
The Morningstar Sustainability Atlas

Europe Leads While Controversies Plague the U.S. and U.K.

Morningstar Inc.

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Executive Summary

This report examines the sustainability profiles of Morningstar's suite of 46 equity market indexes, up from 35 indexes in the initial edition of this report in October 2016. The country indexes, which span developed and emerging markets and represent 97% of global market capitalization, vary significantly across environmental, social, and governance (ESG) criteria.

Through a series of maps, we demonstrate the range of country index scores, including overall Portfolio Sustainability and its sub-components: The Controversy and the Environmental, Social, and Governance pillars. Key company-level drivers are highlighted.

Finally, we demonstrate how Morningstar's Sustainability Index Family can serve as benchmarks for their non-ESG counterparts, using the example of Japan.

Key Takeaways

- ▶ Europe is by far the world's leading region for sustainability. European markets dominate across environmental, social, and governance criteria, led by the Nordics and the eurozone.
- ▶ The US remains a middling performer from a sustainability perspective because of controversies involving prominent companies as well as mediocre scores on ESG pillars.
- ▶ The UK's Sustainability Score is the lowest in Western Europe, aside from Greece. Controversies plague several key UK index constituents.
- ▶ Outside of Europe, Australia is a leading market for ESG, driven in large part by its big banks.
- ▶ Taiwan is Asia's top market for sustainability, with a notably high score on the Social pillar.
- ▶ Emerging markets, in general, tend to score poorly, with China, Russia, and Middle Eastern markets near the bottom across ESG pillars.
- ▶ Colombia and South Africa, both emerging markets, score well on ESG criteria, as do India and Turkey.
- ▶ Japan remains one of the world's laggards when it comes to the Governance pillar, though China scores even lower.

Introduction

We take a bottom-up approach to compose the Morningstar Sustainability Atlas. National equity markets are scored on the basis of the companies comprising their equity market indexes. The same methodology that powers the Morningstar Sustainability Rating for funds is applied to assess the sustainability profile of indexes.

As with funds, index Portfolio Sustainability Scores are weighted aggregates of company-level scores. Unlike funds, indexes do not receive the Morningstar Sustainability Rating, which compares portfolio holdings' ESG profiles to category peers using a 1- to 5-globe system. Indexes do, however, receive raw scores, which comprise both ESG Scores and Controversy Scores. Morningstar normalizes ESG scores to make them comparable across industry peer groups. This is a necessary step when scoring diversified portfolios as ESG scores vary by industry.

Sustainability assessments are provided to Morningstar by ESG researcher Sustainalytics. Sustainalytics assigns ESG scores on 7,500 companies and controversy scores on 14,000 companies. Sustainalytics compares companies' ESG profiles relative to their global industry peers, based on industry-relevant indicators. Research is conducted across dimensions of preparedness, disclosure, quantitative performance, and qualitative performance. Thus, scoring is based on both words and deeds.

