Ostrica

Ostrica: Drawdown management enabled by financial technology

- Strong drawdown management in difficult markets
- Performance figures: transparent & auditable
- Investments: exchange traded & highly liquid
- Decreasing risks & increasing returns of your investments

Wealth protection is within reach with Ostrica's Fintech solutions. Our unique investment strategies are designed to protect your assets from market uncertainty while increasing return. We do this by using a highly quantitative investment approach.

Ostrica is your innovation partner when it comes to developing new strategies that contain downside risks and enhance long term return. In this white paper we focus on the rationale and results of our strategy for equity market risk.

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By introducing protection strategies upon various asset classes, Ostrica contains downside risks of the portfolio and increases the long run returns.

Period 1999-2015	MSCI World Index	MSCI World Index with protection strategy
Average return	3.8%	8.7%
Maximum drawdown	-59.9%	-17.6%

Table 1) MSCI World Index and backtest protection strategy 1999-2015. Source: Ostrica, Bloomberg.

As an investor with Ostrica, you can expect added value. After all, we make use of smart investment strategies. A smart investor is characterised, according to Benjamin Graham in his iconic book "The Intelligent Investor" from 1973, as someone who is patient, disciplined and, above all, eager to learn; and someone who is able to keep his or her emotions in check. Our man and machine investment approach, which characterises all of our strategies, has the above-mentioned properties.

Intelligent

Controlling emotions is by definition one of the major advantages of quantitative investing, which Ostrica does. Objective data and observable trends determine the direction of the portfolio rather than a hunch of an investor. Smart investing requires patience, discipline and the eagerness to improve investment strategies to client's needs. Our relationship managers listen to our clients and understand their needs. Our quant analysts and portfolio managers then improve our investment strategies and their implementation.

Drawdown Protection

In recent years, financial markets have been characterised by upward trends on virtually all equity and bond markets. Investors made stellar returns from 2009 onwards, but now face all-time highs on stock markets and historically low interest rates on many fixed income markets. Investor sentiment is turning to more insecurity about the future. This creates the need for more active strategies with a strong focus on drawdown protection.

Historically, we believe that there is a parallel between the current period and the period 1920 to 1945. The period 1920-1945 was characterized by low interest rates and as a result, higher volatility in the performance of stock markets (see chart 1).

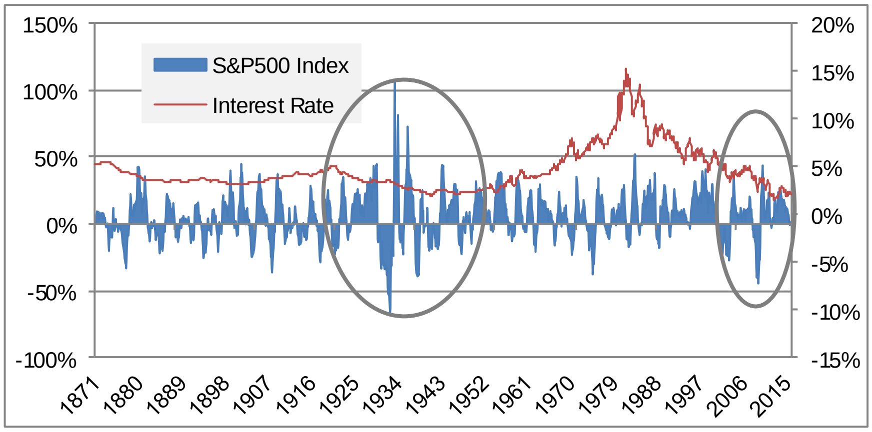

Chart 1) Fluctuations S&P500 Index (left axis); height 10-year interest rate (right axis). Source: Ostrica, Bloomberg.

In a ‘normal’ interest rate environment, large drawdowns on risky assets can be subdued by low risk bonds in a portfolio. Currently, the protection mechanism of bonds in portfolios is limited by ultra-low interest rates in Western economies. We are convinced that passive (cheap) index tracking strategies are not the answer to these exceptional market conditions. No, our clients pay us to think about their portfolio and take action when needed. These market conditions made us to come up with innovative and active strategies which offer interesting returns in combination with downside risk protection.

