

Commentary: High time for a proper taxonomy of ‘quants’

By Andrew Dyson



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As more and more equity investors have seemingly lost faith in active management, one particular area, quantitative strategies and techniques, is actually seeing positive flows and a surge of client interest.

These so-called quants are touted for their high-powered computer-driven processes, competitive fees and rigorous approaches to finding returns and controlling risk. As a result, inevitably many industry players are seeking to take refuge under the quant banner, whether or not they really belong there. Spread further by the hyped attention to and application of big data and artificial intelligence, quant now is a label that’s being stretched wide and thin.

For clients, this watering down of the term quant presents a serious problem. Unless we want a repeat of the same levels of disappointment that fundamental managers have seen, we need to move away from a single label — which is prone to being misused and misunderstood. Instead, we should devise a much better taxonomy for what is happening in the quant space, which will in turn allow clients to develop a deeper understanding that can only benefit their decision-making over time.

Quants in name only

Let’s start by making a clear and necessary distinction between the actual stock selection process and the data inputs into that selection process. While using real-time credit card receipts or satellite imagery of retail parking lots may be an improvement over waiting for quarterly earnings,

this is no more newsworthy than when firms switched from pencil and paper to spreadsheets 30-plus years ago. Fundamental managers who deploy big data techniques are using quantitative inputs to support what remain fundamental decision processes. It’s all part of the natural evolution — failing to take advantage of the most modern techniques can doom a manager in an industry as competitive as ours — but these fundamental big data adopters are no more quants than the early users of Lotus 1-2-3, the spreadsheet program popular in the 1980s.

This still leaves us with a wide range of managers who have hung a quant shingle outside their doors. We would put them into three groups: blind, long-term and short-term.

Blind quants

Blind quants are those with a complete faith in one or more attributes to outperform a pure market cap index. The purest example is perhaps a single-factor smart beta manager committed to the long-term outperformance of value, who makes no attempt to calibrate that view as market conditions change. A more sophisticated variant uses static combinations of different factors in the belief that diversification will enhance risk-return characteristics over the pure single-factor approach. When analyzing the return of such strategies, though, investors should distinguish how much of the relative performance comes from the factor orientation and how much from a portfolio construction that is often different from the classic market-cap weighting. Academic studies have

suggested that almost any fixed (e.g., equal) weighting would have generated superior results to market-cap weighting, at least before trading costs. In many cases the outperformance actually comes from a small-cap bias. This probably says more about the appropriate benchmark selected for evaluating relative performance than the outperformance itself.

Long-term vs. short-term

Moving to more sophisticated application of quant methods, there is another distinction between long-term and short-term quants. To best explain this difference, let's first look at some similarities. Typically, both will build portfolios based on combining multiple signals they believe offer an expectation of outperformance over time. Unlike blind quants, both tend to focus sharply on portfolio construction and trading costs to reduce the noise around their intended signals, and both go through a process of continuous improvement looking for new signals that will be additive. Each struggles with the inherent danger of data mining and of unearthing false signals that look good based on past performance but make zero or even negative contributions to future returns.

Long-term quant managers, however, seek signals that last usually six months or longer and will outperform over a market cycle. Their signals generally have some intelligible underlying rationale that supports their conviction for application throughout a cycle. Indeed, much of what they target are the same attributes a fundamental manager considers in the analysis of an individual stock. The difference is a fundamental manager (whose holdings are generally much more concentrated) must also evaluate what is idiosyncratic for each stock, whereas a long-term quant uses diversification to minimize idiosyncratic risk and maximize exposure to their targeted signals. Some of these managers (our firm being one of the pioneers in this area) may shift the balance between different signals dynamically in different market conditions to further enhance return.

In contrast, short-term quant managers seek patterns that will work now, even if their shelf-life is unpredictable. Some may be as short as weeks or just days, as others latch onto the same trends. In many cases, these short-term signals rely on artificial intelligence involving complex pattern recognition. As more and more players chase the same prize, it can be assumed that the average signal life will shorten even more as it gets arbitrated away more quickly. In turn, ever increasing computer power is required with ever diminishing payoff. Big data is especially appealing in this arms race, but the risks of data mining are exponentially higher because many short-term signals have no fundamental driver. Some signals may have no predictive power at all, or may erode and then invert if the manager cannot jump off the moving train fast enough. Although the very best may continue to excel, most likely there will be many more losers than winners.

Of course, we have had to simplify a bit in the service of our taxonomy. In practice, individual managers may offer a combination of long- and short-term approaches. For example, a quant with roots intrinsically in the long-term camp (like our firm) may utilize big data techniques to identify new signals, or to aid with risk management or the timing of trades. Yet, to reduce the risk of data mining, there will still be a requirement for an abiding rationale behind any new signal uncovered and that it stand up to out-of-sample analysis.

Whether or not this version forms the right basis, we would urge all our fellow quants to join us in our desire to develop a more sophisticated nomenclature to help our clients better understand our differences and avoid the disappointments that have befallen other parts of our industry.

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