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Country Sustainability Ranking Update – January 2023

Nordic nations in a neck-and-neck race for the top

Sustainable Investing Expertise by ROBECOSAM

Country Sustainability Ranking Update

Marketing material
for professional investors

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About this report

This semi-annual report provides a succinct summary and analysis of the environmental, social, and governance (ESG) profiles of 150 countries around the globe. It builds on the results of the proprietary Robeco Country Sustainability Ranking (CSR) tool which collects and analyses the relevant ESG data via a structured and comprehensive framework to calculate an overall country score.

The resulting scores offer insights into the investment risks and opportunities associated with each country and provide investors with a better frame of reference for making comparisons among countries and regions from a risk/return perspective.

The summary outlined here complements findings gained from a more traditional country risk assessment and is particularly focused on integrating long-term perspectives. Please see the Appendix for further details regarding data indicators and methodology.

For a brief methodology overview or to request more comprehensive information, please visit ttps://www.robeco.com/en/key-strengths/sustainable-investing/country-ranking/

Author's note: ESG data contained in this report is as of October 2022, unless otherwise indicated. Commentaries, summaries, and analyses are as of December 14, 2022.

Contents

ESG Scores in Context

Dramatically shifting ESG focus

The ESG landscape in 2022 continued to be challenging, characterised by heightened economic, environmental, social and (geo-)political risks and uncertainties. Covid-19 disruptions persisted, albeit to a lesser extent, and the ongoing Russia-Ukraine war aggravated energy and food security in many countries. Stakeholders' demands for action have intensified as recurrent extreme weather events raise awareness on climate change and biodiversity loss, both critical issues which were intensely debated at COP27 in Egypt and COP-15 in Canada late 2022. The convergence of such a diverse range of ESG risks illustrates once again the crucial need for comprehensive sustainability analyses across all three "E", "S", and "G" features.

Changing times, adapting measures

The rotating dominance of different ESG issues makes it clear that no single ESG dimension should be ignored or neglected. Moreover, outbreaks – whether of social protests, regional wars, or deadly viruses – clearly illustrate how quickly risks can erupt and evolve with devastating effect on individual countries and the global economy. In this context, in-depth analysis of individual ESG criterion as well as comprehensive analysis at the aggregate can help yield critical insights that inform balanced and well-founded investment decisions.

This view has always been the foundational core of our country sustainability ranking tool and it continues to guide recent efforts to improve underlying variables and structures to better reflect global risks and enhance investment insights. In the environmental sphere, an increasing number of empirical analyses show that climate risks and biodiversity loss are profound, not just for human beings and nature but also for economic and financial stability. The risks are real, financially material, and imminent even if they are not yet fully reflected in financial market prices. Central banks and supervisors are, however, acting and plans for financial regulations are underway.

In the social sphere, human rights is emerging as a factor in need of government and investor attention. There is increasing recognition that respecting the rights of individuals and adhering to globally accepted human rights standards positively increases a country's reputation and economic growth over the long run.

The CSR framework is reviewed on a continual basis to ensure results accurately reflect current realities and future investment risks. In light of a changing global context, we have replaced existing indicators and re-assigned weights across all ESG dimensions. Most significant are changes to the environmental areas where we replaced broad third-party datasets with those that more discretely measure climate, biodiversity and water & waste. Environmental data now carry a 30% weight in the CSR, up from 20%. Indicators were also replaced in the social sphere to reflect the risks (and also opportunities) associated with good social capital management. Governance data continue to have the largest weight in the framework, but its weight has been reduced from 50% to 40%. Financial development data have been removed from the dataset. (Please see the Appendix for more detail).

Changes will not only enhance our ability to comprehensively assess sovereign investment risks, they will also support our climate engagement activities with sovereign nations.

The latest country ESG scores will, in some cases, display larger changes compared to previous updates, especially for countries with poor performance on climate, biodiversity and human rights criteria. As a result, the country scores from this update cannot be compared directly with prior reports.

Country Sustainability Report – 2022

Nordic nations in a neck-and-neck race for the top

The latest edition of the 2022 country sustainability ranking has three Nordic nations closing ranks at the top. With a score of 9.07, slightly down from 9.13 in spring, Finland stays on top but is now joined by Norway, which edged out Sweden (9.06) by the slimmest of margins. Their Nordic neighbour Denmark follows in fourth place, ahead of Switzerland and Iceland to round out the elite group of nations with the best sustainability performance worldwide.

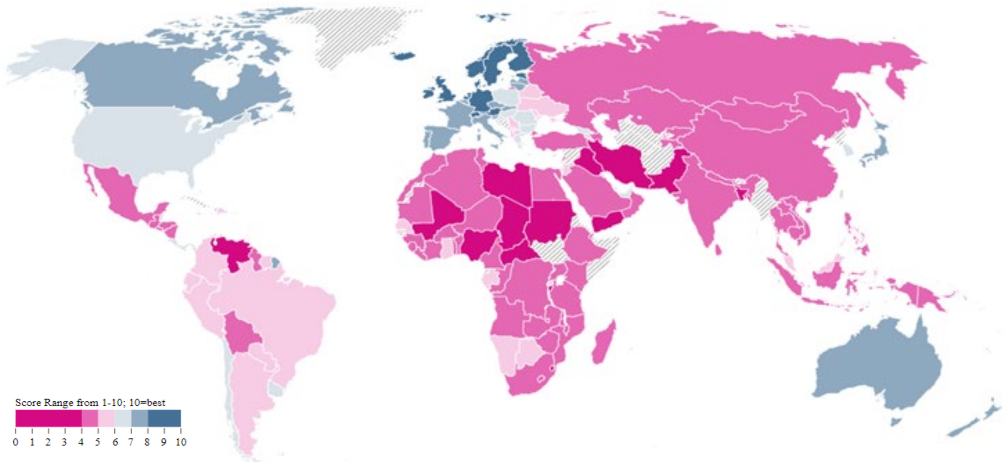
Superior ESG scores (8.0 and above) reflect countries with robust and well-balanced ESG profiles. This group hosts 13 countries and includes only one non-European nation (see **Figure 1**). With a score of 7.98 and a rank of 14 out of our 150-country universe, New Zealand just missed inclusion but was still the best performing country outside of Europe. Also significant is Estonia (ranked 11th), the sole emerging market economy that not only outperformed its income peer group but also many higher-income countries in Europe and globally. Australia, Canada, and Japan are the other non-European nations that made it into the top twenty.

Out of the group of 127 emerging and developing economies, eight made it into the second-best category (ESG scores between 7.0 and 8.0), all of which were EU member states, except for Singapore.

BRICS also continued to fall short of expectations with the vast majority still falling in the lower half of the sustainability rankings – Russia (#103), India (#128), China (#111), and South Africa (#102). Brazil (#62) was the only BRICS nation which managed to stay in the ranking's top half. And while some are showing signs of improvement, most emerging market heavyweights including Indonesia (#94), Mexico (#85), Saudi Arabia (#83), and Türkiye[1] (#108) are also performing poorly. This is particularly disappointing given their status (with the exception of India and Indonesia) as upper-middle- and even high-income economies (in the case of Saudi Arabia). In general, one can observe a relatively high correlation between a country's income level and its ESG score. It follows that wealthier countries should have more resources available to strengthen their ESG profile, be it by investing in infrastructure to increase resilience to extreme weather events, strengthening education and health systems to improve human capital pools, or ensuring citizens' basic needs and rights are secure and protected.