Strategy

Ostrica is your innovation partner with regard to new strategies that lower risk and enhance return. Recently we have been researching broad equity, bond and currency market risk. We have stress tested strategies on these risk factors with clear economic rational, optimized and calibrated these in resonance with the Ostrica risk framework. The primary goal of these strategies is to realise protection from large losses on financial markets and to be able to benefit when markets rise.

Ostrica has studied trending, momentum and volatility effects on financial markets and combined these in a systemically driven strategy to manage the aforementioned risks. Our portfolios are effectively hedged using a combination of trend following & volatility models to generate hedge signals. These are converted into a portfolio of hedge instruments that effectively hedge the market risk of our quantitative long only equity portfolios.

In this white paper we show the rationale and results of our strategy for equity market risk.

The equity strategy in a nutshell: we short futures when trends and momentum are negative and volatility spikes. Since the strategy is designed to work at times of steeply falling prices – when correlations between different equity markets are often high – the major equity index futures (US, Eurozone, UK, Japan) capture the majority of the beta risk of the underlying portfolio.

Momentum

Momentum is a trend following characteristic of prices in financial assets. The effect can be explained by time series momentum that results in positive returns followed by positive returns and negative returns by more negative ones. Numerous market studies[1] have shown that such effects, which fall under the blanket term 'momentum', are present in the price development in financial markets. There are numerous short- and long term momentum indicators in every market and for different market scenarios. When financial markets are in negative momentum we apply futures as hedging instruments.

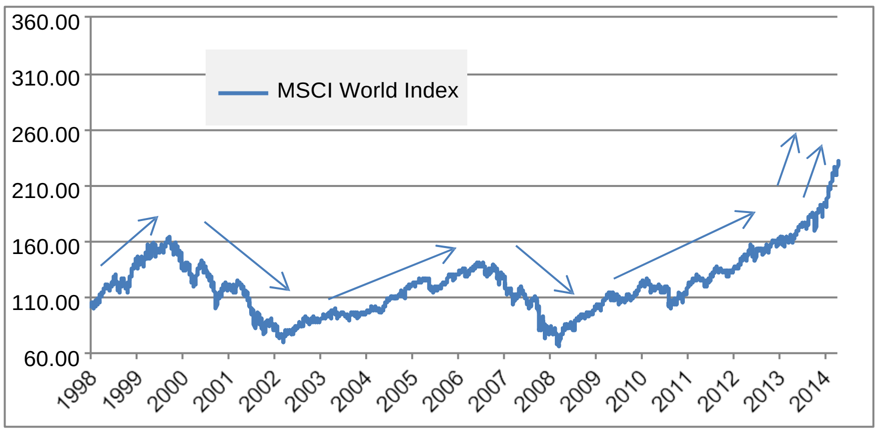

Chart 2) Trends on the global stock market. Source: Ostrica, Bloomberg.

The chart above shows the development of the MSCI World Index. The arrows show the trends that were visible over a number of months. Moving averages can serve as an indicator which is determined by the average rate of financial values during a period. This can be used to determine the long-term trend in the financial markets. Market participants tend to be overly cautious once the fear sets in. The idea is to wait for that fear to be subdued and capture the upswings afterwards.

[1] A Century of Evidence on Trend-Following Investing, Brian Hurst, Yao Hua Ooi, Lasse H. Pedersen, 2014

Volatility

Simple nonlinear functions of returns, such as absolute or squared returns, exhibit significant positive autocorrelation or persistence. This is what is quantitatively known as Volatility Clustering. We take advantage of this very principle of volatility clustering. The practical idea is that after a sudden spike in volatility, markets tend to dip and volatility remains high for a while. There is plenty of behavioural finance evidence[2] of this phenomenon. Using this simple idea of volatility clustering to generate risk off signals helps us protect our equity portfolios against sudden downward movements that break a bull market trend.

