Academics and fund managers

Shane Whelan tells of the profitable peace that now reigns between academics and fund managers.

Inspection by the human eye still remains superior to the computer in the broad area of pattern recognition. When it comes to identifying a face or a signature, the quick glance cannot be bettered. Or rather, not bettered yet. Recent developments in statistical learning theory have aided the brute combinatorial force of computers to narrow the gap considerably.

One of the more surprising applications of the computer's improved ability to discern shapes is chartism. Chartism, or technical analysis as it is more commonly known nowadays, is the attempt to identify and exploit regularities in the graphs of stock prices. It is no surprise, of course, that an innovation should be applied to try to make money. What is surprising is that academics are using the new tools to revisit one of the most vilified areas in the academic literature on financial markets. And the results are confirming what a significant portion of investment practitioners and a few radical academics have been saying all along: there are patterns in stock prices and they can be profitably exploited.

Profit opportunities

Early academic research into profit opportunities in the market found little or no evidence of any. Nor could academics identify professional investors who were systematically outperforming the market average. The two outstanding landmarks in this literature are Cowles (1934) and Kendall (1953) (see box below). They concluded from their studies, somewhat hastily, that there were no profit opportunities. Later, it was reasoned that, even if there were profit opportunities, they would, at best, be fleeting. So, in the 1960s academics framed the famous efficient market hypothesis (EMH).

As a class, professional investors are not known for being shy and retiring nor are academics noted for suffering fools gladly. Opinion on the EMH divided the groups intellectually and, as so often happens, a difference of opinion was heightened to outright hostility with the clash of personalities. This state of affairs lasted throughout the 1960s, 1970s, and into the 1980s. The Nobel laureate, Paul Samuelson, writing in 1974 in the *Journal of Portfolio Management*, reflects the hectoring tone adopted by the academics in the debate:

> But a respect for evidence compels me to be inclined toward the hypothesis that most portfolio decision makers should go out of business – take up plumbing, teach Greek,... Even if this advice to drop dead is good advice, it obviously is not counsel that will be eagerly followed. Few people will commit suicide without a push. *Samuelson (1974)*

Professional investors had their own rejoiners, the more printable being that economists had invented the EMH to defend themselves when asked the rhetorical question, 'If you're so smart, why aren't you rich?' Professional investors favoured the only logical answer if the EMH does not hold.

Dogmatic attitudes

Lo & MacKinlay tell two revealing anecdotes of how the efficient market hypothesis and its close relation, the random walk hypothesis, became almost a dogma in universities. When they were presenting some evidence inimical to the random walk hypothesis, the discussant, who was a senior member of the economics profession, told them flatly that they had made a programming error. They also quote the academic-turned-speculator, Niederhoffer, in his autobiography who tells of the fear shared by a coven of financial researchers at the University of Chicago of finding predictive patterns in prices. The general point of these and other such stories is that there was no great effort put into discerning systematically profitable opportunities, despite the collection of data and the availability of computing muscle. Unsurprisingly, no or very few such opportunities were found as a result.

Or rather, very few studies pointing to exploitable anomalies were published. Fund managers themselves

Kendall's findings

One of the earliest attempts to assess the usefulness of technical analysis was by well known professor of statistics at the London School of Economics, Maurice G Kendall. He studied the actuaries' index of industrial share prices and its 18 subsectors weekly over the ten years 1928–38, augmented by the weekly price of wheat over half a century, and the monthly price of cotton over a 100-year period. From his painstaking analysis he concludes:

> Investors can, perhaps, make money on the Stock Exchange, but not, apparently, by watching price movements and coming in on what looks like a good thing. Such success as investors have seems to be due:
>
> (a) to chance,
>
> (b) to the fact that at certain times all prices rise together so they can't go wrong,
>
> (c) to have inside information so that they can anticipate a movement,
>
> (d) to their being able to act very quickly, [or]
>
> (e) to their being able to operate on such a scale that profits are not expended in brokers' fees and stamp duty.
>
> But it is unlikely that anything I say or demonstrate will destroy the illusion that the outside investor can make money by playing the markets, so let us leave him to his own devices. *Kendall (1953)*

bury the hatchet

were undertaking their own rigorous research and quietly profiting from the results. Morgan Stanley, DE Shaw, and a slew of brokers, managers, and hedge funds have teams engaged in what is known as 'statistical arbitrage' to spot and exploit regularities. This forms part of a larger evolutionary development in fund management over the last decade or two which might be described as the 'intellectualisation' of investment.

Head-and-shoulders and double-bottoms

Fashions change and the August 2000 issue of one of the most prestigious academic journals, the *Journal of Finance*, carried a paper assessing some the of patterns that especially excite technical analysts. The authors find that head-and-shoulders, double-bottoms, and other classic patterns 'do provide incremental information and may have some practical value'. Intriguingly, the market in which such indicators work best is where the small private investor is most active – the NASDAQ. The conclusion of the paper is typically guarded, shying away from assessing the rules' potential profitability. Yet one of the authors is confident that at least some technical trading rules will prove rewarding and now has a fund of $0.5bn to see if he's right. This paper is just one in a line of research that directly challenges Kendall's conclusions. Another strand in the literature is to review Cowles' famous conclusion of 'It is doubtful' to his paper's title question, 'Can stock-market forecasters forecast?' Brown et al (1998), for instance, review Cowles' evidence with more modern statistical methods and come to the opposite conclusion.

Burying the hatchet

There is no hue and cry about these latest findings, despite the apparent blasphemy against the efficient market hypothesis, even in its weakest form. After some recoil from the excesses of the 1960s and 1970s, economists now accept that innovation, risk-taking, and perseverance – in short, entrepreneurship – can be rewarded in the sphere of finance as everywhere else. In fact, not only is the battle line difficult to find any longer, it can at times be difficult to distinguish good investment research from good academic research. The end result of all the squabbling is the Hegelian synthesis that it is possible to outperform the market average but it is neither easy nor certain. Or, as Americans say, there are no easy pickings.

Kendall's results and their rather harsh presentation created an uproar when read to the Royal Statistical Society. Yet his results quickly became standard knowledge and the empirical basis for one of the canons of financial economics, the efficient market hypothesis (in its weakest form). The tone in which the findings were delivered came to characterise the academicians intolerance of technical analysts and, oftentimes, all fund managers.

Kendall's interpretation of his results is questionable. Just because he could not discern exploitable patterns in prices using the (comparatively primitive) statistical techniques of his time is not to say that none exists. However, there is a more fundamental objection to his conclusion. Put simply, he was analysing the wrong thing – he studied absolute changes in price rather than what really concerns the investor – percentage changes. ❑

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