At the other end of the ranking is the group of 15 countries with scores below 4.0. Of these, nine are in Africa, four in the Near- & Middle East, two in South Asia and one, Venezuela, in Latin America. A comparison with the World Bank's country classifications shows that low- and lower-middle income countries dominate this group, with Iraq standing as the lone upper-middle income outlier. Iraq's performance is being dragged down by weak climate metrics, fragile governance, and tenuous social structures.

Figure 1 | The global country sustainability ranking map



Data source: Robeco, country sustainability scores as of October 2022.

Data note: Countries are color coded according to their ESG scores.

[1] As of June 2022, Türkiye (pronounced (tur-key-YAY) is the official name of the country formerly known as Turkey.

Figure 2 displays the wide gap in sustainability performance between those at the top and bottom of the ranking. The countries at the bottom depend on which universe is being counted. China, the Philippines, India, Nigeria, and Pakistan make up the lowest-performing countries when only the top 50 economies in terms of nominal GDP are considered. In the fully assessed universe of 150 countries, Libya, Sudan, Iran, Iraq, and Yemen round out the bottom five. Unsurprisingly, the bottom five countries involve economically, socially, and politically fragile states in Africa and the Middle East.

Figure 2 | Top five and bottom five sustainability performers

	Country	Score	Governance 40% weight	Environmental 30%	Social 30%
1.	Finland	9.07	8.62	9.25	8.54
2.	Norway	9.07	8.38	9.50	8.61
3.	Sweden	9.06	8.44	9.52	8.47
4.	Denmark	8.97	8.55	9.04	8.54
5.	Switzerland	8.77	8.65	8.54	8.27
111.	China	4.49	5.28	3.44	4.75
119.	Philippines	4.31	4.98	3.66	4.39
128.	India	4.13	5.33	3.00	4.03
137.	Nigeria	3.97	3.66	4.89	3.89
141.	Pakistan	3.67	3.99	3.60	3.79
146.	Libya	3.21	2.94	3.83	3.57
147.	Sudan	3.09	2.95	3.68	3.34
148.	Iran	3.06	3.81	1.92	3.85
149.	Iraq	2.90	3.32	2.26	3.67
150.	Yemen	2.44	2.36	3.94	1.87

Data source: Robeco, country sustainability scores as of October 2022.

Data note: The five countries framed in the middle of the chart designate the bottom-five ranked emerging market countries when considering only countries within the top-50 developed and emerging economies in terms of nominal GDP.

Gains and losses in the short- and medium term

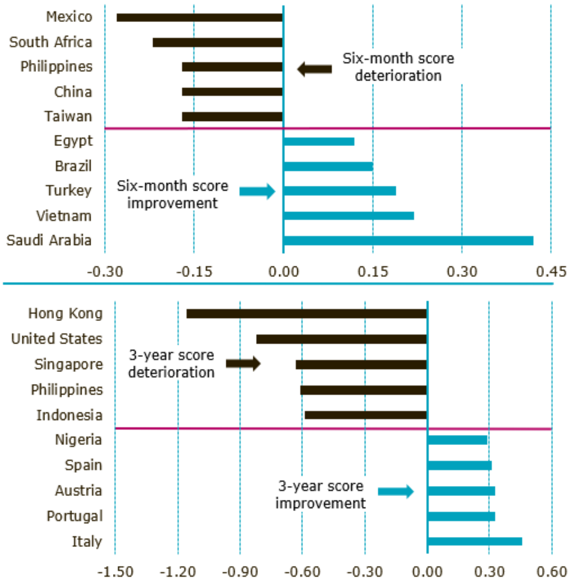
First, the gains

Figure 3 shows the countries with the biggest gains or losses in ESG scores over the preceding six-months and over a three-year time horizon. The graph does not cover all countries but is limited to the universe of the larger economies. Saudi Arabia leads the list of winners in the short term, resulting from reforms within its "Vision 2030" strategy (see Special Country Reports).

Despite headlining controversies in recent months, Egypt, Brazil and Türkiye also saw slight gains. Egypt's small improvements stemmed from several criteria (Aging, Human Development, Corruption and Political Stability) which taken together boosted its overall score (see Special Country Reports for commentary on Brazil and Türkiye's paradoxical outcomes).

Finally, Vietnam's score benefitted from a more ambitious greenhouse gas (GHG) reduction target for 2030 and a higher Labour Force Participation Rate (LFPR) for the 55-64 age group.

Figure 3 | Largest gains and losses in ESG scores over six months and three years



Data source: Robeco; data assessed as of October 2022

Data note: The chart displays countries with the largest score losses (left) and gains (right) over the past six months and three years ending October 2022.

Only countries within the universe comprising the top-50 developed and emerging economies in terms of nominal GDP are shown.

Second, the losses

The list of losers over the preceding six months sees Mexico and South Africa in front—two countries generating negative headlines over the past year. Mexico has seen setbacks across all three ESG dimensions, however, the most worrisome is President Andres Manual Lopez Obrador's blatant disregard for democratic norms and institutional checks and balances as is revealed in the lower score for institutions. Mexico's climate policies are also headed backwards. Instead of reducing carbon emissions, the November update to its 2030 nationally determined contributions (NDC)[2] increased target emission levels compared to 2016.

Similar policy failures can be observed in South Africa. The country appears trapped in a vicious low-growth cycle with persistent poverty, inequality, insecurity, health, corruption, energy and infrastructure problems – all reflected in deteriorations in related governance, climate & energy and water & waste criteria. China has experienced a decreasing LFPR and an increasing Old-Age Dependency Ratio (OADR) due to unfavourable demographics. It has also seen an increase in inequality, largely the result of an economic downturn exacerbated by a stiflingly rigid Covid-19 policy, as well as a deterioration in globalization & innovation criterion, mainly due to its increasingly insular stance.

In the Philippines, unresolved labor policy issues led to its overall score decline. Its LFPR decreased while the OADR increased. As a result, there are fewer workers to grease the economic engine but more elderly which weighs down public spending. Finally, Taiwan's drop is due to higher adjusted net-zero emissions and a decline in the global innovation index, the latter most likely the result of lockdowns and restrictions as well as shifts in policy and investment priorities during the Covid-19 pandemic.

Gains over three years

Italy, Nigeria, Austria, Portugal and Spain saw the most improvements over a three-year horizon. As already noted, several new criteria were added and weights within the existing model shifted to reflect the increasing significance of environmental and social factors for country sustainability performance – including biodiversity, climate change & energy, water & waste as well as human & labour rights. Countries doing relatively better in these areas have seen their scores rise and vice-versa. Italy, which has seen the most significant gains over three years, is one of these beneficiaries as outlined later. As for Portugal and Spain, both countries saw a decline in environmental risk, an improvement in the LFPR and some easing in social tensions, with the latter two resulting from reform efforts and better economic conditions.

