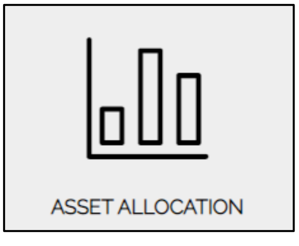
Trend Following Research and Examples

Risk management

The first step in managing the risk of investing is to diversify by spreading investments across assets whose returns are not highly correlated. This implies holding a portfolio of different types of assets or assets of the same type with different exposures so that if one asset falls in value it does not mean that other assets will fall in value at the same time. However, even well-diversified portfolios holding hundreds of securities can suffer large drawdowns, or reductions in value, in a crisis such as the 2008 Financial Crisis or more recently in 2020 during the Covid 19 pandemic. For investors concerned about large losses, trend-following strategies have been shown in academic literature to reduce the risk of large losses without significantly reducing long-term returns.

Trend following is the application of simple moving average rules. In simple terms, a moving average removes noise from the trend. These rules provide a signal that a market has turned down (or up) and therefore the investor should be selling (buying) the asset in that market. If an investor is selling the asset based on the trend-following signal, they should move into cash until the trend following signal indicates to repurchase the asset. Trend following can also be referred to as time series momentum in academic articles such as below.

Academic Articles

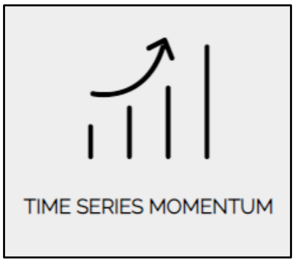


M Faber 'A quantitative approach to tactical asset allocation'

Journal of Wealth Management, Spring 2007 (updated 2014)

This was one of the first papers to demonstrate that applying a simple moving average strategy to each asset in an internationally diversified portfolio of assets, an investor can increase risk adjusted returns in a diversified portfolio. In addition, the investor would have also been able to avoid many of the protracted bear markets in various asset classes. Avoiding these massive losses would have resulted in equity-like returns with bond-like volatility and drawdown.

Article available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=962461

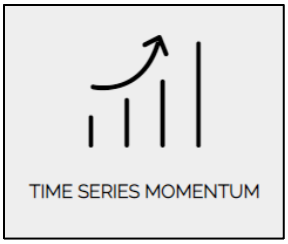


T J.Moskowitz, Y H Ooi,, L H Pedersen 'Time series momentum'

Journal of Financial Economics (2012)

This article documents significant "time series momentum" in equity index, currency, commodity, and bond futures for each of the 58 assets they consider. It shows that a diversified portfolio of time series momentum strategies across all asset classes delivers substantial abnormal returns and performs best during extreme markets.

Article available at Science Direct:
https://www.sciencedirect.com/science/article/pii/S0304405X11002613

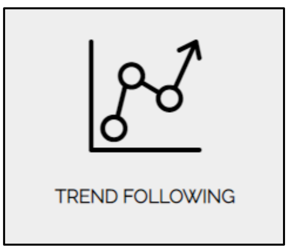


T Roncalli 'Keep up the momentum'

Thierry Roncalli, Quantitative Research, Amundi Asset Management, Paris

This article provides a more mathematical demonstration of how trend following provides risk reduction in a diversified portfolio in bad times.

Article available at Thierry Roncalli:
http://www.thierry-roncalli.com/download/Keep_Up_The_Momentum.pdf

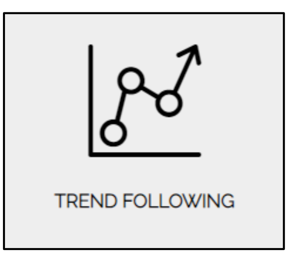


A Clare, J Seaton, P Smith, S Thomas 'Breaking into the Black box: Trend following, stop losses and the frequency of trading - The case of the S&P500'

Journal of Asset Management (2012)

They find that over a historical period of 60 years, a range of fairly simple rules, including the popular 200-day moving average trend-following rule, dominate just passively holding an investment in the S&P index.

