

MSCI Equity Benchmark Family

Benchmark Statement

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Benchmark Statement: MSCI Equity Indexes

1 Objective of the Indexes in the Family

- 1.1 The MSCI equity benchmark family is comprised of indexes whose aim is to accurately and objectively measure performance of a market or economic reality as represented by an investment opportunity set accessible to institutional investors based on a market, market segment, theme, or investment strategy. MSCI’s primary equity index methodology is the MSCI Global Investable Market Index (“GIMI”) methodology. Other equity indexes within the family, including custom indexes, are in general derived and maintained based on the universe of securities used by the MSCI Global Investable Market Indexes, i.e., the MSCI Global Investable Equity Universe. Any exception to this rule would be highlighted in the respective equity index methodology books.
- 1.2 The equity universe from which MSCI constructs all of its equity indexes is comprised of 99% of the free float adjusted market capitalization of the underlying total equity market. An equity index representing a particular market, market segment, theme or investment strategy will reflect the relevant proportion of this universe.
- 1.3 The geographical boundaries of indexes in the family are based on the MSCI Market Classification Framework, which sets forth increasing equity market accessibility requirements when moving from Stand Alone Markets to Frontier Markets (“FM”), to Emerging Markets (“EM”) to Developed Markets (“DM”). Any market covered by MSCI needs to exhibit at least some accessibility by international institutional investors to be eligible for designation as a Stand Alone Market.
- 1.4 These boundaries are illustrated in the following table:

methodology), the MSCI Index Calculation Methodology, the MSCI Corporate Events Methodology, the MSCI Fundamental Data Methodology and the MSCI Index Policies.

- 1.7 The MSCI equity benchmark family also includes custom indexes that may include specific screens, exclusion lists, or alternative weightings on parent indexes described above in section 1.6.
- 1.8 The MSCI equity benchmark family contains both Significant and Non-Significant indexes as defined by Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indexes used as benchmarks.

2 Methodology and Index Design Guidelines and Reviews

- 2.1 Indexes in the MSCI equity benchmark family aim to accurately and objectively measure performance of a market or economic reality as represented by an investment opportunity set accessible to institutional investors based on a market, market segment, theme, or investment strategy. Indexes in the MSCI equity benchmark family are constructed and maintained with the following prime objectives in mind:
 - Representativeness
 - Replicability
 - Efficiency
- 2.2 The index design objectives are achieved through the use of a transparent rules-based methodological approach to index construction and maintenance.
- 2.3 MSCI indexes are rebalanced on a regular schedule ranging from daily to annually. The vast majority of the indexes are rebalanced on semi-annual or quarterly basis. A rebalancing may also be triggered by conditions specified in the relevant methodology.
- 2.4 As part of the regular index rebalancing process, MSCI indexes are reviewed relative to the market or strategy they are designed to reflect. This assists in the evaluation of methodologies for both consistency and effectiveness and may highlight situations where changes in the methodology are warranted to reflect changes in the underlying market opportunity.

3 Index Content Governance

MSCI’s Index Policy Committee (“IPC”) and Equity Index Committee (“EIC”) preside over content matters relating to its indexes in the MSCI equity benchmark family, such as the development and interpretation of MSCI index methodologies.

- 3.1 The EIC is primarily responsible for supervising the design, development, approval and interpretation of index methodologies. EIC discussions may be informed by feedback from the investment community. Nonetheless, all decisions taken by the committees are the sole responsibility of its members.
- 3.2 Additionally, for GIMI indexes and certain other designated methodologies, all results and analysis related to Index Reviews are presented to, reviewed, discussed, and approved by the EIC.
- 3.3 The IPC is responsible for final decisions on market classifications and may be consulted on selected index terminations and serves as an escalation point for the EIC. Relevant topics deemed to have material importance, as determined by the EIC, are discussed and decided by the IPC.

4 Index Calculation and Discretion

- 4.1 MSCI indexes in the MSCI equity benchmark family are calculated using transacted security prices from stock exchanges. MSCI does not use any bids, asks, or any estimations as alternatives to stock prices. MSCI equity indexes do not use “contributed” input data.
- 4.2 The return of the indexes is determined in a number of currencies including USD and EUR.
- 4.3 The MSCI equity indexes rely on the continued availability of transacted security prices from stock exchanges and permission for MSCI to use such data for determining the MSCI equity indexes. To the extent that such data is temporarily or permanently unavailable (whether as a result of a market disruption event or otherwise), the MSCI index methodologies apply the fall back measures as described below.
- 4.4 In case of market closure or if a security does not trade on a specific day or a specific period, MSCI carries forward the latest available closing price to calculate its equity indexes. In case of market outage, MSCI will use the prices provided up to the point of the outage of that market for calculation of MSCI indexes on that day. If MSCI determines that another price is more appropriate based on the circumstances, an announcement would be sent to clients with the related information. All such determinations are made by the EIC.
- 4.5 The rules for MSCI index construction, maintenance and calculation are contained in publicly available methodology books and complemented with internal guidelines and

operating procedures. Each process is conducted by well-trained personnel according to documented rules and operating procedures.

