

MSCI ESG Ratings Methodology: Product Safety & Quality Key Issue

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Introduction

This document provides essential information on the components of the Product Safety & Quality Key Issue to enable users of ESG Ratings to understand how our outputs are determined. Product Safety & Quality is a Key Issue in the Social Pillar of the MSCI ESG Ratings model. Companies are evaluated on their exposure to possible recalls or product safety concerns, the strength of their supply chain and sourcing systems, their quality management efforts in manufacturing and their responsible marketing practices.

For additional details on the MSCI ESG Ratings Model, refer to Section 2, Data, ratings and scores, of “ESG Ratings Methodology.”

Exhibit 1: MSCI ESG Key Issue hierarchy

3 Pillars	10 Themes	33 ESG Key Issues
Environmental	Climate Change	Carbon Emissions
		Climate Change Vulnerability
		Financing Environmental Impact
		Product Carbon Footprint
	Natural Capital	Biodiversity & Land Use
		Raw Material Sourcing
		Water Stress
	Pollution & Waste	Electronic Waste
		Packaging Material & Waste
		Toxic Emissions & Waste
	Environmental Opportunities	Opportunities in Clean Tech
		Opportunities in Green Building
		Opportunities in Renewable Energy
Social	Human Capital	Health & Safety
		Human Capital Development
		Labor Management
		Supply Chain Labor Standards
	Product Liability	Chemical Safety
		Consumer Financial Protection
		Privacy & Data Security
		Product Safety & Quality
	Stakeholder Opposition	Responsible Investment
		Community Relations
	Social Opportunities	Controversial Sourcing
		Access to Finance
		Access to Health Care
		Opportunities in Nutrition & Health

3 Pillars	10 Themes	33 ESG Key Issues
Governance	Corporate Governance	Board
		Pay
		Ownership & Control
		Accounting
	Corporate Behavior	Business Ethics
		Tax Transparency

Risks associated with this Key Issue

- Damage to brand value from loss of consumer trust or negative publicity.
- Increased costs to comply with additional regulatory requirements or litigation.
- Increased costs of implementing large-scale product recalls or to fulfill warranties.

Product Safety & Quality Key Issue Score

The Product Safety & Quality Key Issue Score evaluates the company's level of exposure to, and management of, risks on this Key Issue. The Key Issue Score is based on the Exposure Score and the Management Score using the formula below. The Exposure Score and the 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.

$$KI_i = 7 - (\max(EXP_i, 2) - MGMT_i)$$

Where:

- KI_i is the Key Issue Score for company i .
- EXP_i is the Exposure Score for company i .
- $MGMT_i$ is the Management Score for company i .

Product Safety & Quality Management Score

The Product Safety & Quality Management Score evaluates the company's ability to manage its exposure to risks on this Key Issue. It is based on an average of the scores associated with each of the Management Score categories listed below, modified by Controversies. These scores are derived from data points that are scored on a 0-10 scale, with 10 corresponding to best practice, and 0 corresponding to lack of management. Refer to Section 3.3, Analyzing risk management, of "ESG Ratings Methodology" for additional details. Sources are company disclosures except where otherwise indicated. The following formula is used to calculate the Product Safety & Quality Management Score - Excluding Controversies:

$$MGMT_{PSQ,i} = \frac{MFH_{PSQ,i} + MAS_{PSQ,i} + SCS_{PSQ,i} + PERF_{PSQ,i}}{4}$$

Where:

- $MGMT_{PSQ,i}$ is the Product Safety & Quality Management Score - Excluding Controversies for company i .
- $MFH_{PSQ,i}$ is the Manufacturing and Handling Score for company i .
- $MAS_{PSQ,i}$ is the Marketing, Advertising and Sales Score for company i .
- $SCS_{PSQ,i}$ is the Supply Chain and Sourcing Score for company i .
- $PERF_{PSQ,i}$ is the Performance Score for company i .

The following data points, without constituting an exhaustive list, are representative of the inputs to the Management Score and are used in the Management Score calculation:

Management Score category: Manufacturing and Handling Score

- **Existence of contingency plans/mitigation control systems to ensure that products are in stock, reliable and safe.**

Definition: Indicates whether the company has contingency plans/mitigation control systems to ensure that products are in stock, reliable and safe.