[2] Nationally determined contributions (NDC) are non-binding disclosures made by country signatories of the Paris Agreement in which they outline their plans for reducing emissions within their respective economies through 2050. See UNFCC.int for more details.

Austria has also benefitted from the higher weight on environmental factors and has shown an improving LFPR. This was sufficient to offset the deterioration in political risk and stability related to the scandals that rocked its leadership and led to the resignation of former Chancellor Kurz in December 2021. Finally, Nigeria saw a boost in its overall score over the past three years, also resulting from better climate and energy scores. Its GHG emissions of 2.01 tonnes (t) of CO_2 equivalents per capita per year are significantly below the global average (6.71t) Nevertheless, its overall ESG profile remains poor with major shortcomings across social and governance spheres.

Losses over three years

Hong Kong continues to lead the list of countries with the largest score declines over the past three-years. Results were largely due to growing interference by the People's Republic of China, the dismantling of the territory's democratic institutions and increasing restrictions with regards to political rights and civil liberties. Moreover, the US also ranks among the largest losers as a result of residual damage inflicted during the Trump era. Still, as stressed in previous reports, the Biden administration has exercised strenuous efforts to regain lost ground. With Democrats' better than expected mid-term election outcomes, chances for more sustainable policies and better country scores are still intact.

Singapore has also experienced turbulence in recent years including absorbing the impacts of Covid-19, coping with difficult external economic conditions, and managing a next-generation political transition. However, a more vibrant political opposition means political threats have enlarged somewhat, reflected in a decline in the political risk scores from Euromoney and PRS Group (both part of our CSR) from 87.3 and 82.0 at the beginning of 2021 to 79.8 and 81.0, respectively, in Q3/2022. Moreover, as a highly urbanized country and with above-average GHG emissions, Singapore has also been affected by the increased importance of environmental dimensions in our ESG rating tool. Still, with a score of 7.22 and rank of 28, its overall ESG profile remains solid.

Indonesia's decline compared to Q3/2019 relates largely to higher political risk and instability. President Joko Widodo is faced with a delicate challenge in delivering on promised reforms, dealing with separatist movements (especially in West Papua), and keeping the rise of Islamism in check. Still, since the last update, the political environment has remained stable. Last but not least, the Philippines can blame its deteriorating three-year performance on the controversial policies of its former president Rodrigo Duterte. His leadership period was marked by an erosion of democracy, a bloody drug war and a disregard for human rights.

With the election in May 2022 of Ferdinand Marcos Jr., himself the son of the Philippine's notorious former dictator, as president and Sara Duterte, herself the daughter of the contentious Rodrigo Duterte, as vice president, prospects for a reversal in the downward trend do not seem promising. The Marco-Duterte alliance foreshadows further concentration of power, a probable continuation of populist and authoritarian policies, and a likely deterioration in its ESG performance.

Special Country Reports

Italy – fumbling leadership stifles performance

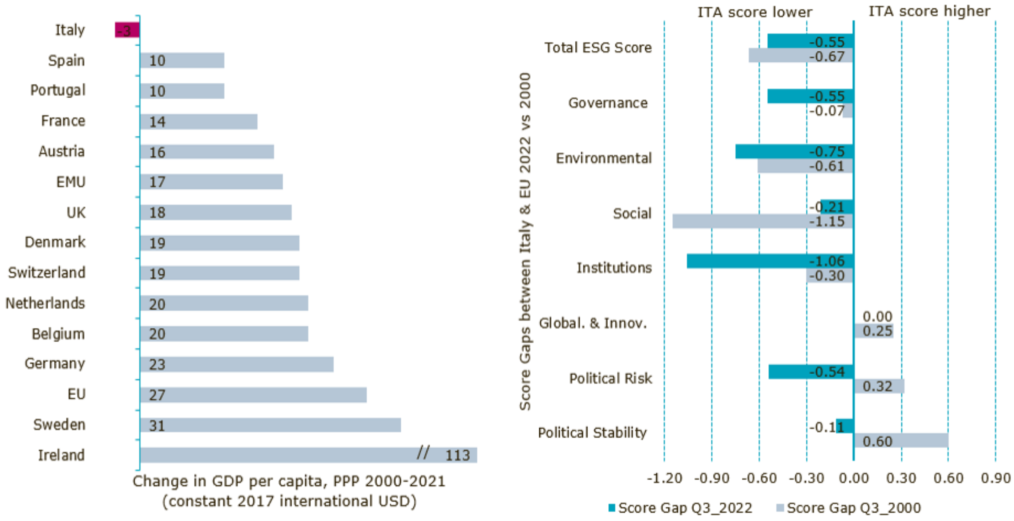
Following the collapse of Mario Draghi's coalition in July 2022, Italy had a snap general election in September which resulted in dual-chamber victories in the Italian Parliament for the centre-right coalition led by Giorgia Meloni. It is Italy's 68th government since the end of World War II, illustrating the high turnover of governments that have now become accepted as ordinary. Given the strong majority in parliament, there is some hope that PM Meloni can give Italy more stability, but her government is facing huge challenges and she will also have to withstand internal pressures from within her ruling coalition.

Recurrent political turmoil has beleaguered reforms and led to a slippage in key governance criteria over the past two decades, visible in a decline in respective criteria scores relative to its EU peers. This also had a negative economic impact – per capita income is now below its level 20 years ago (**Figure 4**). Structural reforms are desperately needed to combat growth stagnation, unfavourable demographics, weak productivity, weak investment and weak employment; but reform efforts continue to be hampered by public sector ineffectiveness and political instability.

Given these unsatisfactory sustainability developments, Italy's appearance under the countries with the biggest gains in ESG scores during the past three years may seem somewhat contradictory. While Italy's environmental score has diminished somewhat over the last twenty years relative to the EU average, the country has still been among those that benefitted from revisions in our country sustainability ranking methodology which weighs biodiversity, climate & energy, water & waste and human & labour rights more heavily. These are all among Italy's stronger ESG features.

Italy's CO_2 emissions are below the EU27 average (at 5.41t per capita/year in 2021 vs 6.25t).[3] It also shows a solid share of renewable energy to total energy consumption (18% in 2019) and the proportion of controlled solid waste amounts to a high 91.3 at present. The OECD has also taken note of Italy's relatively robust performance in terms of reducing carbon emissions, increasing renewable energy and enforcing high recycling rates compared with other EU members.[4] Moreover, Italy earns high marks on social indices such as the Fund for Peace 2022 Fragile States Index and the ITUC's 2022 Global Rights Index.[5] The two indicators make up our human & labour rights criterion, where Italy records a high score of 8.42 out of a possible 10. Overall, Italy's ESG score stands at 7.0 narrowly keeping it within the top fifth of the ranking (rank #30).

