovereign ESG segment from corporate ESG and documented fundamental shortcomings in sovereign ESG methodologies, such as the “ingrained income bias”, lack of consensus on environmental performance, and conflation of risk and sustainability objectives. While sovereign ESG methodologies have evolved since 2021, the significant correlation across providers of aggregate, S, and G scores persist. In response to market demand there has been a notable shift towards greater focus on the E pillar against growing heterogeneity on climate and environmental considerations across ESG providers. The findings underscore the disparity between perceptions and realities in implementing a sustainability strategy within the sovereign debt asset class. This necessitates a reevaluation of sovereign ESG scoring methodologies towards outcome-based metrics and urges a globally coordinated effort to establish robust sustainability measurement frameworks.

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WORKING PAPER

Sovereign Environmental, Social, and Governance (ESG) Investing: Chasing Elusive Sustainability¹

Prepared by Ekaterina Gratcheva (IMF) and Bryan Gurhy (IMF)²

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² The authors developed a substantial part of this working paper while at the World Bank, contributing to the knowledge series on Sovereign ESG for the Global Program on Sustainability (GPS). The objective of GPS is to promote the use of high-quality data and analysis of sustainability to better inform decisions made by governments, the private sector, and financial institutions. The Sovereign ESG knowledge series develops and disseminates practical, evidence-based recommendations for market participants, including institutional investors, sovereign issuers, credit rating agencies, ESG data and service providers, among others. Other papers in the series include [“Riding the Wave: Navigating the ESG Landscape for Sovereign Debt Managers.”](#) [“A New Dawn – Rethinking Sovereign ESG.”](#) [“Credit Worthy: ESG Factors and Sovereign Credit Ratings.”](#) [“The Potential Implications of Economic and Social Rights for Sovereign Debt Investing”](#), among others.

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Executive Summary

Sustainable finance has evolved rapidly over the past decade, with the most significant shifts occurring in recent years. These changes have been fueled by several factors, including geopolitical shocks in Europe and the Middle East, the rapid tightening of interest rates in advanced economies (AEs), increasing regulatory scrutiny on environmental, social, and governance (ESG) market practices, as well as advancements in understanding sustainable finance's impacts and limitations. Amidst the uncertain global landscape and evolving market environment, asset owners continue to pursue sovereign ESG approaches when investing in sovereign bonds and persist in exploring strategies to use the sovereign bond market as an effective mechanism to allocate capital to productive and transformative investments (Cox and Wescombe 2023; Natwest 2023; Robeco, 2023; Scheer et al. 2023).

Sovereign ESG has gained prominence in the industry as sovereign bonds represent the largest asset class and a crucial component of institutional investor portfolios worldwide. The concept of ESG has been evolving. While corporate ESG in its current form can be traced back to the late twentieth century, sovereign ESG has only gained prominence in the last five or so years. Sovereign ESG scores form a fundamental part of the data architecture that underpins ESG investing in sovereign debt, and they play an increasingly influential role in shaping investors' sentiment towards sovereign issuers and guiding capital allocation decisions.

This paper evaluates the progression of the sovereign ESG provider¹ landscape since the initial comprehensive assessment of the sector in 2021 (Gratcheva, Emery, and Wang (2021a)) by conducting a comparative analysis of current sovereign ESG methodologies of seven ESG providers² accounting for approximately 80 percent of the sovereign ESG provider market. The 2021 study was the first comprehensive analysis to differentiate between sovereign and corporate ESG concepts, necessitating distinct approaches. It also documented significant shortcomings in sovereign ESG methodologies prevalent across the industry. Specifically, the study found that sovereign ESG scores reflect primarily a country's income rather than its sustainability efforts (the so-called "ingrained income bias"), leading to unintended consequences of diverting capital from lower-income countries to more developed ones. Additionally, the study highlighted the conflation of risk and sustainability goals in sovereign ESG methodologies and a need to better articulate what constitutes a good environmental performance by a sovereign.

The key findings of the updated study are as follows.

Sovereign ESG vs. corporate ESG: collective conformity vs. aggregate confusion. As was the case in the 2021 study, sovereign ESG scores continue to display high correlation in aggregate (0.84), G (0.70), and S (0.70) scores across providers³ in contrast to low correlations in the corporate ESG scores (Berg,

¹ Throughout the paper we use the term "ESG provider" to describe participants in the ESG data industry that provide a suite of ESG activities related to ESG assessments, ratings, and other data products.

² LSEG, ISS ESG, MSCI, RepRisk, Robeco, Sustainalytics, Verisk Maplecroft.

³ The average correlation for aggregate scores among providers is 0.84 compared to 0.85 for the 2021 study. We continue to see close alignment among providers on the G pillar scores (0.70 in 2023 vs. 0.71 in 2021), and some reduced correlations for the S pillar scores (0.70 in 2023 vs. 0.85 in 2021).

Kölbel, and Rigobon 2022). The high homogeneity among sovereign ESG scores can largely be attributed to the reliance on the same data pool for sovereign ESG indicators, resulting in a strong positive relationship between sovereign scores and a country's income level for all sovereign ESG score providers.

Environment and climate: growing focus and widening divergence within the E pillar. The study highlights a further deepening focus on and higher weighting⁴ for the environmental (E) pillar in sovereign ESG scores in response to the growing market interest in environmental and climate issues. Compared to the 2021 study, E scores exhibit a growing dispersion across ESG providers, with the correlation decreasing from 0.42 to 0.27. This underscores significant heterogeneity in approaches to assessing a sovereign's environmental performance and climate across the seven ESG providers analyzed in the study. These approaches can be broadly categorized as "generalist" or "specialist." The generalist approach aims to evaluate a wide spectrum of environmental issues, while the specialist approach concentrates on a narrower range of issues tailored to the specific priorities of individual providers.

Ingrained income bias: advancing awareness and diverse interventions. To address the critical issue of the ingrained income bias in sovereign ESG methodologies, two ESG providers have introduced separate income adjusted scores using statistical adjustments to control for income⁵. Income-adjusted scores result in outsized impacts on certain countries and regions, with the average score for high and upper-middle-income countries decreasing by 14 percent and the average score for lower-middle- and lower-income countries increasing by 46 percent. The Middle East experiences the largest decrease in ESG scores on average (-33 percent), and the largest income-adjusted score increases are concentrated in Africa (+ 42 percent). The other ESG providers in the study do not regard income bias as a substantive issue as their scores seek to measure ESG-related risks only, which they generally claim are correlated with the countries' level of development.

The paper highlights the complexities of implementing a sustainability strategy in the sovereign debt asset class. The lack of a universally accepted definition of "sustainability" impedes the formation of a coherent ESG investment strategy, is compounded by a diverse investor sustainability preference welfare function (Berg, Kölbel, and Rigobon (2023)), and is further complicated by the complexities of defining sustainability in the context of a sovereign issuer. In addition, using oversimplified metrics that amalgamate numerous interdisciplinary issues into a single ESG measure risks compromising the depth and precision of analytical methods. As a result, entities within the financial sector are increasingly susceptible to allegations of greenwashing (Generali Investments 2022; RepRisk 2023) and face a growing threat of legal challenges (Roy et al. 2022).

⁴ Average E weightings in the overall Sovereign ESG scores increased by 4 percentage points from 29 to 33 percent.

⁵ LSEG and Verisk Maplecroft have introduced statistical adjustments in their methodology to account for the income bias. Other providers such as Robeco, while not adjusting for the income bias in their sovereign ESG methodology have launched a separate sovereign sustainability product which evaluates countries based on their policy alignment with SDGs, their accessibility to capital intended for sustainable growth, and their foundational commitment to sustainability principles. Other specialist providers such as Impact Cubed have launched sovereign debt products focused on assessing if countries are leading or lagging on progress in achieving the UN Sustainable Development Goals (SDGs).

Despite some improvements in transparency within ESG provider methodologies, the analysis continues to reveal ambiguities regarding the objectives of sovereign ESG scores. The majority of sovereign ESG scores in the industry primarily assess sustainability risks that may affect financial returns, rather than focusing on those that promote positive sustainability outcomes. This raises fundamental questions about the added value of a distinct sovereign ESG framework, as such an approach falls within the domain of traditional risk-adjusted return investing (Edmans, 2023). In their current form, sovereign ESG scores do not align with the asset owners' expectations to promote positive sustainability outcomes—an expectation held by many asset owners investing in sustainability focused funds. This mismatch has prompted regulatory bodies in various jurisdictions, including the FCA (2023), to consider stricter regulations governing the use of terms such as "responsible" and "sustainable" in investment fund nomenclature. Against such a backdrop, there is a need to recalibrate sovereign ESG scoring methodologies to reflect countries' developmental stages better, refocusing ESG scores on outcome based ESG measures.

The industry must be realistic about what sovereign ESG scores can and cannot achieve. Although sovereign ESG scores are instrumental in integrating ESG factors into the investment process and fostering broader sustainability discussions, evidence suggests they have limited effectiveness in reducing national emissions or advancing the achievement of Sustainable Development Goals (SDGs), as observed by Gosling and Walkate (2024). Nevertheless, transparent, and innovative ESG metrics covering sovereign entities can provide valuable insight for sovereign debt investors and continued innovation from the ESG provider industry will be critical in fostering more robust sustainability metrics. In lockstep, a globally coordinated effort to develop more robust measurement frameworks and taxonomies for a collection of sovereign sustainability issues and strengthening of the climate information architecture requires collaboration across international bodies, national regulators, and the financial sector (IMF 2021). Finally, a meaningful inclusion of financially material ESG factors in the credit rating process (Gratcheva et al. 2021c) will help refocus ESG investing towards sustainability focused outcome metrics.