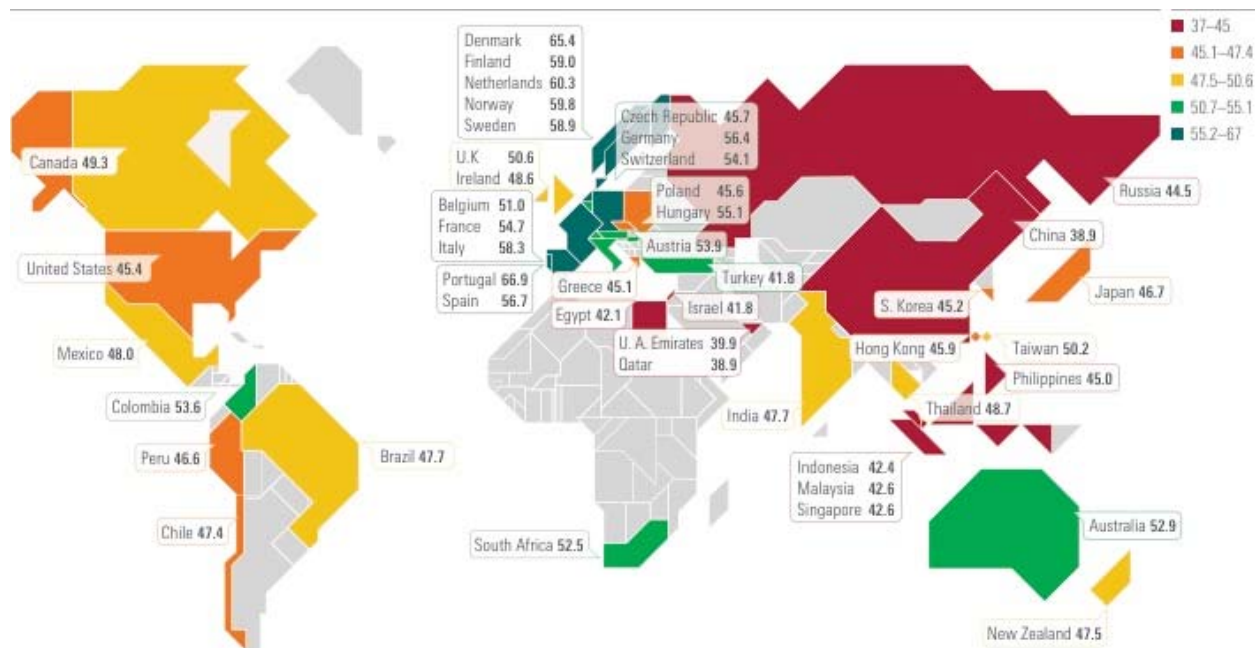
This report reviews the sustainability profiles of Morningstar's entire suite of global equity indexes. Thanks to an expansion in coverage by Sustainalytics, the number of country indexes covered increased to 46 in April 2017 from 35 in October 2015. The 46 indexes comprise all members of the Morningstar Global Markets Index. Sustainability Scores can only be calculated if more than 50% of market capitalization is covered with ESG Scores. Coverage far exceeds this threshold in the case of all Morningstar country indexes. Peru has the lowest coverage, with 65% of index weight carrying ESG Scores. Coverage for all other indexes exceed three fourths of index weight.

We not only discuss the overall sustainability profile of each country index but also detail drivers, whether related to Controversy Score or pillar-level (Environmental, Social, and Governance Scores). Thus, investors more interested in governance, for example, can home in on leaders and laggards in that area. The Sustainability Atlas may be used to identify which geographic areas present the best ESG-related opportunities and which might be avoided by sustainability-minded investors. Finally, the Morningstar Global Sustainability Index Family is a useful analytical tool. Sustainability indexes can serve as benchmarks for active strategies or non-ESG indexes.

Morningstar Country Indexes' Sustainability Scores

Sustainability Scores consider both ESG Scores and Controversy Scores. European markets occupy the entire top quintile in terms of overall sustainability profiles. The narrow Morningstar Portugal Index scores highest, driven by top holdings EDP and Galp Energia, leaders within utilities and energy, respectively. Denmark trails Portugal by a small margin. Its score owes much to top holding Novo Nordisk, considered an ESG industry leader in healthcare. Hungary is the highest-scoring emerging market, ranking well above nearby Czech Republic and Poland. MOL Hungarian Oil and Gas is considered an industry leader. The highest-scoring non-European country for sustainability is actually an emerging market--Colombia. Colombia's high score is driven by a broad basket of companies. The strength of South Africa, another emerging-markets star, owes to its top holding, Naspers. Australia exhibits notable strength, with three of its big banks considered global industry leaders in ESG. The UK's sustainability profile is low by European standards, thanks to controversies involving prominent index constituents. The US ranks in the second-lowest quintile among global markets, trailing several emerging markets and almost all developed markets. Controversies plague several US index constituents. Controversy is also an issue for Russia, the lowest-ranking country of the 46. China is another laggard, owing to several constituents that score poorly on ESG criteria, including big banks and petroleum companies. More surprising is the poor score for Singapore, also due to low ESG scores.

