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NO LONGER MOMENTUM'S MOMENT – UNDERSTANDING THE RISKS AND RETURNS

Introduction

- Investing strategies derived from the principles of momentum allow investors to capture returns beyond general market trends but come with exposure to various risks.
- Drawdowns can be severe if investors are not mindful of these potential risks.
- Given the recent historic reversal in momentum factors, understanding how momentum interacts with other market variables is especially relevant.

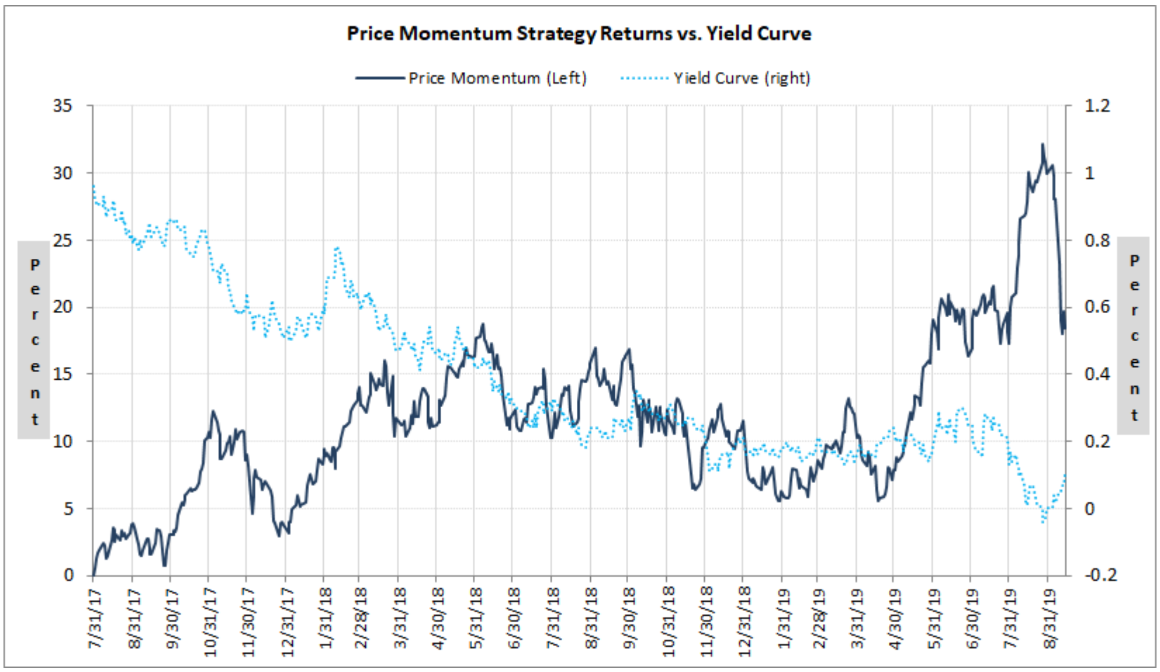
In what is perhaps the most aggressive factor rotation since the global financial crisis, the S&P 500's discounted "value" stocks outperformed growing "momentum" stocks by roughly 18% in the first two weeks of September. While active exposure to price momentum is a long-established tool in equity investing and is incorporated in standard quantitative strategies, this recent reversal merits a review of the risks inherent in momentum factor exposure.

With momentum investing, at its simplest, an investor is looking to buy stocks that have been trending up and sell stocks that have been trending down. However, as the recent rotation makes clear, there are several vagaries to momentum strategies and investors should be aware of the risks that intended, and especially unintended, exposure to momentum have on performance.

This month, we saw the obverse to the prevailing risk-off sentiment of August. There was an unprecedented decrease in yields last month as investors withdrew from domestic equities and amplified their exposure to more diversified assets, especially Treasuries and bullion (Exhibit 1). September is strikingly different----within this month's first week of trading, momentum had dramatically fallen in favor of value and volatility as yields increased. A net long-short momentum strategy constrained to the S&P 500 universe would have returned -9.59% in the first week of September, whereas a net long-short value strategy of the same universe would have returned +7.55% (source: Bloomberg.) Such a sudden drawdown in momentum encapsulates the notion of tail risk events, large deviations from observable history which, for the past 10 years, has implied the continued outperformance of momentum. Momentum exposure in isolation has unarguably been beneficial, up to this month. But, as we have witnessed, concentrated exposures to any factor severely endanger portfolios.

