October 2019

Index Solutions newsletter
Minimum volatility indices: less risk, more reward?

Head of Client Portfolio Management International & Ticino
Marc Kilbert

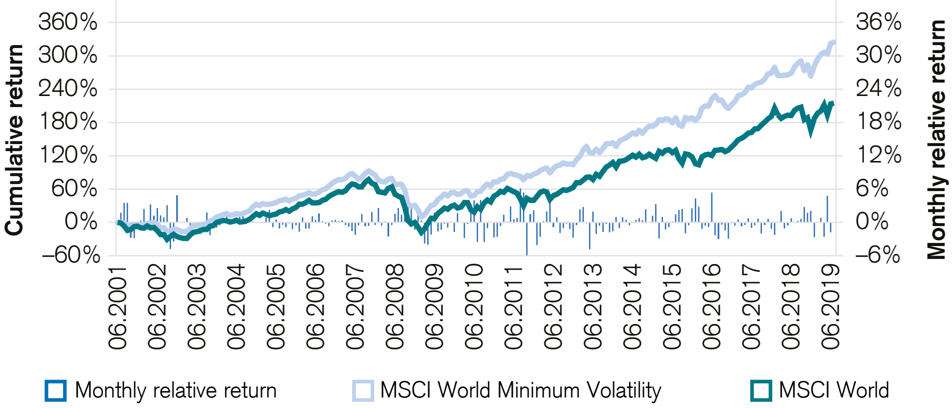
Minimum volatility indices have outperformed their market-cap weighted parent indices over long periods in time. This finding has challenged conventional finance theory, which states that portfolios with higher returns should come with higher risks. Index funds tracking minimum volatility indices give access to strategies that reduce exposure to stock market volatility. As their name suggests, minimum volatility indices pick the portfolio that minimizes volatility subject to certain constraints in order to avoid high turnover and unintended sector or country bets. Minimum volatility index funds offer an attractive risk profile for investors that want to escape from the extreme interest rate environment where more than a third of investment-grade bonds trade at negative yields.

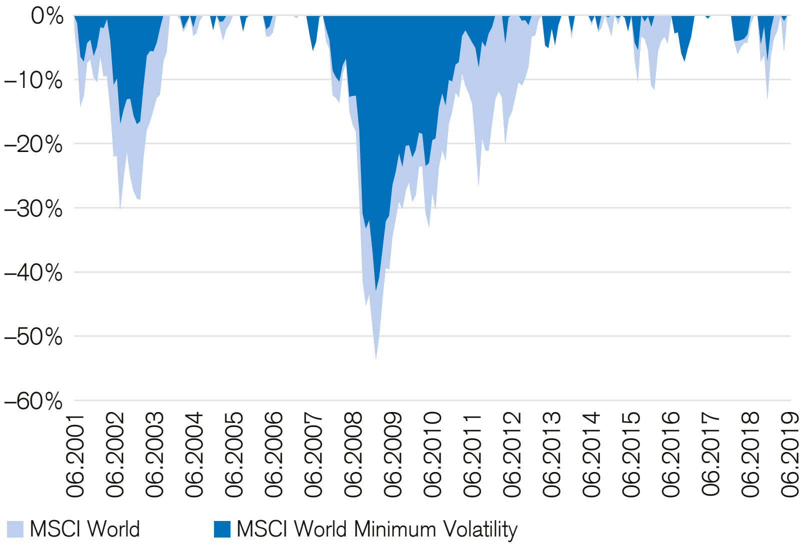
With equities arguably being in a late cycle, coupled with high asset valuation and plenty of political risks, the positioning of a portfolio with regard to risk and return is key. In view of economic and geopolitical uncertainties, stock market volatility is likely to remain at a high level for the near future. This environment could prove favorable to the defensive stocks typically found in a low-volatility strategy and to commodities like gold. However, investing in funds replicating minimum volatility indices is not only worth considering in times of volatile markets. Minimum volatility indices have outperformed their parent indices over long periods in time, notably since the global financial crisis in 2008.

The MSCI World Minimum Volatility index, for instance, has had a higher cumulative performance with a lower volatility since 2001 than its market-cap weighted parent index. Among other factors, this is due to decreasing interest rates, which have supported minimum volatility stocks. A comparison of the performance and the maximum drawdowns[1] of the two indices further shows that the minimum volatility index was not as affected by crises as its parent index (see following graphs).

