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Finding the Right Sovereign ESG Indicators: A Greek Tragedy?

BARINGS INSIGHTS

On our mini odyssey through the vast seas of sovereign ESG indicators, we sought to identify data and scores from reliable third parties—which would not only provide benchmarking criteria between countries, but also serve as an effective screening tool to identify outliers.

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The team would like to thank Tallie Hausser and Raja Panjwani for excellent research assistantship.

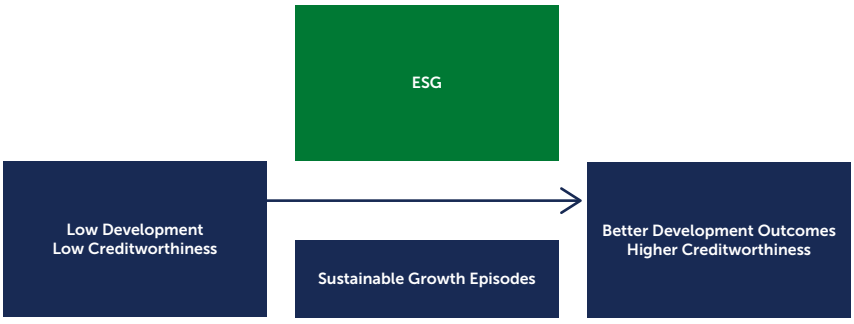
In Greek mythology, heroes go to meet their destiny even though they know it will end tragically. The motivation is often to rise to a challenge that the gods or circumstances have forced upon them, and the only way to take control and ownership is to choose the fight, even if you get the sense that the fight may be hopeless.

In a much less emphatic way, we were in a similar state of mind when, in mid 2020, we embarked on our mini odyssey through the vast seas of sovereign environmental, social and governance (ESG) indicators. We knew the journey may be arduous—even inconclusive—as per our previously published paper on the topic. But we deemed it worth the exploit. While a case study approach will provide a more comprehensive and relevant assessment[1], the questions around measurability and replicability that it could raise are understandable. In this paper, we thus seek to complement our case study approach by identifying data and scores from reliable third parties that are focused on these issues and specialized in data gathering and cleaning. In addition to providing benchmarking criteria between countries, this data can serve as an effective screening tool for sovereign analysts to identify outliers or emerging issues.

Tied to the Mast of Methodology (Approaching the Sirens)

Staying the course during this journey was necessary so as not to be lost among the profusion of existing ESG metrics. Any ESG methodology has to have clear objectives and clear reasons for targeting those objectives. This helps define which indicators help track country performance in reaching these objectives. Therefore, we imposed the following criteria on E, S and G indicators:

- Set objective criteria for each pillar, i.e. what is the goal from gathering such ESG indicators?
- Be consistent with our ESG principles including measuring policies and not outcomes, where possible.
- Accurately predict the measurable end goal.



1. A forthcoming paper will provide details on the Barings sovereign ESG diagnostics methodology.

The first step was therefore to define the target for E, S and G. Given our focus on sustainable growth as the driver of creditworthiness and improvement in social indicators, institutional strength and environmental resilience over time, we set the below targets for each pillar:

- **Governance: Grow the Pie**

  Target: Sustainable growth.

  Method: Identify and assess what institutions and governance framework are conducive to sustainable growth, and how they can be measured across countries.

- **Social: Divide the Pie**

  Target: Comprehensive poverty reduction.

  Method: Identify what policies are conducive to an equitable division of the growth dividends conducive to the protection of the most vulnerable and the creation of opportunities for all, and how to assess them consistently across countries.

- **Environmental: Preserve the Ingredients**

  Targets: Increased resilience to environmental shocks, preservation of a country's natural resources and contribution to positive environmental externalities globally

  Method: Preserve the natural resources of the country and participate in protecting the global environment, while taking into account the difficult trade-off some countries are facing between sustainable growth and preserving the environment.