4.6 MSCI's rules-based index methodologies provide that discretion is not used in the production of the indexes except in unusual cases not effectively addressed by the methodology. These include, but may not be limited to:

- Corporate events not previously encountered or unusually complex in nature,
- Structural changes to the underlying markets,
- Operational issues at stock exchanges,
- Geo-political events,
- Events beyond human control.

4.7 Where there may be a need to take an action that is not prescribed in the methodology, senior members across the MSCI Index Research and Data Management departments will develop a proposed approach with the goal of remaining consistent with the goals of the methodology and ensuring timely calculation and distribution. These proposals are reviewed by the EIC. In cases when time permits and the cases are deemed material, MSCI may consult with clients on the proposed approach. MSCI will then announce the decided action to all market participants at the same time.

4.8 Typically, MSCI does not perform explicit ex-post analysis of decisions other than through its regular reviews of indexes and methodologies but always welcomes feedback from market participants on decisions made.

4.9 The framework described above eliminates the exercise of discretion by an individual and ensures any required exercise of discretion is managed through escalation to committees of experts. All committees are governed by terms of reference and all decisions are appropriately documented and archived. The IPC and EIC currently each have at least 6 members respectively and decisions are reached by consensus.

5 Corrections

5.1 In the case of data errors that occur in the determination or calculation of an index in the MSCI equity benchmark family, if the impact of the error is below a documented threshold, no historical index restatement is made.

5.2 If the impact of the error on performance is above this threshold at the index level, indexes are restated historically.

5.3 In certain circumstances, such as errors in the list of index constituents (e.g., a security is unintentionally omitted), or the error affects a large number of securities (e.g. a third of

the prices in a particular market are in error) MSCI may also correct and restate history, even if the aggregate impact is small.

- 5.4 MSCI applies a 12-month correction period for index errors. Errors discovered that are older than 12 months are generally not corrected.
- 5.5 Corrections related to regular index rebalancings or corporate events are assessed on a case by case basis. MSCI typically considers the following factors in determining the most appropriate corrective action: index investability and replicability as well as potential reverse turnover.
- 5.6 All corrections are announced simultaneously to all market participants.

6 Consultations

- 6.1 MSCI indexes in the MSCI equity benchmark family are regularly reviewed and evaluated by the Index Research team. MSCI conducts consultations before making any material changes to an index methodology.
- 6.2 A consultation begins in general with an announcement giving the highlights of the MSCI proposal(s) and indicating the location of the consultation document on MSCI’s website. The announcement is widely distributed through multiple channels, including the MSCI website, Bloomberg and Reuters, and directly to MSCI’s clients. These consultations provide market participants the time and opportunity to comment on any potential changes to the index methodology.
- 6.3 Once a consultation is closed and MSCI has gathered all required feedback, the EIC and, if appropriate, the IPC, reviews the feedback and makes a decision. Any decision to implement changes is announced publicly prior to implementation.
- 6.4 The final decision, including the rationale that has led to it and high level participation statistics, is communicated publicly to all market participants at once. Most consultation participants request that their feedback remains confidential. MSCI may nevertheless publicly disclose feedback if specifically requested by respective market participants. In that case, the relevant feedback would be published together with the final results of the consultation.
- 6.5 If the final decision is to change the methodology, it will be part of the announcement, including the timeframe for the implementation of the change. Subsequently, MSCI will update the relevant methodology books.
- 6.6 The length of a consultation and lead time provided for implementation varies depending on the complexity of the topic, breadth of client impact as well as impact on the index composition, and is clearly communicated as part of the consultation process. The

length of a consultation needs to be sufficient for market participants to meaningfully review what is proposed and respond.

- 6.7 For custom indexes, changes to any client specifications are discussed directly with the relevant client.

7 Index Terminations

- 7.1 While terminations of MSCI indexes in the MSCI equity benchmark family are rare, MSCI has clear written policies to address them. There may be certain circumstances where the methodology cannot be adapted in which case terminating the index may be required. These circumstances are generally not within MSCI's control and may include significant changes to the structure of underlying market, drastic changes to the market infrastructure, lack of access to necessary data, geo-political events, and regulatory changes. Additionally, factors such as methodology convergence or low usage may result in MSCI's proposal to terminate an index.

- 7.2 In all of these cases if an index termination is proposed or required, MSCI would proceed as follows:

- The EIC would review the appropriateness and impact of a potential termination.
- MSCI may perform a consultation including a discussion of possible alternatives, if any.
- MSCI would announce the termination of the index in advance.
- If practicable, MSCI would continue to calculate the index for an announced period of time to give users the opportunity to transition to another index or otherwise prepare for the termination of the MSCI index
- In the event that an appropriate alternative MSCI index is established, the details of the methodology governing this index as well as the timing of the transition would be publically announced in advance of the implementation.

- 7.3 Indexes may also be discontinued if fewer than the required minimum number of securities are eligible for inclusion when applying a given methodology to a market. For example, this could happen in GIMI Large, Mid or Small Cap Indexes or indexes based on the GICS® segmentation. In these cases, the index can no longer be calculated in compliance with the applicable methodology and it will simply stop. MSCI may resume calculation of such indexes if, over time, enough securities become eligible.

