



Where is Momentum?

A coherent framework to map out the distinct sources of momentum and reversal

Most people believe that for stock returns, the past can predict the future... at least in part. Momentum and reversal effects are prevalent for individual stocks, and also for industries, sectors, and factors like value and size. This raises an interesting question: do these dynamics coexist, or do they overlap, with some effects dominating others? To answer this question, we look at stock-specific return prediction, and we decompose a multitude of momentum effects in one coherent framework.

Our analysis pools together the returns of S&P 500 stocks over the past 25 years. We regress a stock's total return in a given month on 18 types of lagged returns. Half of these returns are about the previous month, and the other half are about the 12 months before that. Beyond just a stock's own idiosyncratic return, we include the returns of broader groups of which that stock is a member: its sector, industry, style factors, and even a statistically-derived set of 'peers.' We also allow for the possibility that momentum works differently in calm versus volatile markets. Our goal is to create the cleanest possible attribution.

Exhibit 1 summarizes the key results, using t-statistics to capture the sign and strength of each component. It turns out that many distinct sources of industry and factor momentum coexist. Moreover, they collectively explain away a large portion of stock-level 12-month momentum, which in the absence of other variables would appear to be a dominant force. In contrast, 1-month reversals remain highly significant for individual stocks, and for sectors too. Digging deeper, we can see that industry and sector momentum tend to crash in volatile markets, whereas factor momentum signals do not. We can't say exactly why, but perhaps the ever-evolving composition of factors insulates them from the excesses that cause sector sell-offs.

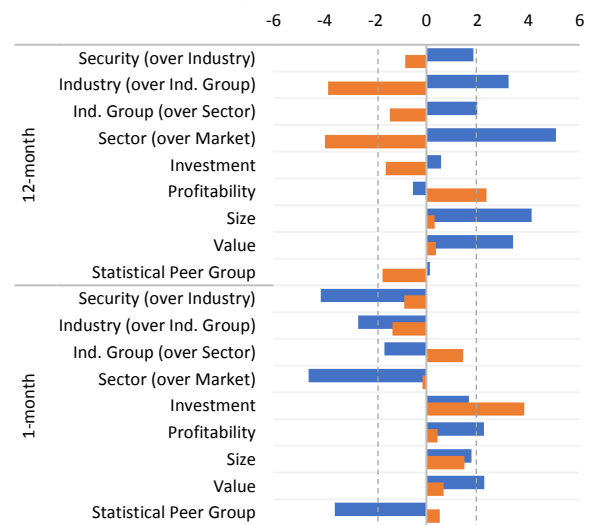
In our full paper, we extend the decomposition further. For example, we find that the largest share of the pro-momentum effect comes from stocks that went down going down more; gains are less reliable. We also find that in the past decade, pro-momentum has generally weakened, while at the same time reversals have strengthened. With consistent assumptions and careful calibration, we disentangle momentum effects to pinpoint where the most durable relationships lie.

For more on this topic, see our 2021 working paper on SSRN: **"Mapping out Momentum"** by Yimou Li and David Turkington.

Exhibit 1: Momentum in Calm versus Volatile Markets

Panel regression t-statistics

(blue = calm months, orange = volatile months)



Based on monthly data from Jan 1995 through Dec 2020. Dependent variable is the cross-sectional ranks of stock total returns in the following month. Explanatory variables are transformed into cross-sectional ranks. Calm and volatile market segmented by VIX level. For more details, please refer to the paper cited below. Source: State Street Global Markets.

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