Section 1: Evolving Market Landscape

The ESG industry has significantly evolved over the past several decades, with the data architecture supporting ESG investments now representing a multi-billion-dollar industry (Zehetmayr 2023). The concept of sovereign ESG, which involves considering diverse sustainability factors by sovereign debt investors, began gaining prominence in the latter part of the 2010s. This shift was propelled by the increasing demands of asset owners and policymakers for more socially and environmentally conscious investing. The international community's adoption of the Paris Agreement and SDG Agenda in 2015 further accelerated this trend. The ESG data architecture, a fundamental input into various sustainable finance investment processes, is distinct and is viewed as complementary to sovereign credit ratings and is increasingly a factor in influencing the flow of capital globally (FTSE Russell 2022; Gratcheva et al. 2021b; Gratcheva, Emery, and Wang 2021a; Mobilist 2022, 2023; World Climate Summit 2021).

This study focuses on sovereign ESG scores, building upon previous research on ESG issues in sovereign debt. Sovereign ESG scores play an important role in the informational architecture for ESG investing in the sovereign debt asset class and can influence sovereign investment decisions where sustainability is the objective (Allianz Global Investor 2019; JP Morgan 2022; Macquarie Asset Management 2023). This paper builds on a World Bank publication series focused on ESG issues in sovereign debt investing, drawing on a multi-year collaboration with diverse industry stakeholders. The series provides practical, evidence-based recommendations for market participants, including [institutional investors](#), [sovereign issuers](#), [credit rating agencies](#), [ESG data and service providers](#), among [others](#).

The 2021 publication "Demystifying Sovereign ESG" (Gratcheva, Emery, and Wang 2021a) demonstrated the significant differences between sovereign and corporate ESG, highlighting the need for distinct approaches by investors, ESG providers regulators, and other stakeholders. In contrast to the "aggregate confusion" (Berg, Kölbel, and Rigobon 2022) observed in corporate ESG scores, sovereign ESG scores demonstrated a high correlation across providers. Notably, almost 90 percent of these scores were attributable to the country's level of development, introduced as the "ingrained income bias", that affected sovereign ESG scores across all providers. The study also revealed that sovereign ESG methodologies conflated "ESG-related risks" and "ESG-related impact". Additionally, while sovereign S and G scores were highly correlated across providers, the low correlation of sovereign E scores revealed a lack of consensus on what constituted a strong sovereign environmental performance.

This updated paper takes a renewed look at sovereign ESG scores based on a comparative analysis⁶ of the sovereign ESG scores of seven leading data providers, estimated to represent about 80 percent of the sovereign ESG data market⁷. While the term "ESG" has become increasingly contentious and challenged amid concerns over greenwashing (Generali Investments 2022; RepRisk 2023), the ESG data and consulting industry has continued to expand, as noted in multiple industry assessments (Foubert 2022, Zehetmayr 2023). Since the initial study, the number of sovereign ESG providers has increased,

⁶ The nature of the analysis conducted is driven by the availability, granularity, and opaqueness of the data available from the various ESG providers.

⁷ Based on authors' estimates. Most providers do not provide a breakdown of the size of their sovereign ESG data business, so it is difficult to assess the relative popularity of one provider over another. Our estimate is based on a range of industry surveys, conversations with asset managers, and fixed income index providers.

alongside notable acquisitions in the sector and a rise in the number of investors developing their own ESG methodologies (Brady and Hirai, 2021). Furthermore, many investors are developing in-house sovereign ESG methodologies to reflect their specific preferences and views on sovereign sustainability. However, most investors still procure sovereign ESG data from external providers for compliance purposes, as well as a complementary benchmarking tool.

The past two years have marked a significant shift in the financial sector's relationship with sustainability. These changes have been fueled by several factors, including geopolitical shocks in Europe and the Middle East, the rapid tightening of interest rates in advanced economies, increasing regulatory scrutiny on ESG market practices, as well as advancements in understanding the impacts and limitations of sustainable finance⁸ (Lagoarde-Segot 2019). Amid the uncertain global landscape, asset owners continue to pursue sovereign ESG approaches when investing in sovereign bonds (Cox and Wescombe 2023; Natwest 2023; Robeco, 2023; Scheer et al. 2023). The market's demand for sustainability is becoming increasingly nuanced (Edmans 2024)⁹, with investors applying their own unique lens to sovereign ESG and drawing from a diverse array of information sources, including but not limited to sovereign ESG scores, to identify countries with exemplary sustainability practices (Robinson-Tillett 2024). According to many investors, taking this more tailored approach is critical at the sovereign level, given the multi-faceted dimensions of a country's sustainability profile. Many investors increasingly seek to engage with sovereign debt management offices on key ESG issues about their country, and these efforts are often conducted as a group (UNPRI 2020, 2023).

Our study comes at a time of increasing regulatory focus on the ESG provider industry. In July 2021, the International Organization of Securities Commissions (IOSCO) published a consultation (IOSCO 2021a) and subsequent "IOSCO Recommendations" (IOSCO 2021b) on ESG ratings and data product providers. It recommended that regulators should play closer attention to the use of ESG ratings and data products and the activities of ESG providers in their jurisdictions. In November 2022, IOSCO published a call for action to all voluntary standard-setting bodies and industry associations, to promote measures to counter greenwashing by asset managers and ESG providers (IOSCO 2022). A report published in 2023 reviewed the initiatives undertaken in various jurisdictions to tackle greenwashing, aligning with the 2021 recommendations and the 2022 Call for Action (IOSCO 2023). Addressed at voluntary standard-setting bodies and financial industry associations, this call for action demands improved reliability, comparability, and interpretability of ESG products to ensure investors have access to sustainability-related information that is internationally consistent and comparable (Cleary Gottlieb 2023). Annex 1 provides an update on the current regulatory backdrop for ESG providers across jurisdictions.

The challenges EMDEs encounter in mobilizing finance for climate action (and broader development goals) have been extensively documented (IMF, 2023; NGFS, 2023), highlighting contrasting

⁸ Proponents of integrating social ontology into finance argue that sustainable finance's main limitation lies in the inherent contradiction between the deep qualitative changes brought about by impact investment and the rigid content of mainstream academic finance. They view sustainable finance and traditional financial theory as being at odds in terms of how knowledge is gained, the understanding of reality, and the methods applied in their respective frameworks, and call for epistemological, ontological, and methodological rethinking in order for sustainable finance to rise to the challenges of the current sustainability crisis.

⁹ For example, Edmans (2024) proposes that the term "ESG" be replaced with "rational sustainability," which encompasses a holistic view of value creation, considering all relevant factors beyond the ESG label. It critically evaluates the materiality of ESG factors based on evidence and analysis, aiming to identify genuine sustainability and avoid "irrational sustainability bubbles."

perspectives on sustainability: AEs primarily prioritize climate change, whereas EMDEs emphasize a broader development agenda. For example, in 2020-2021, the World Bank surveyed its client countries¹⁰ to identify their development priorities. Among the surveyed nations, education emerged as the top priority, selected by most respondents, with priorities such as employment, peace and justice, health, and industry ranking highly. Climate ranked 12th out of 16 categories, mentioned by fewer than 20 percent of respondents as one of their six most significant concerns (Center for Global Development 2023).

The paper proceeds as follows. Section 2 examines sovereign ESG methodologies and both aggregate and individual G, S, and E scores, across a selection of providers that offer sovereign ESG products. Section 3 presents empirical results of analytical comparisons of sovereign ESG scores across ESG providers and contrast the findings with comparable results from the 2021 study, where possible. Section 4 analyzes the composition of the sovereign environmental pillar to provide deeper insights into how ESG providers assess a country's sustainability profile, while section 5 offers conclusions and suggestions for a possible way forward.

¹⁰ See the World Bank's Country Opinion Surveys at <https://www.worldbank.org/en/programs/world-bank-country-opinion-surveys>.

Section 2: Sovereign ESG Providers Included in Study

We review the ESG methodologies of seven leading data providers that offer sovereign ESG data products. Several credit ratings agencies have recently launched sovereign ESG products. However, they declined to take part in our study due to various regulatory and industry-specific considerations. Over the past few years, various sovereign ESG-related data products have also been launched, focusing on various sustainability issues, including SDG alignment (e.g., Impact Cubed) and climate risks (e.g., Bloomberg). The proliferation of bespoke product offerings reflects an increasingly competitive sovereign sustainability data architecture – supported by investor demand for more specialized sovereign sustainability measures and regulatory initiatives to improve competition and not inhibit innovation in the sector (Council of the European Union 2024). Indeed, private sector initiatives like the Assessing Sovereign Climate-Related Opportunities and Risks are also providing additional data sources for sovereign debt investors on sustainability-related matters (Scheer et al. 2023).

To ensure a consistent approach we limit our analysis to those commercial providers that offer a sovereign sustainability data product built around the auspices of a broad sovereign ESG framework. As in the 2021 study, the ESG providers shared their sovereign ESG scores, internal methodology documents and relevant analytical papers, engaging openly with us throughout the study. These providers have shared their data and insights on sovereign ESG issues from their unique perspectives, responding to structured questionnaires and participating in follow-up discussions. Table 1 summarizes the sovereign ESG products of providers participating in the study.

