Trend Following Works!

A January 2016 investment study found that trend following is one of just a few investment factors that works consistently over time. Academics call it "time-series momentum," but the investment approach is most commonly known as "trend following."

In *The Enduring Effect of Time-Series Momentum on Stock Returns Over Nearly 100-Years*, by Ian D'Souza, Voraphat Srichanachaichok, George Wang and Chelsea Yaqiong Yao, the authors found trend following to be consistently profitable in different time periods. The research looked at the period from 1927 through 2014. The authors concluded that trend following works in all markets, large and small, everywhere. They believe investor behavioral tendencies to be the primary driver.

They analyzed 67 markets across four major asset classes – various commodities, equity indexes, bond markets and currency combinations – from 1903 to 2013 and also documented that time-series momentum or trend following was a consistently profitable viable strategy.

Why does it work? It is believed that price trends exist in part due to behavioral biases exhibited by investors. Such biases include anchoring to most recent past performance and expecting it to continue and herding into or out of an investment. Recall the extreme selling that took place in late 2008 and early 2009 or the tech buying frenzy of the late 1990s.

There are other causes as well, such as corporate hedging activity and central bank and government involvement (e.g., interest rate manipulation, QE asset purchases, etc.). However, investor behavior seems to be the significant driver that creates trends.

"We tend to hang onto our views too long simply because we spent time and effort coming up with those views in the first place. This leads to confirmation bias and an anchoring to strongly held beliefs even if the evidence fails to support them anymore."

James Montier
The Little Book of Behavioral Investing

Following are several highlights from the above-referenced research paper.

- The authors show that time-series stock momentum strategies produced significant profits in the US markets throughout the 88-year period from 1927 to 2014, exceeding the returns from other return factors such as value and size.
- The researchers found that time-series stock momentum is profitable regardless of formation and holding periods for 16 different combinations.
- The robustness of time-series stock momentum in the global equity market is a contradiction to the conventional wisdom of the random walk theory, which predicts that a stock's past price movement or direction cannot be used to predict its future movement.
- The authors found three pieces of evidence indicating that time-series stock momentum could be at least partially explained by two prominent theories of investors' under-reaction (to news and or price activity). Interesting: time-series stock momentum profits increased from 0.20% (t-statistic = 1.45) for stocks with discrete information to 1.17% (t-statistic = 5.82) for stocks with continuous information.
- In other words, the more continuously the information arrives, the higher profits time-series momentum strategies generate.

"The fact that trend following strategies have performed well historically indicates that these behavioral biases and non-profit-seeking market participants have likely existed for a long time," the authors stated.

We must concentrate on investment process, not emotion. Process is a predetermined set of rules about how you go about investing. The research addresses rules used in a trend following investment process.

When advisors build client portfolios, they consider diverse allocations to a number of different risks (stocks, bonds, cash and tactical/alternatives).

The study goes on to describe the data and portfolio construction processes tested and documents the profitability of time-series stock momentum strategies. It investigates the sources of those momentum profits and proposes an enhanced momentum strategy.

The bottom line is that given the diversification benefits and the downside (tail risk) hedging properties, a moderate portfolio allocation to trend following strategies merits consideration.

Concluding thoughts from the authors:

> We document strong evidence of time-series momentum in individual equities that appears to dominate the value or size effect – the latter factors which are often connected to rational based models used by fundamental, active stock pickers.
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> Our results show that the existence of time-series stock momentum has been a persistent phenomenon in the U.S. equity markets throughout the 88-year period since 1927. Moreover, the profitability of the strategy is robust for 16 different combinations of formation and holding periods, different benchmarks and weighting systems in up and down markets thereby nullifying the documented weaknesses of stocks is small relative to other countries. Further, time-series stock momentum also prevails in the international markets.
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> We also looked at time-series momentum relative to common macro variables and found little correlation to dividend yield or bond rates as well as to GDP. To this point, we note that time-series momentum is weakly impacted by state of the market, including recessionary economic cycles, compared to cross-sectional markets. Counterintuitive to media perceptions, we also find no evidence that recent Federal Reserve Bank actions, by chairperson, have exacerbated the momentum effect.
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> Moreover, we find that behavioral models tend to explain the time-series momentum factor, although they do not categorically rule out advances in risk-based model explanations. Our results demonstrate that investors' under reaction is the main source of time-series stock momentum profits.

There are hundreds of academic papers that study various market factors. Here are a few additional academic studies:

- In a 2014 paper, *A Century of Evidence on Trend-Following Investing*, the authors, Hurst, Ooi and Pedersen, sought to establish whether the strong performance of trend following is a statistical fluke of the last few decades or a more robust phenomenon that exists over a wide range of economic conditions over many years and differing market cycles.
- *The Profitability of Momentum Strategies*, Chan, Lakonishok and Jegadeesh, Investment Policy and Portfolio Management (1999).
- *Market Cycles and the Performance of Relative Strength Strategies*, Stivers and Sun, Financial Management (Summer 2013).
- *Time Series Momentum*, Moskowitz, Ooi and Pedersen, Chicago Booth Research Paper No. 12-21; Fama-Miller Working Paper (September 1, 2011).
- *212 Years of Price Momentum*, Dr. Christopher Geczy and Mikhail Samonov. One of the longest and most extensive studies on price momentum.
- Robert Shiller and Lars Peter Hansen won the 2013 Nobel Prize in Economics for their separate work on what drives asset prices.
- Daniel Kahneman and Amos Tversky won the Nobel Prize for their work on *Prospect Theory: An Analysis of Decision Under Risk*, Econometrica, Vol. 47, No. 2 (March 1979). They discovered that people react very differently to financial gains and losses. Identifying that investors are more than twice as sensitive to losses as to gains. Kahneman later wrote that the concept of loss aversion was their most useful contribution to the study of decision making.

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