Figure 4 | ESG & growth performance since 2000: Italy trailing its European peers



Data source: Robeco; data assessed as of October 2022

Data note: The left-hand chart displays Italy's cumulative GDP per capita growth performance since 2000 in comparison with European peers. The right-hand graph shows the performance gap between Italy and its EU-27 peers with respect to 1) overall ESG scores 2) ESG dimensions, and 3) select ESG criteria this year (as of Q3 2022) as well as 20 years ago (Q3 2000). Italy's political stability score, for example, was 0.60 points above that of the EU-27 average in 2000 but has weakened continuously such that it is now 0.11 points below the EU-27 peer group average. The decline reflects chronic uncertainty stoked by frequent government turnover.

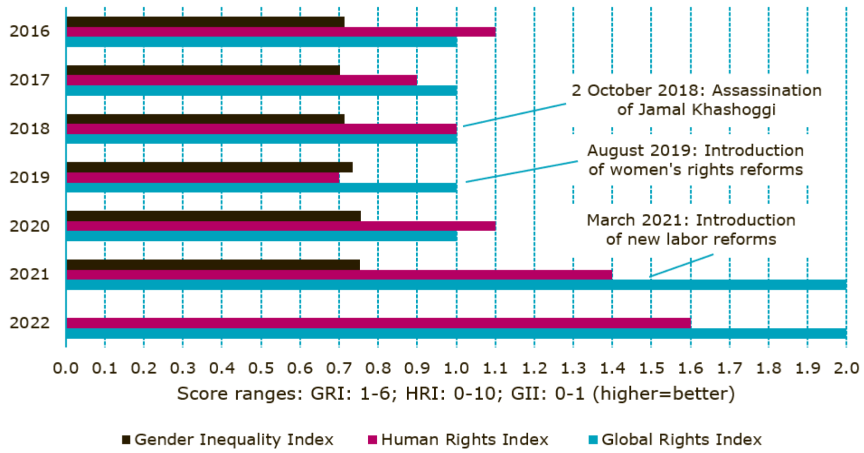
[3] 2021 figures
[4] OECD: Economic Survey: Italy 2021.
[5] The International Trade Union Confederation (ITUC) is a worldwide confederation of national trade unions.

Saudi Arabia – are reforms finally bearing fruit?

Among the larger economies, Saudi Arabia is the country with the biggest gain in the ranking this year. The increase results mainly from an improvement in human & labour rights and in globalization & innovation. Since Crown Prince Mohammed bin Salman (MBS) announced an ambitious reform plan known as "Vision 2030" in 2016, the Kingdom has initiated several steps to improve environmental, social and governance performance.

Key reforms include the Future Investment Initiative (2017), the introduction of a value-added tax (2018), a law to improve women's rights and ease tourism restrictions (2019), changes in the judicial system (2021), labour laws that improve the legal status and mobility of migrant workers (2021), and the announcement of legal reforms to benefit women and non-Muslims (2022). Slight progress is already visible in related ESG indicator scores (see Figure 5). Moreover, the human rights assessment by Fund for Peace has also started to improve again after setbacks following the assassination of Jamal Khashoggi in October 2018.

Figure 5 | Saudi Arabia: stepwise reforms gradually reflected in scores



Data source: Robeco; data assessed as of October 2022

Data note: The chart displays Saudi Arabia's performance across social criteria over the past 6 years (2016-2022). While gender equality has barely budged, the Kingdom has made considerable progress on human rights more generally.

However, positive developments should not mask Saudi Arabia's sustainability deficiencies, which still leave it considerably behind emerging market peers (see Figure 6). While potentially radical, most of the reform moves involved gradual and limited adjustments and have thus far largely omitted the political sphere. The Saudi absolute monarchy still restricts almost all political rights and civil liberties, as illustrated by its very poor scores for political rights (1 out of 40) and civil liberties (6 out of 60), and its "Not Free" status by Freedom House's World Freedom Report 2022.

Along with personal freedom, the Kingdom's climate and energy scores also blight its overall ESG profile. Saudi Arabia is one of the world's biggest GHG emitters (ranked 13th in 2018) and its GHG per capita emissions are more than three times as high as the global average (22.4t CO_2 equivalents/capita/year compared with 6.7t in 2018). Under the Saudi Green Initiative, launched in 2021 to protect the environment and transform the energy sector, the Kingdom pledged to become net zero in carbon emissions by 2060, to increase renewable energy to 50% (up from close to zero in 2019) and to reduce methane emissions by 30% over the 2020-30 period. If executed, these plans would significantly improve the country's climate & energy performance and probably also help to lift its biodiversity score.

Figure 6 | Saudi Arabia still exhibits major deficiencies in its ESG profile

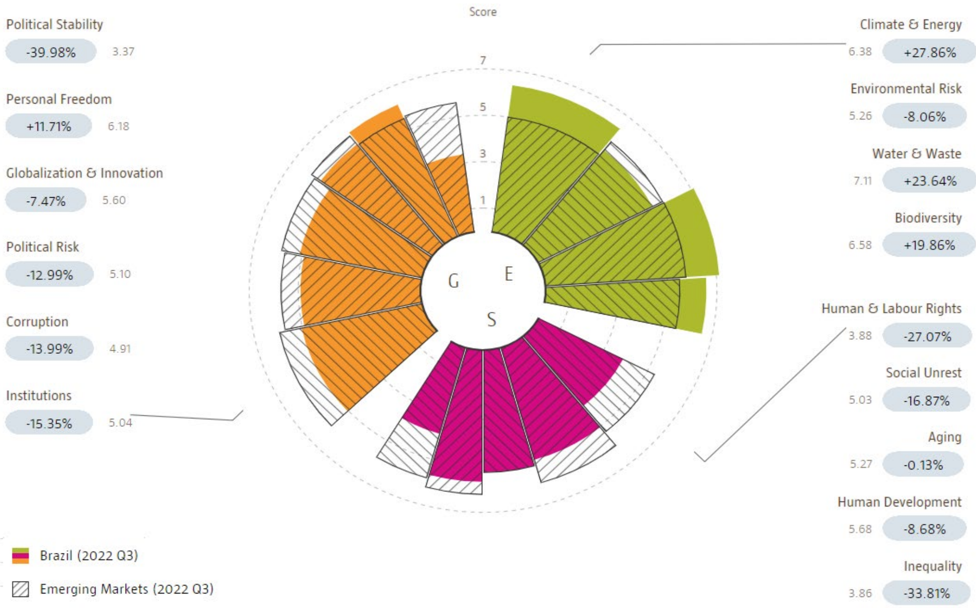
Data source: Robeco; data assessed as of October 2022

Data note: Saudi Arabia's overall ESG score underperforms its emerging market peers. Moreover, it shows significant performance lags across important governance, environmental and social indicators vis-à-vis the same emerging market peer group.

Brazil –scores stumble, but hope flickers under new leadership

With a score of 5.36 (#62 out of our 150-country universe) Brazil is classified considerably ahead of its BRICS counterparts in Russia, India, China, and South Africa. However, significant gaps emerge when compared with a larger peer group of emerging markets, especially in governance and social areas (see **Figure 7**). Brazil has always suffered from high income inequality (its GINI coefficient of 0.489 is one of the highest in the world), a fact that didn't appreciably change over the past few years under the presidency of Jair Bolsonaro. Worryingly still, all aforementioned ESG features have seen a pronounced deterioration during his tenure.