The sections below seek to define the inherent risks of trend-based market strategies beyond sudden factor rotations while simultaneously drawing inference from recent market events to highlight the tangibility of these hazards.

Exhibit 1: Price momentum strategy vs. 2-10 U.S. Treasury bond yield curve spread



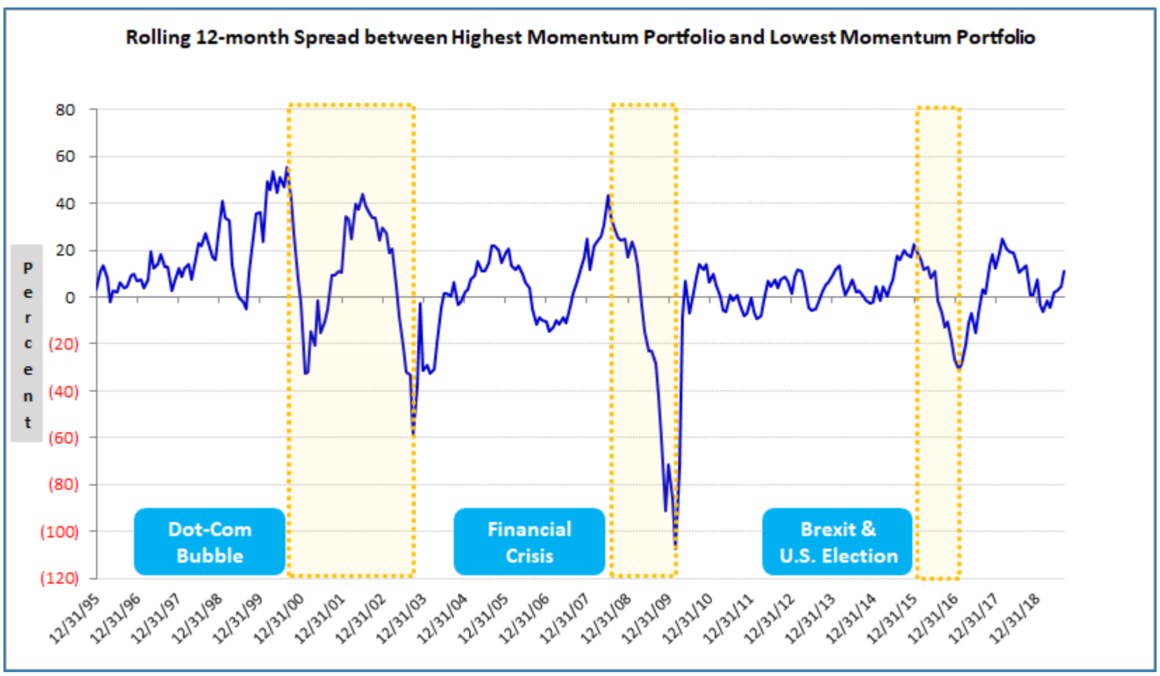
Source: Columbia Threadneedle Investments, S&P, and Bloomberg
Notes: S&P 500 Universe; Price momentum is defined as 1-month lagged 11 months' stock total return; Top 20% - Bottom 20%; Monthly Rebalancing; Returns were weighted by the square root of market-cap; through September 13, 2019.