Our Indicators and Why We Selected Them

After setting the targets for each ESG pillar, the next step was to identify what parameter should and could be measured and monitored in order to assess performance on the set ESG target. In this second step, we went back to relying heavily on the findings of economic literature to help us choose among the relevant measurable parameters:

FIGURE 1: Our ESG Indicators

Dimension	G: Grow the Pie	S: Divide the Pie	E: Preserve the Ingredients
Objective	Sustainable Growth	Comprehensive Poverty Reduction	Preserve the natural resources in the country and participate in protecting the global environment
Measurable Outcomes	**2 Legs:** • Growth Accelerations • Stability	**2 legs:** • Multidimensional Poverty • Capabilities	**3 Legs:** • Decrease sensitivity to international shocks • Participate to international effort • Domestic effort at preserving the environment
Indicators	• **Growth:** Experimental policies, conducive political settlements, anticipation/coordination • **Stability:** W/S, state fragility indicators	• **Capabilities Approach:** Difficult unless through subjective surveys (WVS, OECD social satisfaction data) otherwise measures outcomes more than policies • **Poverty Reduction:** Effective redistributive policies: fiscal data quality, social spending efficiency WB, milex	• **Increase Resilience:** Disaster risk reduction • **International Effort:** Signatory of intl conventions, protection of intl envt as a public good • **Domestic Effort**: Internal policy, execution of those policies

GOVERNANCE: GROW THE PIE

Rationale

As described in our previous paper, insights from development economics literature indicate that a necessary condition for development is achieving consistent growth acceleration episodes over a long period of time. While the drivers of such growth episodes are difficult to isolate, factors such as conducive institutions, resilience to shocks and political stability play a determinant role in enabling these growth accelerations.[2] There has been much debate in the literature around what type of institutions are the most conducive to sustainable growth, and we have reviewed some of this institutional economics literature in our previous paper. Some have focused on corruption or "Doing Business" databases as the best indicators of an institutional environment conducive to growth.

Based on our review of the literature[3], we believe, taking everything into account, that key institutional factors to sustainable growth to monitor are:

- Competitiveness of the political and economic elites[4], as defined in Douglass North's work, and namely their ability and willingness to be productive versus rentier. However, this feature is difficult to comprehensively assess cross country and will be the focus of our case study methodology.
- Policy resilience, effectively through experimentation and the ability of governments to innovate in policy, particularly in the face of new shocks or challenges.[5]

Measurable Outcomes/Endogenous Variables

- Analyze growth patterns over the past 50 years (relying on IMF real GDP growth rates as well as national sources).
- Observe political disruptions over the past 50 years using data from the Systemic Peace institute's Polity project to assess the risk of repeated threats to the country's stability and risk of failed state.

G indicators/Explanatory Variables

- Stability component and elite fragmentation/coordination: Assessed using the Fragile States Index (FSI) 2020 data which uses a combination of big data analysis and a team of social science researchers for quality assurance.
- Policy experimentation: Assessed using the Bertelsmann Transformation Index (BTI) which measures "Steering Capacity" of government and "policy learning" as components.

The chart below shows the rankings of Nigeria compared to Gabon in the latest BTI index, with a higher number representing a more favorable score. In the case of 'Steering Capability,' for example, Gabon is rated more highly than Nigeria.

FIGURE 2: Comparison of Country Indicators—Nigeria vs Gabon

SOURCE: BTI Atlas.

2. Source: Hausmann, R., L. Pritchett, and D. Rodrik. "Growth accelerations." *Journal of Economic Growth*, 10 (4): 303–329 (2005). Rodrik, D. "Where did all the growth go? External shocks, social conflict, and growth collapses." *Journal of Economic Growth*, 4 (4): 385–412. (1999).
3. Source: See literature review by Bluhm R., Szirmai, A. "Institutions and long-run growth performance: An analytic literature review of the institutional determinants of economic growth". (2012). *Maastricht Economic and Social Research Institute on Innovation and Technology, Working Paper Series on Institutions and Economic Growth: IPD WP02*.
4. Source: North, D.C., J.J. Wallis, S.B. Webb, and B.R. Weingast. (2007). "Limited access orders in the developing world: A new approach to the problems of development." *World Bank Policy Research Working Paper Series*, 4359.
5. Source: See M. Khan on the importance of policy innovation for technology adoption: "Technology Policies and Learning with Imperfect Governance", in Stiglitz, Joseph and Justin Yifu Lin (eds) The Industrial Policy Revolution I. The Role of Government Beyond Ideology, London: Palgrave pp. 79-115. (2013).