Exhibit 1 Morningstar Country Indexes' Sustainability Scores

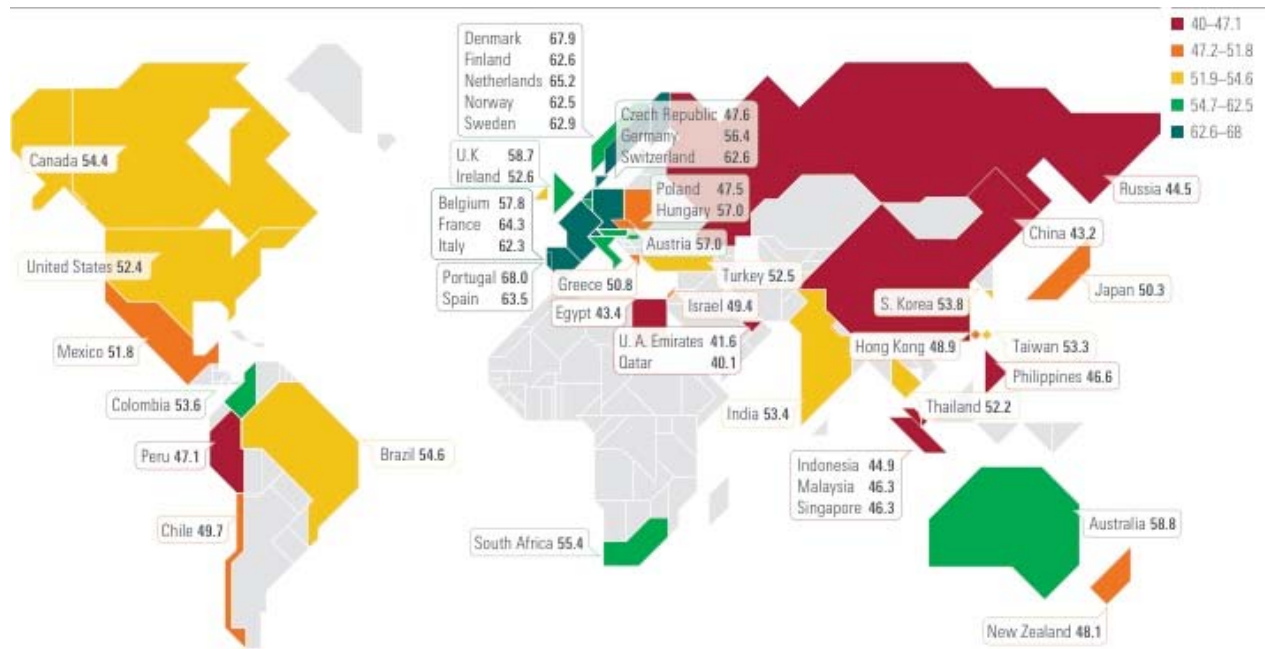


Source: Morningstar Direct. Data as of 28 February 2017.

Morningstar Country Indexes' ESG Scores

ESG Scores are rollups of Environmental, Social, and Governance pillar scores, and ignore deductions made for controversial incidents. Again, the first and second quintiles are dominated by European markets, including the UK. Among emerging markets, Colombia and South Africa rank highest, landing in the second quintile among the 46 global markets. The US is a middling performer, similar in score to Canada, Brazil, and the Asian markets of Korea, India, and Taiwan. Japan, Mexico, Israel, and Hong Kong all rank below the global midpoint. Joining Russia and China at the bottom of the list are three Middle Eastern markets--Qatar, United Arab Emirates, and Egypt. In the case of Qatar, four of five top index constituents are considered underperformers relative to their global industry peers on ESG criteria.

