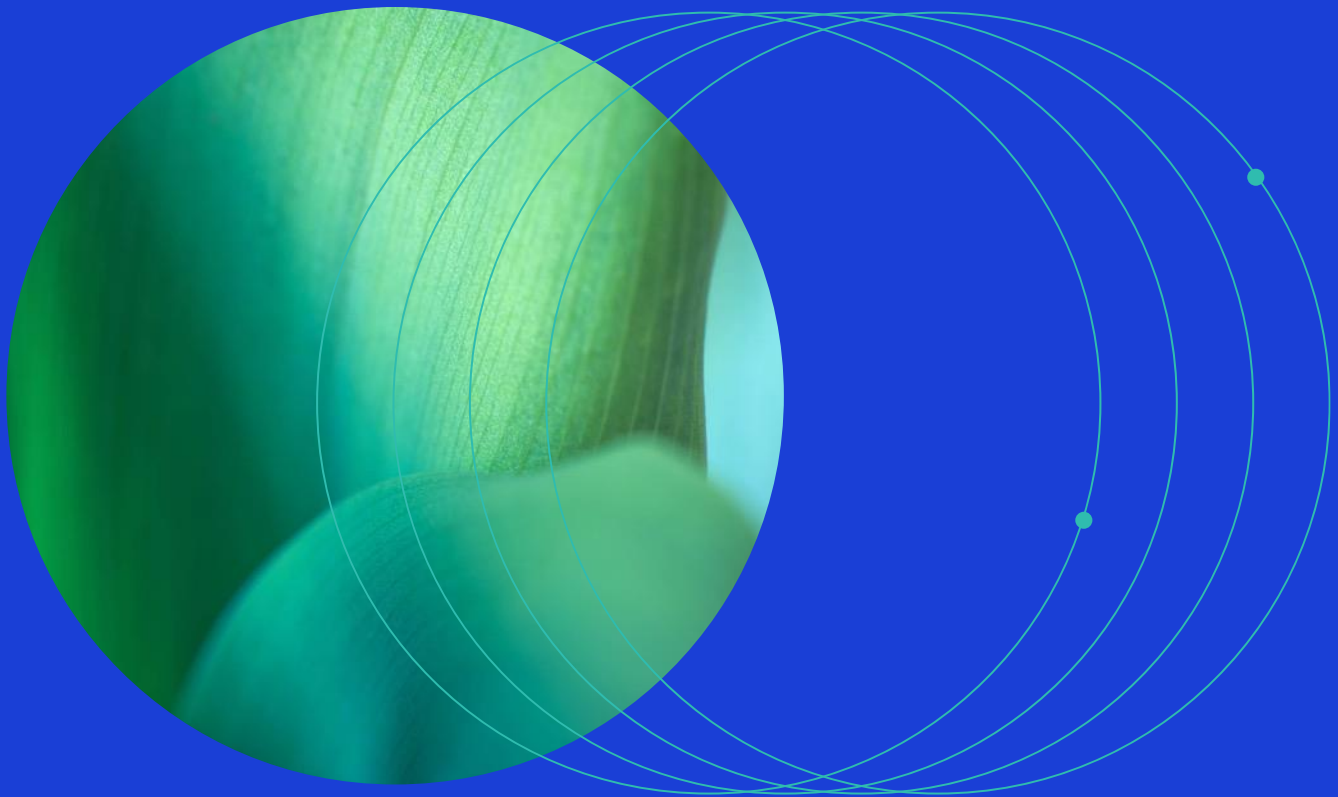




July 2025

MSCI ECONOMIC EXPOSURE DATA METHODOLOGY

Guiding Principles and Methodology for Economic Exposure Data



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Outline of the Data Methodology Book

This book details the methodology deployed to create and maintain the Economic Exposure dataset for companies.

Section 1 introduces the objective and data coverage of the Economic Exposure dataset.

Section 2 provides details on the methodology used to compute the economic exposure of companies to different countries and regions. This also includes the methodology employed to compute other metrics/fields, such as estimation scores derived from the reported geographic segment revenue data.

Section 3 describes the methodology to maintain the Economic Exposure dataset on an ongoing basis to reflect annual updates, changes arising from corporate events, updates to the Gross Domestic Product (GDP) data and corrections to the Economic Exposure data.