Figure 7 | Brazil's sustainability profile compared to emerging market peers



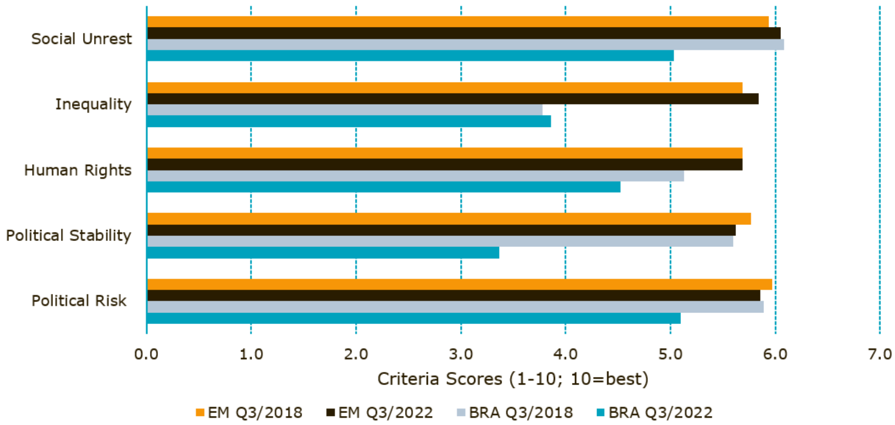
Data source: Robeco; data assessed as of October 2022

Data note: The chart displays Brazil's ESG profile vis-à-vis that of the emerging market universe consisting of 52 countries.

This is visible from **Figure 8**, which shows how Brazil's corresponding scores have deteriorated relative to those of the emerging market average from late-2018 (just before Bolsonaro started his term) until end-2022. The reversal of the scores from Q1/2022 to Q3/2022 – largely due to an increase in the labor force participation of 55-64 year olds as well as a decline in the GINI coefficient – was woefully insufficient to offset previous declines.

Much of the adverse trend during the past four years is the result of Bolsonaro's polarizing rhetoric, populist policy style, his attempts to undermine democratic institutions and his disregard for the separation of powers. Against this backdrop it was no surprise that Bolsonaro challenged his loss in the recent presidential election in Brazil's electoral court. However, the court's subsequent rejection of his allegations is strong evidence of the strength and independence of Brazilian institutions which still act as an effective counterbalance to extremist tendencies.

Figure 8 | Bolsonaro's polarizing policies reflected in a decline in selected governance and social factors



Data source: Robeco; data assessed as of October 2022

Data note: The chart displays how selected governance and social criteria of Brazil have performed against EM peers during the Bolsonaro presidency.

Luiz Inácio Lula da Silva, the newly elected President, is expected to pursue a more conciliatory and inclusive policy stance, and to introduce moderate reforms by loosening fiscal policy in order to promote public investments, social programs, and environmental initiatives. However, Lula inherits a deeply divided country and will face major challenges including unfavorable economic conditions, fiscal constraints, and strong opposition forces in Brazil's congress. One area of hope is the environment, where the new Lula government is expected to reverse the former administration's damaging anti-environmental policies, particularly in the Amazon Forest.

In view of the alarming headlines about massive deforestation and other environmental degradation under the Bolsonaro administration, it may appear surprising to see Brazil's superior environmental scores compared to the emerging markets average. However, Brazil is still home to some 60% of the world's tropical forest, 20% of its fresh water and 10% of the planet's biodiversity. Moreover, Brazil's GHG emissions of 5.97t of CO_2 equivalents per capita in 2018 were below the global average (6.71t) and with renewable energies amounting to 37% of energy consumption in 2019, it is also one of the more advanced countries in the clean energy space. These elements combined explain its robust environmental profile despite negative developments in recent years.

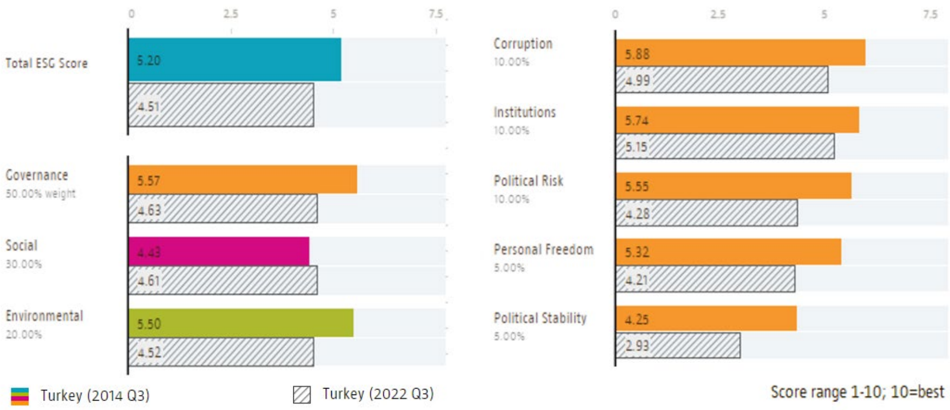
Türkiye – short-term blips won't derail long-term trends

Though its overall ESG score nudged slightly up this year thanks to positive environmental and social developments, Türkiye's sustainability performance overall has spiraled downward since early 2015. With a score of 4.51 (#108) it compares poorly with its EM peers. Its main shortcomings relate to governance, resulting primarily from President Recep Tayyip Erdogan's increasingly authoritarian and nationalist policies. Adverse impacts are visible in Türkiye's weak political risk & stability, personal freedom, and institutions' scores, but also in human & labor rights marks within the social sphere. By taking control of constitutional powers and interfering in economic policymaking, Erdogan has increasingly undermined state institutions and contributed to the economic woes and financial turbulence of recent years.

Declines began soon after Erdogan's election as president in August 2014 and intensified after his re-election in June 2018. As a result, Türkiye's ESG score fell by 0.69 and its rank from 72 to 108 since late 2014 (see **Figure 9**). Thanks to increased state welfare provisions, the social space is the only area where slight improvements are visible. But even here, future prospects look bleak as runaway inflation and a collapsing lira are pushing millions of Turks to the brink of financial ruin and poverty. Against this background, the elections (expected in June 2023 at the latest), could have major consequences. Erdogan has already declared his candidacy, but after two decades of AKP (Justice and Development Party) rule, his popularity is faltering. Moreover, six opposition parties have announced their intention to nominate a joint candidate in a bid to end Erdogan's rule, raising the prospect of political change.

More positively, in the environmental sphere, Türkiye has established ambitious goals including pollution control, waste management and fighting climate change. However, enforcement is weak and in view of its mounting economic troubles, the government is unlikely to give environment-friendly policies a higher priority.

Figure 9 | Türkiye's ESG performance: back-sliding



Data source: Robeco; data assessed as of October 2022

Data note: The chart displays Türkiye's ESG scores in 2014 compared to today (Q3 2022). Türkiye has lost ground across the aggregated ESG score, individual E, S, and G dimensions as well as in key governance criteria since Q3 2014.

