MSCI CONSTITUENT HISTORY

The historical data available for the constituents of the MSCI Global Equity Indexes is broad and deep, providing over 40 years of Developed Markets (DM) and Asia Pacific Markets (AP) history and over 25 years of Emerging Markets (EM) history. This comprehensive history of the global investable Indexes universe is ideal for anyone wishing to back-test investment strategies.

DATA COMPOSITION

The MSCI Constituent History datasets are primarily composed of data that has not been "backfilled." MSCI indexes have been used as global fund benchmarks since 1969. MSCI Constituent History therefore provides meaningful market performance that captures stock information as it happened. Index constituents are investable and treated with a consistent methodology over time—essential features for creating a reliable back-testing framework.

DATA TIMELINESS.

MSCI Constituent History reflects information available to market participants at the time of index calculation; for example, the data adjusts for corporate events as they were reported to the market. In contrast, backfilled historical data may overlook the details of such events and the day on which they were effective. Similarly, MSCI Constituent History reflects financial restatements when they were made; retaining both the initial and the restated data. MSCI has also maintained the index constituent fundamental data, so that valuation ratios are consistently in line with a stock's pricing at the time.

DATA QUALITY

Transparency and consistency since inception. The MSCI Constituent History datasets reflect the quality and accuracy that is applied to the calculation of the MSCI indexes. The MSCI approach to capturing and maintaining complex corporate data is widely used and valued for its depth.

This can help users interpret market information with more precision—for meaningful time series analyses, or for understanding company results in an historical context.

- MSCI adjusts certain historical constituent data for accounting differences across countries and regions¹ to provide comparable data.
- MSCI includes inflation accounting for certain emerging markets with high rates of inflation (Latin America in the 1970s and 80s, for example). Without such adjustments, comparing company sales or dividends year over year can be problematic.

USING MSCI CONSTITUENT HISTORY

The MSCI Constituent History datasets facilitate reliable back-testing. MSCI Constituent History enables institutional investors to simulate the past performance of an investment strategy, test an investment idea, or analyze what combination of factors; styles or sectors may have been drivers of market returns. This historical data helps avoid both look-ahead and survivorship bias when conducting back-testing research.

THE MSCI CONSTITUENT HISTORY DATASETS

MSCI Constituent History is licensed through three datasets:

- Dataset 1 includes constituent data to simulate the composition of MSCI regional, country and sector indexes.
- Dataset 2 offers monthly valuation ratios.
- Dataset 3 provides financial statement data (for Developed Markets constituents only). The data is provided as available.

¹ For example, extraordinary items are netted out where possible; and MSCI makes every effort to adjust for after tax data.



KEY DATA POINTS FOR DATASETS 1, 2 AND 3

DATASET 1: INDEX SIMULATION DATA ²	DATASET 2: VALUATION RATIOS	DATASET 3: FINANCIAL STATEMENT DATA	
Security Name	P/BV	Sales	
Internal & External Security Identifiers	P/CE	Earnings	
GICS Code	P/E	EPS	
Number of Shares	P/Sales	Dividends/Share	
Prices	Dividend Yield	Cash Earnings	
Index Family Codes	ROE	Current, Fixed and Other Assets	
Index Inclusion Flags and Factors		Investments	
Monthly Price and Total Returns			

START DATES FOR DIFFERENT CONSTITUENT MODULES HISTORIES VARY³

DATASET		START DATES		
	DEVELOPED MARKETS (DM)	EMERGING MARKETS (EM)	ASIA PACIFIC (AP)	
1: Index Simulation Data	1969	1987	1969	
2: Valuation Ratios	1969	19924	1969	
3: Financial Statement Data	1969			

Small Cap and Value/Growth modules are also available.

LICENSING THE MSCI CONSTITUENT HISTORY DATASETS

- The datasets are available through perpetual licenses that allow unlimited internal users at applicable locations through any available Platform (e.g., direct delivery and/or the following vendors⁵: FactSet, Thomson Reuters/QAI, RIMES).
- Licenses to corresponding ongoing MSCI Core modules are required at the time of licensing the MSCI Constituent History datasets.

ABOUT MSCI

For more than 40 years, MSCI's research-based indexes and analytics have helped the world's leading investors build and manage better portfolios. Clients rely on our offerings for deeper insights into the drivers of performance and risk in their portfolios, broad asset class coverage and innovative research. Our line of products and services includes indexes, analytical models, data, real estate benchmarks and ESG research. MSCI serves 98 of the top 100 largest money managers, according to the most recent P&I ranking. For more information, visit us at www.msci.com.

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² Note that perfect replication of index level histories using security level data is not always possible due to MSCI's correction policy. In addition, usage of monthly security level files for month-end to month-end index level calculation leads to approximate performance, due to changes in security weights that occur within a month.

 $^{^3}$ From 12/31/1969, 12/31/1987 and 01/31/1992 respectively. Monthly frequency only for period prior to 1995.

⁴ Valuation ratios are not available for all EM countries prior to 1995.

⁵ Data availability and scope may vary by vendor.