Table 1: ESG providers included in the analysis

Company	Product	Brief Description	Countries/ Regions Covered	2021 Participation	2023 Participation
LSEG	Sustainable Sovereign Risk Monitor (2SRM)	Incorporates levels of development in a general score by weighting indicators differently based on income. Focuses on multiple standardization methods to create scores.	151	Yes	Yes
ISS ESG	ISS ESG Country Rating	Assesses the extent to which a sovereign issuer successfully manages salient risks related to ESG themes. Uses absolute scores for all countries.	175	Yes	Yes
MSCI	ESG Government Ratings	Focuses on exposure and management of ESG issues.	198	Yes	Yes
RepRisk	RepRisk Index for Countries (Country RRI)	Quantifies ESG and business conduct risks within a country on a daily basis. Measures a country's absolute risk, which is typically lower for wealthier countries.	198 countries, 52 territories	Yes	Yes

Robeco	Country Sustainability Ranking	Robeco's country sustainability ranking offers insights into a country's strengths and weaknesses on a broad selection of E, S, and G factors. Complements traditional sovereign risk analysis and uses standardization and weighting to impute scores.	150	Yes	Yes
Sustainalytics	Country Risk Ratings	Uses standard ESG measures to create a normalized aggregate ESG score, weighing governance issues the most heavily, followed by social and environmental issues.	172	Yes	Yes
V.E	Sovereign Sustainability Ratings	Places greater emphasis on sustainable development materiality. E, S, and G are equally weighted. ESG score balances two indicators.	180	Yes	No
Verisk Maplecroft	Sovereign ESG Ratings dataset	Leverages cluster analysis across nine dimensions of risk to create scores. Uses geospatial subnational data, particularly for environmental indicators; unstructured data that is interrogated using artificial intelligence; some expert-scored governance indicators; and structured/tabular datasets, with around 350 indicators driving the subset of data.	198	No	Yes

Sources: Authors' summary of methodological documents; ESG providers.

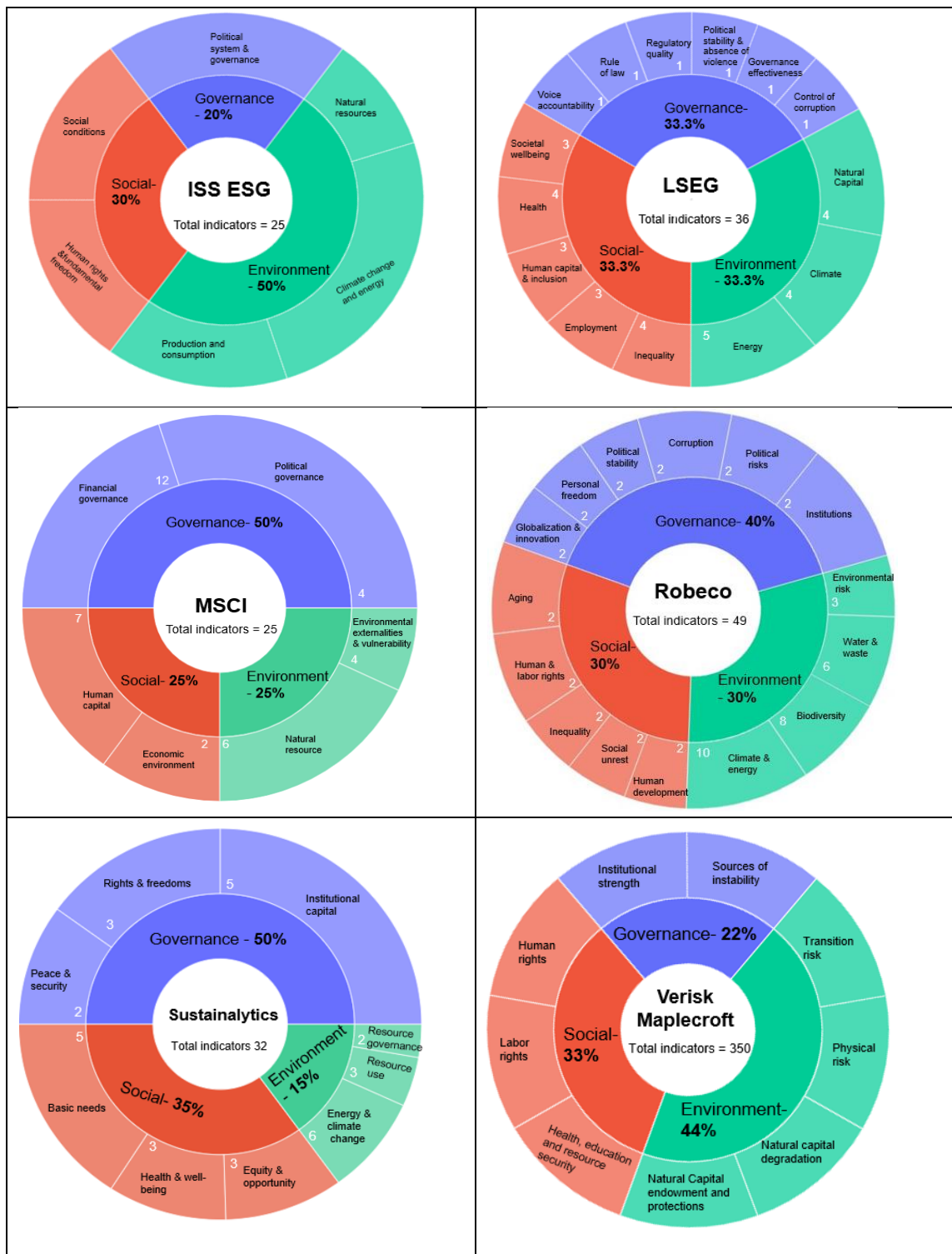
Note: All 2021 participants (except V.E) and Verisk Maplecroft joined the 2023 study. ISS ESG refers to Institutional Shareholder Service Environmental, Social, and Governance; LSEG is the London Stock Exchange Group; MSCI refers to Morgan Stanley Capital International. V.E was acquired by Moody's in 2019.

Since the 2021 study, we have observed improved transparency across some sovereign ESG provider methodologies in terms of disclosing the scope of data included and the weighting of each indicator. An increasing number of providers now offer deeper insights into their methodologies, specifically regarding (i) the indicators and data sources included under each pillar, (ii) the weightings of E, S, and G issues in the overall ESG score calculation, and (iii) the scoring calculation methodologies. Nevertheless, there remains an opportunity for further improvement, as several ESG providers are yet to disclose insights on their data sources, the weightings of respective E, S, and G scores within the aggregate score calculations, and the weightings of individual indicators and sub-indicators within respective pillars, as detailed further in Annex 2. During our discussions with the study participants, the rationale for limited disclosure was often linked to the commercial sensitivity of their proprietary models.

ESG providers increasingly seek to stand out in the market by adopting unique methods to evaluate a sovereign's ESG performance, each leveraging their perceived strengths within the sector. Figure 2.1 visually represents the sovereign ESG methodologies based on providers' E, S, and G weights (where public) and the composition of the individual pillars. Providers' primary and supplementary documents vary significantly in specificity concerning their methodologies and insights into the underlying objectives and analysis. Consequently, these documents are not readily comparable across different providers. To produce a comparable visual representation, we engaged in several rounds of detailed clarifications with the ESG providers to identify the level of granularity of each indicator included under the respective E, S, and G pillars.

Each ESG provider's methodology is presented in a multi-tiered approach for each respective pillar. For example, within the environmental pillar, LSEG identifies three indicators—Energy, Climate, and Natural Capital—each comprising five, four, and four sub-indicators, respectively. In most cases, the data providers conduct a mathematical rescaling of the data inputs to derive an overall E, S, and G composite score. Combining datasets from diverse disciplines to create a sustainability measure remains both conceptually and practically challenging.

Figure 2.1: Summary of providers' sovereign ESG methodologies by pillar and indicator



Sources: Authors' calculations; ESG data providers.

Note: Illustrations based on public methodology documents and following consultation with ESG providers. If publicly available, the number of sub-indicators by indicator is denoted in white. Due to Verisk Maplecroft's clustering methodology, it is not possible to state the number of indicators used per sub-indicator.

Since the 2021 study, when most providers did not transparently outline what their scores sought to measure, a somewhat clearer definition of the objectives of sovereign ESG scores has been emerging, although ambiguities remain. Most ESG providers have begun to identify their products as "risk" products focused on measuring a sovereign's ESG risks and opportunities from a financial materiality perspective (Moussavi and Moya 2023). This development has also been supported by an increasing regulatory focus (Annex 1).