Exhibit 2 Morningstar Country Indexes' ESG Scores



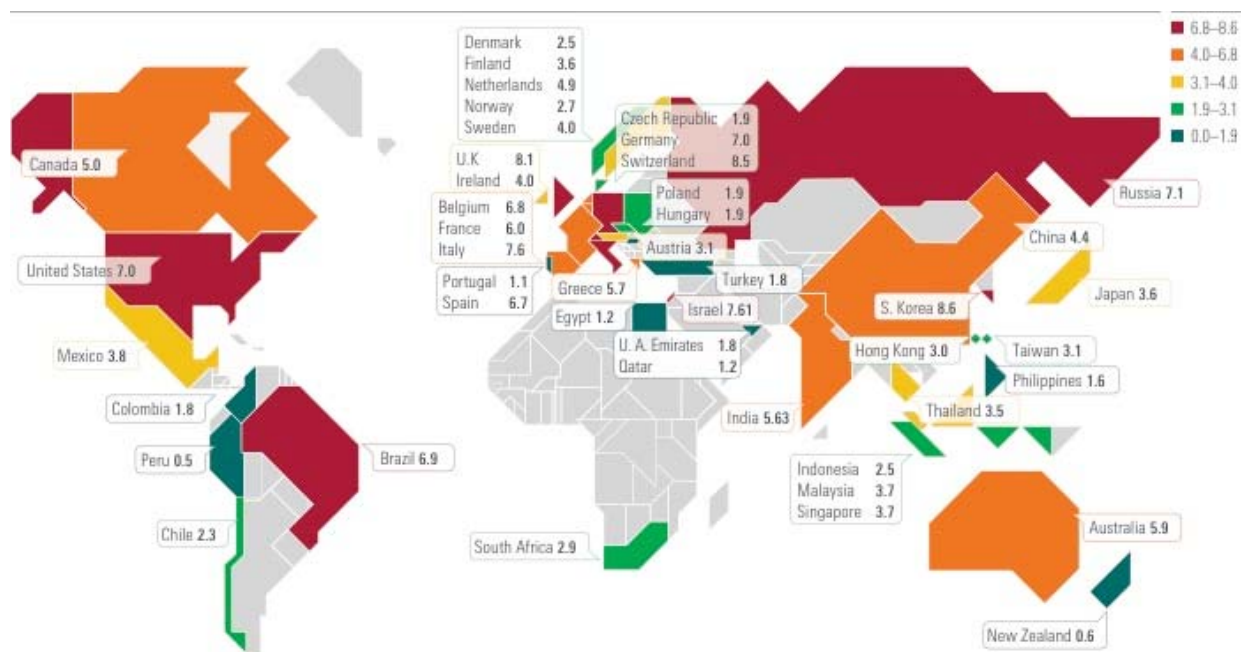
Source: Morningstar Direct. Data as of 28 February 2017.

Morningstar Country Indexes' Controversy Scores

Sustainalytics defines a controversy as any incident that has an impact on the environment or society and poses a risk to the company involved. Companies with current involvement in ESG-related incidents are penalized in Morningstar's methodology. Hence, higher Controversy Scores identify ESG-related risks. Sustainalytics assesses companies for their level of involvement in major controversies or incidents, which are categorized from low impact to severe impact.

Korea exhibits the highest Controversy Score of all 46 markets, owing to top holding Samsung. Switzerland is the second-most controversy-plagued market, thanks to top holdings Nestle, Novartis, Roche, and UBS. The US market scores poorly because of controversies involving a number of large index constituents, including Apple, Exxon, Johnson & Johnson, and Wells Fargo. The UK is also notable for controversies including key constituents HSBC and Shell. Other controversy-plagued markets include Russia (Gazprom), Italy (Eni and others), Israel (Teva Pharmaceuticals), Germany (Volkswagen and others), and Brazil (Petrobras and others). Several emerging markets exhibit low Controversy Scores, led by Peru, but also including Middle Eastern and Central European markets. New Zealand is notably controversy-free, as are Portugal, Denmark and Norway. Among Asian markets, the Philippines is a leader in avoiding controversy. The larger Taiwanese and Hong Kong markets also score well.