Proprietary rankings vs independent benchmarks

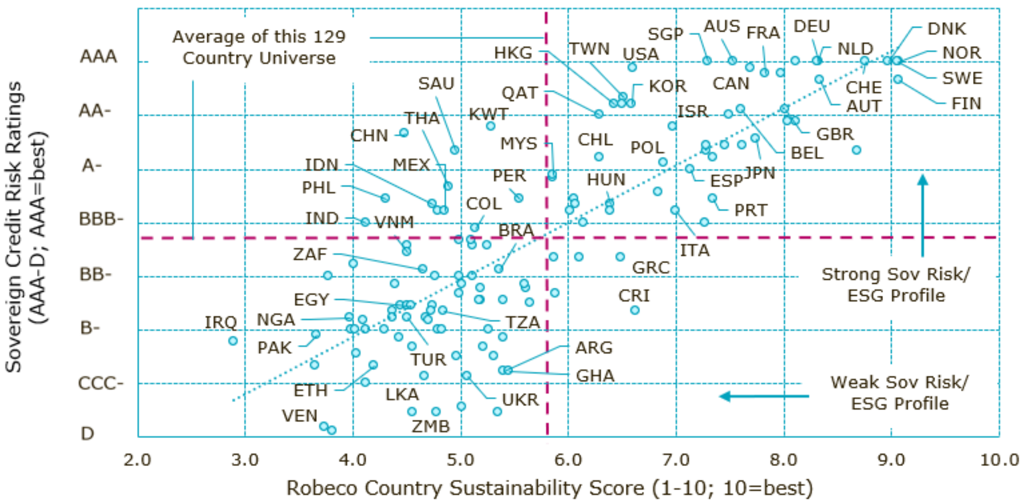
Country sustainability rankings vs. sovereign ratings and risk of default

In recent years financial markets and investors have increasingly come to realize that a nation's economic prosperity as well as its ability and willingness to honour its financial obligations is influenced not only by financial and macroeconomic variables but also by a wide range of ESG features. These include a country's political situation, quality of governance, strength of institutions, social climate, and environmental factors, especially biodiversity, climate change & energy policies.

Country ESG data may contain risks that are not always obvious (and probably not sufficiently captured) in traditional sovereign credit risk analyses which are still more focused on macroeconomic and debt-servicing variables. However, the Russian invasion of Ukraine is a rude reminder of the risks of investing in a country with a weak and/or rapidly deteriorating ESG profile and the strong need for comprehensive ESG analysis to determine a country's true risk/reward pattern.

It seems obvious that robust sustainability performance promotes economic growth, contributes to a healthy fiscal position and ultimately to a stronger, long-term sovereign credit profile. The opposite is also true; institutional failures, political upheavals, severe social disparities or pronounced inequalities undermine political and macroeconomic stability. **Figure 10** bears this out, where a fairly high positive correlation (0.81) between Robeco's country ESG scores and sovereign credit ratings is observed.

Figure 10 | Robeco country ESG scores reflective of sovereign credit risk ratings



Data source: Fitch, Moody's, Standard & Poor's, Robeco.

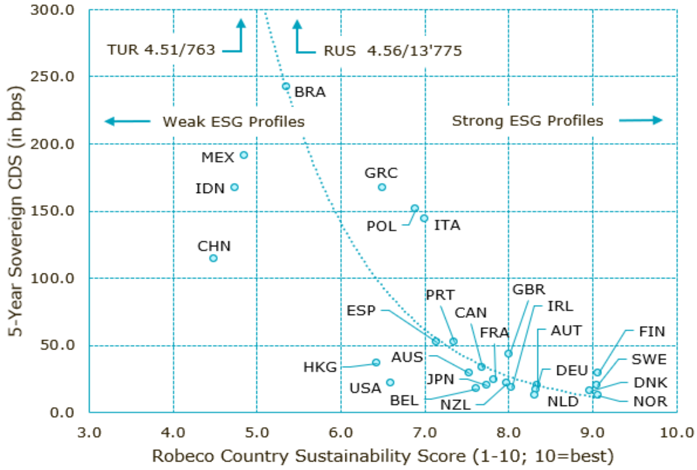
Data note: Sovereign ratings reflect the average of the three rating agencies; Sovereign credit risk ratings of 14 October 2022; Robeco country sustainability scores as of October 2022.

For sure, the ESG score to credit rating correlation is not perfect. In the case of Japan, Spain, Switzerland, and the United Kingdom, for example, the correlation holds very well. In the case of Greece, Italy, and Portugal, however, the sovereign credit ratings appear too conservative relative to their sustainability scores, suggesting the potential for an upgrade of sovereign ratings. On the other hand, China, India, and Saudi Arabia enjoy sovereign ratings that seem stronger than implied by their rather poor sustainability profiles.

Russia no longer appears on the chart. The country's average sovereign rating – marginally above BBB- before the start of the invasion in Ukraine – appeared slightly high relative to the country's ESG score at that time (4.71). Its rating has subsequently been downgraded to default; meanwhile all three major agencies have withdrawn sovereign ratings and ratings on individual Russian entities.

Figure 11 shows the negative correlation between a country's ESG score and its default probability as measured by the sovereign credit default swap (CDS) spread. It is evident overall that CDS spreads tend to reflect a risk profile which is often also captured by Robeco's CSR scores. This makes an upward or downward trend in the CSR scores an interesting signal from a perspective of potential moves in the pricing of sovereign credit risk. As with credit ratings, the negative correlation between country ESG scores and CDS spreads is not perfect; some countries show lower CDS spreads relative to their ESG profile and vice-versa.

Figure 11 | Country ESG scores plotted against sovereign CDS



Data source: World Government Bonds, Robeco

Data note: The Robeco country sustainability scores as of October 2022. 5-year sovereign CDS spreads as of 16 October 2022.

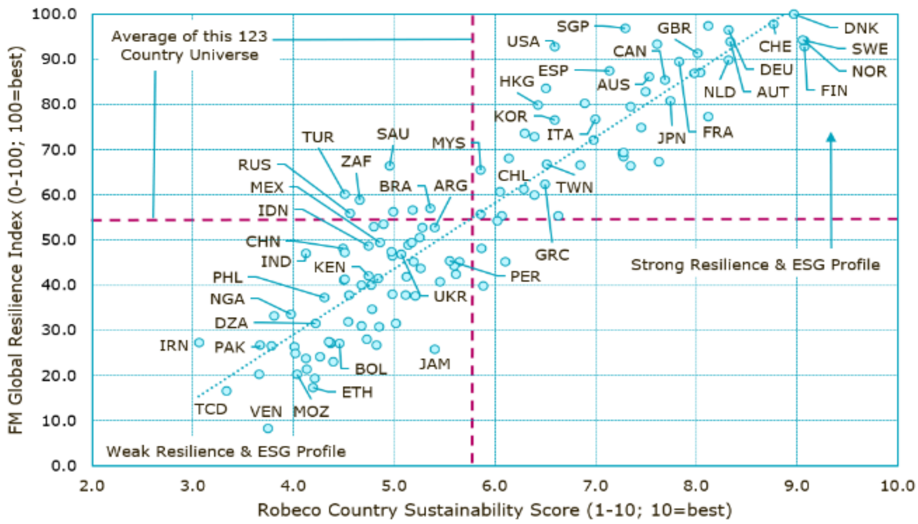
Country sustainability profile — strongly aligned with country resilience

The devastating and far-reaching impacts of the Covid-19 pandemic clearly demonstrated the need for countries to build and strengthen their resiliency. However, such efforts cannot be limited to a strengthening of public health systems but must encompass a broader ESG spectrum. As the developments in recent years have shown, there is a need to reinforce the robustness of countries' policies and processes to better withstand future crises and shocks, particularly in the areas of governing institutions, disaster management & prevention and key infrastructure at both the regional and federal levels.