Article available at Solent:
https://openaccess.city.ac.uk/id/eprint/17842/8/BLACKBOX%20%20%20SSRN-id2126476.pdf

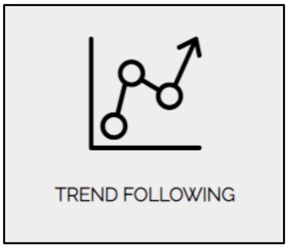


Wesley Gray, Alpha Architect 'Avoiding the Big Drawdown with Trend-Following Investment Strategies'

Wesley Gray, PhD

Wes Gray at Alpha Architect is an advocate of trend following strategies and, in this paper, he presents a lot of evidence for different assets that using trend following as an investment strategy provides the possibility of lowering maximum drawdown risk, while also offering a chance to participate in a majority of the upside associated with a given asset class

Article available at Alpha Architect:
https://alphaarchitect.com/2015/08/avoiding-the-big-drawdown-with-trend-following-investment-strategies/



A Clare, J Seaton, P Smith, S Thomas 'Reducing Sequence Risk Using Trend Following and the CAPE Ratio

Financial Analysts Journal (2016)

They found that for a 100% US equity investment, a trend-following strategy led to smoother outcomes with improved decumulation experiences. They noted that there was an empirical link between reduced maximum drawdowns and reduced sequence risk which could be improved with simple trend following.

Article available at SSRN: [https://papers.ssrn.com/sol3/papers.cfm?abstract_id= 2764933](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2764933)

Back testing for the Crossing Point Trend-Following Strategies

Back testing

Crossing Point's trend-following strategy for portfolio management was retrospectively back tested following a strict rules-based system.

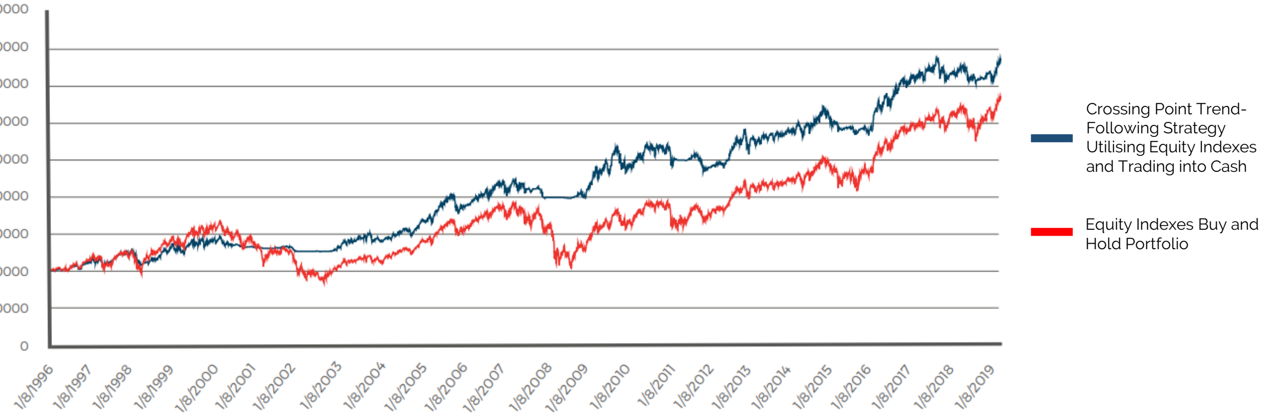
As an example of how the Crossing Point trend-following strategy works, the returns of the strategy were calculated through the use of equity market indexes and an equity asset allocation of 100%. The 23-year time period, from August 1996 to August 2019, exposed the strategy to several different market conditions.

Because not all the unit trusts, ETFs, or the basket of alternative safe-haven assets existed over the entire 23 years, this time frame does not allow for a complete replication of our strategy. Instead, we have reflected how the equity investments would have performed using indexes trading directly into either cash or the UK All Stock Gilt Index to represent the safe-haven basket.

Performance of our live portfolios against the Investment Association benchmarks is published quarterly in our factsheets and quarterly reports, including risk measures such as volatility, alpha, beta, maximum drawdown, Sortino ratio and Sharpe ratios.