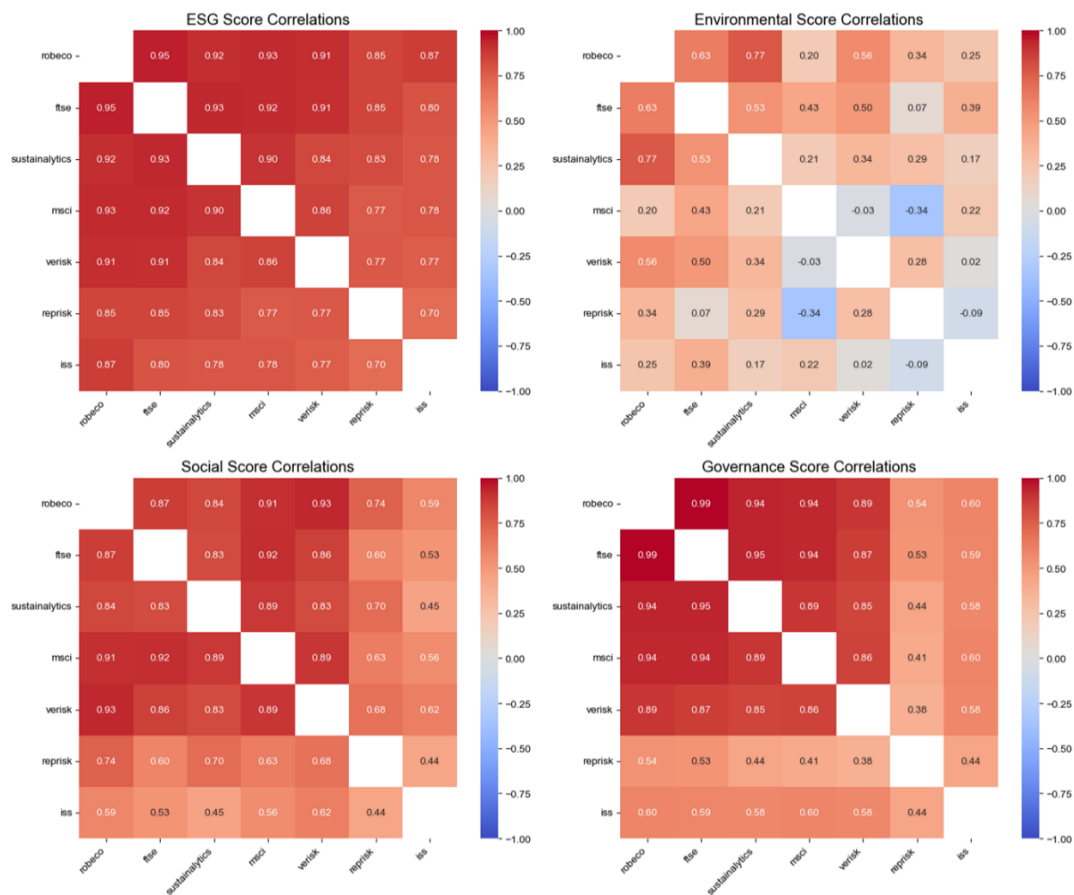
While ESG providers use the term "sustainability" in different contexts, its definition is often unclear and complicated by the intricate nature of what sustainability means for a sovereign. While the definition of sustainability, as outlined by the World Commission on Environment and Development in 1987, is globally recognized as the goal of sustainable development, i.e. focusing on satisfying current needs without compromising the ability of future generations to meet theirs, most sovereign ESG methodologies do not aim to quantify these outcomes, even when marketed as sustainability products. Furthermore, environmental and ecological economists differentiate between two contrasting perspectives on the relationship between economic development and environmental conservation: weak and strong sustainability. Weak sustainability suggests that different forms of capital can be substituted, whereas strong sustainability emphasizes the importance of preserving natural capital (Neumayer, 2013). These concepts of weak and strong sustainability are critical in discussions about the balance between economic growth and environmental conservation, and they should be integrated in policy formulation, resource management, and the assessment of the environmental impact of economic activities.

Traditionally, the concept of "sustainability" was primarily associated with public policy and the social sciences. However, increasing recognition of the significance of non-financial risks and the adoption of the "double materiality" perspective have prompted more open discussions about the role of the financial industry. These discussions focus on understanding how sustainability intersects with the institutional and fiduciary mandates of investors within a rapidly evolving regulatory landscape (Baumstein et al., 2023; Bauslaugh, 2021; Muir, 2022). Market participants will likely continue to seek specific guidance from regulatory or public policy bodies on adequately integrating sustainability issues into the investment process – particularly in an era characterized by greenwashing litigation and related risks (Serenelli 2023).

Section 3: Empirical Analysis of Sovereign ESG Scores

This section analyses the current sovereign ESG score universe (aggregate and individual E, S, and G pillar scores) to test how revisions in providers' methodologies are reflected in the respective scores. Despite providers' attempts to apply distinct methodologies, we observe ongoing convergence in sovereign ESG scores, primarily attributable to a country's development level. The average correlation¹¹ among providers is 0.84 compared to 0.85 for the 2021 study, with individual correlations ranging from 0.71 to 0.96, as Figures 3.1 and 3.2 illustrate. We continue to see close alignment among providers on the G pillar scores (0.70 in 2023 vs. 0.71 in 2021), some reduced correlations for the S pillar scores (0.70 in 2023 vs. 0.85 in 2021), and a growing divergence on sovereign E pillar scores (declining from 0.42 to 0.27, fluctuating between -0.34 and 0.77). These results are also similar when adjustments are made for the minor differences in the group of ESG providers included in the 2021 and current analyses (Figure 3.2)

Figure 3.1: Sovereign ESG score correlations across providers



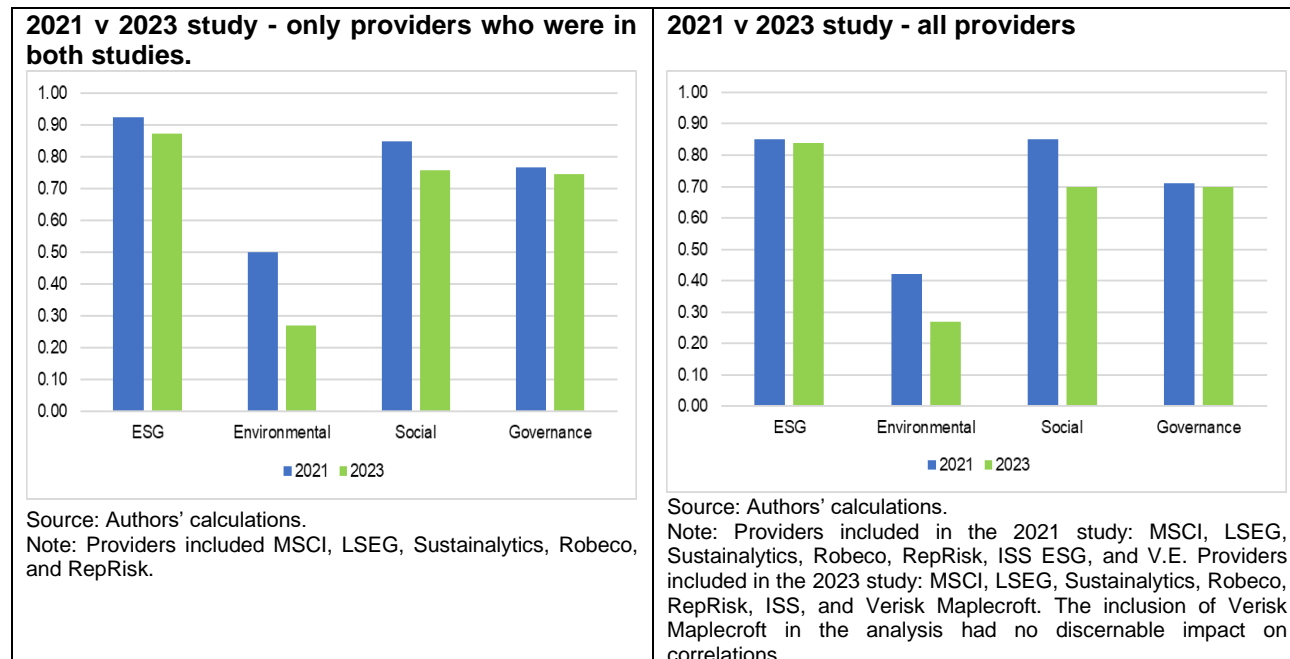
Source: Authors' calculations.

Note: All correlation matrices are ordered based on the providers showing the highest composite ESG score correlations.

¹¹ Calculated using Pearson's correlation coefficient, which measures the linear correlation between two sets of data.

The inconsistent scoring in the E pillar highlights the challenges investors and policymakers face in aligning environmental issues with sustainability and financial outcomes, alongside the challenge of obtaining comprehensive and reliable environmental datasets for a wide array of countries. A significant portion of this issue is attributed to measuring sustainability outcomes across various countries and the tradeoffs that these outcomes (i.e., time horizons) frequently present in relation to financial materiality.

Figure 3.2: Average correlations between sovereign ESG providers' scores



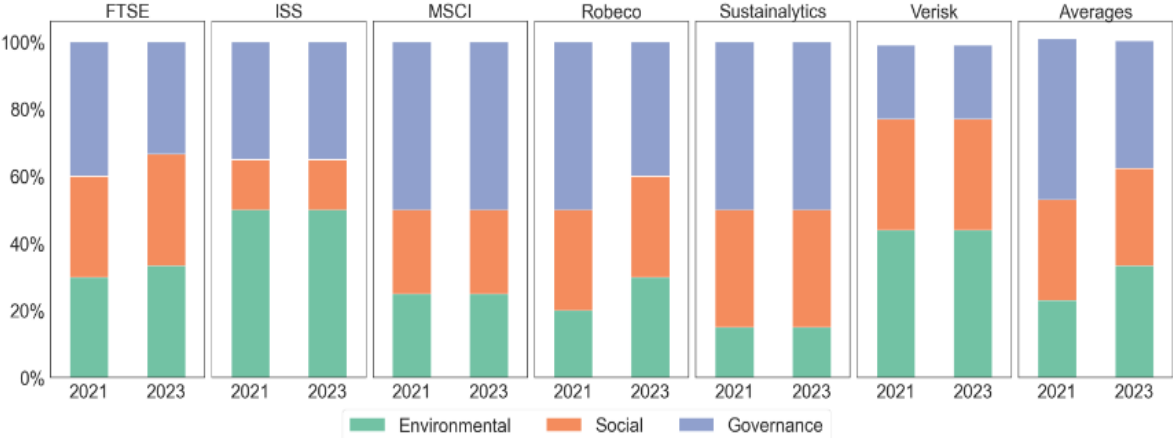
Providers assign different weightings to individual E, S, and G pillars based on their unique considerations. The average weights for E, S, and G have changed from 29 percent, 28 percent, and 43 percent in the 2021 study to 33 percent, 29 percent, and 38 percent (Figure 3.3), with the weight for the E pillar increasing at the expense of the G pillar. About 75 percent of this adjustment is driven by the changed weightings by FTSE and Robeco, while the remainder is driven by the inclusion of Verisk Maplecroft in the current study.

