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# Factor woes prove need for better timing – QuantZ's Sharma

Investors should switch between factors as alphas change, says quant



Faye Kilburn

[@Fayekilburn](#)

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On the morning of November 9, 2020, when US pharmaceutical company Pfizer released the first set of data about its Covid-19 vaccine, Milind Sharma, a former prop trader at Deutsche Bank and RBC Capital Markets, noted an “off the chart” move in his factor heat maps, which measure the performance of quant factors such as value or momentum.

“It was just staggering,” he says. The market reversal turned winners into overnight losers and losers into winners. “Never before has momentum crashed more than 20% in a single day,” Sharma recalls.

It was another blow for quant firms, many of which have suffered poor performance in recent years. “Last year was very tricky. The people who were generally long value, like a lot of the traditional quant firms, got killed just because value has been a disaster for years and they kept bleeding. But in November 2020, folks who were

crowded in growth and momentum also got their comeuppance with the momentum crash and value short squeeze,” he says.

Momentum strategies perform badly when markets experience sudden changes of direction. The Vix index, an indicator of volatility, passed 80 last March at the start of the Covid pandemic. Now the index has come down to around 20 as markets have calmed.

The path of recovery remains uncertain, though. And Sharma sees the ability to time allocations to factors as critical for quant investors to prosper in the months ahead.

For Sharma, this is a long-held belief. In 2009, he left RBC to launch a hedge fund based on the idea, and founded QuantZ Capital Management, headquartered in New York. Today QuantZ advises on systematic strategies at trillion dollar asset managers as well as smaller hedge funds.

The underperformance of some large quant shops during the Covid-19 pandemic has made Sharma double down on his view.



Milind Sharma

Quant shops such as AQR, Research Affiliates and others running long-term risk premia strategies say traditional factors work best over an extended period of time, and argue that factor timing can't be done or that more subtle factor "tilting" is a better approach.

But Sharma dismisses such arguments. Factor timing might not work for portfolios of tens of billions of dollars because rebalancing portfolios could move prices against managers that tried it. But on a smaller scale, factor timing is not only possible but crucial, he says.

In choppy markets, investors may benefit from slower rebalancing – to avoid ending up one step behind markets as they rapidly swing to and fro – but, in general, investors are best off rebalancing as fast as the "inherent turnover of the alphas" dictates, Sharma says. In other words, systematic investors should switch in

and out of factors as the alpha in those factors climbs and falls.

How should they do that? Sharma uses a set of indicators combined with machine learning. “You might look at crowding, you might look at correlations, you might look at recent returns, you might look at the dispersion of the factor itself,” he says.

To combat the crowdedness in traditional factors, the firm creates its own “enhanced” factors to act as the building blocks for its dynamic factor model. The system picks daily from 600 different factor definitions – Sharma calls them “flavours” – to create 18 “enhanced smart betas”. There are 60 different flavours of value and 100 flavours of quality, for example.

The enhanced smart betas and combinations of indicators are reshuffled daily, depending on earnings announcements or other news. But the factor weights within each cohort of smart betas are re-optimised only once a month to prevent unnecessary “noise” turnover, Sharma says.

The idea is to get away from what Sharma describes as tired and overtraded factor definitions. Take value. According to QuantZ’s calculation, the original Fama-French price-to-book factor has an annualised Sharpe ratio of 0.04 over the past 20 years. Barely above the risk-free rate of return.

“The reason is that the original Fama-French factor is now very well known, and fully arbitrated,” Sharma says. QuantZ says its deep value enhanced smart beta has a Sharpe ratio of 0.73.

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**“ In a crash, you should be long defensive factors and short offensive factors**

**Milind Sharma**

In a further step, Sharma uses machine learning to classify the enhanced factors as either risk-on or risk-off at the start of each month and to determine their weights in the portfolio.

The firm uses a separate model to gauge whether the market may be entering a

risk-on or risk-off episode, combining indicators such as the Vix index, the steepness of yield curves, oil prices and TED spreads.

“In a crash, you should be long defensive factors and short offensive factors,” he says. During the Covid crash in the first quarter of last year, the firm’s crash hedge portfolio – designed specifically to perform in a selloff – was up more than 50%.

The firm’s enhanced momentum smart beta finished the year up nearly 40%, having held up during the post-Covid-crisis value rotation. JP Morgan’s price momentum factor as of December 31, 2020 was down -19.5%.

Before starting QuantZ, Sharma managed a quant prop trading desk at RBC and served as director and senior prop trader at Deutsche Bank where he managed quant event-driven and capital structure arbitrage mandates under Boaz Weinstein. Prior to that he was co-founder of quant strategies at Merrill Lynch Investment Management, overseeing approximately \$30 billion in assets under management.

*Editing by Alex Krohn*

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