- **Measures and reports quantitative indicators related to service quality performance or customer protection.**

Definition: Indicates whether the company measures and reports quantitative indicators related to service quality performance or customer protection (e.g., clinical quality reports, customer surveys).

- **Extent of certification to a widely accepted product safety/quality standard.**

Definition: Indicates whether the company certifies its own operations with a widely accepted product safety/quality standard (e.g., HACCP, ISO 9001, ISO/TS 16949, ISO 13485 or equivalent).

- **Extent of certification to an internally developed product safety/quality standard.**

Definition: Indicates whether the company certifies its own operations with an internally developed product safety/quality standard.

- **Scope of employee training on product quality.**

Definition: The scope of the company's employee training on product safety and quality. Best practice is for all employees to receive training on product quality standards.

- **Extent of product testing capacity.**

Definition: The extent of the company's product testing capacity, e.g., third-party or in-house testing.

Management Score category: Marketing, Advertising and Sales Score

- **Audit/control procedures on responsible marketing.**

Definition: Indicates whether the company audits its own operations to assess compliance with its responsible marketing policies and ethical product promotion.

- **Policy on responsible marketing, advertising and sales.**

Definition: Indicates whether the company has explicitly stated a policy on responsible marketing and advertising, and the ethical promotion of its products.

Management Score category: Supply Chain and Sourcing Score

- **Membership in recognized industry-wide partnership(s) on supply chain risk evaluation and mitigation.**

Definition: Indicates whether the company is a member of industry initiatives or partnerships that evaluate supply chain risk and undertake relevant mitigation programs.

- **General statement on supplier certification of quality procedures.**

Definition: Indicates whether the company makes general statements regarding the certification or oversight of its supply chain quality, without providing further detail on certification at specific levels of its supply chain

- **Tier 1 - Direct supplier facilities and processes certified by company employees or third-party auditors.**

Definition: Indicates whether the company oversees the quality processes of its direct supplier (Tier 1) facilities and processes through certification or audits by a third party or by company employees.

- **Tier 2 - Indirect/sub supplier facilities and processes certified by company employees or third-party auditors.**

Definition: Indicates whether the company oversees the quality processes of its indirect/sub-supplier (Tier 2) facilities and processes through certification or audits by a third party or by company employees.

- **Tier 3 - Ingredients/raw materials checked for quality on a regular basis.**

Definition: Indicates whether the company oversees the quality processes of its ingredients/raw materials (Tier 3) through certification or audits by a third party or by company employees.

- **Scope of supplier training on quality standards.**

Definition: The extent to which the company trains suppliers on quality standards, requirements and processes. Best practice is to train all suppliers.

Management Score category: Performance

Representative performance metrics:

- Recalls:
 - Severe (Class I), moderate (Class II), minor (Class III).
- Regulatory warnings.
- Food and Drug Administration (FDA) Forms 483.
- Warranty payments:
 - Amount (USD millions), warranty payments/sales.
- Other industry-specific metrics.

Sources: Redica, Food and Drug Administration (US), Medicines & Healthcare Products Regulatory Agency (UK), Health Canada (Canada), National Medical Products Administration (China), European Medicine Agency (EU), Therapeutics Good Administration (Australia), Pharmaceuticals and Medical Devices Agency (Japan), Medicines and Medical Devices Safety Authority (New Zealand), Drug Office (Hong Kong), Ministry of Food and Drug Safety (Korea), Swiss Agency for Therapeutic Products (Switzerland), National Agency for the Safety of Medicine and Health Products (France), Federal Institute for Drugs and Medical Devices (Germany).

Controversies

A controversy deduction ranging from 0 to 5 points is subtracted from the overall Management Score, based on the severity and type of controversies facing the company on this Key Issue. The following categories of controversies are used in the assessment:

- Product safety and quality controversies.

- Customer fraud and billing controversies.
- False marketing controversies.

For more details on how controversies are included in the MSCI ESG Ratings model, refer to Section 3.3.2, Controversies cases, of “ESG Ratings Methodology.”

