MSCI ESG Ratings Methodology

Executive Summary

MSCI ESG Research LLC

April 2022
1 Executive Summary

From natural resource scarcity to changing governance standards, from global workforce management to the evolving regulatory landscape, ESG factors can affect the long-term risk-and-return profile of investment portfolios. MSCI ESG Ratings are designed to help investors understand ESG risks and opportunities and integrate these factors into their portfolio construction and management process.

Our global team of over 200 experienced research analysts assesses thousands of data points across 35 ESG Key Issues, focusing on the intersection between a company’s core business and the industry issues that can create significant risks and/or opportunities for a company. Companies are rated on a AAA to CCC scale relative to the standards and performance of their industry peers.

Exhibit 1: ESG Rating Framework and Process Overview

DATA
1,000+ data points on ESG policies, programs, and performance;
Data on 100,000 individual directors; up to 20 years of shareholder meeting results

EXPOSURE METRICS
How exposed is the company to each material issue?
Based on over 80 business and geographic segment metrics

MANAGEMENT METRICS
How is the company managing each material issue?
150 policy/program metrics; 20 performance metrics;
100+ Governance Key Metrics

SOURCES
100+ specialized datasets (government, NGO, models)
Company disclosure (10-K, sustainability report, proxy report)
3,400+ media sources monitored daily (global and local news sources, governments, NGOs)

INSIGHT
Specialized ESG research team provides additional insight through:
Company reports
Industry reports
Thematic reports
Analyst calls & webinars

DATA OUTPUTS
Access to selected underlying data
Ratings, scores, and weights on 680,000 securities
17 years of history

MONITORING & QUALITY REVIEW
Systematic, ongoing daily monitoring of controversies and governance events
In-depth quality review processes at all stages of rating, including formal committee review

KEY ISSUE SCORES & WEIGHTS
35 Key Issues selected annually for each industry and weighted based on MSCI’s materiality mapping framework.

ESG RATING (AAA-CCC)
Issue scores and weights combine to overall ESG rating relative to industry peers.
Individual E, S, G scores also available
1.1 MSCI ESG Ratings Methodology Overview

MSCI ESG Ratings aim to measure a company’s resilience to long-term, financially relevant ESG risks.

- Of the negative externalities that companies in an industry generate, which issues may turn into unanticipated costs for companies in the medium to long-term?
- Conversely, which ESG issues affecting an industry may turn into opportunities for companies in the medium to long-term?

More specifically, the MSCI ESG Ratings model seeks to answer four key questions about companies:

- What are the most significant ESG risks and opportunities facing a company and its industry?
- How exposed is the company to those key risks and/or opportunities?
- How well is the company managing key risks and/or opportunities?
- What is the overall picture of a company and how does it compare to its global industry peers?

Material Industry ESG Risks and Opportunities

Environmental, social, and governance risks and opportunities are posed by large scale trends (e.g., climate change, resource scarcity, demographic shifts) as well as by the nature of the company’s operations. Companies in the same industry generally face the same major risks and opportunities, though individual exposure can vary.

The MSCI ESG Ratings model focuses only on issues that are determined as material for each industry. A risk is material to an industry when it is likely that companies in a given industry will incur substantial costs in connection with it (for example: regulatory ban on a key chemical input requiring reformulation). An opportunity is material to an industry when it is likely that companies in a given industry could capitalize on it for profit (for example: opportunities in clean technology for the renewable energy industry).

We identify material risks and opportunities for each industry through a quantitative model that looks at ranges and average values for each industry for externalized impacts such as carbon intensity, water intensity, and injury rates. Companies with unusual business models for their industry may face fewer or additional key risks and opportunities. Company-specific exceptions are allowed for companies with diversified business models, facing controversies, or based on industry rules. Once identified, these Key Issues are assigned to each industry and company.
Exhibit 2: MSCI ESG Key Issue Hierarchy

