ROTHKO
MONDRIAN INVESTMENT PARTNERS LIMITED

Factor Strategies: Living Beyond Their Means?

July 2018

Minimum Volatility | **Value** | **Momentum** | **Dividend**

1.

‘Factor Strategies’ have benefitted from **large inflows** recently, coinciding with **better than expected** performance of factor indices.

2.

Our model of “**Capital-Flow-Impact**” strongly suggests a link between these flows and this strong performance.

3.

Worryingly, flow-driven performance indicates **crowded factor trades** have the potential for a **nasty reversal** of factor performance.

4.

More worrying still, “Capital-Flow-Impact” model shows outflows from factor strategies in a falling market could cause **substantial factor drawdowns.**

Factor Strategies: Living Beyond Their Means?

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1. 'Factor Strategies' have benefitted from **large inflows** recently...

Cumulative Net Inflows to Factor ETFs (US$)

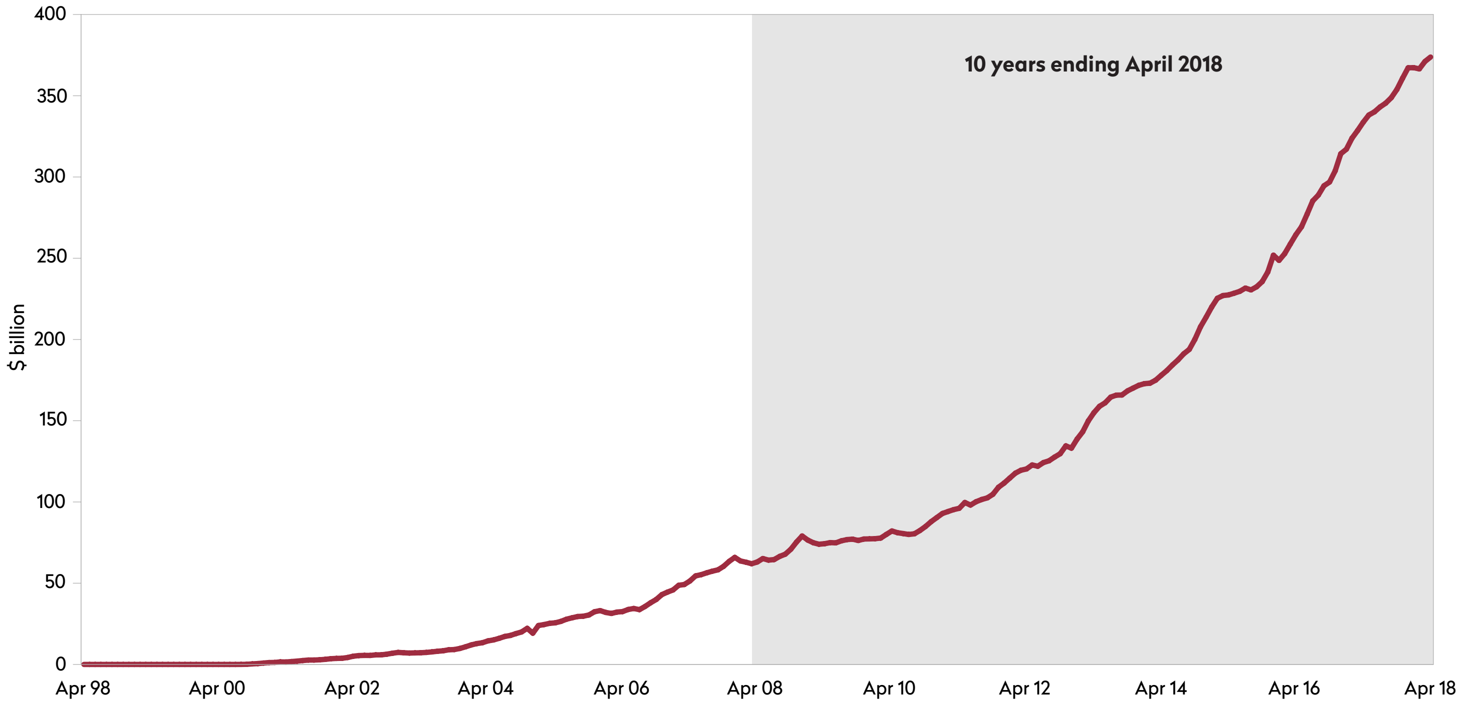

Exhibit 1: Net inflows into factor ETFs (strategies with a "factor" in the name) within the current 500 largest ETFs (May 1998 – April 2018). Sources: ETF.com, Factset and Rothko Investment Strategies.

