All Investors Are Liars

By John Allen Paulos

As an author of a recently published book, I've noticed an odd inefficiency in the book market. Online booksellers often charge different amounts for the same book even though a couple of clicks worth of comparison shopping can reveal the disparity. This seems to violate the Efficient Market Hypothesis, which, applied to the stock market, maintains that at any given time a stock's price reflects all relevant information about the stock and hence is the same on every exchange. Despite its centrality and its exceptions, it's not widely appreciated that the hypothesis is a rather paradoxical one.

First, let me note that the hypothesis comes in various strengths, depending on what information is assumed to be reflected in the stock price. The weakest form maintains that all information about past market prices is already reflected in the stock price. A consequence of this is that all of the rules and charts of technical analysis are useless. A stronger version maintains that all publicly available information about a company is already reflected in its stock price. A consequence of this version is that the earnings, interest and other elements of fundamental analysis are useless. The strongest version maintains that all information of all sorts is already reflected in the stock price. A consequence of this is that even inside information is useless.

It was probably this last version of the hypothesis that prompted the old joke about the two efficient market theorists walking down the street: They spot a $100 bill on the sidewalk and pass it by, reasoning that if it were real, it would have been picked up already. An even more ludicrous version lay behind the recent idea of a futures market in terrorism.

Adherents of all versions of the hypothesis tend to believe in passive investments such as broad-gauged index funds, which attempt to track a given market index such as the S&P 500. Opportunities, so the story continues, to make an excess profit by utilizing arcane rules or analyses, are at best evanescent since, even if some strategy seems to work for a bit, other investors will quickly jump in and arbitrage away the advantage. Once again, it's not that subscribers to technical charting, fundamental analysis or tea-leaf approaches won't make money; they generally will. They just won't make more than, say, the S&P 500.

So to what degree is the hypothesis true? The answer is surprising. The hypothesis, it turns out, has a rather anomalous logical status reminiscent of Epimenides the Cretan, who exclaimed, "All Cretans are liars." More specifically, the Efficient Market Hypothesis is true to the extent that a sufficient number (sometimes relatively small) of investors believe it to be false.

Why is this? If investors believe the hypothesis to be false, they will employ all sorts of strategies to take advantage of suspected opportunities. They will sniff out and pounce upon any tidbit of information even remotely relevant to a company's stock price, quickly driving it up or down. The result: By their exertions these investors will ensure that the market rapidly responds to the new information and becomes efficient.

On the other hand, if investors believe the market to be efficient, they won't bother. They will leave their assets in the same stocks or funds for long periods of times. The result: By their inaction these investors will help bring about a less responsive, less efficient market.

Thus we have an answer to the question of the market's efficiency. Since it's likely that most investors believe the market to be inefficient, it is, in fact, largely efficient. However, its degree of efficiency varies with the stock, the market and investors' beliefs.

The paradox of the Efficient Market Hypothesis is that its truth derives from enough people disbelieving it. How's that for a contrarian Cretan conclusion?

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