

# MSCI Global Minimum Volatility Indices



The MSCI Global Minimum Volatility (MV) Indices are designed to serve as transparent benchmarks for minimum variance (or managed volatility) equity strategies. The indices aim to reflect the performance characteristics of a minimum variance strategy focused on absolute returns as well as volatility with the lowest absolute risk. Each Minimum Volatility Index is calculated by optimizing a parent MSCI index to produce an index with the least volatility for a given set of constraints and to ensure index replicability and investability.

## Key Features and Benefits

### Combine MSCI Index and Risk Modeling Expertise:

The MSCI Global MV Indices bring together MSCI's expertise in index design and maintenance and Barra's strength in portfolio risk and performance analytics.

### Demonstrate Consistent Minimum Variance Strategy

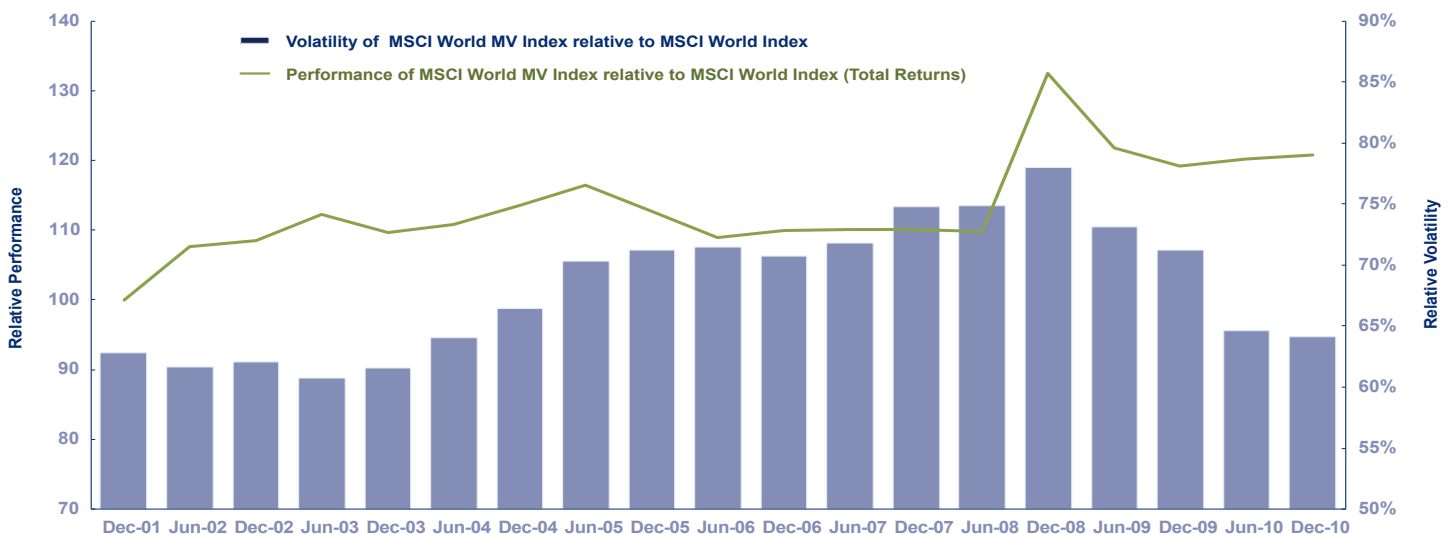
**Characteristics across Markets:** Historically, the MV indices have shown lower realized volatility than their parent indices, low beta relative to the parent, a bias towards smaller and less volatile stocks and a bias towards stocks with low idiosyncratic risks.

### Offer Broad and Flexible Market Coverage:

MSCI currently calculates 10 Minimum Volatility Indices based on popular parent indices such as the MSCI World, All Country World and Emerging Markets Indices. Additional MV Indices may be calculated for most MSCI Developed and Emerging Markets countries, regions and sectors, providing a wide variety of choices.

**Index Licensing:** The indices can be licensed globally for portfolio management and benchmarking purposes and may serve as the basis for index-linked investment products such as indexed funds, exchange traded funds (ETFs), OTC and non-OTC derivatives and futures and options contracts.