...coinciding with **better than expected** performance of factor indices.

Annualized Index Total Return (10 Years Ending April 2018)

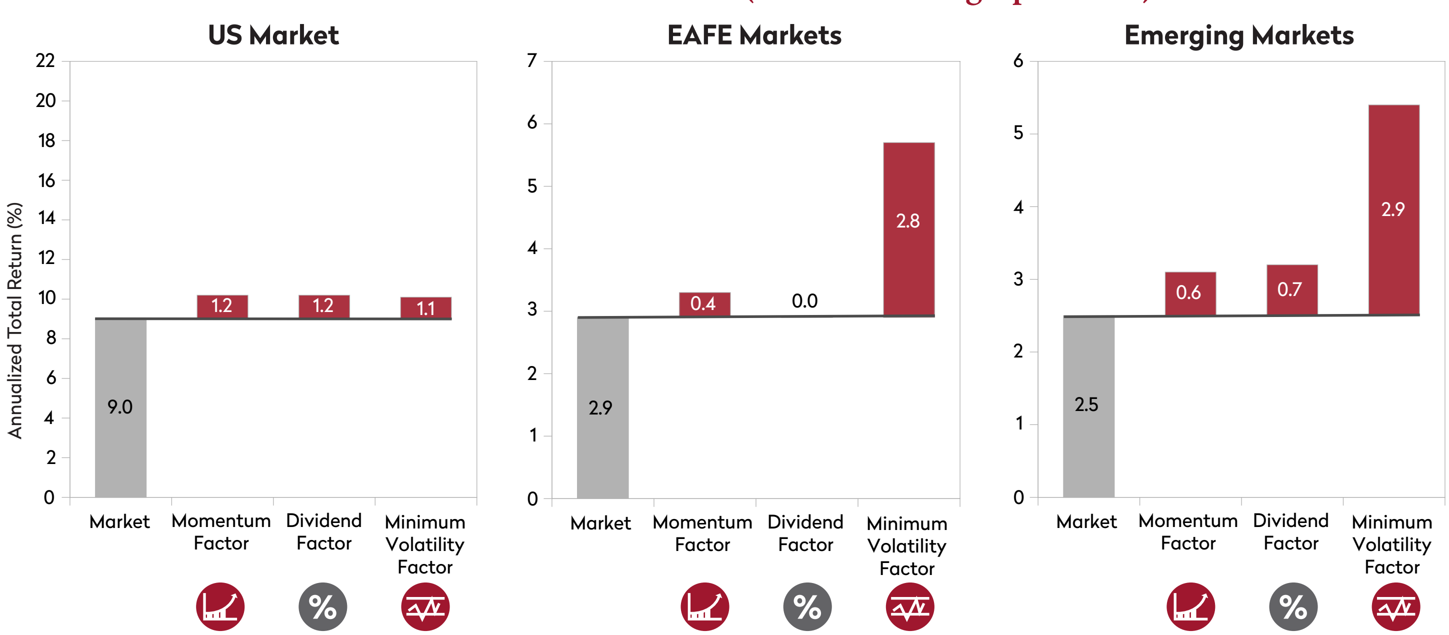

Exhibit 2: Annualized return of the MSCI standard indices and MSCI factor indices in different market segments (May 2008 – April 2018). All returns presented in US Dollars and gross of fees. Factors: Momentum, Dividend (High Dividend Yield) and Minimum Volatility. Sources: MSCI and Rothko Investment Strategies.