Section 4 has appendices that provide details on the regions for which economic exposures are computed and a note on changes made to this methodology book.

This book was last updated in July 2025.

1. Introduction

Many companies operate across several countries and regions. Consequently, their revenues may be exposed to economic activity in countries other than their home country. Significant disparities in the reporting of segment level financial data across companies and practical issues of availability of reliable data have prompted MSCI to develop a simple and transparent methodology to determine the economic exposure of companies in a consistent manner using the geographic distribution of a company's revenues and the nominal GDP of the countries where revenues are generated.

MSCI's Economic Exposure dataset covers developed, emerging and frontier markets. This dataset provides 'exposure revenue' breakdowns by country and by region¹ for each large, mid and small cap stock included in the MSCI ACWI + Frontier Markets (ACWI FM) IMI Index², and is designed to support institutional investors in analysing portfolio characteristics and exposures.

The Economic Exposure dataset represents tools to support client needs to:

- Compare portfolio economic exposures with a benchmark
- Tilt a portfolio's economic exposure towards a target country or region
- Calculate and report portfolio economic exposures to specific regions or countries

¹ Refer to Appendix 1

² MSCI ACWI + Frontier Markets (ACWI FM) Investable Market Index (IMI), a global equity index consisting of large, mid and small cap stocks from developed, emerging and frontier market countries. More details are available in the MSCI Global Investable Market Indexes Methodology at <https://www.msci.com/indexes/index-resources/index-methodology>.

2. Estimating Economic Exposure of Companies

The economic exposure of a company to a country or region is the proportion of its revenues coming from that country or region. As a general principle, MSCI estimates economic exposure from the geographic segment distribution of revenues by 'destination' or 'source' as reported by a company and the GDP weight of countries within a specific geographic segment.

Example:

In the case of determining Emerging Market (EM) exposure, all regions and countries (including Frontier Markets) except Developed Markets are included in the calculation of the EM exposure of a company. The EM exposure of a company is derived as the weighted average of the percentage segment revenue and the GDP weight of the emerging market countries within each of the geographic segments (16.3% in this example).

Exhibit 1: Calculation of EM Exposure for ABC Ltd.

Geographic Segment	Revenue (€ mil)	Revenue (%) (1)	EM GDP as a proportion of Total GDP of the geographic segment(%) (2)	EM Exposure contribution (%) (3) = (1) * (2)
France	2,000	12.1	0	0.0
Rest of Europe	3,000	18.2	20	3.6
United States	5,000	30.3	0	0.0
Japan	4,000	24.2	0	0.0
Rest of Asia	1,500	9.1	95	8.6
Rest of the World	1,000	6.1	67	4.1
Total	16,500	100.0		16.3

The generic calculation of the economic exposures of companies involve the following steps:

- Obtain the geographic segment revenue for each company.
- Disaggregate the geographic segment revenue into countries.
- Process the geographic segments starting from the smallest (individual countries/smaller regions) to the largest (larger regions/Rest of the World), based on the number of countries in a geographic segment.
- Aggregate the country level exposures to arrive at the regional exposures using the region to country mapping definition³.
- Compute estimation scores for the different economic exposures of a company.

Each of these steps is explained below in detail.

³ The list of 248 countries in the world, and the region to country mapping for the global regions is defined by MSCI based on official sources such as the United Nations, IMF and the World Bank. Refer to the IMF WEO database, [UN Standard Country and Area Code classifications](#), World Bank for more details.

The region to country mapping for the different global regions is made available as part of the Economic Exposure Security Data Modules and can be confirmed from region-wise month-end product files.

2.1 Obtain the Geographic Segment Revenue of Companies

Below guidelines are applicable while obtaining the geographic segment information of companies.

2.1.1) Source of information

The geographic segment information of the company is sourced from vendors and/or latest annual reports of companies. In certain cases, other publicly available information provided by the company such as financial reports, investor presentations, and/or other related reports may be used to arrive at the geographic segment information.

2.1.2) Revenues by 'destination' and 'source'

For economic exposure calculation, MSCI classifies a company's revenue as 'destination' or 'source' as below:

- Revenue by destination: Reported revenue is based on the location of customers/final markets.
- Revenue by source: Reported revenue is based on the location of production source and/or operations (e.g., mining locations or assets) or subsidiaries.