SOCIAL: DIVIDE THE PIE

Rationale

The S dimension is often viewed as a heteroclite category that includes a wide range of elements, from inequalities to minority rights to political freedoms to health infrastructure, generally with little consistency. In our sovereign ESG analysis, we have decided to focus the Social component on comprehensive poverty reduction overtime. Poverty is a complex and multidimensional issue. It refers not only to income poverty but also to poverty in rights, opportunities and, as famously described by Amartya Sen, in capabilities[6].

Poverty measurement is essential as it enables governments to better target and evaluate their welfare policies. However, poverty measurement can also be tricky. Although a lot of progress has been made over the past few decades on this issue, there are still debates on how to best measure poverty (such as absolute vs relative, income poverty vs other types of poverty, the use and thresholds of poverty lines, poverty assessment in rural areas, gender-specific poverty, broader welfare targets). In addition to difficulties related to the outcome variable, there are multiple factors affecting poverty reduction that can be exogenous and endogenous to government policy, which is the main focus of our approach.

Measurable Outcomes/Endogenous Variables

Multidimensional Poverty Index developed by SOPHIA at Oxford University + alternatives when countries not covered by OPHI.

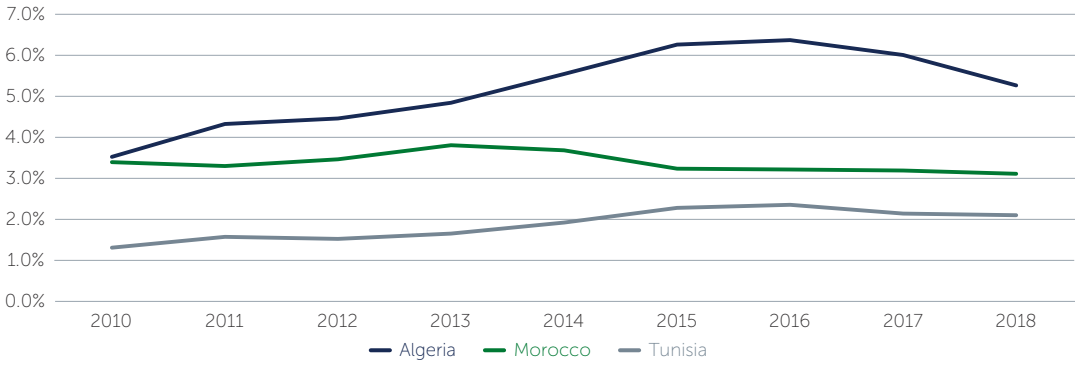
S Indicators/Explanatory Variables

Although it is difficult at our level to do academic justice to this complex and important issue, we thought the following variables would give us a good idea of how efficient poverty reduction policies are:

- Assessing government priorities and their evolution over time, with particular focus on relative education, health and military spending as % GDP. This relies on data published by the World Bank, SIPRI, and a variety of national sources.
- Evaluating the efficiency of government spending using World Bank indicators (Government Effectiveness Indicator, Statistical Capacity index).
- Assessing the reliability of government data (which are our working assumptions) through the Budget Transparency index (IBP).

As an illustration, a chart showing military spending in North African countries over the past 10-years is an interesting signal for policy priorities and domestic and geopolitical constraints.

FIGURE 3: Military Expenditure %GDP



SOURCE: SIPRI database, various editions.

6. Source: Amartya Sen, as summarized in his Nobel lecture (1998).

ENVIRONMENTAL: PRESERVE THE INGREDIENTS

Rationale

While we recognize the tragedy of the commons at the global scale, it is in the long-term interest of all countries to participate in the global effort to preserve the environment, even though some countries would need to be compensated for their opportunity costs and costs of changing their processes of production in the short and medium term. We therefore selected indicators that informed us of governments' seriousness concerning both domestic and global environmental issues, without penalizing countries that needed to rely on less eco-friendly commodities or industries to develop their economies in the short term.

Measurable Outcomes/Endogenous Variables:

- Decrease sensitivity to international shocks/increase resilience to environmental disasters.
- Participate in the international effort to preserve the environment.
- Domestic effort at preserving the environment on a national scale.

