

# MSCI CUSTOM RISK WEIGHTED INDEXES

An Approach to Combining Low Risk and Size Exposure

Index Marketing

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- The MSCI Risk Weighted Indexes are uniquely designed to reflect the low volatility and smaller size effect
- The indexes employ a simple yet effective method to overweight low risk and smaller market cap stocks
- The MSCI Risk Weighted Indexes can be replicated cost-effectively, used to benchmark low volatility managers, and in combination with other MSCI Factor Indexes
- The MSCI USA Risk Weighted Top 150 Index is customized to contain a maximum of 150 stocks

## Why Do Investors Use Risk Weighted Strategies?

- Reduction of portfolio risk by about 10% over the long-term, with less drawdown than the broad market
- Historically, these strategies have yielded higher risk-adjusted returns
- To gain exposure to smaller size stocks, mostly mid-caps, while maintaining a structural bias towards less volatile stocks

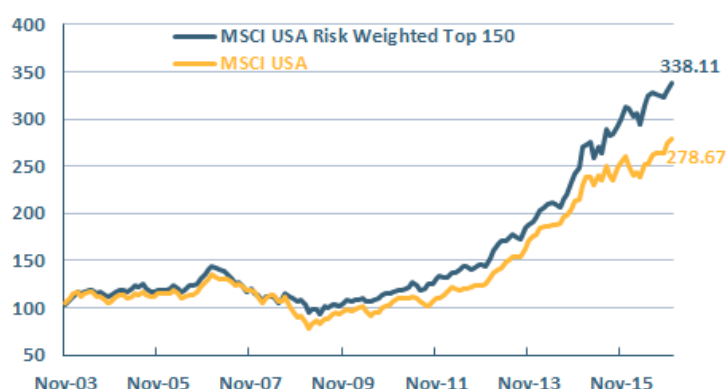
## Key Characteristics of the MSCI Risk Weighted Indexes

- Effective and transparent risk reduction weighting via the inverse of realized variance
- Emphasis on low risk and smaller market cap stocks
- Number of constituents from the parent index is customizable (e.g., the top 200)
- Low annual index turnover
- High investability and replicability

## Upside and Downside Capture

- The upside and downside capture ratios of a risk weighted index indicate how it has performed over periods of market strength and weakness relative to its parent index
- Since May 2003 through Dec 2016, the MSCI USA Risk Weighted Top 150 Index captured 82% of the positive returns of its parent
- Over the same period, the MSCI USA Risk Weighted Top 150 Index lost 60% relative to the losses of the parent

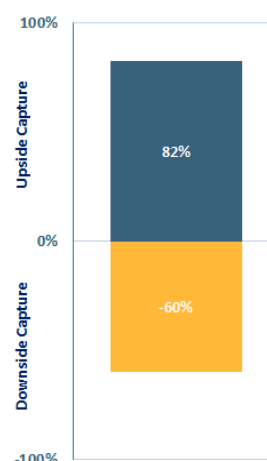
Performance Characteristics: Net Returns of the MSCI USA Risk Weighted Top 150 and MSCI USA Indexes (CAD)—(May 2003 – Dec 2016)



Historical Net Total, CAD	MSCI USA	MSCI USA Risk Weighted Top 150
Total Return* (%)	7.84	9.38
Return Risk* (%)	11.07	10.33
Risk Adjusted Return	0.71	0.91
Active Return* (%)	0.00	1.55
Tracking Error* (%)	0.00	6.55
Information Ratio	N/A	0.24

\* Annualized from May 2003 to Dec 2016

Upside & Downside Capture:  
MSCI USA Risk Weighted Top 150 Index vs. MSCI USA Index



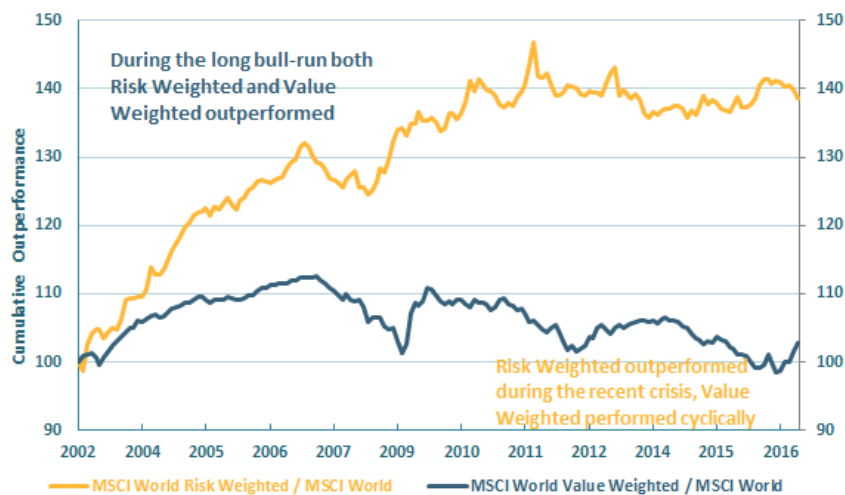
## MSCI Customized Risk Weighted Methodology Highlights

Parameter	Methodology	Comments
Universe	All constituents of the market cap-weighted parent index are assigned a security-level risk weight and ranked so that stocks with lower risk have higher index weights; the top 150 securities with the highest weights are then selected	Approach obtains a targeted low volatility opportunity set
Variables	3-year historical variance	Objective measure that captures the variation of historical volatility
Weighting	The index first reweights every security in the parent index so that stocks with lower risk (based on their 3-year variance) are given higher risk weights. The final constituents of the MSCI Risk Weighted Top 150 Index are determined by ranking these security level risk weights and taking the top 150 subset securities	Effective and transparent risk reduction weighting
Rebalancing	Semi-annual	Timely data updates, consistent with the MSCI rebalancing calendar

## Combining MSCI Factor Indexes

- MSCI Risk Weighted, Value Weighted, Quality and other MSCI Factor Indexes have outperformed their cap-weighted parent indexes over long periods
- However, performance is cyclical: any strategy can underperform for long periods
- A higher level of diversification may be achieved by combining two or more of these MSCI Factor Indexes
- Combining these indexes into a portfolio may also reduce overall cost by exploiting natural internal “cross opportunities” at each rebalancing

Combining MSCI World Risk Weighted and Value Weighted Indexes (USD)



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