Exhibit 3 Morningstar Country Indexes' Controversy Scores

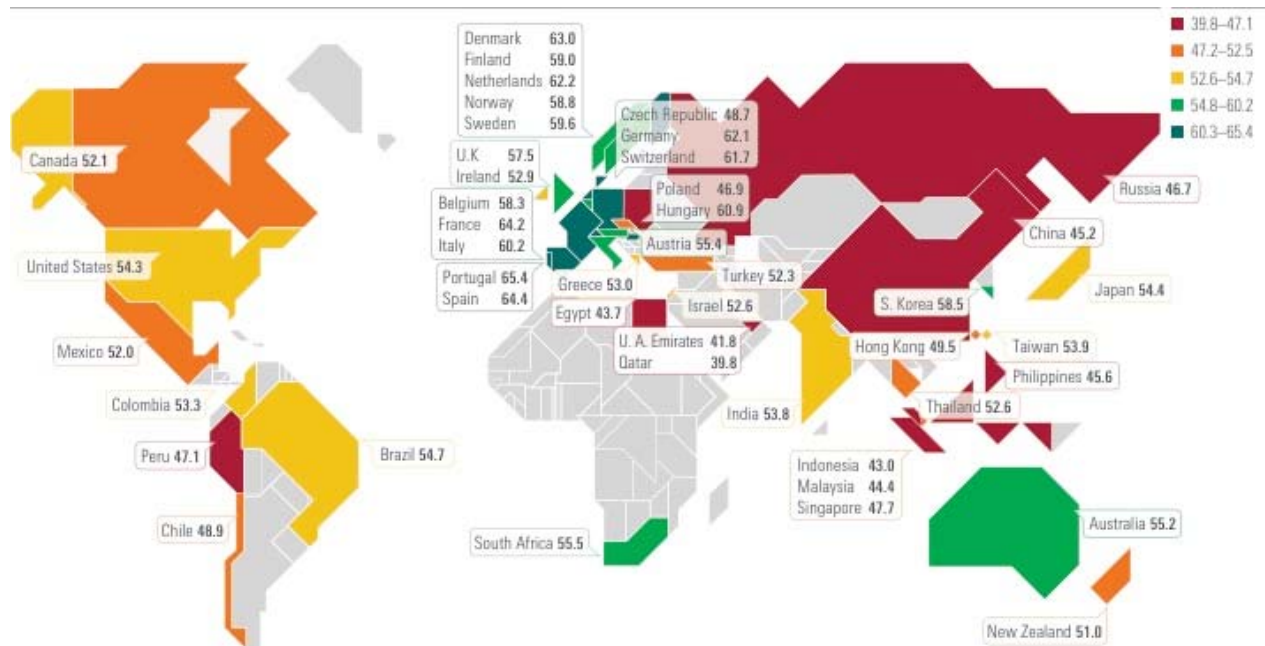


Source: Morningstar Direct. Data as of 28 February 2017.

Morningstar Country Indexes' Environmental Scores

Environmental Scores, the first pillar of ESG, incorporate assessments of carbon emissions, waste management, energy usage, and so on. Aggregating company-level Environmental Scores to the index-level reveals a mixed global picture. Iberian countries (Portugal and Spain) top the chart with fellow eurozone members France, Netherlands, and Germany also landing in the top quintile. Denmark scores the highest among the Nordics. Korea is the highest-scoring Asian market, with Australia also exhibiting notable strength. Hungary is the highest scoring emerging market. The US is an average performer on environmental criteria. Canada, New Zealand, and Singapore all post low scores. Occupying the bottom quintile for Environmental Scores are all emerging markets across the Middle East, Southeast Asia, and Central and Eastern Europe.