[1] The drawdown is defined as the peak-to-trough decline during a specific period; in our case, based on monthly observations.

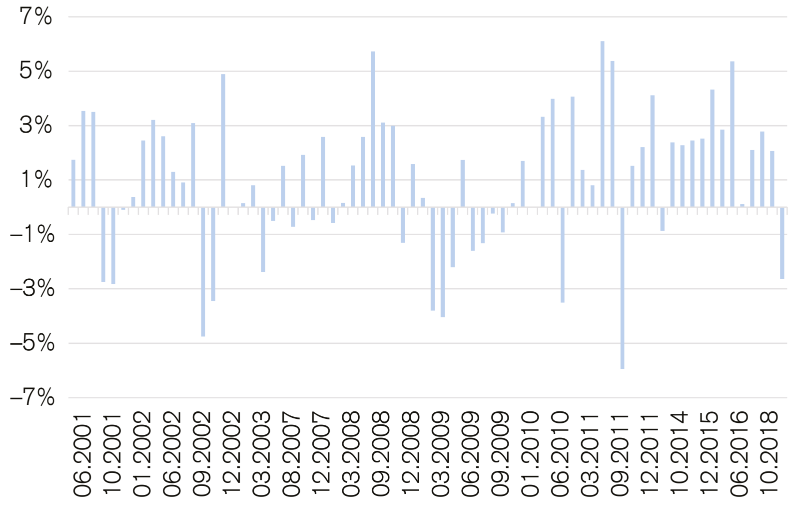
Performance and drawdown comparison: MSCI World Minimum Volatility Index versus MSCI World Index (USD)





To go deeper into details, we conducted an analysis of the relative monthly performance of the MSCI World Minimum Volatility and the MSCI World in times when the widely used CBOE Volatility Index (VIX) rose above 24[2]. The VIX can be viewed as a measure of market stress. The results show that the MSCI World Minimum Volatility significantly outperformed the MSCI World in more than 70% of the months when the VIX breached the 24 level at least once in the relevant month (c.f. graph below).

Performance spread MSCI World Minimum Volatility Index versus MSCI World Index in times of market stress