As a general principle, when a company reports geographic revenue distribution by both destination and source, the revenue distribution by destination is used.

If the revenue type of a company cannot be ascertained with reasonable accuracy, it is defaulted to destination-based reporting.

2.1.3) Most companies report straightforward geographic segment revenues based on countries and/or regions but some exceptions to this are listed below.

2.1.3.1) Geographic segment revenues reported as "Predominantly" and "more than x%"

- If the geographic segments are reported as "predominantly/substantially from a particular region or country", all of the company's revenues are assigned to that particular region or country.
- If the geographic segments are reported as "more than x% coming from a particular region or country", then below guidelines are followed:
 - If $x \geq 90\%$, all of the company's revenues are assigned to that particular region or country.
 - If $x < 90\%$, that particular region or country is assigned x% of the company's revenues and "Rest of the World" is assigned (100-x)%.

2.1.3.2) Geographic segment revenues for Re-insurance companies

For re-insurance firms, the geographic segment data may be reported by subsidiary locations or by ceding company locations. The subsidiary location is the location of the reinsurance company subsidiary that is generating the revenue, while the ceding company is the insurance company that passes a part or all its risks from its insurance portfolio to the reinsurance firm. The geographic segment distribution of revenues by ceding company locations is used wherever possible for estimating economic exposure of re-insurance firms.

2.1.3.3) Geographic segment revenues for Banks and Insurance companies

Revenues for banks/financial companies are determined as the sum of:

- Net Interest Income (NII) + Commissions and Fees + Realized Gains on Sales of Investments – Impairment Losses Recognized for Earnings + Insurance Premiums + Other Revenues.

Insurance companies' total income is defined as the sum of:

- Net premiums + fees + investment income + commissions + other income.

If such data is not available, then the geographic segment revenue distribution as reported by the company is considered for estimating the economic exposure.

2.1.3.4) Companies with non-geographic segments

The sum of the geographic segment revenues of the company may differ from the total revenues of the company. For example, according to the International Financial Reporting Standards (IFRS), the companies that follow the IFRS must report the segment information covering at least 75% of the company revenues⁴. Also, the presence of non-geographic segments such as eliminations, corporate center activities and inter-segment sales may result in the total segment revenues being more or less than the total revenues of the company. For calculating economic exposure, only the geographic segments of the company are considered for calculation, and any non-geographic segments are excluded.

The sum of the company level exposures to all the countries (including 'Other Countries') would always add up to 100%, even if the sum of revenues coming from the geographic segments of the company is different from the total revenues of the company.

⁴ International Financial Reporting Standard 8 relating to operating segments.

2.1.3.5) Geographic segments reported across multiple business lines

A company may report its geographic segments for each of its business lines. For example, a company may present the following geographic segment revenue information:

Segment		Revenue	Revenue (%)
General Insurance	Asia	90	90%
	Rest of the World	10	10%
	Total	100	100%
Life Insurance	Asia	80	40%
	Europe	60	30%
	Rest of the World	60	30%
	Total	200	100%
Total company's revenue		300	

In such cases, the geographic segments are not aggregated across business lines, but it is captured as illustrated below. In this example, the geographic segment 'Rest of the World' corresponds to World (excluding Asia) for General Insurance business but corresponds to World (excluding both Asia and Europe) for Life Insurance business.

Segment		Revenue	Revenue (%)
General Insurance	Asia	90	90%
	World (excluding Asia)	10	10%
	Total	100	100%
Life Insurance	Asia	80	40%
	Europe	60	30%
	World (excluding Asia and Europe)	60	30%
	Total	200	100%
Total company's revenue		300	

2.1.3.6) Other relevant metrics where the geographic segmentation of revenues is not available

For companies that do not report geographic distribution of revenues or if the geographic segment revenues are negative (as seen sometimes in financial companies), other metrics such as the geographic distribution of dividends from investment portfolios (for holding companies), credit exposures (for banks), assets and other relevant metrics (number of restaurants or sales by volume) as reported by the company may be used to estimate economic exposure.

