ASK THE Specs

BY VICTOR NIEDERHOFFER, LAUREL KENNER AND DR. BRETT STEENBARGER

This month the Spec Trio weighs in on whether a trading logjam is the result of flawed testing or the testing of a flawed concept.

Q: I bought one of the best trading systems around. After a few losing months, I tried to optimize my entry and exit points with advanced mathematics, including chaos theory and cycle analytics such as Hurst components. But I am still losing money.

Brett: Free-market economist and social philosopher Friedrich Hayek began his 1942 article "Scientism and the Study of Society" with the following quote from Adam Smith's "Essay on the History of Astronomy":

> *Systems which have universally owed their origin to the lucubrations of those who were acquainted with one art, but ignorant of the other; who therefore explained to themselves the phenomena, in that which was strange to them, by those in that which was familiar; and with whom, upon that account, the analogy, which in other writers gives occasion to a few ingenious similitudes, became the great hinge on which every thing turned.*

Hayek recognized the aim of science is not prediction and control, but understanding. We begin to understand an unknown phenomenon when we can take what we *do* know and apply it to our object of study. Such analogies — putting the unknown in terms of the known — are the basis for theories and, ultimately, for creating testable hypotheses.

As far as I can tell from your comment, the patterns you're testing were selected by "brute force"; that is, by testing and retesting dozens of trading rules alone and in combination, rather than by attempting to study or understand how markets operate. After testing dozens of trading rules, a trader may stumble into one that produces trading profits on paper, only to run immediately into trouble using it in the real world.

It is interesting to look at all the trading systems for sale that have been losing money since being released to the public, and realize that every one of them tested favorably prior to release. Such systems are quantified, but without understanding. The most popular trading systems use remarkably similar entries and, if one knows what to look for, reveal their footprints in market action. By knowing how these systems are constructed and how their followers think, one can frame fertile hypotheses for the day's trading.

A good scientist is first a qualitative theorist and then a quantitative judge of those theories. Promising ideas are those that suggest an understanding of how markets and market participants operate.

Vic: Brett, with all deference to your well-considered ideas based on the always-omniscient views of Hayek and Smith, the trader's mistake here is not one of philosophy, but of inadequate testing.

May I issue a call for an emphasis on predictive distributions rather than descriptive studies? By predictive, I mean, a study that:

- enumerates all observations of what has happened after a defined market event over a specific period of time;
- weighs whether the results indicate a random phenomenon or a tradable anomaly;
- measures the uncertainty associated with the latter conclusion; and
- predicts the probability that an x-percent move will follow the event being studied.

Based on my experience, the biggest mistake a trader can make is to concentrate on "advanced" methods such as Hurst exponents, regression coefficients, Fourier series, chaos, wavelets, fractals, *et al.* Unfortunately, all of those sophisticated techniques will get you nothing but a barrel of retrospective nothingness.

The key is to find a measure that can be calculated often and independently and then use it to predict. For example, what happens in the next one, five and 10 days after stocks reach a 20-day low? The philosophic memory and longings and expectations of the market are of great interest, but I have found queries as to whether they trend or reverse in accord with Prechter or Fibonacci or Elliott a distraction to the pursuit of profitable trading.

You could put the 100 smartest academics in the world in a room and let them try to predict the market for 100 years, and unless they were steered on a path to make fruitful predictions with readily ascertainable estimates of uncertainty, constantly adjusting for ever-changing cycles, they would achieve below-random results.

The numerous professors I have hosted and supported in my office have not disabused me of this assessment.

Laurel: In response to this trader's comment, all too typical of those at the core of most traders' problems, the Spec Trio took out the pencils and paper, as is their wont, and actually calculated some simple statistics about the actual memory of the market.

TABLE 1 MARKET MEMORY

Correlation of non-overlapping price changes

S&P Composite

(Dec. 31, 1995, through Aug. 31, 2003)

Days out	Observations	Correlations (*100)
1	1,940	-1.1
3	646	-6.6
10	194	-10.2
20	64	-5.7
50	38	-5.4
60	32	5.8
90	21	21.7

The serial correlation coefficient, which measures linear momentum of consecutive non-overlapping price levels (i.e., the level of connection between one price move and the next for specified intervals), fills the bill. The range is from 1 (perfect correlation) to 0 (total randomness) to -1 (total inversion). Table 1 (left) shows what this analysis says about close-to-close directional changes in price in the S&P 500 composite from year-end 1995 through August 2003.

The results show the memory of the market is about 60 days. All correlations are negative to that day, then become positive. Thus, people base their trading decisions on short-term momentum far too often. Be advised.

Have a question about trading? Trader Victor Niederhoffer and financial writer Laurel Kenner, co-authors of "Practical Speculation" (John Wiley & Sons, 2003), team up with Brett Steenbarger, author of "The Psychology of Trading" and associate professor of psychiatry and behavioral sciences at SUNY Upstate Medical University, to provide practical and hard-hitting answers. Send questions to gbuch@bloomberg.net, or visit Steenbarger's trading blog at www.greatspeculations.com.

For more information about the authors see p. 12.