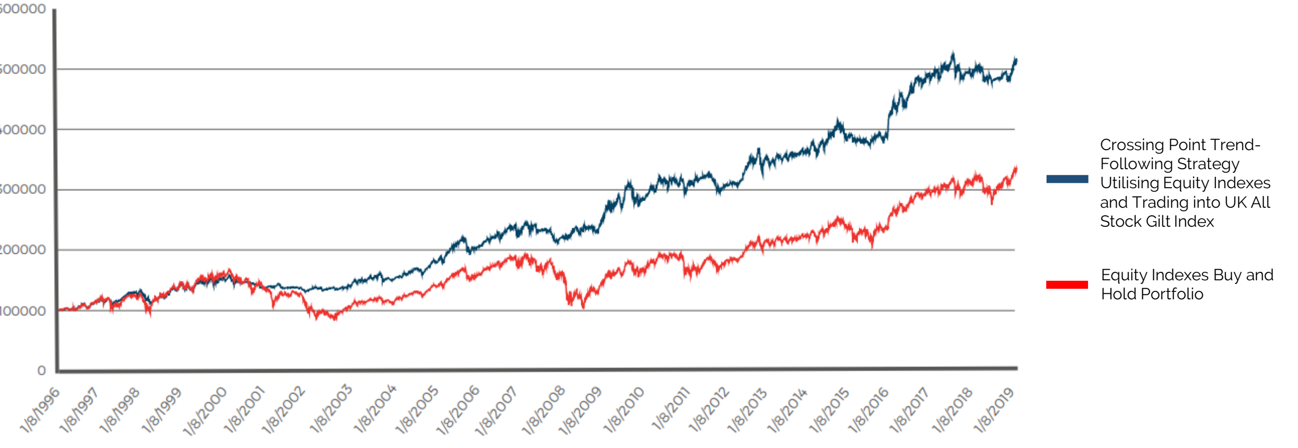
Our current trend-following strategy has evolved since the examples shown on the following page to allow for more nuance in our decision making.

Example 1: Crossing Point strategy trading into cash vs. buy and hold portfolio - Aug 1996 - Aug 2019



This graph displays an example of the simulated performance of £100,000 invested in a Crossing Point 100% equity asset allocation using a trend-following strategy and trading into cash when not invested in equities compared to the same portfolio and asset allocation of equity indexes invested without any tactical trading. The sections of the graph when the Crossing Point strategy signals to be out of all equity markets and instead invested in cash are shown as flat lines through portions of 2000-2002 and 2007-2009 while the buy and hold portfolio drop in value. Over this time period, the Crossing Point strategy delivers a greater increase in portfolio value through the removal of the worst of the market drops.

Example 2: Crossing Point strategy trading into the UK All Stock Gilt Index vs. buy and hold portfolio - Aug 1996 - Aug 2019



This graph displays an example of the simulated performance of £100,000 invested in a Crossing Point 100% equity asset allocation using a trend-following strategy and trading into the UK All Stock Gilt Index when not invested in equities compared to an investment into the same portfolio of equity indexes with the same asset allocation without any tactical trading. The use of gilts instead of cash provides further return when out of equity markets compared to the negligible return from cash. Since 2009 the returns to gilts have been augmented due to quantitative easing by central banks around the world.

CROSSING POINT

IMPORTANT INFORMATION

The Crossing Point Portfolio Management Service is only available to investors who use the ongoing services of a financial adviser. For information purposes only, please contact a personal financial adviser for further information.

Independent financial advisers take no responsibility for the underlying investment strategy, the investment process and the choice of funds will be based purely on Crossing Point Discretionary Fund Managers' experience within the market. By the nature of tactical trading, holdings will be regularly bought and sold, but the investment manager will not seek your permission to do this. Investment decisions will be the responsibility of the Discretionary Fund Manager.

Guardian portfolios show actual performance data from September 2019 onwards. Before September 2019, the performance of the underlying funds is shown by applying the decisions made based on the rules-based trend-following signals that would have been applied over the period. The performance data is substantially the same as what would have been achieved if the portfolios had been 'live'.

Heritage portfolios show actual performance data from December 2019 onwards. Before December 2019, the performance of the underlying funds is shown. The performance data is substantially the same as what would have been achieved if the portfolios had been 'live'.

Performance Calculation: Performance is shown inclusive of ongoing fund charges but gross of transaction and incidental fund charges as well as Crossing Point's investment management charge. Deductions for these charges will have the result of reducing the illustrated performance. Platform and IFA charges are applicable. Please refer to your investment adviser for details. Performance is quoted on an annualised basis and calculated through FE Analytics direct and provided for illustrative purposes only and should not be viewed as the performance of a specific client account.

Past performance is not a guide to future performance. The value of investments and any income from them can fall and you may get back less than you invested. If you invest in currencies other than your own, fluctuations in currency value will mean that the value of your investment will move independently of the underlying asset. The information contained in this documentation has been taken from sources stated and is believed to be reliable and accurate, but without further investigation cannot be warranted as to accuracy or completeness. Tax concession are not guaranteed and may be charged at any time, their value will depend on individual circumstances.

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