2. Our model of "Capital-Flow-Impact" strongly suggests a link between these flows and this strong performance

Annualized Relative Return and Flow Boost of Actual Strategies

Relative to US Equities – Factor Strategy Inception to April 2018

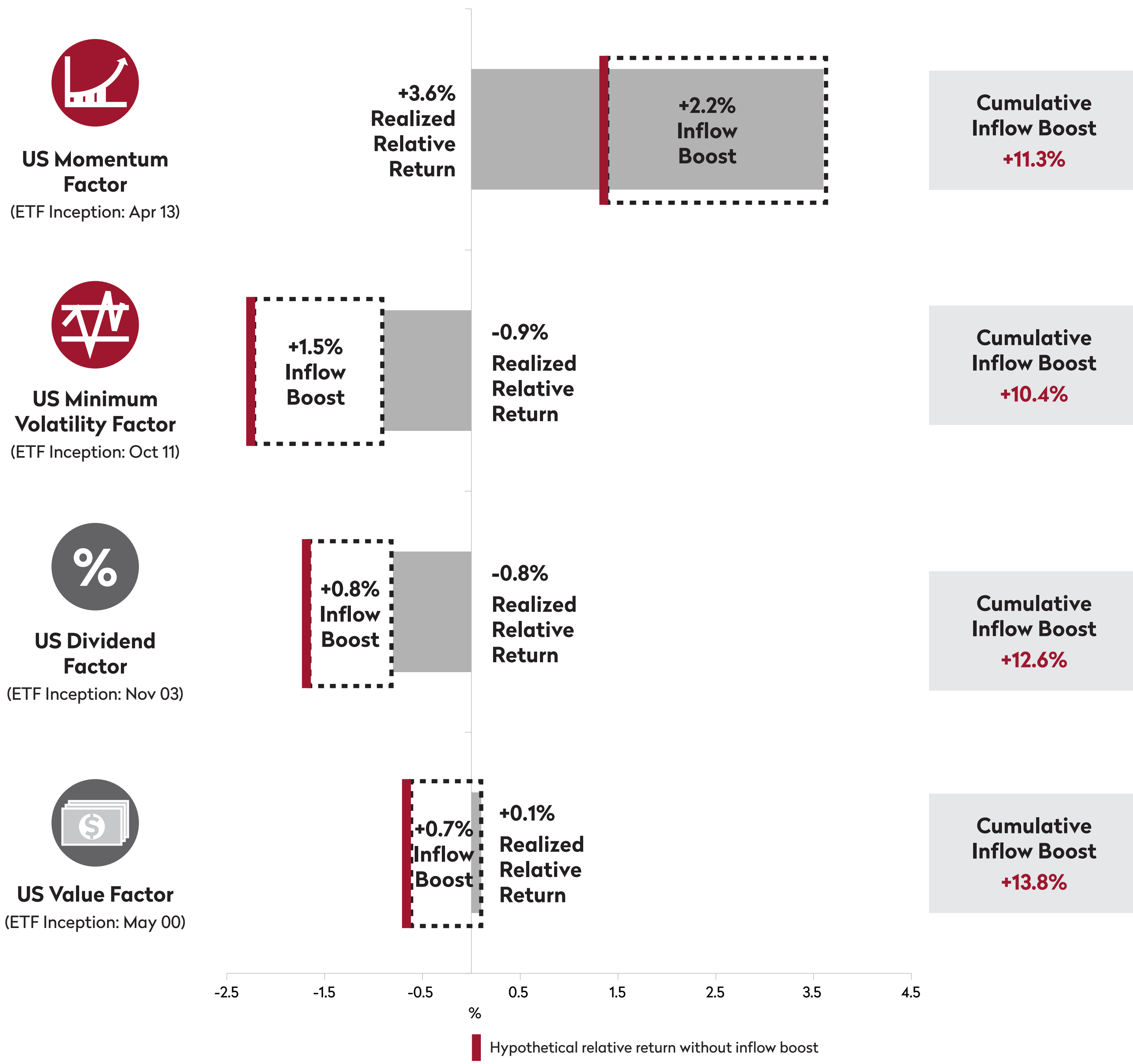

Exhibit 3: The chart shows the annualized relative return of each strategy, since inception, and overlays the return boost our "Capital-Flow-Impact" models indicate came purely from capital flows. We view this return source as being driven by speculative flows that could reverse causing a negative return impact. We constructed our "Capital-Flow-Impact" model as a linear regression model and included a proprietary Capital-Flow factor that we introduce in this piece. The Capital-Flow factor's coefficient was statistically significant at least at the 5% level for all four factors. To determine the proportion of the return that came from capital flows we took the net monthly dollar inflow for each strategy and multiplied this by our Capital-Flow model's coefficient. This is done for each strategy since inception, noting that each strategy has different inception dates. All data presented from strategy inception until April 2018. Strategies: iShares Edge MSCI USA Momentum Factor ETF, iShares Edge MSCI Min Vol USA ETF, iShares Select Dividend ETF and iShares S&P 500 Value ETF. Benchmarks: MSCI USA, MSCI USA, Dow Jones Global United States and S&P 500 respectively. Sources: Factset and Rothko Investment Strategies.

3. Worryingly, flow-driven performance indicates **crowded factor trades** have the potential for a **nasty reversal** of factor performance

4. More worrying still, "Capital-Flow-Impact" model shows outflows from factor strategies in a falling market could cause **substantial factor drawdowns**.