One interesting measure of robustness is the 2022 FM Global Resilience Index, an annual ranking of 130 countries and territories according to their vulnerability to disruptive events and ability to recover rapidly. FM Global's assessment tool aggregates 15 key drivers of resilience. These are equally weighted across three categories – economic, risk quality and supply chains. Major evaluation elements include climate change, political risk, and control of corruption – core factors that are also assessed in Robeco's country sustainability ranking model.

Countries with high scores on the Robeco Country Sustainability Ranking also ranked high in terms of resilience as measured by the FM Global Resilience Index 2022 (r=0.91). While there are some notable exceptions, this broad alignment is expected, as countries with a stronger ESG profile are usually also less vulnerable to such disruptive events and/or are much better prepared to cope with their impacts (see Figure 12).

Figure 12 | Robeco's country sustainability ranking: a yardstick for a country's resilience



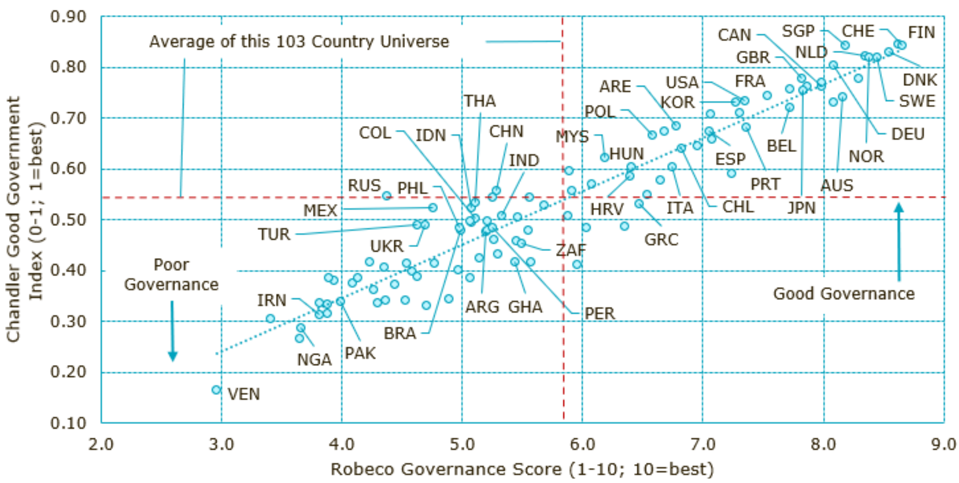
Data source: FM Global, Robeco.
Data note: FM Global Resilience Index 2022; Robeco country sustainability scores as of October 2022.

Good governance matters

Numerous empirical studies show the importance of good governance for economic development, political stability, security, and social cohesion. Countries with more accountable, effective, robust, and transparent governing institutions appear to perform better on these issues and vice-versa. Türkiye is an illustrative example. As already described above, the country has suffered from increasing deficiencies in governance with adverse impacts on the economy, state institutions and the socio-political fabric. Governance is a key cornerstone of Robeco's country sustainability ranking. Good governance from above is critical for providing the guidance, boundaries and structures in which environmental and social policies can develop and thrive.

A country-by-country comparison of governance quality is also provided by the Chandler Institutes' Good Governance Index (CGGI). Launched in 2021, the index measures and compares the effectiveness and capabilities of governments in 104 countries. The index comprises 35 indicators across seven broad pillars such as strong institutions, robust laws & policies, and empowering the people. The strong alignment between the 2022 CGGI and Robeco's governance scores (r=0.95) underscores the dominant role of good governance in shaping a country's ESG outcome overall (see **Figure 13**).

Figure 13 | Good governance goes a long way



Data source: Chandler Institute of Governance, Robeco.

Data note: The chart shows the high correlation between the Chandler Good Governance Index 2022, a leading benchmark for good governance, and Robeco's governance scores (as of October 2022).

Appendix A: Country Sustainability Framework

Ongoing monitoring of the underlying data and data providers and maintenance of the methodology used to construct any model is an integral part of ensuring its accuracy, completeness, and ongoing predictive power. In the following pages, we provide our source data as well as the framework in which it is weighted and measured.

As shown in **table 1**, the current methodological framework comprises 50 indicators, which are combined into 15 criteria covering the three main ESG dimensions (environmental, social & governance).

The framework captures a broad set of relevant ESG factors with the ultimate aim of providing an assessment of whether a country's development in the E, S and G areas helps preserve a sovereign's long-term solvency.

The country sustainability assessment framework presently covers a universe of 150 countries, 23 of which are considered industrialized countries or advanced economies, and 127 emerging market and developing countries.

Table 1 | Robeco's Country Sustainability Framework

Indicators		Criteria	Weight	Dimensions	Weight	Country
For each country, numerous data series on a variety of ESG features are collected and summarized in 50 indicators. Each indicator gets a predefined weight and a relative score ranging from 1 to 10.		The indicators are aggregated to 15 criteria, whereby each criterion is also assigned a predefined weight.		Each dimension weight is the sum of the criteria weights within the respective dimension.		The country score is the weighted sum of all standardized indicator scores.
> Biodiversity Intactness Index > Natural Environment Index > Red List Index > Biodiversity Intactness Index 2015-30 Change	> Biodiversity & Habitat Index > Natural Resource Protection Indicator > Biodiversity Intactness Index 2030 Projection	Biodiversity	5%	Environmental	30%	Country Sustainability Score
> Consumption CO2 per Capita > GHG Emissions per GDP > Consumption CO2 5-Yr p/C Change > GHG Emissions 5-Yr p/GDP Change > GHG p/C Reduction 2015-30	> GHG Emissions per Capita > Share of Renewables > GHG Emissions 5-Yr p/C Change > Share of Renewables 5-Yr Change > GHG Emissions p/C Target 2030	Climate & Energy	10%			
> Integrated Water Management > Water Stress Level > Water Use Efficiency > Waste Management	> Wastewater Treatment > Water Stress 2030 Projection	Water & Waste	7.5%			
> Climate Risk Index > ND-GAIN Index	> Natural Hazard Index	Environmental Risk	7.5%			
> Labor Force Participation Rate 55-64	> Old-Age Dependency Ratio 2050	Aging	7.5%	Social	30%	
> Education > Human Development Index	> Health	Human Development	5%			
> Global Rights Index	> Human Rights	Human & Labor Rights	7.5%			
> Gender Inequality Index	> GINI Coefficient	Inequality	5%			
> Fragile States Index	> Socio-Economic Vulnerability	Social Unrest	5%			
> Control of Corruption	> Corruption Perception Index	Corruption	7.5%	Governance	40%	
> Globalization Index	> Global Innovation Index	Globalization & Innovation	5%			
> Government Effectiveness > Rule of Law	> Regulatory Quality	Institutions	10%			
> Freedom in the World	> Voice & Accountability	Personal Freedom	5%			
> Political Risk Rating ECR	> Political Risk Rating PRS	Political Risk	7.5%			
> Human Hazard	> Political Stability/No Violence	Political Stability	5%			