Momentum investing

In general, momentum strategies, on their own, involve buying stocks that have performed relatively well and selling stocks that have performed relatively poorly. The objectivity of performing well and poorly is dependent on the length of the period over which a trend is measured. These types of strategies have been widely adopted, and a host of academic research has documented their profitability. For example, Jegadeesh and Titman (1993) find that momentum strategies can generate significant positive returns over a 3-to-12-month horizon. Geczy and Samonov (2013) find that the top third of stocks sorted on price momentum outperforms the bottom third by 0.4% per month over the long term. There are many reasons for the persistence of momentum effects including investor herding, under- and over-reaction and confirmation bias. Each of these explanations drive market trends that are classically measured via technical indicators including the relative strength index (RSI), commodity channel index (CCI), or stochastics that approximate the likelihood that a price direction continues. Here, we will rely on a simpler definition of the 1-month lagged 11-month total return for a given stock. Irrespective of the measure, the assumption that price tendency will continue can be naive.

Risks associated with momentum investing

Exhibit 2: Rolling 12-month spread highest momentum and lowest momentum



Source: Columbia Threadneedle Investments, and S&P

Notes: S&P 500 Universe; Price momentum is defined as 1-month lagged 11 months' stock total return; Top 20% - Bottom 20%; Monthly Rebalancing; Returns were weighted by the square root of market-cap; through August 31, 2019

Investment portfolios, intentionally or not, have a degree of exposure to momentum factors. While many investors can often easily identify a growth or value stock, identifying a stock's momentum exposure is a little more subtle. Momentum investing entails risk, and the internet bubble, global financial crisis, and recent Brexit referendum were all sober reminders of the embedded risks of owning momentum stocks (Exhibit 2). In these periods, momentum strategies experienced significant drawdowns and volatility, and similar to what we have seen this month, the reversals were sharp and fast. These instances serve to remind investors of the depth of momentum risk, and the following sections shall provide some perspective on short-term risks.

In general, there are six types of risk associated with momentum investing:

1. Stock specific risk

Valeant Pharmaceuticals serves as a lesson in the often precarious nature of stock-level momentum investing. The company designed its ongoing business strategy in opposition to the deep R&D expenditures of its peers. A familiar corporate process – one which prioritizes growth in favor of drug discovery – stole the hearts of many investors, including various hedge fund managers that amassed positions in the company. Valeant's management targeted companies with drugs that were underpriced. That is, most financing operations went into purchasing drugs whose prices were subsequently raised under Valeant ownership rather than discovering new therapies. This required extensive external financing which ultimately elevated the stock's price per share as high as $262 in August of 2015, climbing from a level of just $15 per share in early 2010. Then, in a series of scandals, the company's aggressive drug pricing modifications catalyzed a slew of investigations that revealed faulty financial reporting and corporate violations. The stock presently trades just over $20 per share under the new name Bausch Health and carries a debt level roughly four times its market capitalization due to its previous spate of acquisitions.

