

The MSCI Minimum Volatility Indices

Track Broad Market Returns with Lower Risk

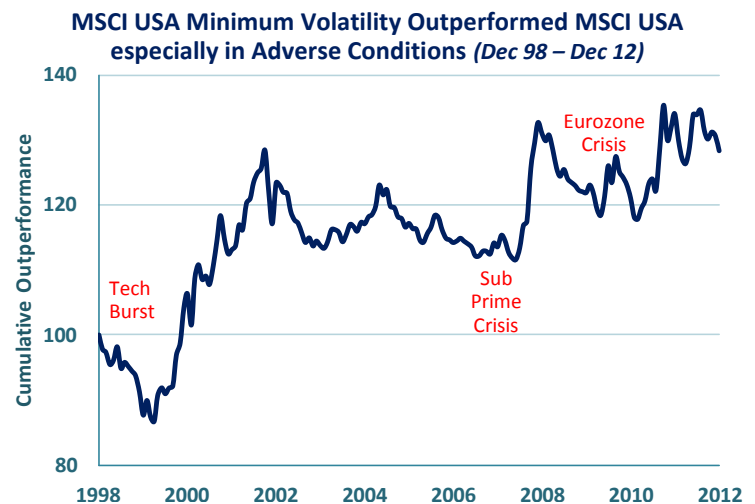
- The MSCI Minimum Volatility (MV) Indices are uniquely designed to capture low volatility risk premia.
- The MSCI MV Indices are constructed to: (1) experience the lowest total risk, (2) avoid unintended bets on countries, sectors and styles, and (3) provide superior risk-adjusted performance while maintaining the investability and replicability features of the parent cap weighted indices.
- MSCI MV Indices can be used for cost effective replication, benchmarking of low volatility managers, and in combination with other MSCI Risk Premia Indices.

Why Do Investors Use Minimum Volatility Strategies?

- Reduction of portfolio volatility—on average by 25%.
- Reduction of drawdown compared to the broad market.
- Aim to outperform the broad markets in adverse market conditions.

Key Benefits of the MSCI Minimum Volatility Indices

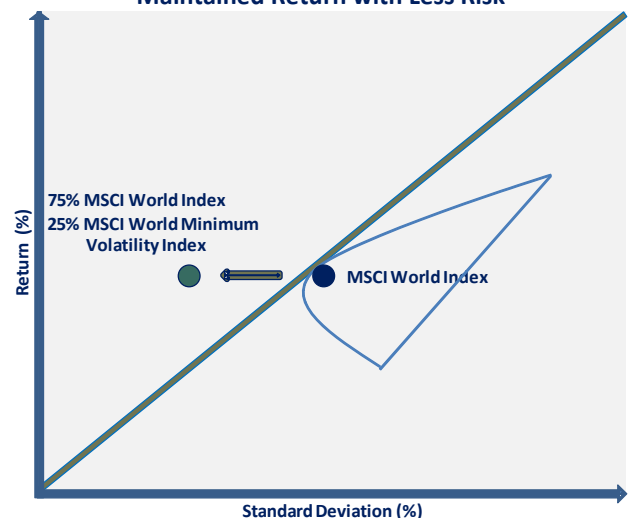
- Longest industry live history—beginning in April 2008.
- Accounts for multiple risk sources and has achieved effective risk reduction via high level of diversification.
- Designed to avoid unintended Country, Sector and Style bets.
- High investability and replicability.
- Low one-way annual index turnover at 20% to reduce replication cost.



Historical Gross Total Return, USD	MSCI USA	MSCI USA Minimum Volatility
Total Return* (%)	2.8	4.6
Total Risk* (%)	15.9	11.8
Risk Adjusted Return	0.17	0.39
Active Return* (%)	0.0	1.8
Tracking Error* (%)	0.0	7.0
Information Ratio	N/A	0.26

* Annualized from Dec 1998 to Dec 2012.

Adding MSCI Minimum Volatility Indices Has Historically Maintained Return with Less Risk



Illustrative Use Case

- A G8 national pension fund used MSCI World Minimum Volatility to derisk its equity portfolio.
- Instead of reallocating from equity to fixed income, the fund allocated 25% of its developed markets equity to MSCI World Minimum Volatility Index.
- Historically, the Minimum Volatility Indices have effectively reduced risk when compared to their parent indices.

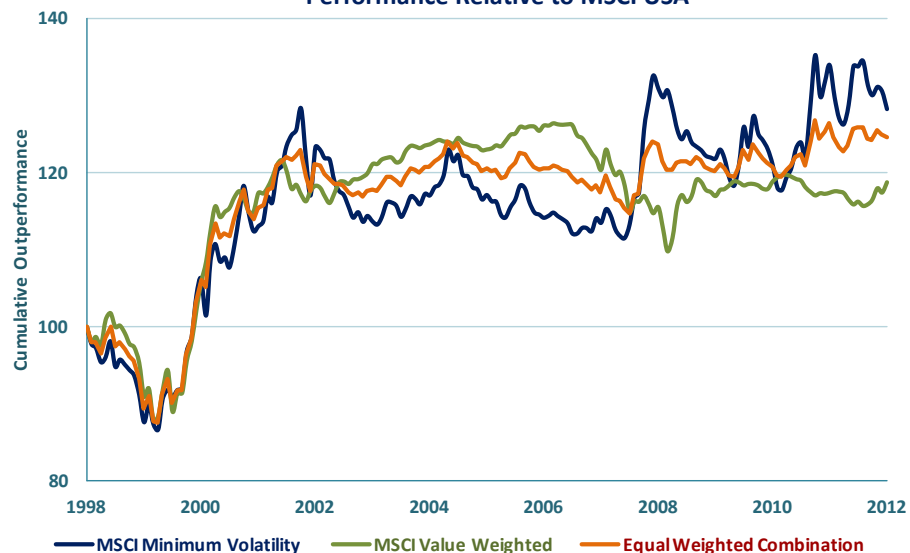
Methodology Highlights

Parameter	Methodology	Comments
Universe	Parent index constituents	Derived indices benefit from parent index construction rules
Optimization	MSCI's market leading Barra Global Equity Model (GEM2)	Account for Factor volatility and correlation Comprehensive and robust risk measures
Weighting	Minimize index volatility subject to constraints	Ensure high investability and liquidity
Constraints	<ul style="list-style-type: none"> Stocks: Lower of 1.5% or 20x the cap-weight, with a minimum of 5bps Style: +/- 0.25 relative to Barra factor exposure of the parent index (except for Volatility) Sectors: +/-5% or 3x relative to the parent index Turnover: Maximum 10% one-way turnover per rebalance 	Stock weight cap ensures adequate capacity and replicability Style and Sector caps ensure no unintended exposure Turnover limit ensures low cost replication
Number of Constituents	Subset of the parent index, number will vary	High level of diversification achieved by a subset of the parent index
Rebalance	Semi-annual	Timely data updates, consistent with MSCI rebalancing calendar

Combining MSCI Risk Premia Indices

- MSCI Minimum Volatility, Risk Weighted, Value Weighted, Quality, Momentum and High Dividend Yield Risk Premia Indices all outperformed their cap-weighted parent indices over long horizons and in different cycles.
- Therefore, a higher level of diversification was achieved by combining two or more of these MSCI Risk Premia Indices.
- Results also included higher active risk-adjusted return.
- Combinations may also reduce overall cost by exploiting natural internal “cross opportunities” at each rebalancing.

Combining MSCI Minimum Volatility and MSCI Value Weighted: Performance Relative to MSCI USA



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