E Indicators/Explanatory Variables

- Increased Resilience: Climate disaster risk reduction as assessed through the INFORM database.
- International Effort: Signatory of international conventions and ecological footprint (as assessed through ND GAIN sub-indexes).
- Domestic Effort: Internal policy and execution of those policies as proxied by the Yale index for Waste Management.

To illustrate, the below ranking for the Waste Management indicator of the Yale EPI underlines Colombia's performance at the top, ranking at par with Nordic countries.

FIGURE 4: Comparison of Country Rankings on Waste Management

Country	Rank	EPI Score
Columbia	1	100
Netherlands	1	100
Denmark	3	99.8
Sweden	3	99.8
Singapore	5	99.6

SOURCE: Wendling, Z. A., Emerson, J. W., de Sherbinin, A., Esty, D. C., et al. (2020). *2020 Environmental Performance Index*. New Haven, CT: Yale Center for Environmental Law & Policy.

Sailing Past the Sirens: Avoiding the Call of a Huge Database and a Simplistic Scoring Approach

At this stage of the journey, it could have been tempting to go further, as many have, to compute synthetic ESG country scores using various indicators, establish a ranking and observe the evolution of the scores over time. Some even go so far as to establish thresholds for the scores which are then used to deem some countries un-investible. Others demonstrate the relevance of their ESG scores by regressing them on the financial performance of the country's Eurobonds. While these approaches can be useful as a quick temperature gauge, we have decided to move past them due to methodological concerns and their tendency to oversimplify what is inherently complex.

ESG country scoring, in particular, raises significant issues:

Data Issues: Constructing synthetic score implies normalization and aggregation of data; however:

- Normalization suggests that all data are on the same scale (in terms of magnitude and direction) in order to aggregate them into a single score, across the different ESG indicators and dimensions. This is problematic in that ESG indicators are not always of the same nature (can be qualitative, quantitative, or categorical) and using thresholds and categories can be quite arbitrary. Further, consistency of coverage in the indicators is not always there, geographically nor chronologically.
- Aggregation also presents potential issues. It is defined as bringing together the components into a single score, but the question is how do you do so, and what does the synthetic score mean? Does it make sense to have a score by dimension (E-S-G) and then add up the three scores? What if the dimensions have a different number of indicators, or have different scales of variance? Do you give different weights to the dimensions or indicators? If yes, on what grounds?

Consistency Issues: A synthetic score is incompatible with our ESG, research and investment philosophy:

- *ESG inconsistency:* Each pillar of our ESG method targets an important parameter and seeks to explain it through variables related to policy. For instance, the S dimension targets poverty reduction and seeks to assess it through indicators of the efficacy of government social policy. It doesn't make much sense, in our view, to then go on and add up social spending and budget transparency with state fragility indicators in the G dimension or international conventions indicators in the E dimension. However, we will be able to compare countries more meaningfully on each dimension, for instance: country X is making more efforts than country Y on the E dimension, or country Z has been better able at tackling poverty than country W.
- *Research inconsistency:* Our research approach is based on country-specific, bottom-up analysis. This is true for all of the dimensions we analyze when covering a country, whether macroeconomic, political or ESG. In this regard, a synthetic score could cause us to overlook important country-specific characteristics. If we only monitored the country's ESG ranking, for instance, would we be aware of what issues are the most pressing for the country: a new, lower commitment to protecting the environment? A deterioration in the country's institutions? A less efficient / more unfair social policy following a government change? We believe these questions are more essential to our research process than watching ranking changes.
- *Investment inconsistency:* As explained in our previous paper, we consider a country's direction of travel to be more important than current levels. We believe investing in countries whose creditworthiness and ESG metrics are improving over time deliver returns for investors. Therefore, ESG scores showing Nordic countries in the top 10 for years, or failed states at the bottom and excluded from our investment space, tend to be less insightful when it comes to potentially delivering alpha to our investors. Investing is also a way to influence and excluding badly scoring governments will not incentivize improvements.

This philosophy is all the more crucial as the indicators themselves, either the ones we shortlisted or others widely used by peers and competitors, suffer from various faults and shortcomings, including their sources and construction. For example, several indicators, in particular on the governance side, are based on surveys by "country experts" whose expertise is sometimes questionable and often biased. In addition, there is a glaring lack of data standardization: years, country availability, and even geographical boundaries differ in these indicators. Ultimately, this can not only bias cross-country comparisons, but also limit the relevance of a synthetic ESG score over time, as important datapoints might be missing for a specific country. We provide in the appendix examples of indicators dropped due to data or methodological reasons, for each dimension.