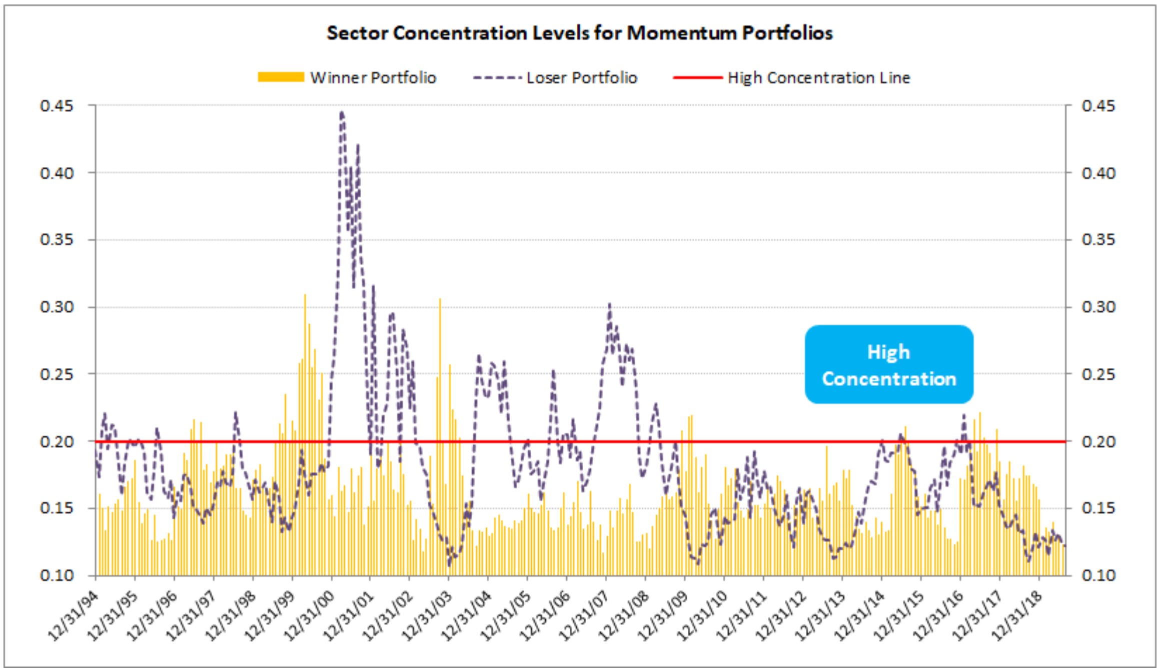
2. Valuation risk

Fear of missing out (FOMO) is perhaps an inherent human instinct, and assets driven by the momentum of FOMO are dislocated from traditional value measures and remain vulnerable to sudden changes in the broad market environment. Take the example of Bitcoin in 2017. The cryptocurrency rocketed over 2,000% to just under $20,000 during 2017. Today, Bitcoin's average price across exchanges is half of its all-time high, having reached as low as $3,211 in the late part of 2018. Asset bubbles seemingly always have a champion to induce a sense of FOMO in investors. Bitcoin's advocate, John McAfee openly preached a fair Bitcoin valuation of two million dollars. Valuation risk is also evident in the more recent example of cannabis stocks. Forward multiples rose to unrealistic levels following decriminalization in key markets. The momentum of these companies has halted now that investors have begun scrutinizing financial statements that imply far lower, and more realistic, valuations.

3. Sector risk

Momentum strategies that buy past winners and sell past losers can have an inherent sector bias. The concentrated runup of the FAANG and similar technology stocks echoes the dot-com bubble, when information technology and telecommunications names accounted for more than half of the winner momentum portfolio based on prior performance. After the bubble burst, these two sectors reversed direction and became 60% of the loser portfolio (source: Columbia Threadneedle Investments). Consumer discretionary and financials went through a similar loser-winner transition during and right after the global financial crisis. Exhibit 3 illustrates the sector concentration levels for the winner and loser portfolios over time.

Exhibit 3: Sector Concentration Levels for Momentum Winner Portfolio and Loser Portfolio



Source: Columbia Threadneedle Investments;

Note: S&P 500 universe; MSCI GIC sector classification; The Herfindahl Index statistic is used to measure sector concentration; through August 31, 2019.