<table>
<thead>
<tr>
<th>3 Pillars</th>
<th>10 Themes</th>
<th>35 ESG Key Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>Climate Change</td>
<td>Financing Environmental Impact</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Climate Change Vulnerability</td>
</tr>
<tr>
<td>Natural Capital</td>
<td>Water Stress</td>
<td>Raw Material Sourcing</td>
</tr>
<tr>
<td></td>
<td>Biodiversity &amp; Land Use</td>
<td></td>
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<tr>
<td>Pollution &amp; Waste</td>
<td>Toxic Emissions &amp; Waste</td>
<td>Electronic Waste</td>
</tr>
<tr>
<td></td>
<td>Packaging Material &amp; Waste</td>
<td></td>
</tr>
<tr>
<td>Environmental Opportunities</td>
<td>Opportunities in Clean Tech</td>
<td>Opportunities in Renewable Energy</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Social</td>
<td>Human Capital</td>
<td></td>
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<tr>
<td></td>
<td>Labor Management</td>
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<tr>
<td></td>
<td>Health &amp; Safety</td>
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<td></td>
<td></td>
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<tr>
<td>Product Liability</td>
<td>Product Safety &amp; Quality</td>
<td>Privacy &amp; Data Security</td>
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<tr>
<td></td>
<td>Chemical Safety</td>
<td>Responsible Investment</td>
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<td></td>
<td>Consumer Financial Protection</td>
<td>Health &amp; Demographic Risk</td>
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<tr>
<td>Stakeholder Opposition</td>
<td>Controversial Sourcing</td>
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<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Social Opportunities</td>
<td>Access to Communications</td>
<td>Access to Health Care</td>
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<tr>
<td></td>
<td></td>
<td>Access to Finance</td>
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<td></td>
<td></td>
<td>Opportunities in Nutrition &amp; Health</td>
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<tr>
<td>Governance</td>
<td>Corporate Governance</td>
<td>Pay</td>
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<td></td>
<td>Ownership &amp; Control</td>
<td>Accounting</td>
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<td></td>
<td>Board</td>
<td></td>
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<td></td>
<td>Business Ethics</td>
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<td></td>
<td>Tax Transparency</td>
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</tbody>
</table>

ESG Ratings

To arrive at a final ESG Rating, the weighted average of individual Environmental and Social Key Issue Scores and the Governance Pillar Score is calculated and then normalized relative to ESG Rating industry peers. After any committee-level overrides are factored in, each company’s Final Industry-Adjusted Score corresponds to a rating between best (AAA) and worst (CCC). These assessments are not absolute but are explicitly intended to be interpreted relative to a company’s industry peers.

Setting Key Issue Weights

Once the Key Issues have been selected for a GICS sub-industry, we set the weights that determine the contribution to the overall rating of:

- each Key Issue in the Environmental and Social Pillars; and
- the Governance Pillar.
### Environmental and Social Key Issues

Each Environmental and Social Key Issue typically comprises 5% to 30% of the total ESG Rating. The weightings consider the contribution of the industry, relative to all other industries, to both the negative or positive impact on the environment or society; and the timeline within which we expect that risk or opportunity to materialize for companies in the industry, as illustrated conceptually below.

#### Exhibit 3: Framework for Setting Key Issue Weights

<table>
<thead>
<tr>
<th>Level of Contribution to Environmental or Social Impact</th>
<th>Expected Time frame for Risk/Opportunity to Materialize</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry is <em>major</em> contributor to impact</td>
<td>Highest Weight</td>
</tr>
<tr>
<td>Industry is <em>minor</em> contributor to impact</td>
<td>Lowest Weight</td>
</tr>
</tbody>
</table>

The framework is such that a Key Issue defined as “High-Impact” and “Short-Term” would be weighted three times higher than a Key Issue defined as “Low-Impact” and “Long-Term.”

- **Level of contribution to social or environmental externality**: Like the process outlined above, each GICS sub-industry is assigned a “High,” “Medium,” or “Low” impact for each Key Issue, based on our analysis of relevant data (e.g., average carbon emissions intensity).

- **Expected time horizon of risk/opportunity**: The time horizon of each Key Issue (Short-Term, Medium-Term, Long-Term) is classified based on the type of risk or opportunity that each Key Issue presents to companies.

### Governance Pillar Weight

Since November 2020, the Governance Pillar weight has been determined for all GICS sub-industries assuming a “High Contribution/Long Term” and “Medium Contribution/Long Term” assessment on Corporate Governance and Corporate Behavior, respectively. Additionally, the weight on the Governance Pillar is floored at a minimum value of 33%.

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1. In cases where the Corporate Governance score cannot be calculated for the Governance Reference Entity due to insufficient disclosure, the Governance Pillar score is calculated solely by reference to the Corporate Behavior Key Issue.
Key Issue Assessment

Risks
To understand whether a company is adequately managing a key ESG risk, it is essential to understand both what management strategies it has employed and how exposed it is to the risk. The MSCI ESG Ratings model measures both of these: risk exposure and risk management.

To score well on a Key Issue, management needs to be commensurate with the level of exposure: a company with high exposure must also have very strong management, whereas a company with limited exposure can have a more modest approach. Conversely, a highly exposed company with poor management will score worse than a company with the same management practices but lower exposure to the risk.