The G pillar continues to hold the most prominent weight for most providers. In discussions with ESG providers, the consensus was that governance issues receive more emphasis because effective management of environmental or social risks cannot be mitigated without good governance. Nevertheless, responding to market demand for better integration of environment and climate-related factors, providers have emphasized the E pillar in terms of its weight and composition. Both Robeco and LSEG have increased their respective E pillar weights since the 2021 study. The E pillar is now the most significant component of the overall ESG score for LSEG, ISS ESG and Verisk Maplecroft. This development is also driven by providers' increased engagement with investors on their evolving investment objectives and preferences in environmental and climate aspects.

A minority of providers (two out of seven) use quantitative methods to create a weight for the E, S, and G contributions to the consolidated ESG score. This approach is based on their assessment of the

materiality of specific risks. In contrast, the other providers do not articulate how they derive the weightings for each pillar. For example, LSEG applies different weightings for AEs and EMDEs derived from econometric modeling. While the exact weightings are not disclosed for the E and S pillar, for the G pillar, the average weight is the same for both AEs and EMDEs, at 16.6 percent. Nevertheless, the weightings assigned to individual indicators within the G pillar differ. For example, for EMDEs, the indicators Voice and Accountability and Political Stability are weighted 8.1 and 0.2 percentage points higher, respectively, than in AEs. Other indicators, such as Control of Corruption, receive a lower weighting to compensate. For some indicators, such as Physical Risk, Transition Risk, Air Pollution, Water Stress, Biodiversity, and Food Security, LSEG applies equal weights, irrespective of the country's level of economic development, rather than deploying econometric methods. This is because of a lack of a “direct theoretical link to sovereign credit risk,” even though they acknowledge that these indicators can help “predict the severity of economic impact in the short, medium and long term.” RepRisk uses data mining techniques to calculate dynamic weights per indicator based on a country's E, S, and G materiality. Under their methodology, an incident index is calculated based on the normalized average severity of risk incidents over the last two years, with more recent incidents receiving a higher weighting. Verisk Maplecroft, on the other hand, currently does not provide estimates for the weight of each index, largely due to the clustering analysis that underlies their methodology.

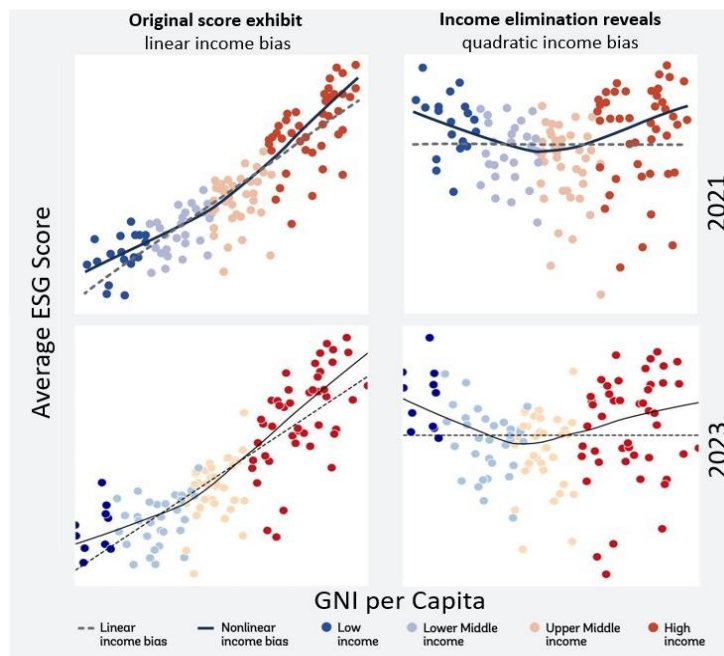
Figure 3.3: Average weightings of individual ESG data providers - 2021 study vs 2023 study



Note: RepRisk's breakdown of pillar percentages varies for each country, rather than applying a uniform aggregate pillar weight across all sovereigns. Weights for Verisk Maplecroft are based on authors estimates.

Higher Sovereign ESG scores remain closely associated with countries with higher income levels. Figure 3.4 illustrates an ongoing non-linear income bias between sovereign ESG scores and a country's income, persisting even after conducting a regression-based income adjustment. A closer look at the adjusted (orthogonalized) ESG scores shows that while the linear dependency between income categories and ESG scores has been removed, the new scores exhibit a U-shaped or nonlinear relationship. High- and low-income countries score high on the orthogonalized ESG scale, while middle-income countries score the lowest.

Figure 3.4: Sovereign ESG and the income bias



Source: Authors' calculations.

Over the last three years, some providers have recognized the ingrained income bias, with two launching specific income adjusted sovereign ESG products (see Annex 3)¹². While most investors focus on ESG primarily for risk management, a niche segment of sovereign debt investors is making a concerted effort to incorporate sustainability factors more effectively. For these investors, income-adjusted scores are particularly relevant. These investors aim to deploy sovereign ESG methodologies that prioritize factors contributing to sustainability, accounting for the specific stage of economic development of the respective countries¹³.

Income-adjusted scores have outsized impacts on aggregate scores for certain countries and regions – with the average 14 percent decrease for high and upper middle-income countries and 46 percent increase for lower-middle and lower-income countries. The Middle East experiences the largest decrease in ESG scores on average (-33 percent), and the largest income-adjusted score increases are concentrated in Africa (+ 42 percent). While other providers acknowledge the ingrained income bias, they have concluded that addressing this bias within their methodologies is not deemed essential. Their focus remains explicitly on measuring sovereign ESG risks, which they view as increasing for countries with lower levels of development.

¹² LSEG and Verisk Maplecroft have introduced statistical adjustments in their methodology to account for the income bias. Robeco, while not adjusting for the income bias in their sovereign ESG methodology have launched a separate sovereign sustainability product which evaluates countries based on their policy alignment with SDGs, their accessibility to capital intended for sustainable growth, and their foundational commitment to sustainability principles. We see reductions in the correlation between GNI per capita and ESG scores for all providers that control for income.

¹³ Based on feedback from some market participants, income adjusted scores could also be of interest to risk focused EM debt investors who seek to justify investments by finding metrics that suggest compatibility with ESG standards.

While recognizing the strides made by ESG providers in mitigating the inherent biases in some sustainability metrics, additional measures beyond mere statistical adjustments are necessary. These solutions demand a concerted international policy commitment and a multi-disciplinary approach to delve into the conceptual foundations of various sustainability issues across different stages of economic development. Formalizing this understanding through the establishment of a global sovereign sustainability taxonomy or guidelines could support ESG providers and the industry to align better with global sustainability objectives.

Section 4: The Sovereign Environmental Pillar

Our results highlight the need for a deeper understanding of sovereign environmental risk and what environmental sustainability means at the sovereign level. While divergence in the E pillars across providers (Annex 4) signals the financial world's still nascent understanding of the sovereign E pillar, it also underscores the differing perspectives on which E issues are most material. Conversations with the industry indicate that investors have different motivations for including E criteria in their framework. For example, while many investors traditionally focused on physical climate risks, such as flooding and natural disasters, there has been an increasing focus on greenhouse gas emissions, given their links to climate transition risks. Since the 2022 adoption of the Kunming-Montreal Global Biodiversity Framework by COP15 (UNEP, 2022) biodiversity and natural capital have also gained increasing attention from investors. Furthermore, following the shock to energy systems due to the Russian invasion of Ukraine, investors have been revising their views of energy transition to more nuanced strategies that balance the issues of energy transition, energy security, and energy affordability. Still, practical considerations, such as the availability of high-quality, comparable data across countries and time, disproportionately affect investors' views and can become a binding constraint on what E factors are included in the analysis and decision-making by a particular provider.

