THE WALL STREET JOURNAL. ONLINE
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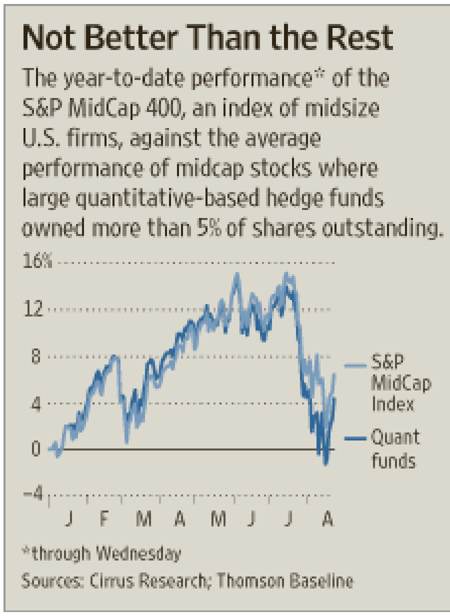
August 24, 2007



How the 'Quant' Playbook Failed

Federal Filings Confirm the Finger Pointing: Funds Often Shared Stocks -- Leading to Losses

By JUSTIN LAHART
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The managers of "quantitative" hedge funds that got roiled in this summer's stock-market selloff didn't gather after work to drink beer and swap trading ideas. But they might as well have.

A number of quant funds, which use statistical models to find winning trading strategies, reported heavy losses this month. In many cases, the managers pointed their fingers at other quantitative hedge funds, essentially saying they all owned many of the same stocks and their models told them all to sell at the same time, driving down the share prices, hurting everyone in the process.

In a letter to investors, Jim Simons of the hedge fund Renaissance Technologies wrote the quantitative funds behind the selling "undoubtedly share some signals in common with our own, and the result has been losses." It didn't help that quant funds are among the fastest expanding categories of hedge funds.

Filings with the Securities and Exchange Commission show that as of the end of

June, quantitative hedge funds often shared large positions in the same stocks. Renaissance held 1.1% of the shares outstanding of **NVR** Inc., a Virginia construction and home-building company. AQR Capital Management, another quant fund, held 0.9% of the company's shares and quant fund Numeric Investors had a 1.6% stake.

NVR stock, which closed yesterday at $571 a share, trades less than most companies of its size. The shares have bounced higher since the selloff, but they are off 8.4% over the past month.

The overlap in quant funds' positions wasn't limited to NVR. Satya Pradhuman, director of research at Cirrus Research, which analyzes small and midsize stocks, found 148 other companies with market capitalizations between $2 billion and $10 billion where large quant funds owned 5% or more of the shares outstanding.

As a whole, those companies' shares underperformed the shares of other midcap stocks during the selloff. Mr. Pradhuman found 473 small-cap stocks, with market capitalizations of $250 million to $2 billion, where the quant funds owned 5% or more of the shares outstanding. These stocks also performed worse than other similar stocks.

The midcap companies where quant funds held big stakes included packaging company **Pactiv** Corp., toy maker **Hasbro** Inc. and managed care provider **WellCare Health Plans** Inc. Small caps included printer **Deluxe** Corp., consumer-products company **Russ Berrie** & Co. and health-care equipment maker **Zoll Medical** Corp.

Academics, notably Eugene Fama at the University of Chicago with Kenneth French at Dartmouth, have documented how, over time, stocks with smaller market capitalizations and lower valuations tend to do better than the overall stock market.

The reason for the outperformance, Mr. Pradhuman said, is both smaller companies and companies with low valuations are more likely to go bust if the economy sours, so they are riskier. Since the U.S. economy has been highly successful, taking the risk of buying the shares of such companies has paid off.

Since history had shown that buying small and low multiple companies was a good idea, many quant models screened for them. When stocks started getting rattled last month after credit markets seized up, worries about business risk rose sharply and the shares of those companies bore the brunt of the selling.

Other investors had bid up the share prices of some of these companies in the belief that leveraged-buyout firms would snap them up at healthy premiums. When credit tightened, takeover prospects dimmed. The combined effect of some quant funds and other investors cutting positions in the stocks sent them lower still.

Satya Pradhuman

Mr. Pradhuman said quantitative investing still makes sense, and indeed many of quant funds that got hurt in the selloff have already made back the money they lost. "Quant strategies may be getting broad-brushed," he said. "In the long term, these are disciplined approaches that are doing things at every tick to look for value."

The risks to quantitative investing may be rising. Even if they don't share the same statistical models, quant funds share similar approaches to the market. They are schooled in the same statistical methods, pore over the same academic papers and use the same historical data. As a result, they can easily come to similar conclusions about how best to invest.

What doesn't exist in the data that the quant funds comb through, however, are the quant funds themselves. Scientists talk about the "observer effect," where the very act of observing a phenomenon, such as the behavior of animals, can change the phenomenon. For the quant funds, this effect is magnified, because they aren't merely observing the market, but using what they learned to take part in it. That effect was amplified by the rapid growth of these funds. AQR, one of the most successful quant fund managers, has about $35 billion under management, up from less than $7 billion nine years ago, though not all of the money is in these specific strategies.

University of Rochester finance professor William Schwert has found that after academic papers come out highlighting opportunities to outperform the market, those opportunities tend to diminish or outright disappear. The popularity of quantitative strategies in recent years may mean that the opportunities to make money are getting whittled away more quickly than ever, according to Invesco PLC investment strategist Diane Garnick.

"You have this inflow of dollars into quantitative strategy and this inflow of intellect," she said. "It's becoming more difficult to capture outperformance."

To stay ahead of the game, quant managers need to be more aware of what their peers are doing, said Massachusetts Institute of Technology finance professor Andrew Lo, who is also a principal at asset manager AlphaSimplex Group LLC. By the same token, if the losses this summer drive some investors out of quantitative strategies, it could be good for the quants that are still in the game.

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