Product Safety & Quality Exposure Score

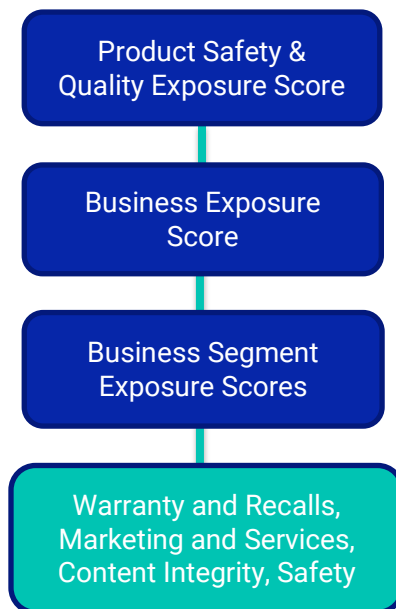
The Product Safety & Quality Exposure Score evaluates the company’s exposure to risks on this Key Issue. It is based on the Business Exposure Score only. The Business Exposure Score is scored on a 0-10 scale, with 10 corresponding to the highest risk and 0 corresponding to the lowest risk. Refer to Section 3.2, Analyzing risk exposure, of “ESG Ratings Methodology” for additional details. The following formula is used in the Exposure Score calculation:

$$EXP_{PSQ,i} = BUS_{PSQ,i}$$

Where:

- $EXP_{PSQ,i}$ is the Product Safety & Quality Exposure Score of company i .
- $BUS_{PSQ,i}$ is the Business Exposure Score of company i .

Exhibit 2: Exposure Score components



Business Exposure Score

The Business Exposure Score is a weighted average of the Business Segment Exposure Scores of a company's business segments. Scores are weighted by the proportion of a company's total revenue in each business segment, using the following formula to calculate the Business Exposure Score:

$$BUS_{PSQ,i} = \sum_{j=1}^{n_i} w_{Revenue,i,j} BSE_{PSQ,j}$$

Where:

- $BSE_{PSQ,j}$ is the Business Segment Exposure Score for business segment j .
- $w_{Revenue,i,j}$ is the weight of business segment j for company i based on the contribution to total company revenue.
- n_i is the number of business segments of company i .

Business Segment Exposure Score

The Business Segment Exposure Score of a business segment is based on a mapping of business segments as disclosed by the company to a corresponding business activity. MSCI ESG Research uses the Standard Industrial Classification (SIC) system along with industry-specific adjustments to define business activities. The score associated with a business activity is used to calculate a Business Segment Exposure Score. Each business activity score is calculated as the maximum of the Warranty and Recalls Score, Marketing and Services Score, Retail Score, Content Integrity Score and Safety Score of a business activity:

$$BSE_{PSQ,j} = \max (W\&R_j, M\&S_j, CIS_j, SS_j)$$

Where:

- $W\&R_j$ is the Warranty and Recalls Score for business activity j .
- $M\&S_j$ is the Marketing and Services Score for business activity j .
- CIS_j is the Content Integrity Score for business activity j .
- SS_j is the Safety Score for business activity j .

The Warranty and Recalls Score is calculated as the average of the Warranty Score, Safety Regulator Score and Recalls Score. The Warranty Score is calculated from the average warranty reserve ratio (warranty reserves/total assets). The Safety Regulator Score is developed from a qualitative assessment of whether a business activity is regulated in the United States by the FDA, the National Highway Traffic Safety Administration (NHTSA) or Federal Aviation Administration. The Recalls Score is calculated from the number of recalls for each business activity.

The Marketing and Services Score is a qualitative assessment depending on (1) whether the business activity is regulated in the United States by the Federal Trade Commission's (FTC's) bureau for marketing and advertising regulations and (2) whether the business activity provides services or products that have addictive properties.

The Content Integrity Score is a qualitative assessment of the integrity of the information provided by business activities and is specific to media outlets.

The Safety Score is calculated from annual death rates attributable to select business activities that carry health risks (e.g., through injury, contamination or intoxication).

Data Sources

The following sources are used to determine the Product Safety & Quality Exposure Score:

Jayant R. Kale, et al., 2013, "Contracting with Nonfinancial Stakeholders and Corporate Capital Structure: The Case of Product Warranties," *Journal of Financial and Quantitative Analysis* 48, no. 3: 699-727; Consumer Product Safety Commission; FDA; Department of Agriculture; NHTSA; FTC; Refinitiv; MSCI ESG Research; company disclosures.

Model Update History

In June 2022, the Product Safety & Quality Risk Exposure assessment was updated with the removal of a company-specific assessment based on the size of operations.

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