Exhibit 4 Morningstar Country Indexes' Environmental Scores

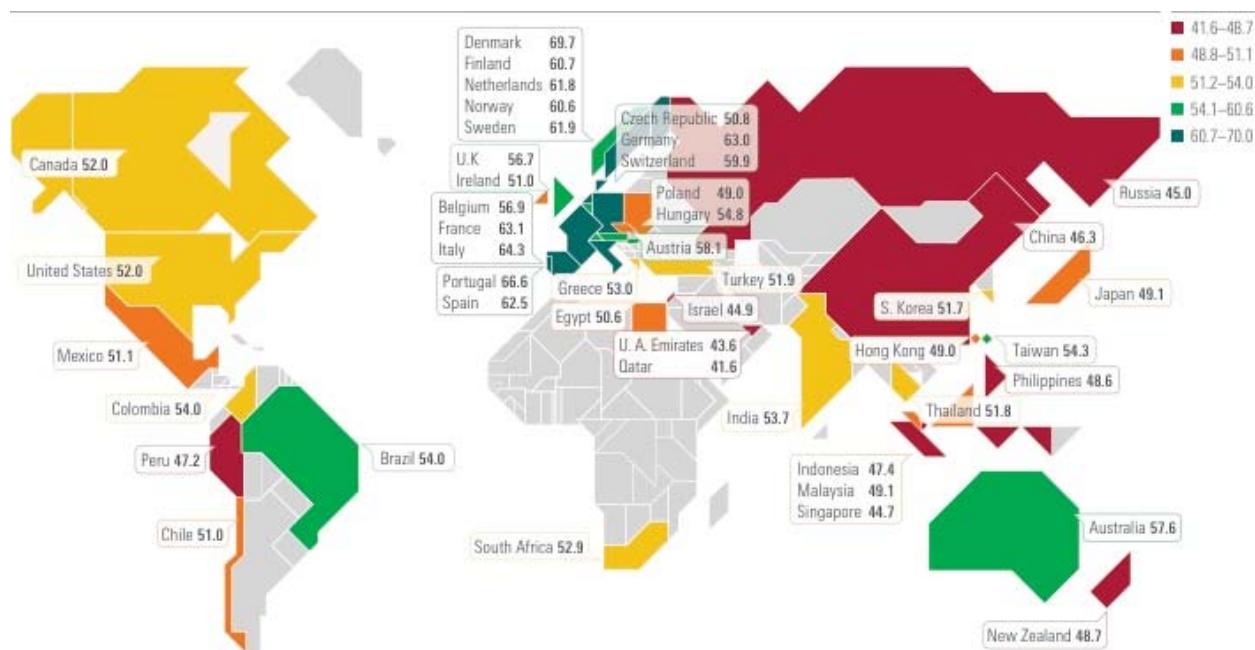


Source: Morningstar Direct. Data as of 28 February 2017.

Morningstar Country Indexes' Social Scores

Social Scores, the second pillar of ESG, encompass product safety, labor standards, and supply chain management. Eurozone and Nordic markets dominate the leaders list. Australia scores highest among non-European markets on social criteria. Taiwan boasts Asia's highest Social Score, its strongest ESG pillar. While Hungary is the highest-scoring emerging market, Brazil also posts a strong score. The US is a middling performer, lagging emerging markets like Brazil, Colombia, India, and South Africa. Japan and New Zealand rank below the global midpoint. Singapore lands in the bottom quintile of the globe as does Israel. Qatar ranks last in the world from a Social Score perspective, with the United Arab Emirates ranking only slightly higher.