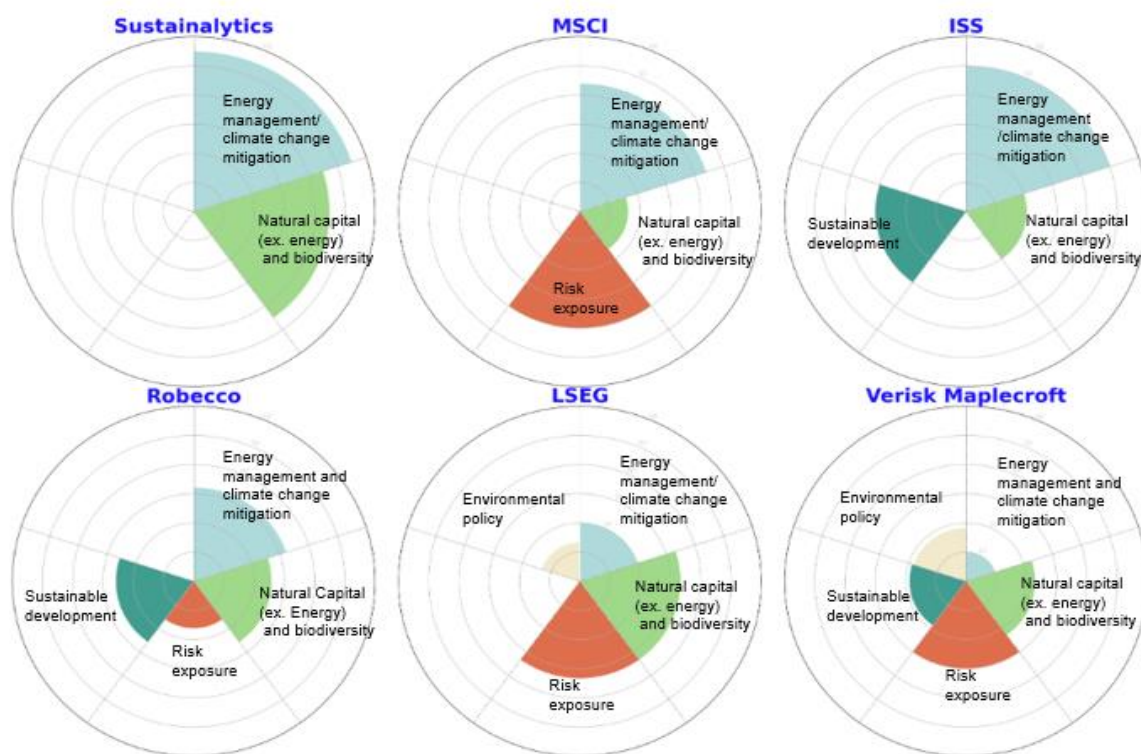
We analyze each ESG provider's E methodologies to further understand the diverse approaches to the sovereign E pillar. Analyzing providers' E methodologies is non-trivial, as methodologies are neither consistent nor adequately transparent. Nevertheless, the study is an initial attempt to understand the methodologies in a coherent and comparable way. To do this, we try to map each E dimension included in each ESG provider's methodology into parsimonious, mutually exclusive pillars of different environmental issues, to the extent possible. We derive five broad E themes and use these as our benchmarks for mapping each provider's E methodology coverage. Figure 4.1 provides a mapping of the various E issues to help visualize the E coverage of each provider.

Based on the resulting mapping of the providers' current E pillars, we discern an emerging trend of providers gravitating towards more "specialist" vs "generalist" approaches, indicating a potential trade-off for users of the scores. Figure 4.1 highlights the diversity in environmental assessment methodologies among ESG providers, reflecting their unique perspectives and areas of expertise. LSEG, Verisk Maplecroft, and Robeco demonstrate relatively broad approaches in their E assessments, with Verisk Maplecroft being the only provider that incorporates aspects of all 5 sub-components in its sovereign E assessment, albeit with a smaller weight in the overall E pillar. ISS ESG focuses more on energy and climate issues in their E assessment but also considers sustainable development and biodiversity. LSEG and Verisk Maplecroft are the only providers who incorporate environmental policy in their methodologies, though it is not a significant consideration for either. In addition, we note that Verisk Maplecroft includes energy and water security under their S pillar and is thus excluded from the E pillar. MSCI primarily focuses on energy and resource management, incorporating a variety of risk measures into their assessment. Finally, Sustainalytics focuses mostly on energy and resource management, relying heavily on the World Bank wealth accounting framework for their sovereign E assessment.

Methodologies focused on various E issues might seem more comprehensive than those focusing on a specific E issue. However, the practicality of including a wide variety of data points into a consolidated E score may not

be useful for investors focused on sustainability outcomes alongside financial returns. This suggests a need for more targeted, outcome-oriented evaluation frameworks that can effectively balance comprehensive environmental assessments with investors' specific sustainability goals.

Figure 4.1: Illustrative mapping of ESG provider's sovereign E pillars by distinctive environmental issue

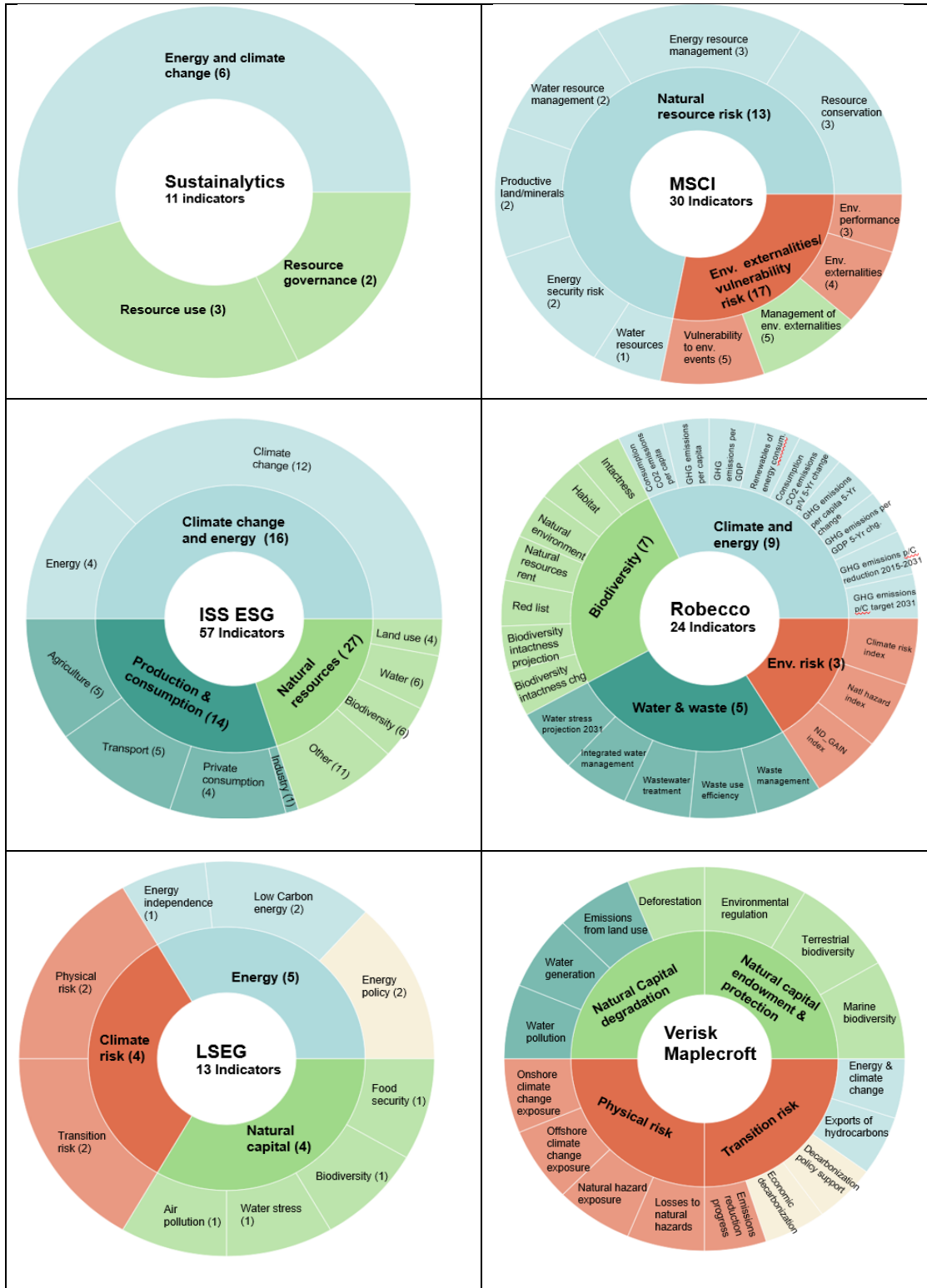


Source: Authors' illustration.

Note: Mapping is based on the authors' assessment of the various indicators employed in each respective ESG provider's sovereign E methodologies, utilizing public methodology documents. Exceptions include two providers who did offer a complete breakdown of their data points. Given the methodologies' lack of transparency and ambiguous indicator definitions, caution is advised when interpreting the mapping results.

We use this initial mapping to dig deeper into each E dimension based on the methodological documents of each provider. To maintain consistency, our mapping follows the same nomenclature: (i) E dimension, (ii) indicator, and (iii) sub-indicator. Figure 4.2 provides an overview of each ESG provider's E methodology based on this mapping. We observe significant differences in the information transparency on how each issuer approaches the E pillar. All ESG providers disclose basic information on the E dimensions covered by their score, while most disclose information on respective indicators under each dimension. However, only a few disclose granular information on sub-indicators, and the number of indicators used for each sub-indicator varies significantly. For most providers, the number of indicators directly influences the E weighting, while some providers have assigned explicit weights to each E dimension. Most providers do not disclose information on weights for indicators and sub-indicators.

Figure 4.2: Summary of providers' sovereign E methodologies by indicator and sub-indicator



Source: Authors' illustration.

Note: Indicator and sub-indicator weightings are estimated for LSEG, as this information is not public. The number of sub-indicators for each indicator is denoted if the information is public. For Verisk Maplecroft, other indices (115 in total) are included as part of each sub-indicator and a complete breakdown of the approach and indices included are available to clients.