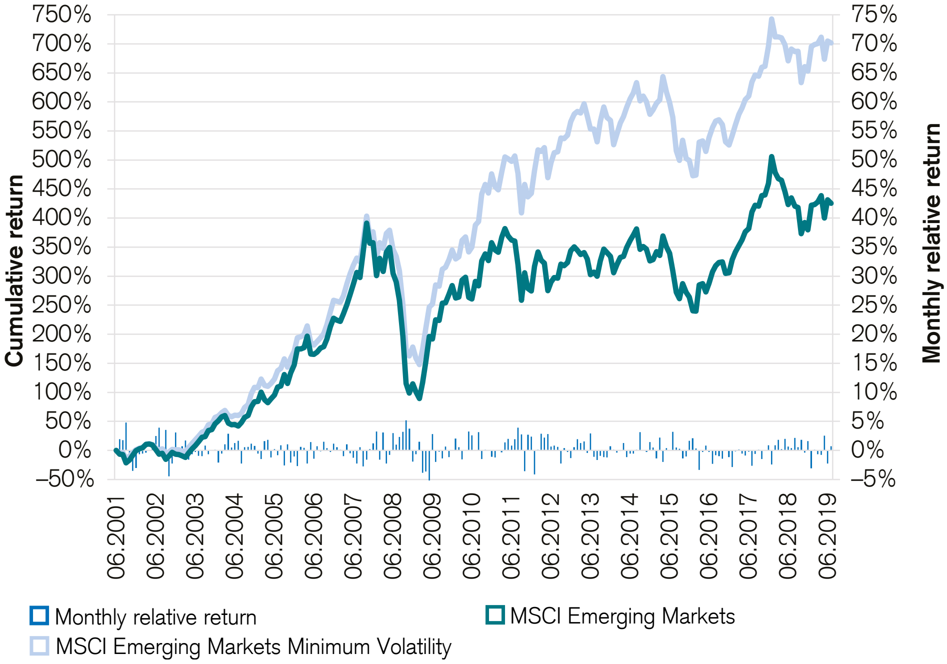


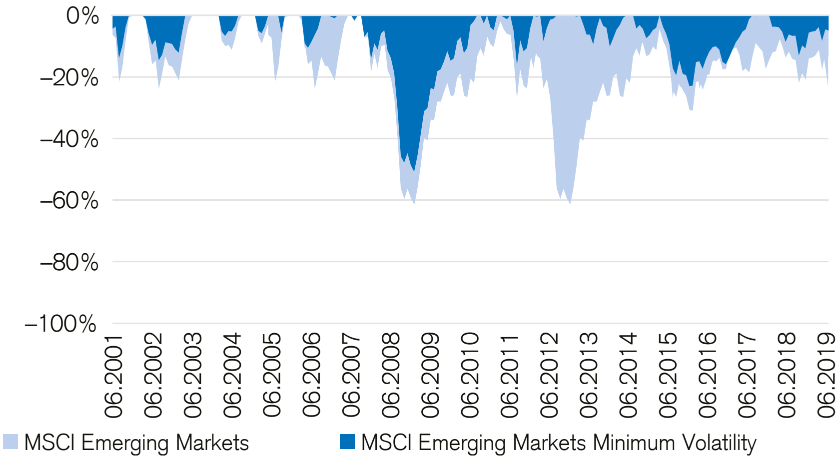
[2] The higher the value the more turbulent the market. The level corresponds to the 80th percentile in the period since 30.06.2001.

Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

Outperformance of minimum volatility indices is not only a phenomenon of the developed markets. The MSCI Emerging Markets Minimum Volatility index has also outperformed its parent index, especially since the financial crisis in 2008 (see following graphs).

Performance and drawdown comparison: MSCI Emerging Markets Minimum Volatility Index versus MSCI Emerging Markets Index (USD)





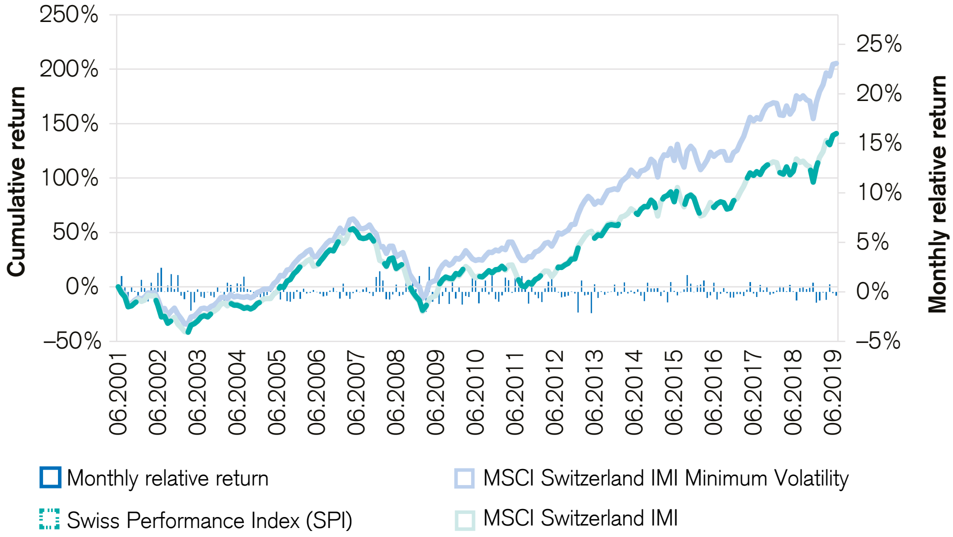
What is the minimum volatility factor?
The minimum or low volatility factor was first documented in academic research in the 1970s as one of the main equity factors (i.e. a systematic driver of return and risk) and an eventual source of positive excess return. Historically, the minimum volatility factor has shown strong outperformance and lower volatility compared to the market over long periods of time.