Outflows and Crowded Trades: What did Happen

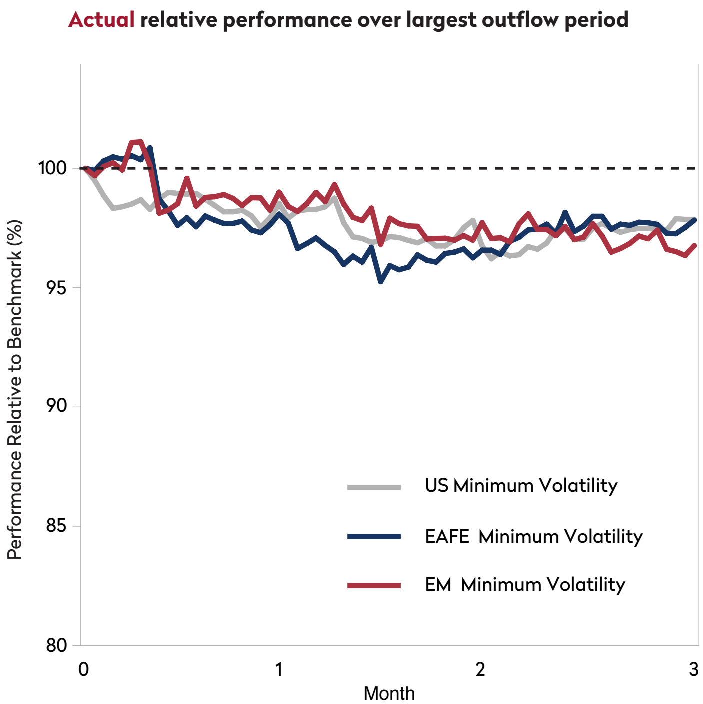

Exhibit 4: Realized relative performance of Minimum Volatility strategies in three month period with largest outflows. Strategies: iShares Edge MSCI Minimum Volatility USA ETF, iShares Edge MSCI Min Vol EAFE ETF & iShares Edge MSCI Min Vol Emerging Markets ETF. Benchmarks: MSCI USA, MSCI EAFE & MSCI Emerging Markets. Sources: Factset and Rothko Investment Strategies.

...and if Markets had been Stressed

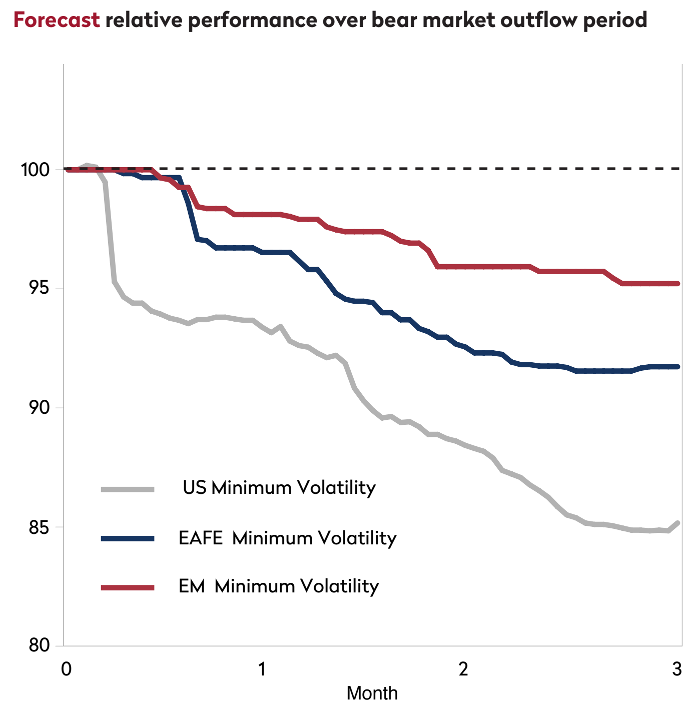

Exhibit 5: Forecast relative returns using the worst observed outflow from a Minimum Volatility strategy and modelling the impact this would have had during a bear market. This is designed to show the possible impact of crowded trades in factor strategies in a period of market stress. The worst outflow experience (22% of AUM in a three month period) was seen in the iShares Edge Min Vol EAFE ETF. This percentage was multiplied into the other strategies to determine a worst case outflow and this flow was provided to our "Capital-Flow-Impact" model, which was calibrated to forecast outflow impact in bear months only. A bear market is a month with a market return of less than -3%. Strategies, benchmarks & sources are the same as Exhibit 4.

Research conclusions:

- Inflows have **artificially boosted** 'Factor Strategy' returns.
- Crowded factor trades pose **significant drawdown** risk upon a market reversal.
- Strategies with a **low correlation** to traditional factors will be best **insulated** from a market downturn.
- Traditional Quant strategies are **exposed**.

Disclosure

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