If no information on geographic segment revenues or other metrics is available from any of the aforementioned sources, then all of the company's revenues may be attributed to the country of primary operations as inferred from the annual report.

2.2 Disaggregate the Geographic Segment Revenue into the Constituent Countries

Using the information as per section 2.1 - Obtain the Geographic Segment Revenue of Companies, the geographic segments are decomposed into the constituent countries. This is straightforward for country-specific segments but varies for categories outlined below.

2.2.1) Global regions

The regions such as Asia, Europe, Americas etc. are defined systematically and consistently applied. The list of 248 countries in the world, and the region to country mapping for the global regions is defined by MSCI based on official sources such as the United Nations, International Monetary Fund (IMF) and the World Bank⁵.

2.2.2) Geographic segments such as 'Mature markets', 'Growth markets', 'Emerging Markets'

These geographic segments are mapped to the emerging or developed markets⁶ as defined by MSCI for the purpose of computing economic exposure.

2.2.3) Ambiguous geographic segments such as 'Asia and others'

If no detailed breakdown is available, the segment is mapped to the most relevant region or country, such as mapping 'Asia and others' to Asia.

2.2.4) Geographic segments such as 'Home', 'Domestic', 'Foreign' and 'International'

Where the geographic segment is reported as 'Home' or 'Domestic', it is generally mapped to the country where the company is domiciled, has its primary operations or generates a large portion of its revenues, as inferred from its annual report. The geographic segment 'Foreign' or 'International' is mapped to 'Rest of the World'.

⁵ Refer to the IMF WEO database, [UN Standard Country and Area Code classifications](#), World Bank for more details.

⁶ Refer to <https://www.msci.com/indexes/index-resources/market-classification>

2.3 Process the Geographic Segments based on the size of each Geographic Segment

The individual geographic segments are processed in a sequential order starting from the smallest (individual countries/smaller regions) to the largest (larger regions/Rest of the World), based on the number of countries in a geographic segment.

Example:

Geo-Segment	Revenue (€ mil)	Revenue (%)
France	2,000	12%
Rest of Europe	4,000	24%
United States	5,000	30%
Japan	1,000	6%
Rest of Asia	3,000	18%
Rest of the World	1,500	9%
Total	16,500	100%

- In the example mentioned above, the individual countries such as, France, United States and Japan are processed first, and the exposures of 12%, 30% and 6% are assigned respectively to the three countries.
- Next, the region 'Rest of Europe' is processed as 'Europe excluding France'. The European countries excluding France are collectively assigned a revenue contribution of 24%, with the individual country exposures in Europe ex France being proportionate to their relative GDP contribution. For example, if a country contributes 10% to the GDP of 'Europe ex France', then it is assigned a revenue contribution of 2.4%. The GDP data used is the most recent nominal GDP data of countries as reported by the IMF and World Bank. Please refer to section 3.3 - GDP Updates for more details.
- Similarly, Rest of Asia is processed as 'Asia excluding Japan' and the Asian countries except Japan are collectively assigned a revenue exposure of 18% and individual country exposures are proportionate to their GDP contribution within 'Asia excluding Japan'.
- Finally, Rest of the World is processed as 'World excluding Asia, Europe and United States', and all the countries in this region are collectively assigned a revenue exposure of 9%, proportionate to their GDP contribution within 'World excluding Asia, Europe and United States'.
- The country level exposures at the company level are computed by aggregating the country exposure at the individual geographic segment level.

The economic exposures are computed for all the countries that are part of the MSCI ACWI, MSCI Frontier Markets and MSCI stand-alone country indexes. For the countries not covered by the MSCI country classification, such as Russia, the country exposures are aggregated and reflected under the category 'Other Countries'.

2.4 Aggregate the Country Level Exposures to arrive at the Regional Exposures

Country level exposures of a company are then aggregated to derive the regional exposures of a company. The regional exposures for the MSCI regions are computed using the MSCI region to country mapping definitions⁷. The regional exposures for the global regions are computed using the guidelines described in section 2.2 - Disaggregate the Geographic Segment Revenue into the Constituent Countries.

The list of regions for which country level exposures are computed is provided in Appendix I.