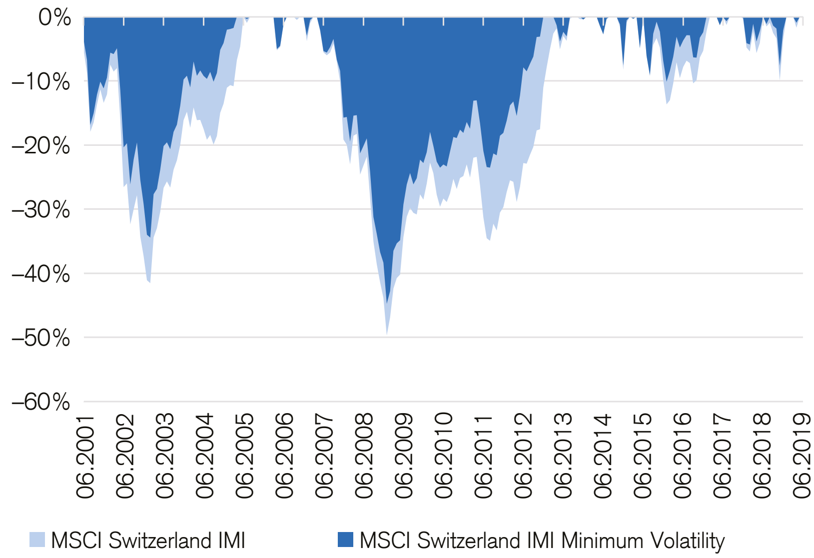
Contrary to other factors like value, small size or momentum, the minimum volatility factor cannot be explained by a risk premium. Rather, the minimum volatility outperformance has to be explained using behavioral finance arguments such as the lottery effect or the overconfidence effect. According to these explanations, investors overpay for risky stocks because they hope for very high returns (like in a lottery) or because they are overconfident that they are able to pick the biggest winners.

The Swiss equity market has shown a very similar pattern with the MSCI Switzerland IMI[3] Minimum Volatility index outperforming its market-cap weighted parent index. While the minimum volatility index might lag its market-cap counterpart during market rallies, its outperformance during market corrections overcompensates those lags.

[3] IMI = Investable market indices.

Performance and drawdown comparison: MSCI Switzerland IMI Minimum Volatility versus MSCI Switzerland IMI (CHF)



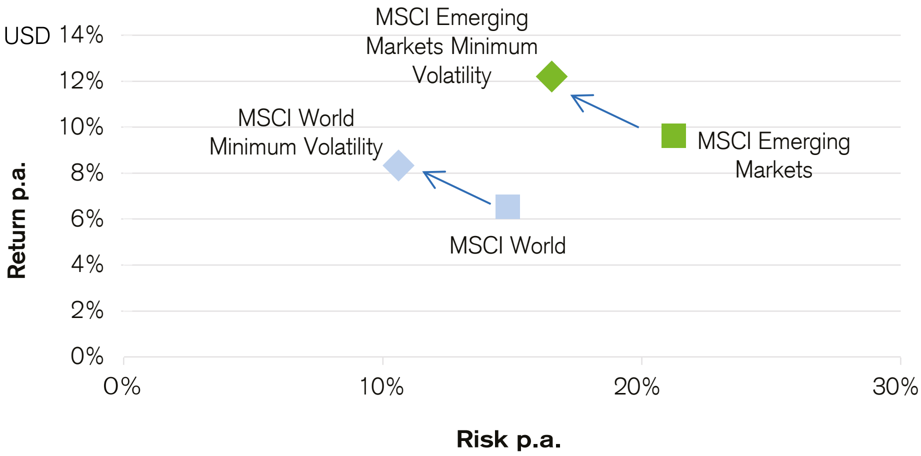


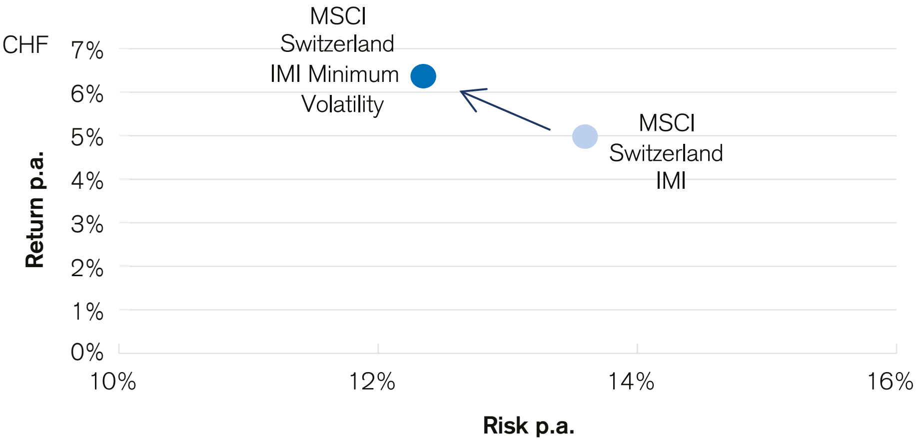
How is the benchmark constructed?