Section 5: Conclusions

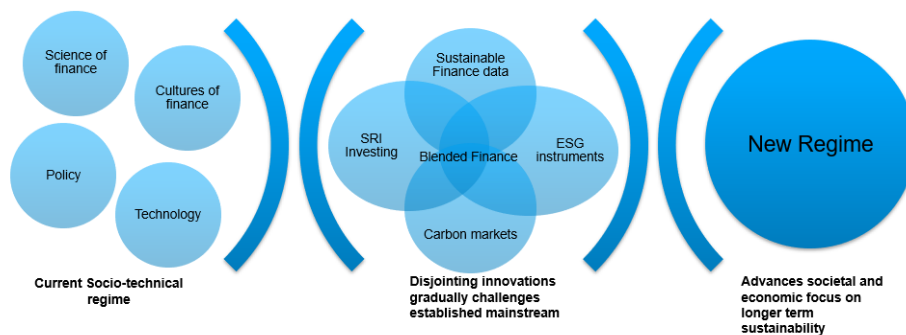
The analysis underscores persistent challenges within the sustainable finance industry, specifically through an examination of sovereign ESG score methodologies. It reveals the complexities of crafting a coherent sustainability strategy, compounded by the lack of a universally accepted definition of “sustainability”. This fundamental ambiguity is further complicated by divergent investor sustainability preferences, as noted by Berg, Kölbel, and Rigobon (2023), and the distinct challenges of defining sustainability for sovereign issuers. Moreover, the reliance on oversimplified metrics, which consolidate multiple interdisciplinary issues into a single ESG measure, risks diluting the accuracy and depth of analyses. Consequently, financial entities face increasing risks of greenwashing accusations (Generali Investments 2022; RepRisk 2023) and a rising tide of legal challenges (Roy et al. 2022)

The findings highlight ambiguities around what sovereign ESG scores aim to measure despite some increased transparency in ESG provider methodologies. Most sovereign ESG scores used by the industry focus on evaluating sustainability risks that could impact financial returns – and not those that impact positive sustainability outcomes. This raises fundamental questions about the added value of a distinct sovereign ESG framework, as such an approach falls within the domain of traditional risk-adjusted return investing (Edmans, 2023).

In their current form, sovereign ESG scores do not align with the asset owners’ expectations to promote positive sustainability outcomes—an expectation held by many asset owners investing in sustainability focused funds. This mismatch has prompted regulatory bodies in various jurisdictions, including the FCA (2023), to consider stricter regulations governing the use of terms such as “responsible” and “sustainable” in investment fund nomenclature. Against such a backdrop, there is a need to recalibrate sovereign ESG scoring methodologies to reflect countries’ developmental stages better. This necessitates a clear demarcation between impact-oriented and financial materiality within ESG methodologies to prevent the conflation that blurs investor understanding and objectives.

Although sovereign ESG scores are instrumental in integrating ESG factors into the investment process and fostering broader discussions, evidence suggests they have limited effectiveness in reducing national emissions or advancing the achievement of SDGs, as observed by Gosling and Walkate (2024). Notwithstanding, transparent ESG metrics covering sovereign entities can provide valuable insight for sovereign debt investors and continued innovation in the ESG provider industry will be critical to fostering more robust investment metrics. In these circumstances, ESG scores can serve both as a transitional tool, contributing to the broader discourse on sustainability and the reorientation of investment processes to accommodate emerging norms as well as a metric to drive positive sustainability outcomes (Figure 5.1).

Figure 5.1: The “transition” of Finance



Sources: Gratcheva et al. (2021b; figure 1.4, page 30); Urban and Wójcik (2019; figure 1, page 5).

As methodologies for evaluating the ESG performance of sovereign entities evolve, the sovereign debt management community should strive to understand these diverse approaches. Such engagement is crucial for effectively communicating a country's sustainability strengths and areas of improvement to investors, fostering transparency. While current ESG scoring methodologies primarily rely on quantitative metrics, a shift toward more nuanced, detailed assessments of sovereign sustainability performance is emerging, with a focus on in-house sovereign ESG frameworks (Wäingelin 2022). Debt managers can gain a significant advantage by proactively sharing information on government ESG initiatives and incorporating ESG-related risks into debt sustainability analyses, thereby offering investors and ESG score providers with richer, forward-looking insights.

Finally, the identified challenges are an industry-wide issue, and the burden should not be carried by data providers or regulators alone. A globally coordinated effort is required to develop more robust measurement frameworks and taxonomies for sovereign sustainability issues and to strengthen the climate information architecture. This effort will necessitate collaboration across international bodies, national regulators, and the financial sector, as emphasized by the IMF (2021). A meaningful inclusion of financially material ESG factors in the credit rating process will help refocus ESG investing towards sustainability-focused outcome metrics (Gratcheva et al. 2021c).

Annex 1. Regulating the ESG Rating Industry

This annex, focusing on key jurisdictions, provides a broad overview of the dynamic regulatory landscape surrounding the ESG data industry as of March 2024. For a more in-depth overview, International Organization of Securities Commission's (IOSCO) sheds light on international efforts and supervisory initiatives to enhance the transparency and reliability of ESG ratings and data providers (IOSCO, 2023).

ESG regulations are still at a formative stage, not least due to the political contestability of an ESG-informed approach to investing (Mobilist 2023). Several jurisdictions, such as the EU, India, Japan, Singapore, and the UK, have or are in the process of issuing guidance or enacting regulation. The push for regulatory oversight was fueled by IOSCO recommendations in 2021, and the codes of conduct and regulations that followed are primarily based on these. Nevertheless, there have been calls for formalizing the high-level IOSCO recommendations into a set of principles to inform regulation. Most regulators appear to be focused on increasing transparency, addressing misconduct concerns, and improving market integrity. Furthermore, they have indicated that they “will not tell providers what their products must measure and will not restrict innovation” (Hurley, 2024a).

In the UK, the Financial Conduct Authority (FCA) appointed the International Capital Market Association and International Regulatory Strategy Group to convene an industry group to develop a voluntary code for data and ratings providers. The FCA, the Treasury, and other national and international financial regulators acted as observers during the code's development. In 2023, the FCA encouraged the ESG data and ratings providers to engage with and sign up to the code. The role of FCA is crucial since the section pertains to regulatory initiatives (FCA, 2023). Based on the IOSCO recommendations, the code focuses on governance, transparency, and managing conflicts of interest, aligns with global efforts, and promotes international best practices, even in jurisdictions without regulatory plans. In Japan, the recently published voluntary code (FSA, 2024) is designed to improve the transparency and functioning of the ESG providers, while in India, the Securities and Exchange Board of India (SEBI 2023a) issued a licensing and regulatory framework (SEBI 2023b). Meanwhile, Singapore has a published code of conduct for ESG rating and data product providers (MAS 2023).

In Europe, the EU Commission agreed on the text for ESG ratings regulation in February 2024 (Council of the European Union 2024), following a market consultation in mid-2022 (European Commission 2022). The regulation aims to strengthen the quality and reliability of ESG ratings by increasing transparency and integrity in the operations of ESG rating providers and mitigating potential conflicts of interests. The requirements also include transparency on the consideration of double materiality—specifically, whether the ratings assess both the material financial risks to the rated company and the entity's material impact on the environment and society, or whether they focus solely on one aspect. The regulation imposes less stringent requirements for small providers and imposes restrictions on ESG ratings providers offering certain other services, to avoid conflicts of interest (including consulting services, credit ratings, audit, and assurance) (Commerzbank 2024). In addition, financial institutions that disclose the use of ESG ratings as part of their marketing communications must include information on the methodologies used in these ratings on their website through amendments to the Sustainable Finance Disclosure Regulation (Hurley 2024b).

Finally, there have been limited public discussions in the United States on regulating ESG rating providers. As a part of its sustainability agenda, the Securities and Exchange Commission (SEC) has focused on standardizing climate-related disclosures by public companies (SEC, 2024). SEC rules published in March 2024 reflect “efforts to respond to investors’ demand for more consistent, comparable, and reliable information about the financial effects of climate-related risks while balancing concerns about mitigating the associated costs of the rules” (SEC, 2024). Amid the emergence of multiple codes of conduct, there is some unease within the industry that the various codes and regulations may conflict with each other, especially due to differences in terminology or requirements. This will necessitate a globally consistent, harmonized set of principles (Pianese and Janiaud, 2024).

Annex 2. State of Sovereign ESG Detailed Disclosures across Providers

ESG provider	Climate modeling **	Are weights of sub-categories public?	Are weights of individual indicators public?	Unique data sources (E pillar)	Update frequency	Methodology	In 2021 Study?
ISS ESG	No	Yes	No [^]	Not provided	Annually	Absolute performance expectations and normalization	Yes
LSEG	Yes	No [^]	No [^]	9	Quarterly	Standardization and normalization to construct scores; weightings sets for aggregation based on a calibration methodology	Yes
MSCI	No	Yes	Yes	16	Annually	Min. risk management score, average risk exposure score	Yes
RepRisk	No	Yes	No	--	Daily	Normalization	Yes
Robeco	Yes	Yes	No	27	Semi-annual	Normalization	Yes
Sustainalytics	Methodology not publicly available						
Verisk Maplecroft	Yes ^{^^}	No	No [^]	Not provided [^]	Quarterly	Cluster analysis across nine dimensions of risk and 37 inputs, with the outputs then used to develop probability weighted ESG, E, S, and G scores	No

Sources: Authors' summary of methodological documents; ESG providers.

Notes: ISS ESG refers to Institutional Shareholder Service Environmental, Social, and Governance; LSEG is the London Stock Exchange Group; MSCI refers to Morgan Stanley Capital International. If information is provided to paying clients, it is denoted with a "[^]". If the element is included in methodology but not discussed in public methodology documents, it is denoted with "^{^^}." "--" for RepRisk's number of unique data sources for the E pillar reflects the fact that RepRisk does not explicitly have E, S, and G pillar data, although they do give a percentage weight of the overall score for each pillar based on the number of incidents tracked by their algorithm for a particular country (e.g., the percent breakdown is different for each country).

Annex 3. Addressing Income Bias in Sovereign ESG Scoring

Sovereign ESG scores continue to display a strong relationship with a country’s income level. Figures 3a and 3b illustrate the current distribution of ESG and E scores across regions and income levels.