2.5 Compute Estimation Scores for the different Economic Exposures of a Company

The estimation score of a company with respect to a target country or region is the proportion of the company revenues on which GDP estimation is required to compute the exposure to that country or region. An example to demonstrate the concept is provided below.

Example:

Company A geographic segment information

Geo-Segment	Revenue (€ mil)	Revenue (%)	Estimation required	
			EM Exposure	Europe Exposure
France	3,000	13%	N	N
Europe ex France	5,000	22%	Y	N
US	5,000	22%	N	N
Japan	2,000	9%	N	N
Asia ex Japan	6,000	26%	Y	N
Rest of World	2,000	9%	Y	N
Total	23,000	100%		

Estimation score of Company A with respect to EM exposure = 22% + 26% + 9% = 57%

Estimation score of Company A with respect to Europe exposure = 0

Company B geographic segment information

Geo-Segment	Revenue (\$ mil)	Revenue (%)	Estimation required	
			EM Exposure	UK Exposure
Americas	3,000	75%	Y	N
EMEA	1,000	25%	Y	Y
Total	4,000	100%		

Estimation score of Company A with respect to EM exposure = 100%

Estimation score of Company A with respect to UK exposure = 25%

In the first example, for company A, the geographic segments France, US and Japan are individual countries, while the geographic segments Europe ex France, Asia ex Japan and Rest of the World comprise both emerging and developed markets. To calculate the emerging market exposure of company A, the GDP based estimation is applied to the highlighted geographic segments, which make up approximately 57% of the company A revenues.

⁷ Please refer to the [Index Country Membership](#) for the latest definitions

Hence, the estimation score of company A with respect to emerging markets exposure is 57%. However, GDP estimation is not required for estimating Europe exposure (since this figure is directly calculated from France and Europe ex France geographic segments). Hence, company A's Europe exposure has an estimation score of 0.

For company B, the emerging markets exposure needs to be estimated using GDP for both the Americas and EMEA geographic segments. Hence the estimation score of company B's emerging markets exposure is 100%. However, to estimate the UK exposure, the GDP estimation needs to be applied only on the EMEA segment, which makes up 25% of the company B revenues. Hence the company B's UK exposure has an estimation score of 25%.

The estimation score is computed in a similar way for all companies and with respect to the target countries and regions. It should be noted that the estimation scores of a company to complimentary regions such as 'developed markets and emerging markets', 'Japan and World ex Japan' and 'domestic and international' is always equal. The estimation score is not reported for the countries grouped under the 'Other Countries' category.

3. Maintaining the Economic Exposure Data

Economic Exposure data is maintained and updated to reflect any changes arising from below updates:

- Monthly updates to the Annual Financial Information as published by the companies.
- Monthly updates on account of corporate events.
- Semi-annual updates to GDP data, usually at the end of April and October of each year.
- Corrections, if any.

3.1 Monthly updates to the Annual Financial Information as published by the Companies

Geographic segment data for companies are updated annually based on vendor data and/or company's annual reports/other reports.

3.2 Monthly updates on account of Corporate Events

Ongoing corporate events such as mergers, acquisitions, spin-offs and bankruptcies for companies that are part of the Economic Exposure dataset, as described in section 1 - Introduction, are reflected in the Economic Exposure data at the end of the month. The details of various corporate events and their impact on Economic Exposure data are listed below.

IPOs and other early inclusions

In the case of newly listed companies, the economic exposures are calculated using the geographic segment revenue information found in the company's prospectus or regulatory filings. For other early inclusions to the universe, the information from the sources as detailed in section 2.1.1 - Source of information, may be used for computing exposures.

Bankruptcy and early deletions from the Universe

Companies removed from the applicable universe as described in section 1 – Introduction, are also removed from the Economic Exposure dataset.

Mergers and Acquisitions

In the case of a merger or an acquisition between two companies that are part of the applicable universe, the geographic segment information of the combined entity may be significantly different from the individual entities. These events are reviewed on a case-by-case basis using sources such as the interim filings in order to ascertain the impact of the event on the geographic segment revenues of the combined entity.

If such information cannot be ascertained with reasonable accuracy, the combined entity is treated as one company with two business lines, with the business lines being

the individual companies prior to the merger/acquisition, and the exposures are computed as described in section 2.1.3.5 - Geographic segments reported across multiple business lines and section 2.4 - Aggregate the country level exposures to arrive at the regional exposures.