Exhibit 5 Morningstar Country Indexes' Social Scores

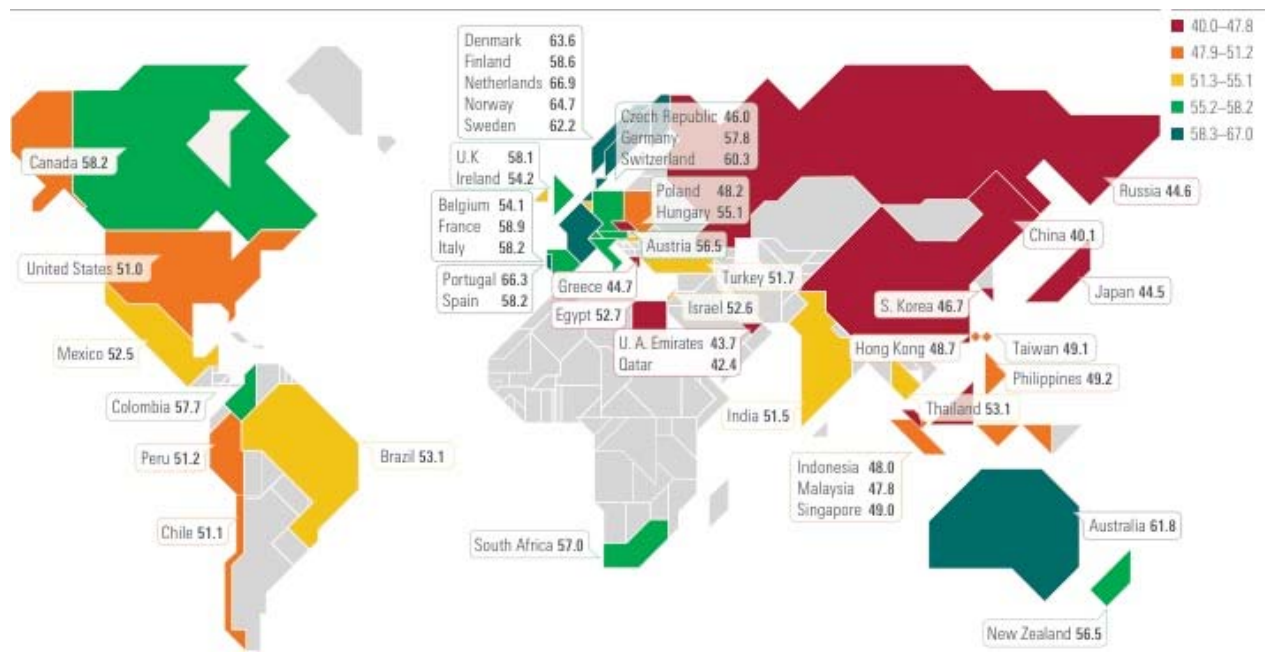


Source: Morningstar Direct. Data as of 28 February 2017.

Morningstar Country Indexes' Governance Scores

Governance Scores consider corruption, board independence, and business ethics. The Netherlands is the world's leading market from a governance perspective, with the Nordics, Australia, and Switzerland also occupying the top quintile. Colombia and South Africa are the top ranking emerging markets from a governance perspective, ahead of Austria, Ireland, and Belgium. The US is a below-average performer on governance, its lowest ranking of the three ESG pillars. Confirming popular perception, Japan scores in the bottom quintile of the globe on governance criteria. Other laggards include Greece, Russia, and the Middle Eastern markets. China is the world's lowest-scoring country on governance.

Exhibit 6 Morningstar Country Indexes' Governance Scores



Source: Morningstar Direct. Data as of 28 February 2017.

The Morningstar Global Sustainability Index Family

Since the publication of the first Sustainability Atlas in September 2016, Morningstar has launched a family of indexes that emphasize companies exhibiting high standards of sustainability while maintaining broad-based exposure to sectors and regions. The indexes are designed as benchmarks for sustainability-focused strategies. They are methodologically aligned with the Morningstar Sustainability Rating for funds. The indexes select the highest scoring companies on ESG criteria and weight them by market cap. They exclude companies experiencing serious controversies as well as tobacco and controversial weapons makers. Weights in regions and sectors are kept within 2 percentage points of their non-ESG equivalents.

Exhibit 7 Morningstar Global Sustainability Index Family

Broad Regional Markets	Developed Markets	Emerging Markets	Single Country
Global Markets	Developed Markets ex-U.S.	Emerging Markets	United States
Global Markets ex-U.S.	Developed Europe	Emerging Americas	Japan
Asia			United Kingdom
Asia ex-Japan			Germany
Asia Pacific			Canada
Asia Pacific ex-Japan			Australia
Europe			India
Eurozone			
Nordic			

Source: Morningstar, Inc.

Comparing ESG and non-ESG indexes focused on the same country or region can illuminate ESG risks and opportunities in that market.

Country Spotlight: Japan

Japan's overall sustainability profile is below-average compared with the 46 country indexes assessed as part of this atlas. Japan's scores for the Environmental pillar and for Controversy are middling. Its Social Score is below average, and its Governance Score is one of the world's worst.