A minimum volatility index is a subset of its parent constituents that has the aim of minimizing the absolute risk as measured by volatility. To construct such an index, an optimization is conducted in order to take into account various risk metrics, such as the historical volatility of stocks and their correlation with each other and the market. The optimization is typically subject to a given set of constraints (e.g. maximum limit on turnover and country/sector deviations) to ensure a relevant output. As a result, the key characteristics of a minimum volatility index are a low beta[4], lower volatility than that of the parent index and a bias toward stocks with low idiosyncratic risk[5] (see following graphs).

[4] A beta coefficient is a measure of the volatility, or systematic risk, of an individual stock in comparison to the unsystematic risk of the entire market.
[5] Idiosyncratic risk is a type of investment risk, uncertainties and potential problems that are endemic to an individual asset.

Risk return comparison of MSCI Minimum Volatility Indices versus broader market indices





Our index funds on minimum volatility indices reduce the fluctuations in comparison with a broad market-cap weighted equity portfolio. They are particularly suitable for investors who want to reduce risk or for those who want to cautiously increase their equity allocations given the current low-to-negative interest rate environment.

Credit Suisse Asset Management offers three different minimum volatility index funds replicating the shown indices: CSIF (Lux) Equity World Minimum Volatility, CSIF (Lux) Equity Emerging Markets Minimum Volatility, and CSIF (CH) Equity Switzerland Minimum Volatility Blue. These funds offer a transparent and cost-effective option for reducing equity risk without reducing the allocation to equities. However, macroeconomic factors or external shocks may also lead to declining share prices in minimum volatility funds. In such cases, capital is not protected.

Investors who are seeking an additional or different option to reduce risk in their portfolio in times of high volatility and market uncertainty should also take investments in commodities such as gold into consideration.

Gold

Investors can buy gold in a wide variety of ways. Besides having the gold physically stored in a vault, there is the option to invest in gold by opening a precious metals account or via an alternative asset class fund. The CSIF (CH) II Gold Blue, for example, combines the main advantages of several gold investment forms in a single product: hedged share classes included, daily trading, very low management and transaction costs, no stamp duty, and no counterparty risk. This is because the fund's net assets consist of standard gold bars, which have an inherent value and are stored in individual custody with Credit Suisse. The primary risks include the concentration of investments in physical gold. In this case, there is no risk diversification and no capital protection.

Fund details	CSIF (Lux) Equity World Minimum Volatility	CSIF (Lux) Equity Emerging Markets Minimum Volatility	CSIF (CH) Equity Switzerland Minimum Volatility Blue	CSIF (CH) II Gold Blue
Fund domicile	Luxembourg	Luxembourg	Switzerland	Switzerland
Reference index	MSCI World Minimum Volatility (NR)	MSCI Emerging Markets Minimum Volatility (NR)	MSCI Switzerland IMI Minimum Volatility (TR)	LBMA Gold Price PM
Replication methodology	Full replication	Optimized sampling	Full replication	Physical replication
Tradability	Daily	Daily	Daily	Daily
Fund value as of 31.08.2019	EUR 125 mn	EUR 44 mn	CHF 145 mn	CHF 942 mn
Ongoing charge (%)	QB EUR: 0.23 QB CHF: 0.23 FA USD: 0.28 FA GBP: 0.28 FB EUR: 0.28 FB USD: 0.28 FB CHF: 0.28	QB EUR: 0.32 QB USD[6]: 0.32 QB CHF[6]: 0.32 FB USD: 0.37 FB EUR: 0.37	QB: 0.25 FB: 0.30	QB: 0.17 QBH: 0.20 FB: 0.22 FBH: 0.25
Launch	08.12.2015	19.01.2016	05.09.2016	23.12.2013
Subscription currencies	CHF, EUR, GBP, USD	CHF, EUR, GBP, USD	CHF, EUR, USD	CHF, EUR
ISIN	QB EUR: LU1248309152 QB CHF: LU1333778329 FA USD: LU1419774234 FA GBP: LU1909087808 FB EUR: LU1419774663 FB USD: LU1419774580 FB CHF: LU1419774747	QB EUR: LU1390260120 QB USD[6]: LU1390249313 QB CHF[6]: LU1352930678 FB USD: LU1419776528 FB EUR: LU1419776791	QB: CH0334161517 FB: CH0334161509	QB: CH0352765355 QBH: CH0352765397 FB: CH0209106787 FBH: CH0220919085

[6] Share classes to be launched.

CREDIT SUISSE ASSET MANAGEMENT (Switzerland) Ltd.

Team Product Specialists & PB Coverage
Sihlcity – Kalandergasse 4
8070 Zurich

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