MSCI World Minimum Volatility Index—Performance and Volatility Relative to MSCI World Index (Dec 2001 – Dec 2010)



Index Performance—Total Returns (%) (Dec 2010)

Index	1 Yr	3 Yr	5 Yr	Dec 2001 – Dec 2010
MSCI World MV Index	12.8	-2.2	4.0	7.1
MSCI World Index	12.3	-4.3	3.0	5.2

Index Risk Characteristics<sup>1</sup> (%) (Dec 2010)

Index	1 Yr	3 Yr	5 Yr	Dec 2001 – Dec 2010
MSCI World MV Index	12.1	17.5	14.3	12.5
MSCI World Index	20.5	24.1	19.4	17.0

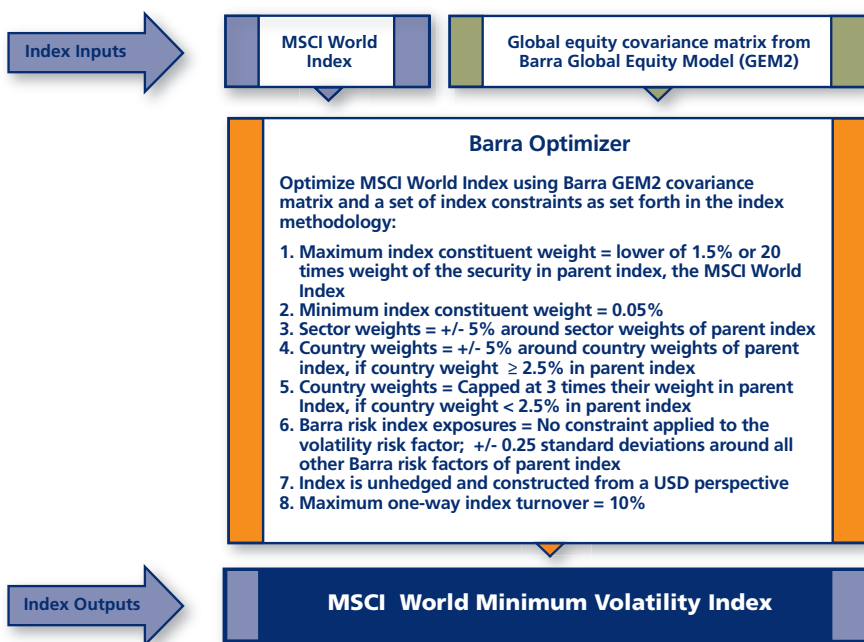
<sup>1</sup> Annualized standard deviation of monthly returns

# MSCI Global Minimum Volatility Indices

## Index Methodology

The MSCI Minimum Volatility Indices are designed to provide the lowest return variance for a given covariance matrix of stock returns. They are calculated by optimizing a given MSCI parent index to achieve the lowest mean-variance absolute volatility for a given set of constraints. The optimization relies on the factor exposures for all the securities in the parent Index and the factor covariance matrix of the relevant Barra equity model. The indices are rebalanced semi-annually in May and November. At each rebalance, constraints (see example below) are used in the index optimization process to ensure index replicability and investability while achieving lowest volatility. Indices may be optimized for various currencies.

## Example: Calculating the MSCI World Minimum Volatility Index



## Index Licensing

The MSCI Minimum Volatility Indices may be licensed individually on request by clients subscribing to corresponding Developed Markets or Emerging Markets security level products. MSCI currently calculates 10 Minimum Volatility Indices. Each index has been optimized for one or more currencies including: the US, Canadian and Australian dollar, the Japanese yen and the euro.

- ACWI
- World
- EAFE
- Emerging Markets
- Japan
- World ex Australia
- Europe
- Kokusai
- USA
- North America

## Index Delivery

Index and security level data are distributed daily through vendors or via direct delivery (internet FTP). Real time index levels are available on request. Vendors providing index and security level data include: FactSet, Mellon Analytical Solutions, Rimes, Risk Metrics, Style Research and Thomson/DataStream. Index level data only is available through Bloomberg and Reuters.

## Index History

Daily index level history is available from December 31, 1998.

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**MSCI** About MSCI

MSCI Inc. is a leading provider of investment decision support tools to investors globally, including asset managers, banks, hedge funds and pension funds. MSCI products and services include indices, portfolio risk and performance analytics, and governance tools.

The company's flagship product offerings are: the MSCI indices which include over 148,000 daily indices covering more than 70 countries; Barra portfolio risk and performance analytics covering global equity and fixed income markets; RiskMetrics market and credit risk analytics; ISS governance research and outsourced proxy voting and reporting services; FEA valuation models and risk management software for the energy and commodities markets; and CFRA forensic accounting risk research, legal/regulatory risk assessment, and due-diligence. MSCI is headquartered in New York, with research and commercial offices around the world.

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