

Comments on: The ‘Noisy Market’ Hypothesis

Jeremy J. Siegel, *WSJ.com*, June 14, 2006, Commentary, page A14

Quotation 1: But as indexed investing gained adherents, cracks were found in the efficient market hypothesis. In the early 1980s, Rolf Banz and Don Keim showed that small stocks earned an outsized return compared to their risks. And, earlier, Sanjoy Basu and David Dreman discovered that stocks with low price-to-earnings ratios had significantly higher returns than stocks with high P/E ratios; small stocks with low P/E ratios (small value stocks) enjoyed particularly outstanding returns. The magnitude of these size- and value-based returns could not be rationalized using the standard asset pricing models of the efficient market hypothesis.

Comment 1: The relevant published research by Rolf Banz, Don Keim, Sanjoy Basu, David Dreman, and others, is a fatal fallacy and a hoax in the sense that the authors knew or had reason to know that their research was neither logically valid nor scientifically valid. The irremediable, material, fatal fallacy is known in econometrics as circular simultaneity. It is a form of the fallacy known as vicious circular reasoning, which has no counter-example and ends a logical argument. See the *IJEB* (2005) article cited below.

Quotation 2: This caused schizophrenia in the financial community. Efficient-market believers still dominate the field of financial research, but many practitioners, including moonlighting academics, recommend that investors overweight value and small stocks in their portfolios. Eugene Fama from the University of Chicago and Ken French from Dartmouth’s Tuck School built a very successful investment firm [Dimensional Fund Advisors Inc] based on slicing the universe of stocks into value- and size-based sectors to market to large individual and institutional investors. [In the Fama-French Three-Factor model of expected total return for stock-portfolio pricing, value is defined as book-to-market equity ratio, and size is defined as market equity.]

Comment 2: The relevant published research by Eugene Fama and Kenneth French is a fatal fallacy and a hoax in the sense that the authors knew or had reason to know that their research was neither logically valid nor scientifically valid. The irremediable, material, fatal fallacy is known in econometrics as circular simultaneity. See the *AEF* (2006) article cited below.

Quotation 3: Since the 1980s, the finance profession has searched in vain for the reason why small and value stocks outperformed the market. Efficient-market diehards maintain these stocks contain deeply buried risk hidden in the historical data. They predict that one day, when a crisis hits and investors critically need to liquidate their portfolios, small and value-based stocks will crumble while large growth stocks will shine.

There is now a new paradigm for understanding how markets work that can explain why small stocks and value stocks outperform capitalization-weighted indexes.

This new paradigm claims that the prices of securities are *not* always the best estimate of the true underlying value of the firm. It argues that prices can be influenced by

speculators and momentum traders, as well as by insiders and institutions that often buy and sell stocks for reasons unrelated to fundamental value, such as for diversification, liquidity and taxes. In other words, prices of securities are subject to *temporary* shocks that I call “noise” that obscures their true value. These temporary shocks may last for days or for years, and their unpredictability makes it difficult to design a trading strategy that consistently produces superior returns. To distinguish this paradigm from the reigning efficient market hypothesis, I call it the “noisy market hypothesis.”

The noisy market hypothesis easily explains the size and value anomalies. If a stock price falls for reasons unrelated to the changes in the fundamental value, then it is likely -- but not certain -- that overweighting such a stock will yield better than normal returns. On the other hand, stocks that rise in price more than their fundamentals become “large stocks” with high P/E ratios that are likely to underperform.

Comment 3: The Noisy Markets Hypothesis (NMH) is the behavioral finance analogue of the Efficient Markets Hypothesis (EMH) of the rationalists. Both hypotheses have comparable theoretical foundation (none) and comparable ideological foundation (much).

Quotation 4: New research indicates that there is a simple way that investors can capture these mispricings and achieve returns superior to capitalization-weighted indexes. This is through a strategy called “fundamental indexation.” Fundamental indexation means that each stock in a portfolio is weighted not by its market capitalization, but by some fundamental metric, such as aggregate sales or aggregate dividends. Like capitalization-weighted indexes, fundamental indexes involve no security analysis but must be rebalanced periodically by purchasing more shares of firms whose price has gone down more than a fundamental metric, such as sales, and selling shares in those firms whose price has risen more than the fundamental metric.

Robert Arnott, editor of the Financial Analysts Journal and chairman of Research Affiliates, LLC, has *published research documenting both the theoretical and historical superiority of fundamentally weighted indexes*. It can be rigorously proved that if stock prices are subject to noise, then capitalization-weighted indexes will offer investors risk-and-return characteristics that are inferior to those of fundamentally weighted indexes. [Italics added.]

I have long advocated the use of dividends in evaluating stocks. Dividends are the only fundamental variable that is completely objective, transparent and unable to be manipulated by managers who tinker with accounting assumptions. (In the interest of full disclosure, I am an adviser to a company [Senior Investment Strategy Advisor at WisdomTree Asset Management, Inc., and a member of the board of directors of WisdomTree Investments, Inc.] that develops and sponsors dividend-based indexes and products.)

The historical data make an extremely persuasive case for fundamental indexing. From 1964 through 2005, a total market dividend-weighted index of all U.S. stocks outperformed a capitalization-weighted total market index by 123 basis points a year and

did so with lower volatility. The data indicate that the outperformance by fundamentally weighted indexes during the same period is even greater among mid-sized and small stocks.

Comment 4: The data-tail appears to be wagging the theory-dog in this analysis. There is silence about the relevant theories of economics and econometrics. What is the citation of the research paper that documents both the theoretical and historical superiority of fundamentally weighted indexes? Dividends are a fatal fallacy and a hoax in any econometric model of expected total return, whether specified as a dividends-entailing explanatory factor (including a stock weight as part of a portfolio-based explanatory factor) or used to form portfolios by grouping a random data sample. See the *AEF* (2006) article cited below.

Quotation 5: Furthermore, dividend-weighted indexes had better risk and return characteristics than capitalization weighted indexes in each industrial sector and each country that I analyzed. Dividend-weighted indexes even outperformed “value cuts” of the popular capitalization-weighted indexes such as the Russell Value and Barra-S&P Value that attempt to choose those stocks whose prices are low relative to fundamentals.

With the advent of fundamental indexes, we're at the brink of a huge paradigm shift.

Comment 5: The fatal fallacy and hoax is invariant to industrial sector, to country, to sample size (number of stocks and years), and to data interpretation (rationalist or behavioralist). In essence, the fatal fallacy is a failure to algebraically isolate the unknown, which in econometrics is the dependent variable in a causal, inferential model equation. What is the citation of the research paper that contains your analysis? What are the specific factors that you refer to as “fundamentals” in this analysis, and what are their operational definitions? Again, dividends are a fatal fallacy and a hoax in any econometric model of expected total return. See the *AEF* (2006) article cited below.

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Coleman, Robert D., (2005), Asset Pricing Simultaneity, Three-Factor Model and Cost Analysis, *Indian Journal of Economics & Business*, Vol. 4, No. 1, (June), 73-94.

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Contents: http://www.ijeb.com/Year2005_June.htm

Article: <http://www.ijeb.com/Issues/data/IJEBv4n1a4Proofs.pdf>

Coleman, Robert D., (2006), Asset Pricing Simultaneities: Phases and Patterns, *Annals of Economics and Finance* 7, 1, (May), 49-76. [Indexed in *eJEL*]

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