In the case of a merger or an acquisition between a constituent of the applicable universe and a company that is not a constituent of the applicable universe, the existing exposure of the constituent company would be retained until the combined entity's published financial information is made publicly available.

Spin-offs

If a company is added to the applicable universe, as a result of a spin off, the event is reviewed using sources such as the interim filings, in order to ascertain the impact of the event on the geographic segment revenues of the spun off entity and the parent company.

In the event such information cannot be ascertained with reasonable accuracy, the exposures of the parent company are applied to the spun off company until such time as updated information is available to recalculate exposures of the spun off company.

Conversion and Stock exchange reclassification

Security conversion and stock exchange reclassification do not result in any change in the country and regional exposures of the company.

Assigning event flags

The companies which have undergone event related changes in the exposures would be assigned an event flag to reflect the pre-event or post event status of exposures. Pre-event flag means the company's geographic segment information before the event occurred was used for estimating the exposures. Post-event flag means the geographic information is based on prospectus, regulatory filings or other public information that were made available by the company post the corporate event. IPO flag refers to the exposures of a recently listed company (IPO).

3.3 GDP updates

The nominal GDP data (in USD) of countries obtained from IMF and World Bank is reviewed and the same is updated twice a year, usually at the end of April and October, coinciding with the release of IMF World Economic Outlook report, and is generally used to update the GDP weights in April and October. Since all the countries of the world may not report their GDP at the same time, a lagged GDP estimate up to 3 years is considered acceptable for computing the GDP weights and economic exposures for a given month.

The exposures of a company are calculated using the latest available geographic segment information and the latest GDP weights. Therefore, the exposures of companies may be updated following updates to the GDP weights.

3.4 Corrections

Any corrections applied by MSCI to the existing geographic segments of a company would result in a recalculation of the economic exposures for the company. Following a correction, the revised economic exposures are compared to the previous values for major regions such as Americas, Asia, Africa, Europe, Oceania, emerging markets and domestic markets. If the absolute change in exposures is greater than 5% and the relative change in exposures is greater than 10% with respect to any of the aforementioned regions, an announcement is made by MSCI with the revised country and region exposures for the company.

Appendix I: List of Regions for which Economic Exposures are computed:

Sno	Regions	Global / MSCI Region definitions
1	MSCI North America	MSCI
2	MSCI EM Latin America	MSCI
3	MSCI AC Americas	MSCI
4	MSCI EM EMEA	MSCI
5	MSCI Europe	MSCI
6	MSCI AC Europe	MSCI
7	MSCI EM Europe	MSCI
8	MSCI EMU	MSCI
9	MSCI FM Africa	MSCI
10	MSCI AC Asia Pacific	MSCI
11	MSCI AC Asia Pacific ex Japan	MSCI
12	MSCI EM Asia	MSCI
13	MSCI AC Pacific ex Japan	MSCI
14	MSCI Pacific	MSCI
15	MSCI Far East	MSCI
16	MSCI World	MSCI
17	MSCI Emerging Markets	MSCI
18	MSCI Frontier Markets	MSCI
19	MSCI EAFE	MSCI
20	MSCI World ex Japan	MSCI
21	MSCI BRIC	MSCI
22	MSCI GCC Countries	MSCI
23	MSCI AC Far East ex JP	MSCI
24	Americas	Global
25	Latin America and the Caribbean	Global
26	EMEA	Global
27	Europe	Global
28	Western Europe	Global
29	Eastern Europe	Global
30	Southern Europe	Global
31	Northern Europe	Global
32	Middle East	Global
33	Africa	Global
34	Asia	Global
35	Developed markets	Global
36	Emerging markets	Global

Appendix II: Changes to the Economic Exposure Data Methodology Book

This methodology book was first published in November 2013 and updated in June 2025.

The following sections have been modified since November 2013:

- Outline of the Methodology Book
- Section 1: Introduction
- Section 2: Estimating Economic Exposure of Companies
- Section 3: Maintaining the Security Data Modules
- Appendix II: Exceptions where the 'derived from geographic segment' field is blanked (removed in 2025)

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