Comparing the Morningstar Japan Index with the Morningstar Japan Sustainability Index reveals much about the market. The Morningstar Japan Sustainability Index avoids the five largest companies in the market. All five companies are considered by Sustainalytics to be average performers for their industries on ESG criteria. Toyota, Mitsubishi UFJ, and Sumitomo grapple with significant controversies with Honda's controversy level considered High. Within constraints, the Morningstar Japan Sustainability Index devotes more weight to the technology and industrials sectors than its non-ESG counterpart. Meanwhile, Japan Sustainability devotes less weight to financial services and consumer stocks.

Exhibit 8 Holdings Comparison: Morningstar Japan / Morningstar Japan Sustainability

Morningstar Japan Index Top Five Holdings	Morningstar Japan Sustainability Index Top Five Holdings
Toyota Motor Corp	Mizuho Financial Group Inc
Mitsubishi UFJ Financial Group Inc	KDDI Corp
SoftBank Group Corp	Sony Corp
Honda Motor Co Ltd	East Japan Railway Co
Sumitomo Mitsui Financial Group Inc	Shin-Etsu Chemical Co Ltd

Source: Morningstar Direct. Data as of 28 February 2017.

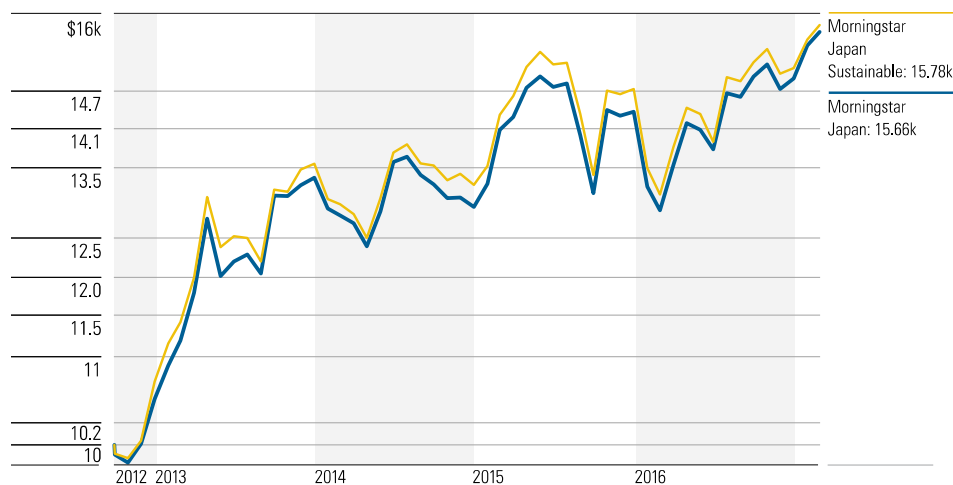
Exhibit 9 Sector Comparison: Morningstar Japan/ Morningstar Japan Sustainability

	Morningstar Japan %	Morningstar Japan Sustainability %
Basic Materials	8.4	10.3
Communication Services	4.5	5.7
Consumer Cyclical	18.9	16.7
Consumer Defensive	8.2	7.1
Healthcare	6.6	6.2
Industrials	18.9	19.5
Real Estate	5.6	3.6
Technology	12.6	14.6
Energy	1.6	0.9
Financial Services	13.0	13.0
Utilities	1.8	2.4

Source: Morningstar Direct. Data as of 28 February 2017.

From a performance perspective, the two indexes track very closely. With less than five years of history, the Morningstar Japan Sustainability Index maintains a slight edge.

Exhibit 10 Investment Growth



Source: Morningstar Direct. Data as of 28 February 2017.

About Morningstar, Inc.

Morningstar, Inc. is a leading provider of independent investment research in North America, Europe, Australia, and Asia. The company offers an extensive line of products and services for individual investors, financial advisors, asset managers, and retirement plan providers and sponsors. Morningstar provides data on approximately 544,000 investment offerings, including stocks, mutual funds, and similar vehicles, along with real-time global market data on nearly 18 million equities, indexes, futures, options, commodities, and precious metals, in addition to foreign exchange and Treasury markets. Morningstar also offers investment management services through its investment advisory subsidiaries, with more than \$200 billion in assets under advisement and management as of December 30, 2016. The company has operations in 27 countries.

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