Finally, while formulaic country scores based on cross-country indicators are not the best way, in our view, to provide an accurate ESG assessment of the country, we do summarize our analysis for each country into a short evaluation and give each sovereign an ESG rating on current levels (Strong, Moderate or Weak ESG evaluation) and trend (Improving, Stable or Deteriorating, slow or fast pace). This evaluation and rating are then used for country positioning in the portfolio. Overall, we view cross country indicators as a screening tool more than an active selection tool, the same way that we monitor the macro indicators table for each country but we then need to understand the whole story before sizing it in the portfolio. It means we may disqualify countries if they have weak, deteriorating ESG scores, but having good scores on these indicators is not enough to build a sizable position in the portfolio.

Conclusion: Was the Journey Worth it?

After sailing through the ocean of ESG indicators and reaching the shore, we derived a few important takeaways from our journey:

- *What to keep:* A useful dataset to dive into and monitor important and relevant ESG factors. Across our sovereign debt platform, monitoring the dataset is an integral part of our country analysis process.
- *What to toss:* A long list of indicators that are interesting per se, but irrelevant when used improperly and inconsistent with our ESG methodology.

Above all, we remain tied to the mast (in our case of our methodology) rather than being drawn to the tempting but often ineffective—at best, and hazardous at worst—pool of ESG indicators. Our approach instead will continue to focus on taking deep dives into countries with ESG case studies, which will be the focus of a dedicated forthcoming piece. We believe ESG country diagnostics rather than ESG country scores are the most relevant step further in this process. That said, these diagnostics will focus on the most relevant ESG issue for the country, using some of the notions we have uncovered in this process, such as resilience to climate change, political settlement process conducive to policy experimentation to promote growth, social contracts that are directed toward creating more welfare and reducing poverty. In other words, assessing the country's ESG weaknesses as well as the severity of those weaknesses. Complementary analysis can also look into historical factors, demographics or migration dynamics. The next step will be to identify necessary policy reforms to lift the growth and resilience potential of the country, and therefore its creditworthiness

A final note: An important point is to acknowledge the subjectivity of some elements in the ESG approach and incorporate the implications. We have explained how we believe ESG aligns the interests of investors and other stakeholders as governments grow, distribute and preserve resources. However, we acknowledge that different investors may have specific preferences and priorities, such as gender parity, renewable energy or freedom of the press. In that case, investors may benefit from adopting a constructive rather than punitive approach, by redirecting investments in priority to countries that have dedicated projects on those issues rather than penalizing those that do not prioritize the same ESG dimensions. The development of well-structured and credible green bonds, SDG-bonds and related instruments will certainly help in this direction. For every Odysseus, his own bow.

Appendix

Governance Indicators: Retained

Indicator	Theoretical Foundation	Source	Scope	Years	Freq.	Content
Fragile State Index	Significant political instability as an impediment to sustained growth	Fund for Peace	178 Countries	Since 2006	1 Year	Mix of big data analysis and qualitative review
Bertelsmann Transformation Index	Mushtaq Khan's work on policy experimentation	BTI Database	—	—		Measures "Steering Capacity" of government and "policy learning" as one of the components
Govt Effectiveness	Necessary measure of social policy effectiveness	WB	175 Countries	Since 1996	1 Year	Aggregation of different regional sources—mostly surveys of government efficiency in the country + measures of bureaucratic impediments or policy delays
Sustained Growth	Objective variable	IMF	All IMF Member Countries	Depends on the country but most available for >30y	1 Year	Real GDP growth

Governance Indicators: Dropped

Indicators	Source	Why Dropped
Doing Business Indicators	WB	Controversy over data integrity
All types of Corruption indicators	Various sources including WB and Transparency Intl	Link between corruption and long term growth unestablished
SGI (Sustainable Governance Indicators) indices on: 1) Research, Innovation and Infrastructure; 2) Evidence-based policy; 3) Adaptability	WB	Limited coverage (41 OECD/E.U. countries)
State Fragility Index	Polity IV	Uses variables such as "infant mortality" to represent "state legitimacy" which we found to be dubious

Appendix Cont.