Example: Electric Utilities are typically highly water-dependent, but each company may be more or less exposed to water related risks depending on where its plants are – desert locations present much higher risks than those where water supplies are plentiful. Companies operating in water-scarce regions must take more extensive measures to mitigate these risks than those with abundant access to water.

While Key Issues are identified by looking quantitatively at each industry as a whole, individual companies’ exposure to each issue will vary. MSCI ESG Ratings calculate each company’s exposure to key ESG risks based on a granular breakdown of its business: its core product or business segments, the locations of its operations, and other relevant measures such as outsourced production or reliance on government contracts. Risk exposure is scored on a 0-10 scale, with 0 representing no exposure and 10 representing very high exposure. The rating then takes into account the extent to which a company has developed strategies and demonstrated a strong track record of performance in managing its specific level of risks or opportunities.

Controversies occurring within the last three years lead to a deduction from the overall management score on each impacted issue. Management is scored on a 0-10 scale, where 0 represents no evidence of management efforts and 10 represents indicates very strong management.
Exhibit 4: Combining Exposure and Management – ‘Risk’ Key Issues

The Risk Exposure Score and Risk Management Score are combined such that a higher level of exposure requires a higher level of demonstrated management capability in order to achieve the same overall Key Issue Score. Key Issue scores are also on a 0-10 scale, where 0 is very poor and 10 is very good. For instance, a utility focused on conventional power generation is required to have stronger measures for mitigating its carbon and toxic emissions compared to a utility which is largely focused on electricity transmission and distribution which is less polluting compared to conventional generation.

**Example:** Utility Company A focuses on conventional power generation, which typically results in large carbon and toxic emissions. It has high risk exposure in these areas. To score well on these issues, it must have strong...
risk mitigation programs in place. Utility Company B is largely focused on electricity transmission and distribution, which are lower polluting activities. Although they are in the same industry, Company A and Company B have different levels of exposure to these risks. Company B can score as well as Company A with more modest risk mitigation efforts. Alternatively, if Company B has risk mitigation efforts similar to Company A, it will score higher overall because its risk management is stronger relative to its risk exposure.

Opportunities
Assessment of opportunities works similarly to risks, but the model for combining exposure and management differs. Exposure indicates the relevance of the opportunity to a given company based on its current business and geographic segments. Management indicates the company’s capacity to take advantage of the opportunity. Where exposure is limited, the key issue score is constrained toward the middle of the 0-10 range, while high exposure allows for both higher and lower scores.

Exhibit 5: Combining Exposure and Management – ‘Opportunities’ Key Issues

Controversies
MSCI ESG Ratings reviews controversies, which may indicate structural problems with a company’s risk management capabilities. In the ESG Rating model, a controversies case that is deemed by an analyst to indicate structural problems that
could pose future material risks for the company triggers a larger deduction from the Key Issue score than a controversies case that is deemed to be an important indicator of recent performance but not a clear signal of future material risk.

A controversy case is defined as an instance or ongoing situation in which company operations and/or products allegedly have a negative environmental, social, and/or governance impact. A case is typically a single event such as a spill, accident, regulatory action, or a set of closely linked events or allegations such as health and safety fines at the same facility, multiple allegations of anti-competitive behavior related to the same product line, multiple community protests at the same company location, or multiple individual lawsuits alleging the same type of discrimination.

Each controversy case is assessed for the severity of its impact on society or the environment and consequently rated Very Severe (reserved for ‘worst of the worst’ cases), Severe, Moderate, or Minor.

### Exhibit 6: Assessment of Controversial Cases

<table>
<thead>
<tr>
<th>Scale of Impact</th>
<th>Nature of Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extremely Widespread</strong></td>
<td>Egregious</td>
</tr>
<tr>
<td></td>
<td>Very Severe</td>
</tr>
<tr>
<td><strong>Extensive</strong></td>
<td>Very Severe</td>
</tr>
<tr>
<td><strong>Limited</strong></td>
<td>Severe</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>Moderate</td>
</tr>
</tbody>
</table>

### Determining Governance Scores

The Governance Pillar Score is an absolute assessment of a company’s governance that uses a universally applied 0-10 scale.

Each of the Governance Pillar Scores, the Theme Scores and the Key Issue Scores are independently calculated based on a deduction-based approach in which points are deducted from a “perfect 10” based on the triggering of Key Metrics across the underlying Key Issues.
Exhibit 7: Governance Model Structure

Constructing the Rating

The ESG Ratings model is industry relative and uses a weighted average approach.

