Fund Spy

When Quant Funds Failed

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The ups and downs of stocks since the credit crisis began roiling the equity markets in 2007 haven't been kind to most stock-fund managers. But those who use quantitative stock-picking models have had an especially difficult time. In this article, the first of two on quant funds, we'll look at what went wrong.

The carnage has been widespread. For example, seven of Bridgeway's eight actively managed funds that rely exclusively on quant models land in the bottom third of their Morningstar categories over three years through July 28, 2010. The same is true of six of Goldman Sachs' eight quant funds with three-year records. JP Morgan has a lineup of eight Intrepid brand quant funds, and each has lagged its typical category peer over the past three years. Vanguard's quant group has struggled, as has AXA Rosenberg--its four Laudus funds will soon be liquidated. (This is due in part to a controversy over an error in one of its models that went unreported for more than a year; founder Barr Rosenberg and head of research Thomas Mead are departing the firm.) On average, a group of 65 quant funds that we've looked at have trailed three fourths of their peers over three years through July 28.

Why They've Stunk It Up

Many quant funds rely primarily on models that pick stocks based on value, momentum, and quality factors. Those that do have been hit by a double whammy lately. Value models let quants down first. Stocks that looked attractive to value models just kept getting cheaper in the depths of the October 2007-March 2009 bear market. "All kinds of value signals let you down, and they're a key part of many quant models," said Sandip Bhagat, Vanguard's head of equities and a longtime quant investor. Also, many quant funds that emphasize earnings or stock-price momentum were still following trends that had lasted for several years in the middle of the decade, such as the rise of energy and other economically sensitive firms--and these stocks were quickly crushed in the latter half of 2008.

As the bear market wore on, many quant funds' models steered them to steadier firms that held up well in the downturn. Such companies looked attractive to both quality measures, such as balance-sheet strength, and earnings momentum because they were posting stronger earnings growth (or smaller declines) than most companies. Unfortunately, quant funds typically moved into these stocks just in time for March 2009's sharp reversal. Investors started bidding up economically sensitive stocks in anticipation of an improving economy rather than on solid company financial results. Many quant funds that include earnings momentum in their models missed the initial (and strongest) stages of last year's rally because the models didn't pick the cyclical stocks until the improvement showed up in the companies' results. So far in 2010's choppy market, quant funds' performance has been mixed.

Bridgeway Aggressive Investors 1 (BRAGX) is a poster child of this phenomenon: It dropped a stomach-churning 64% in the bear market--worse than 95% of its mid-growth rivals--then trailed most of the pack in the upturn. (It is again in the category's basement in 2010.) Although its record since its 1994 inception is still superb, it has posted an annualized 6% loss over the past five years through the end of July 2010 and trails virtually all of its peers over that span.

Quant funds' extended stretch of poor performance has had a severe effect on quant firms' business. Bridgeway's fund lineup had $3.1 billion in assets at the end of 2006. Since then, investors have pulled more than $800 million out. Those outflows, combined with investment losses, have pushed assets down to $1.4 billion at the end of June 2010. One of the largest individual quant funds around, Vanguard Strategic Equity (VSEQX), has seen $2.3 billion in outflows since 2006 as assets have dropped by nearly two thirds to $2.9 billion. John Bogle Jr., who manages Bogle Small Cap Growth (BOGLX) as well as separate accounts, has seen his firm's total assets drop from $3 billion to $600 million.

What Now?

It's difficult to say when quant funds will mount a comeback. Some argue that they face a difficult future if they don't make big changes to the way they invest. Robert Jones, former longtime head of Goldman Sachs Asset Management's large quant team and now a senior advisor for the team, recently asserted in the *Journal of Portfolio Management* that both value and momentum signals have been losing their effectiveness as more quant investors managing more assets have entered the fray. Instead, he calls for quant managers to search for more-sophisticated and proprietary measures to add value by looking at less-widely available nonelectronic data, or data from related companies such as suppliers and customers. Other quants have their doubts about the feasibility of such developments. Vanguard's Bhagat, for example, thinks quant managers need more secondary factors to give them the upper hand, but he also wonders how many new factors exist. "There are so many smart people sorting through the same data," he said. Ted Aronson of quant firm Aronson+Johnson+Ortiz is more blunt: "We're not all going to go out and stumble on some new source of alpha."

There is reason to believe quant strategies have simply been temporarily out of favor. A number of quant managers--most notably Bridgeway founder John Montgomery--have said a big reason for their underperformance since the market bottom is that stock prices have followed big macroeconomic news instead of earnings. That trend isn't sustainable, he contends. Indeed, in recent quarters, many of Bridgeway's funds have had more money than their benchmarks in companies that have beaten earnings estimates, yet the funds have still lagged the indexes. At times, those Bridgeway funds that have done the best job of this have posted the worst relative performance. Even fundamental managers with somewhat similar approaches have experienced this phenomenon. Brandywine (BRWIX), for example, focuses heavily on finding companies that will beat next quarter's estimates; despite a long track record of success, the fund has struggled over the past three years.

Also, if the amount of managers and assets chasing the same value and momentum factors had been sapping the measures' effectiveness, there's less competition now. Bogle Jr. tracks a peer group of mutual fund and hedge fund quant investors and says the group's total assets under management has fallen from $400 billion at its peak to less than $260 billion because of liquidations, outflows, and investment losses. Aronson believes that there was an excessive number of quant investors at the market's 2007 peak and that they were taking on too much leverage. (Indeed, some quant mutual funds believe that forced selling by liquidating quant-driven hedge funds hurt their own holdings.) He said a good chunk of those excesses have been wrung out, though he allows that there may be more to come.

Another reason for optimism: Despite all the lost revenue, quant funds have lost very few personnel. True, Bhagat left Morgan Stanley for Vanguard, and the quant team

he left behind has lost some of its fund assignments. But both Bridgeway and Bogle, for example, report they haven't lost any investment professionals since the market's peak. In fact, Bridgeway has hired a couple of academics and engineers to assist with further research.

Bridgeway also is nearly finished reengineering its 17 quant models, which may result in the scrapping of one or two models and adding others. Goldman Sach's quant group says it, too, might tweak its strategy. The changes may not be cause for alarm. Most quant managers adjust their models over time as their research uncovers new ideas. To be sure, there is a risk that managers focus too closely on the recent past. Both Bhagat and Montgomery warned against fighting the last war by designing and relying too heavily on models that would have worked very well in the recent bear market.

It is premature to write off quant funds altogether, based on the evidence we've seen. But now more than ever, as their risks have been exposed, it pays to be selective. Investors should keep in mind that macroeconomic shocks may continue to overwhelm stock-specific data from time to time.

In Part 2, we'll discuss the merits of certain quant funds.

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