Social Indicators: Retained

Indicator	Theoretical Foundation	Source	Scope	Years	Freq.	Content
Budget Transparency	Link between Fiscal transparency and quality of policymaking (e.g. economic historian Jake Soll)	Intl Budget Partnership/ WB statistical capacity	119 Countries	Since 2015	2 Years	14 questions from the Open Budget Survey that cover transparency of the Budget + WB assessment of country statiscal capacity
Milex/Educ Exp.	IMF paper on the evolution towards a welfare state	Sifri / WB	180 Countries	>30y	1 Year	Comparison of military, education and health spending as % GDP, and their evolution over time
Govt Effectiveness	Necessary measure of social policy effectiveness	WB	175 Countries	Since 1996	1 Year	Aggregation of different regional sources—mostly surveys of government efficiency in the country + measures of bureaucratic impediments or policy delays
MPI	Objective variable	Oxford	105 Countries	Since 2006	1 Year	Country surveys—Measures access and deprivation in education, health, energy, water and sanitation

Social Indicators: Dropped

Indicators	Source	Why Dropped
• **Water and Sanitation Access To Electricity** • **Primary School Enrollment** • **Access to Essential Services** • **Early Marriage [Between 15–19 Years of Age]**	UNDP, Social Progress Imperative, WB	Outcome variables—most of which already captured in MPI
• **Social Efficiency Database**	WB	Interesting concept but input/output approach limitating
• **People Satisfied with Water Quality** • **People Who Say Their Health is Good or Better** • **Life Satisfaction** • **Time Devoted to Leisure and Personal Care (Hrs)**	OECD—Gallup or WVS	Limited scope/coverage + subjectivity
• **Personal Safety** • **Political Rights**	Legatum Institute—Social Progress Imperative	Broaden the approach to rights under social? What is the limit? More compatible with capabilities approach?
• **Probability of Becoming Unemployed (%)** • **Long-Term Unemployment Rate (%)**	National sources—IMF—OECD	Outcome variable + A cyclical economic indicator we already monitor in country analysis?

Appendix Cont.

Environmental Indicators: Retained

Indicator on Shortlist	Connection to Objective	Causal Justification
Engagement in International Conventions (ND-GAIN)	Protecting the global environment	Whereas each country may individually take no environmental action, in equilibrium several countries may take environmental action if they expect others to. An International Environmental Agreement can thus be self-enforcing.
Disaster Risk Reduction (INFORM)	Increase resilience	Ultimate test of resilience—Hyogo Framework for Action, a series of inquiries into disaster risk action by governments (data collection, resource allocation, infrastructure and capacity)
Ecological Footprint (ND-GAIN)	Protecting the global environment & increasing resilience	Key data point representing ecological capacity to maintain lifestyle, an important indicator of sustainability
Waste Management (Yale EPI)	Protecting the global environment, protecting domestic resources ans increasing resilience	The economic cost of uncollected waste can be nearly 5x as high as proper waste management program costs. Key indicator for government action on environmental issues, connected to preparedness and resilience across diverse communities.

Environmental Indicators: Dropped

Idea	Why Not Retained
Climate hazard and exposure through projected change of climate risk (warm periods, sea level rise)	Unfair to countries in unfortunate geographies/natural resource situations
Human resilience to climate shocks through food security, projected population change, slum population, vulnerable groups, climate migration trends	Too much overlap with social indicators
Water treatment (fresh water withdrawal rate, access to reliable drinking water)	Ultimately chose dam capacity as best resilience indicator for water issues
Pollution levels (air quality, lead exposure, etc.)	Ultimately chose waste management as a strong indicator of government commitment to environment and resilience
Climate change performance indicators such as GHG emissions, renewable energy usage	Extremely dependent on development stage of country, decades-old debate about fairness, also covered by International Conventions
Socio-environmental resilience indicators: innovation in agriculture, sustainable resource management	Yet to be widely available for our needed countries
Domestic climate laws and policies	Only tracked by number of laws, not by effectiveness, etc.

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**As of September 30, 2020*

21-1487423