Source: Robeco

Appendix B: Data sources

No.	Criterion	Indicator	Source	URL
1	**Biodiversity**	Biodiversity Intactness Index	Natural History Museum, London	The Biodiversity Intactness Index
2		Biodiversity & Habitat Index	Yale University/SEDAC	Downloads | Environmental Performance Index (yale.edu)
3		Natural Environment Index	Legatum Institute	Legatum Prosperity Index 2021
4		Natural Resource Protection Indicator	SEDAC - Socioeconomic Data & Applications Center	SEDAC
5		Red List Index	Our World in Data/UNStats	Red List Index, 2022 (ourworldindata.org)
6		Biodiversity Intactness Index Change 2015-30	Natural History Museum, London	The Biodiversity Intactness Index
7		Biodiversity Intactness Index 2030 Projection	Natural History Museum, London	The Biodiversity Intactness Index
8	**Climate &**	Consumption CO2 Emissions per Capita	Our World in Data/Global Carbon Project	Per capita consumption-based CO_2 emissions, 2019 (ourworldindata.org)
9	**Energy**	GHG Emissions per Capita	EDGAR	EDGAR - The Emissions Database for Global Atmospheric Research (europa.eu)
10		GHG Emissions per GDP	EDGAR	EDGAR - The Emissions Database for Global Atmospheric Research (europa.eu)
11		Share of Renewables to Energy Consumption	U.S. Energy Information Administration (EIA)	International - U.S. Energy Information Administration (EIA)
12		Consumption CO2 Emissions p/C 5-Yr Change	Our World in Data/Global Carbon Project	Per capita consumption-based CO_2 emissions, 2019 (ourworldindata.org)
13		GHG Emissions per Capita 5-Yr Change	EDGAR	EDGAR - The Emissions Database for Global Atmospheric Research (europa.eu)
14		GHG Emissions per GDP 5-Yr Change	EDGAR	EDGAR - The Emissions Database for Global Atmospheric Research (europa.eu)
15		Chg.	U.S. Energy Information Administration (EIA)	International - U.S. Energy Information Administration (EIA)
16		GHG Emissions p/C Reduction 2015-30	Climate Resource	NDCs - Climate Resource (climate-resource.com)
17		GHG Emissions p/C Target 2030	Climate Resource	NDCs - Climate Resource (climate-resource.com)
18	**Water &**	Integrated Water Management	UN Water - UNEP	Home | SDG 6 Data
19	**Waste**	Wastewater Treatment	SEDAC - Socioeconomic Data & Applications Center	Environmental Performance Index (EPI) | SEDAC (columbia.edu)
20		Water Stress Level	UN Water - FAO Aquastat	Home | SDG 6 Data
21		Water Stress Projection 2030	World Resources Institute - Aqueduct	Data: Aqueduct Projected Water Stress Country Rankings | World Resources Institute (wri.org)
22		Water Use Efficiency	UN Water - FAO Aquastat	Home | SDG 6 Data
23		Waste Management	SEDAC - Socioeconomic Data & Applications Center	Environmental Performance Index (EPI) | SEDAC (columbia.edu)
24	**Environmental**	Climate Risk Index	Germanwatch	Globaler Klima-Risiko-Index 2021 | Germanwatch e.V.
25	**Risk**	Natural Hazard Index	DRMKC - INFORM - European Commission	INFORM - Global, open-source risk assessment for humanitarian crises and disasters (europa.eu)
26		ND_GAIN Index	University of Notre Dame	Download Data // Notre Dame Global Adaptation Initiative // University of Notre Dame (nd.edu)
27	**Aging**	Labor Force Participation Rate 55-64	ILOSTAT - International Labour Organization	https://ilostat.ilo.org/data/
28		Old-Age Dependency Ratio 2050	UN – Population Division	Population Division | (un.org)
29	**Human**	Education	Legatum Institute	Legatum Prosperity Index 2021
30	**Development**	Health	Legatum Institute	Legatum Prosperity Index 2021
31		Human Development Index	UNDP	Human Development Data Center | Human Development Reports (undp.org)
32	**Human &**	Global Rights Index	ITUC - International Trade Union Confederation	Home - ITUC GRI 2021 (globalrightsindex.org)
33	**Labour Rights**	Human Rights	Fund for Peace	Fragile States Index | The Fund for Peace
34	**Inequality**	Gender Inequality Index	UNDP	Human Development Data Center | Human Development Reports (undp.org)
35		GINI Coefficient	Our World in Data	Income inequality – Gini Index, 1981 to 2019 (ourworldindata.org)
36	**Social Unrest**	Fragile States Index	Fund for Peace	Fragile States Index | The Fund for Peace
37		Socio-Economic Vulnerability	DRMKC - INFORM - European Commission	INFORM - Global, open-source risk assessment for humanitarian crises and disasters (europa.eu)
38	**Corruption**	Control of Corruption	World Bank	WGI 2021 Interactive > Home (worldbank.org)
39		Corruption Perception Index	Transparency International	2021 Corruption Perceptions Index - Explore the... - Transparency.org
40	**Globalization**	Globalization Index	KOF/ETHZ	KOF Globalisation Index – KOF Swiss Economic Institute | ETH Zurich
41	**& Innovation**	Global Innovation Index	WIPO	Indicator Rankings & Analysis | Global Innovation Index
42	**Institutions**	Government Effectiveness	World Bank - Worldwide Governance Indicators	WGI 2021 Interactive > Home (worldbank.org)
43		Regulatory Quality	World Bank - Worldwide Governance Indicators	WGI 2021 Interactive > Home (worldbank.org)
44		Rule of Law	World Bank - Worldwide Governance Indicators	WGI 2021 Interactive > Home (worldbank.org)
45	**Personal**	Freedom in the World	Freedom House	Freedom in the World | Freedom House
46	**Freedom**	Voice & Accountability	World Bank - Worldwide Governance Indicators	WGI 2021 Interactive > Home (worldbank.org)
47	**Political Risk**	Political Risk Rating ECR	Euromoney Country Risk	Obtained via e-mail
48		Political Risk Rating PRS	PRS Group	Obtained via e-mail
49	**Political**	Human Hazard	DRMKC - INFORM - European Commission	INFORM - Global, open-source risk assessment for humanitarian crises and disasters (europa.eu)
50	**Stability**	Political Stability/No Violence	World Bank - Worldwide Governance Indicators	WGI 2021 Interactive > Home (worldbank.org)

Source: Robeco

Disclosures

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