In the Environmental and Social pillars, Key Issue weights are determined for each GICS sub-industry based on the sub-industry's contribution to the negative externality associated with the Key Issue and the expected time horizon for the Key Issue to materialize. Key Issues and weights undergo a formal review and feedback process at the end of each calendar year. For the Governance pillar, the weight is set at the pillar level rather than at the Key Issue level.

Company-specific Key Issues and weights are permitted, subject to committee approval, for companies with diversified business models, facing controversies or based on pre-defined industry rules.

For each company a Weighted Average Key Issue Score is calculated based on the underlying Pillar scores and weights:

- The Environmental and Social Pillar Scores derive from the weighted average of underlying Issue scores.
- The Governance Pillar Score is calculated using a deduction-based approach.

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2 GICS, the global industry classification standard jointly developed by MSCI and Standard & Poor’s
Each company receives an **Industry-Adjusted Score (IAS)**, which is defined by the weighted average of the Environmental and Social Key Issue Scores and the Governance Pillar Score and normalized based on score ranges set by benchmark values in the peer set.

The following criteria apply in setting the industry top and bottom benchmark values:

- The top benchmark value (“industry maximum score”) falls between the 95th and 100th percentile of modeled weighted average key issue scores (WAKIS) within an ESG Rating Industry.
- The bottom benchmark value (“industry minimum score”) falls between the 0th and 5th percentile of modeled weighted average key issue scores (WAKIS) within an ESG Rating Industry.

Percentiles were calculated based on the full universe of companies with ESG Ratings (~8,500 companies), which includes approximately 5,600 additional small-cap and private companies that are not constituents of the MSCI ACWI Index.

The Industry Adjusted Score corresponds to a rating between best (AAA) and worst (CCC). These assessments of company performance are not absolute but are explicitly intended to be relative to the standards and performance of a company’s industry peers.

**Exhibit 8: Mapping the Industry Adjusted Company Score to Letter Ratings**

<table>
<thead>
<tr>
<th>Letter Rating</th>
<th>Leader/Laggard</th>
<th>Final Industry-Adjusted Company Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA</td>
<td>Leader</td>
<td>8.571* - 10.0</td>
</tr>
<tr>
<td>AA</td>
<td>Leader</td>
<td>7.143 – 8.571</td>
</tr>
<tr>
<td>A</td>
<td>Average</td>
<td>5.714 – 7.143</td>
</tr>
<tr>
<td>BBB</td>
<td>Average</td>
<td>4.286 – 5.714</td>
</tr>
<tr>
<td>BB</td>
<td>Average</td>
<td>2.857 – 4.286</td>
</tr>
<tr>
<td>B</td>
<td>Laggard</td>
<td>1.429 – 2.857</td>
</tr>
<tr>
<td>CCC</td>
<td>Laggard</td>
<td>0.0 – 1.429</td>
</tr>
</tbody>
</table>

*Appearance of overlap in the score ranges is due to rounding error. The 0-to-10 scale is divided into seven equal parts, each corresponding to a letter rating.

MSCI ESG Research recalibrates these benchmark values on an annual basis to reflect changes to underlying company data, methodology updates and fluctuations in industry peer sets.
Exhibit 9: Hierarchy of ESG Scores

ESG Letter Rating
(AAA-CCC)

Pre-set score-to-letter-rating matrix

Final Industry
Adjusted Score (0-10)

Adjusted relative to Industry Peers, Exceptional overrides

Weighted Average Key Issue Score (0-10)

Weighted average of underlying pillar scores

Environment Pillar
Score (0-10)

Social Pillar
Score (0-10)

Governance Pillar
Score (0-10)

Each pillar is organized into underlying themes;

Environmental and Social Pillar and Theme Scores derive from the weighted average of underlying Issue scores

Environmental Key Issue Scores (0-10)

Social Key Issue Scores (0-10)

Governance Key Issue Scores (0-10)

Exposure Scores
Mgmt Scores
Exposure Scores
Mgmt Scores
Key Metric Deductions

Key Metrics:
Ownership Characteristics; Board & Committee Composition; Pay Figures; Accounting Metrics; Policies & Practices Business & Geographic Segments; Controversies

Indicators:
Business Segments; Geographic Segments; Co-specific indicators

Indicators:
Strategy Programs & Initiatives Performance Controversies

Indicators:
Business Segments; Geographic Segments; Co-specific indicators

Indicators:
Strategy Programs & Initiatives Performance Controversies

Raw Data:
Company financial and sustainability disclosure, specialized government & academic data sets, media searches, etc.