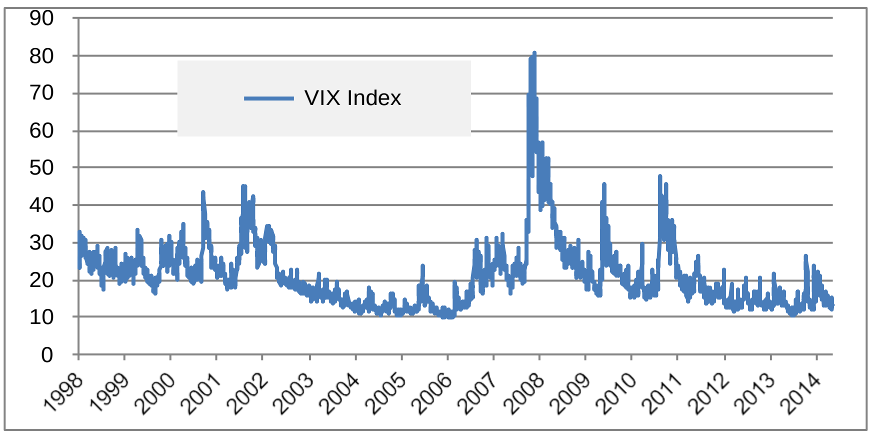

Chart 3) The VIX Index. Source: Ostrica, Bloomberg.

Chart 3 shows the development of the VIX Index. This index measures the implied volatility of the stocks in the S&P 500 index. Volatility is the extent to which the price of an underlying asset moves (or is expected to). In calm (rising) markets, volatility is often low and we often see an increase in volatility in (strong) declining markets. Strong declining equity markets have always been accompanied by spikes in volatility.

[2] Measuring Volatility Clustering in Stock Markets : Gabjin Oh and Seunghwan Kim (2007)

Results

We have back tested our strategy on equities in developed markets. For our data we used daily returns of the most commonly used MSCI indices. Representative for investing in stocks in developed markets is the MSCI World Index.

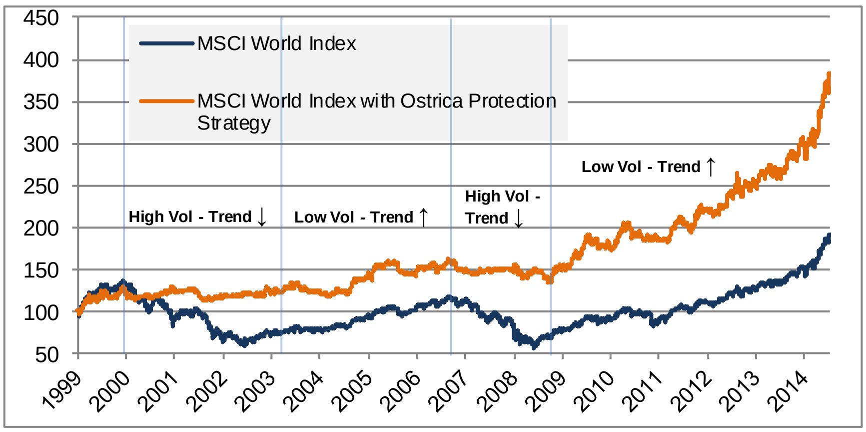

Chart 4) Development MSCI World Index and backtest protection strategy 1999-2015. Source: Ostrica, Bloomberg.

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The chart and table above describe the results of the strategy over the period of October 1999 to March 2015. Equities in developed markets (MSCI World Index) returned 3.8% return per annum over this period, with a maximum drawdown -59.9% during 2008-2009. This return is adjusted for the costs of the average index tracker. The maximum drawdown is defined as the maximum decline over a longer period of time on daily basis from the highest point to the lowest point. Using our strategy on trending, momentum and volatility indicators, results in a net return of 8.7% with a maximum drawdown of -17.6%. The strategy exceptionally improves the risk and return of an equity investment in developed markets.

Implementation

In order to implement our innovative and active strategies efficiently, Ostrica has launched fund structures in January 2014. In normal market situations, the fund strategies tend to follow the broad market adding alpha in the range of an extra net 2% over the tracker return by selecting stocks and bonds. However, in periods of downward momentum and increased volatility, our quantitative models help to protect the investments. These strategies are only executable in our funds, because it requires instant access to various markets and institutional (priced) counterparties.