- 7.4 The termination of a custom index is handled in consultation with the relevant client.

8 Index Usage

- 8.1 MSCI indexes in the MSCI equity benchmark family may be used for a variety of purposes, including for research or use as the basis for index-linked investment products.

They may be used by a variety of market participants including but not limited to asset owners, portfolio managers, broker-dealers, and researchers. Not all uses are appropriate for all users. Market participants should use their judgment when selecting an index for a particular purpose.

- 8.2 MSCI indexes, and the effectiveness of index methodologies can be affected by a number of factors, most of which are beyond MSCI’s control. These may include, but are not limited to, structural changes to the underlying market including decreases in the size and liquidity of the relevant market segment, infrastructure changes, geo-political events, and regulatory changes. These circumstances may result in a material change the methodology as a result. In rare cases, these circumstances may result in the termination of an index.
- 8.3 If financial product issuers or investment managers choose to use an MSCI index in the MSCI equity benchmark family as the basis of an index-linked financial product or an investment fund, they should consider this possibility, including the potential need to terminate or modify the terms of a financial product resulting from the termination of the calculation of the index.
- 8.4 MSCI assumes no responsibility for potential use of its indexes in the MSCI equity benchmark family for particular purpose by clients, whether that use is for research, benchmarking, the basis for an index-linked financial product or investment fund, or some other use. The effective representation of a market or strategy is the primary aim for MSCI.

9 Additional Information

- 9.1 Detailed methodology and policy documents, a search function to find the methodology documents governing a specific MSCI index in the MSCI equity benchmark family and vendor reference codes, if available, can be found on www.msci.com.

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Appendix I – Key Terms

Key term	Definition
All Country World Index (ACWI) Countries	Countries classified as either Developed Markets or Emerging Markets.
Developed Market(DM)	An equity market that has met the quantitative and qualitative criteria defined within the Market Classification Framework pertaining to economic development, size and liquidity, and market accessibility that classifies it as a Developed Market.
Emerging Market (EM)	An equity market that has met the quantitative and qualitative criteria defined within the Market Classification Framework pertaining to size and liquidity and market accessibility that classifies it as an Emerging Market.
Equity Index Committee (EIC)	The Equity Index Committee (EIC) is primarily responsible for the supervision of the design, development, approval and interpretation of index methodologies. Decisions taken by the EIC are the sole responsibility of its members. The committee is staffed strictly by MSCI employees.
Equity Market	Geographical entity used as a basis for the construction and maintenance of the GIMI defined as a country or a group of countries.
Equity Universe	Universe of eligible equity securities. Example: the Developed Markets Equity Universe consists of eligible equity securities in Developed Markets.
ESG Indexes	Indexes that are designed to accurately and objectively measure the performance by an investment opportunity set that represents an investment strategy focused on environmental, social and governance (ESG) themes.
Factor Indexes	Indexes that are designed to accurately and objectively measure the performance by an investment opportunity set that represents the return of factors and additional systematic risk premia, which have historically demonstrated excess market returns over the long run.
Free Float	The proportion of shares outstanding that is available to investors for purchase in the public equity markets.
Free Float-Adjusted Market Capitalization	The market capitalization of an equity security that is adjusted for its Free Float
Frontier Market (FM)	An equity market that has met the quantitative and qualitative criteria defined within the Market Classification Framework, pertaining to size

	and liquidity and market accessibility that classifies it as a Frontier Market.
Global Investable Market Indexes (GIMI)	Family of MSCI indexes constructed and maintained based on the MSCI Global Investable Market Indexes (GIMI) Methodology.
Global Investable Equity Universe	Aggregation of all Market Investable Equity Universes
Index Policy Committee (IPC)	The Index Policy Committee (IPC) is responsible for final decisions with respect to market classifications and may be consulted on selected index terminations and is an escalation point for the EIC. Relevant topics deemed to have material importance, as determined by the EIC, are discussed and decided by the IPC.
Investment Universe	Universe of Equity Markets sharing similar investment characteristics. There are three investment universes (Developed Markets, Emerging Markets, and Frontier Markets).
Market Classification Framework	Rules used to classify Equity Markets into Investment Universes.
Market Investable Equity Universe	Market universe of investable equity securities derived from the application of investability requirements to the securities in the Equity Universe classified in that market.
Standalone Market	An Equity Market that is provided on a standalone basis, and hence does not meet all of the criteria as defined in the Market Classification Framework necessary to deem it a Developed, Emerging or Frontier Market.
Strategy (Ex-Factor) Indexes	Indexes that are designed to accurately and objectively measure the performance by an investment opportunity set that represents a strategy used in connection with certain investment approaches, such as portfolios managing specific equity and currency exposures or portfolios subject to concentration restrictions imposed by regulatory requirements as an example.
Thematic Indexes	Indexes that are designed to accurately and objectively measure the performance by an investment opportunity set that represents an investment strategy that seeks to identify specific social, economic, industrial, environmental or demographic trends and their long-term secular, cyclical and structural influences on the world's economies and markets.

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