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1.2 ESG Ratings Process Overview

Data Sources

To assess companies’ exposure to and management of ESG risks and opportunities, we collect data from the following sources:

- Macro data at segment or geographic level from academic, government, NGO datasets (e.g., Transparency International, US EPA, World Bank)
- Company disclosure (10-K, sustainability report, proxy report, AGM results, etc.)
- Government databases, 3,400+ media, NGO, other stakeholder sources regarding specific companies.

Issuer Communications and Feedback Process

We proactively reach out to companies as part of our standardized and systematic data review processes. We do not issue surveys or questionnaires or conduct general interviews with companies, nor do we accept or consider in our analysis any data provided by issuers that is not publicly available to other stakeholders. Being mindful of the “survey fatigue” faced by issuers, we make efforts not to overburden companies with data review requests.

Typically, companies receive an alert, when the ESG Rating review is complete. Given the dynamic nature of our research, companies can access the data we have collected to date via the issuer portal at any time to review. They are welcome to ask questions and provide feedback at any time.

We are committed to updating a company profile as required in a timely manner. This process is also in accordance with the objective of frequently updating company reports with the latest available information as provided by companies. Please note that updates to ESG data will not necessarily result in changes to a company’s ESG rating.

For more information on how we interact with companies, please see the ESG Issuer Communications FAQ.

Monitoring and Updates

Companies are monitored on a systematic and ongoing basis, including daily monitoring of controversies and governance events. New information is reflected in reports on a weekly basis and significant changes to scores trigger analyst review and re-rating. Companies typically receive an in-depth review on an annual basis.
Quality Review

Formal in-depth quality-review processes take place at each stage of analysis, including automated and quality checks of data and rating publication; industry- and market-lead oversight of ratings and reports; and ESG Ratings Methodology Committee approval of any exceptions, rating overrides or major (2+) rating changes. The ESG Methodology Committee reviews contentious cases and model changes.

Annual Consultation

MSCI ESG Research typically conducts an annual review of the Key Issues assigned to each industry as well as their weights. This process may also identify emerging issues and those that have become less significant. As part of this process, MSCI ESG Research consults with clients about proposed changes to Key Issue selections for each industry as well as any proposed new Key Issues.

Changes Resulting from Exceptional Circumstances

In addition to changes resulting from the annual consultation or other ordinary course methodology changes and enhancements, in certain instances, such as due to an extraordinary event or unanticipated or exceptional circumstances, MSCI ESG Research may determine that it is necessary to change the ESG Ratings methodology or apply score adjustments for specific markets, industries or companies. These determinations are made by the ESG Methodology Committee in order to better reflect the status of an affected market, industry or company when the methodology does not otherwise contemplate or capture the impact of the significant event or circumstance. For example, such events or circumstances could include, but are not limited to, significant geopolitical conflicts, market upheaval, or force majeure or similar events that limit or reduce access to relevant or reliable input data. MSCI ESG Research will inform clients in the event of any such change or adjustment and the planned implementation timing and method.

1.3 Coverage

For details regarding our current ESG Ratings coverage, please visit the ESG Ratings section on MSCI.com.

Additions to the MSCI ACWI Index and the MSCI US Investable Market Index (IMI) are typically rated within one quarter from their addition to the relevant index, while other companies are rated within two quarters from their addition to the relevant index.
Contact us
esgclientservice@msci.com

AMERICAS

Americas 1 888 588 4567 *
Atlanta +1 404 551 3212
Boston +1 617 532 0920
Chicago +1 312 675 0545
Monterrey +52 81 1253 4020
New York +1 212 804 3901
San Francisco +1 415 836 8800
São Paulo +55 11 3706 1360
Toronto +1 416 628 1007

EUROPE, MIDDLE EAST & AFRICA

Cape Town +27 21 673 0100
Frankfurt +49 69 133 859 00
Geneva +41 22 817 9777
London +44 20 7618 2222
Milan +39 02 5849 0415
Paris 0800 91 59 17 *

ASIA PACIFIC

China North 10800 852 1032 *
China South 10800 152 1032 *
Hong Kong +852 2844 9333
Mumbai +91 22 6784 9160
Seoul 00798 8521 3392 *
Singapore 800 852 3749 *
Sydney +61 2 9033 9333
Taipei 008 0112 7513 *
Thailand 0018 0015 6207 7181 *
Tokyo +81 3 5290 1555

* = toll free

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