Figure 3a: Distribution of average sovereign ESG scores by region and income category

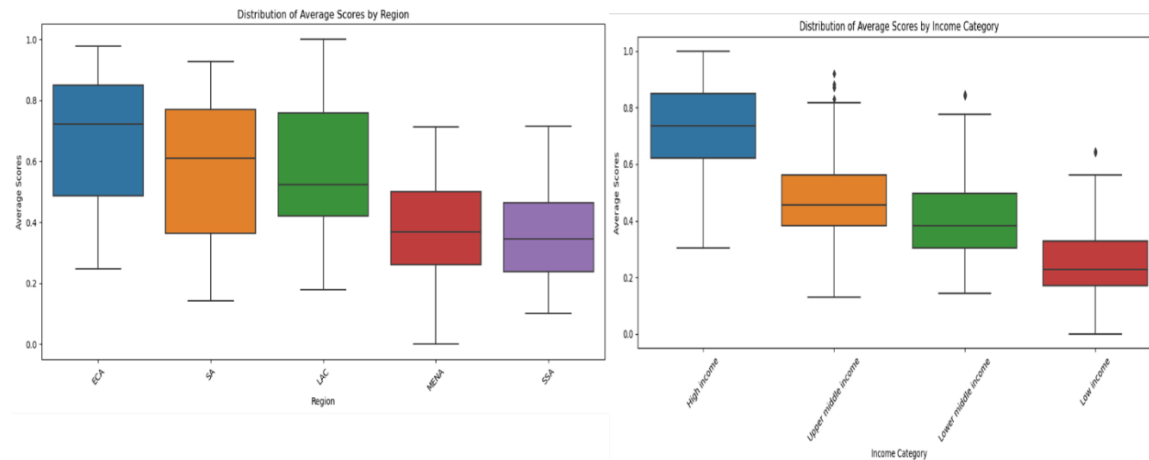
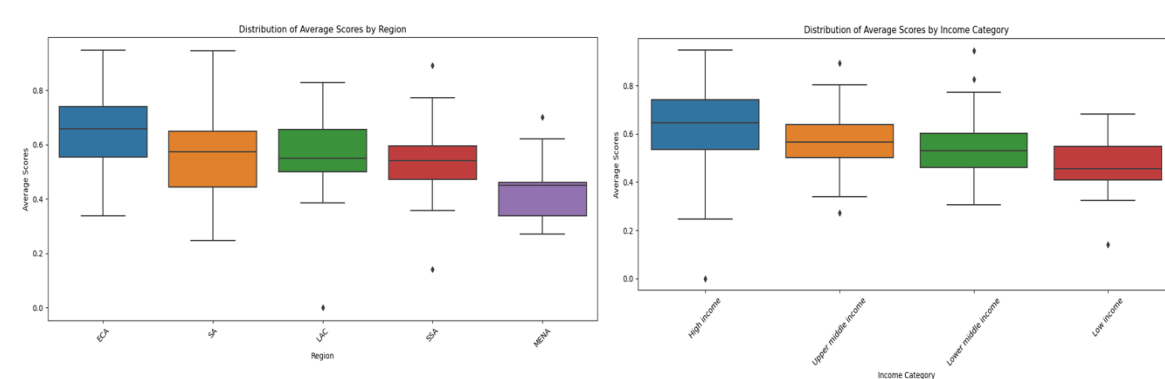


Figure 3b: Distribution of average sovereign E scores by region and income category



Source: Authors’ calculations.

Note: Each box shows the interquartile range of scores within the income category, with the median score indicated by the line inside the box. The whiskers extend to the rest of the distribution, except for points determined to be outliers, which are plotted as individual points. ECA = Europe and Central Asia, SA= South Asia, LAC= Latin America and the Caribbean, SSA = Sub Saharan Africa, MENA- Middle East and North Africa.

Despite the continued income bias across current sovereign ESG score methodologies, Gratcheva, Emery, and Wang (2021a) led to some introspection within the industry. In response, ESG data providers increasingly strive for transparency in their methodologies. Some have acknowledged the ingrained income bias in their scoring systems and are taking steps to rectify it. For instance, LSEG adopted a univariate pooled ordinary least square (POLs) regression to neutralize the influence of income (FTSE, 2023). On a similar note, Verisk Maplecroft transitioned from an initial approach of peer group

benchmarking to a more nuanced non-parametric regression method. This technique adjusts scores based on relative income and considers the scores of neighboring countries.¹⁴

The impacts of these adjustments on ESG scores have been profound and varied across regions. Affluent regions like the Middle East have shown that their perceived ESG leadership is largely resource-driven, as their scores plummet after income adjustments. In stark contrast, African countries and select island nations emerge as the genuine torchbearers of ESG, reflecting their intrinsic commitment to sustainability, irrespective of their income levels.

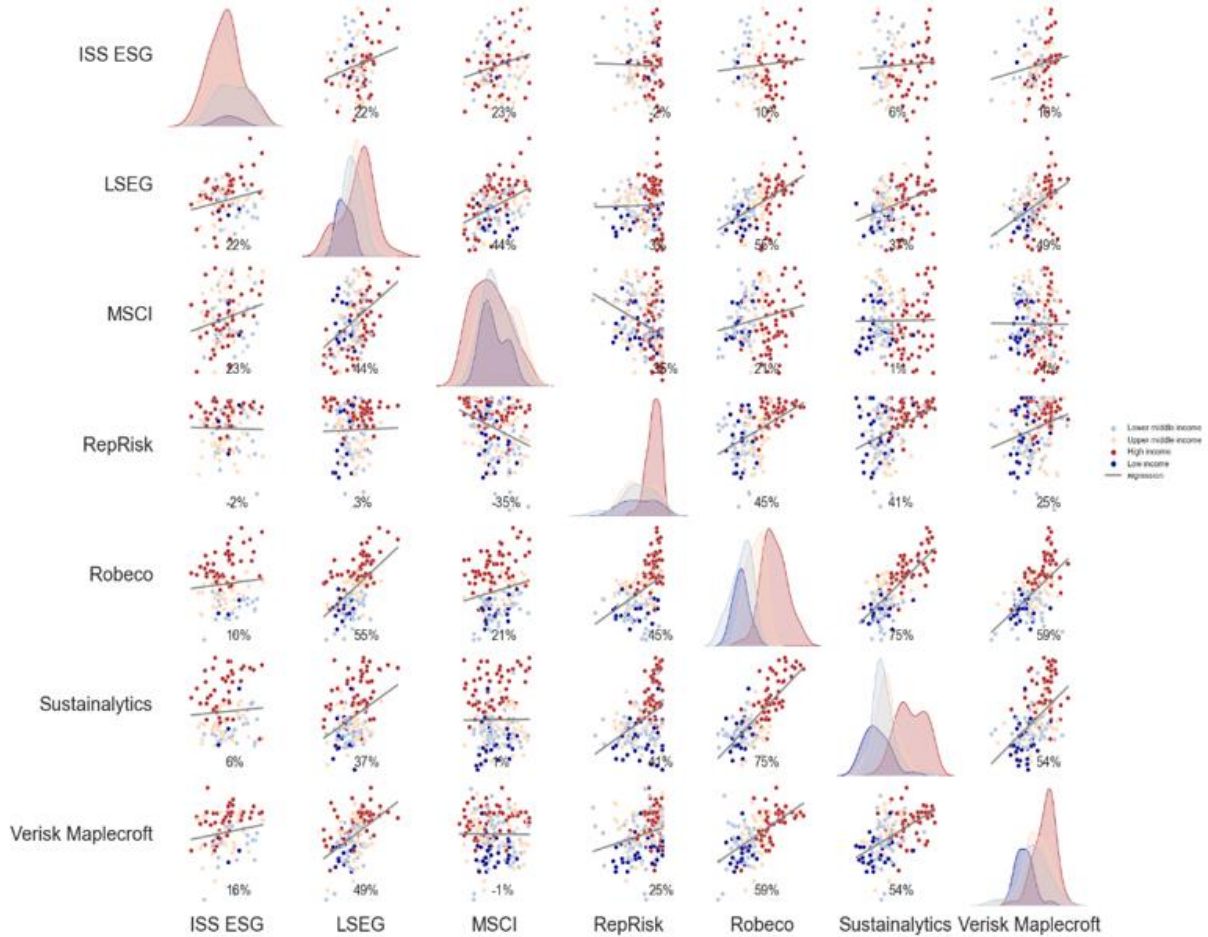
A noteworthy shift in the ESG landscape is the pivot toward scoring systems focused on the Sustainable Development Goals (SDGs). Robeco among other providers, for example, evaluates countries based on their policy alignment with SDGs, accessibility to capital intended for sustainable growth, and their foundational commitment to sustainability principles. This method inherently favors countries with lower and medium incomes, acknowledging the unique challenges and opportunities they present. Similarly, Impact Cubed assesses a country's trajectory toward achieving the SDGs and the pace at which they progress. They employ objective metrics, steering clear of subjective ratings, to base their evaluations on a wide range of factors.

¹⁴ The approach transforms aggregate ESG, E, S and G scores into income-adjusted scores by using a Nadaraya-Watson estimator, a non-parametric kernel regression that allows for countries to be benchmarked relative to the ESG, E, S or G score that would be expected given their level of income.

Annex 4. E Correlations by Income Group and Region

There is little agreement among ESG providers on the sovereign E pillar at the income or regional level.

Figure 4a: Environmental pillar Scores by countries' level of national income



Source: Authors' calculations.

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