3. Macroeconomic risk

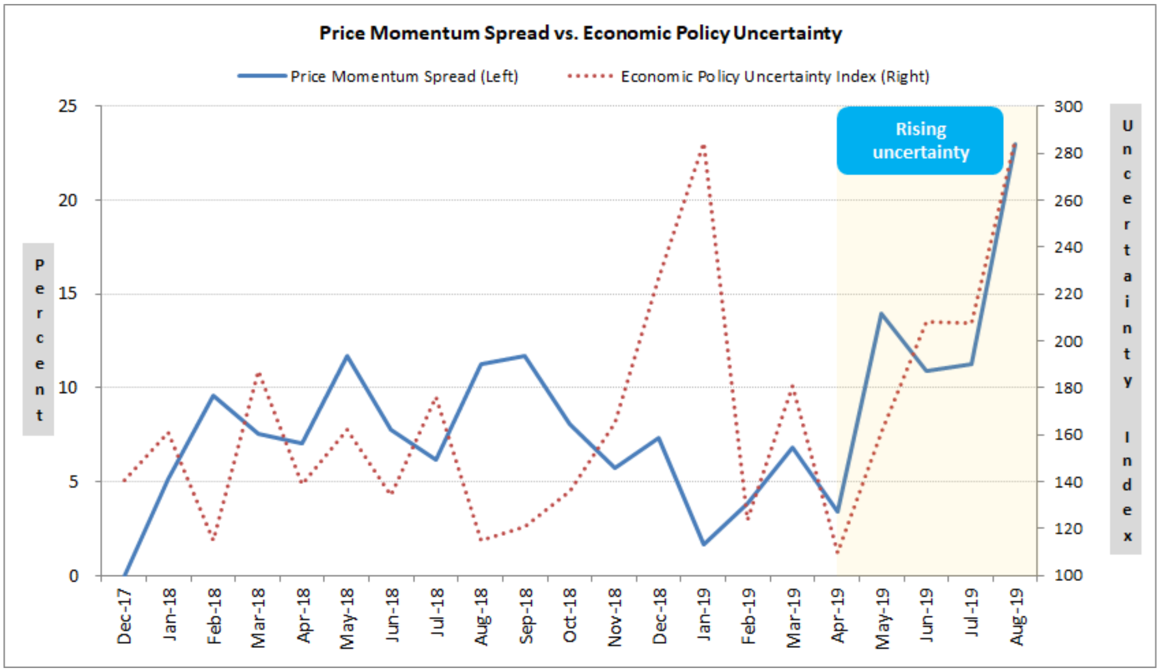
10-year Treasury bonds fell below 2-year Treasury bonds for a moment on the morning of August 14, driving up intraday volatility levels roughly 30%. Inversions are a classical harbinger of recessions (perhaps more superstitious than technical) and accordingly, carry relatively dramatic levels of market influence. This inversion was greeted by an investor response which punished the S&P 500 by roughly 3% on the day. Moreover, recent global events involving China have demonstrated the sensitivity of volatility, as a factor, to market-related news. Prolonged protests in Hong Kong in addition to updates involving various global markets such as Argentina and Germany can stoke volatility to levels that stall equities' impetus.

This inverse relationship between momentum and volatility is consistent and clear, and it insists that the payoff of momentum is not immune to the macroeconomic environment.

Because momentum does not rely directly on fundamental factors, rather the reliability of recent past success, macroeconomic risk increases in situations where momentum continues to perform well in the face of growing uncertainty.

This is the case in Exhibit 4. Momentum factor returns increased by nearly 2000 basis points from April 30, 2019 to August 30, at the same time the economic uncertainty index was increasing dramatically.

Exhibit 4: Price momentum cumulative returns vs. economic uncertainty index



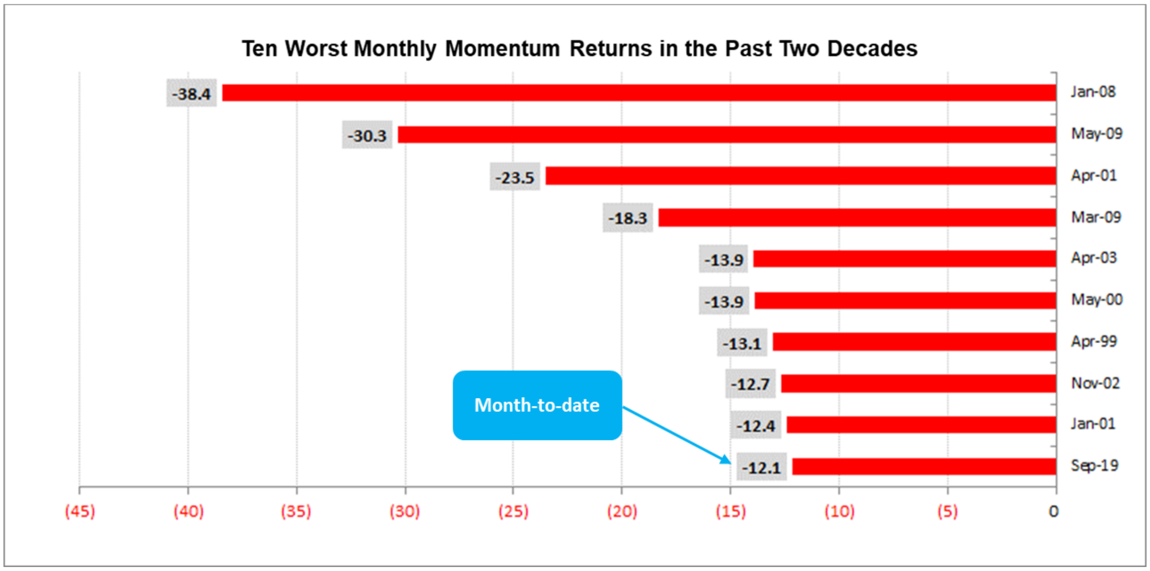
Source: Columbia Threadneedle Investments, S&P, Bloomberg

Notes: S&P 500 Universe; Price momentum is defined as 1-month lagged 11 months' stock total return; Top 20% - Bottom 20%; Monthly Rebalancing; Returns were weighted by the square root of market-cap. Through August 31, 2019.

5. Market timing risk

As alluded to above, momentum investing operates on the theoretical principle that – holding various risks constant – price tendency will persist in the near term given that a trend has been established over some period in the recent past. Thus, momentum favors smooth markets in which volatility is minimized and investors' sentiment remains aligned. It follows that momentum strategies struggle during instances of market disagreement when prices tend to oscillate and trends break down. These turbulent periods correspond to the largest recorded losses of momentum strategies and, historically, occur following bull market tops or bear market bottoms. Exhibit 5 clearly demonstrates this momentum characteristic----until this month, each of the ten worst monthly momentum returns occurred following the dot-com bubble or global financial crisis.

Exhibit 5: Ten worst monthly momentum returns over the 1995-2015 period



Source: Columbia Threadneedle Investments, S&P

Notes: S&P 500 Universe; Price momentum is defined as 1-month lagged 11 months' stock total return; Top 20% - Bottom 20%; Monthly Rebalancing; Returns were weighted by the square root of market-cap; through September 13, 2019.

6. Overcrowding & Liquidity Risk

Overcrowding, i.e., too much money invested in the same securities at the same time, has never been a good thing. Orderly selling can turn chaotic if everybody decides to sell at same time. Yan (2013) argues that momentum crashes are, at least partially, due to crowded trades that push prices away from fundamentals, eventually leading to strong reversals. The classic example is the August 2007 quant meltdown, in which correlated bets among a swath of hedge funds turned sour and resulted in widespread losses. Recently, measures of market depth – the volume required to induce a change in a security's price -- in domestic equities have dramatically fallen below their average since 2010 (even when adjusting for seasonality). This is ultimately attributable to the opposing nature of volatility and liquidity, potentially warning investors against momentum bets if volatility creeps into the remainder of 2019.

With the success that has come with utilizing momentum strategies, and the potential for sudden loss that accompanies it, there has been a fair amount of research on how to improve momentum strategies from a risk-management standpoint. From this research and our own experience, we have found that the following techniques can help manage the risk from momentum strategies in periods akin to the recent reversal:

- Don't become transfixed by momentum. Include valuation and quality measures into the overall assessment to avoid overvalued, high momentum stocks of poor quality.
- Keep sector exposure awareness. Comparing stocks with their industry peers can help reduce unnecessary sector bets and macro bets subject to factors such as the price of oil, shifting interest rates, and currency movements.
- Be mindful of a momentum-laden portfolio's exposure to beta, market volatility, and aggregate level cross-sectional valuation spread. When systematic risk is severe, be cautious of momentum bets.

Despite its recent sharp reversal, momentum can be a useful tool for investing. However, investors need to be cognizant of the risks inherent in their portfolios. Even investors not actively seeking exposure to momentum should be attuned to periods when momentum has already shown super-normal efficacy or is growing in association with unintended bets. These may be the times when momentum grows in tandem with volatility and seems to inevitably reverse mercilessly -- a situation that caught many investors unaware this month.

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