

Review of: *Stocks for the Long Run*

Siegel, Jeremy J., *Stocks for the Long Run: The Definitive Guide to Financial Market Returns and Long-Term Investment Strategies*, 3/e, 2002, McGraw-Hill. First edition was published in 1994; revised and expanded second edition was published in 1998. Mr. Siegel is a named-chair professor of finance at the Wharton School of the University of Pennsylvania. This book is cited herein as Siegel (2002).

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Comments

Mr. Siegel reveals his bias in his immodestly subtitled book [Siegel (2002)] by the title to the first part. Historical returns *per se* are merely anecdotal, regardless of the number of years and number of stocks in a sample. He gives us the verdict of history as he interprets it at this stage of history. The verdict of history will not be known until the end of history; and until then, the jury is out. He says nothing about the verdict of logic and the verdict of science, for which the respective juries will reach unanimous decisions.

Mr. Siegel offers no logical, economic or scientific description or explanation of historical stock returns. He offers no causal, inferential, econometric model of stock return. His evidence, research and analysis are neither scientifically interesting nor important. When scientific inquiry and logical reasoning are abandoned, the alternatives are intuition, superstition and enthusiasm.

The book is a clever admixture of fact and fiction. The necessary but not sufficient requirement to avoid two-fold ignorance in this matter is a Ph.D. degree in economics or financial economics with strength in econometrics. Two-fold ignorance occurs when a person is both ignorant about some topic and also ignorant about his or her ignorance. He does not know, and he does not know that he does not know. A person with such advanced formal education who is also perceptive could separate the truths from the partial truths and from the falsehoods and could supply the omitted relevant truths.

The entertaining prose can lull readers into uncritical thinking and complacency. Logic and science are abandoned. Terms with precise, technical meanings are loosely interpreted by the intended audience in their everyday sense with common meanings. The ambiguity and vagueness are difficult to detect by readers who do not know that they do

not know the requisite specialized knowledge in financial economics and econometrics (e.g., probability theory, inferential statistics, and stochastic hypothesis testing).

Mr. Siegel favorably, approvingly cites authors of fatally flawed articles published in academic research journals. When used to describe research journals, the term *academic* means scientific, blind or double-blind peer-reviewed and anonymously refereed. The book mentions at least 20 authors who have either written fatally flawed articles or have favorably, approvingly cited authors of fatally flawed articles, as shown by the selected entries in the index. For example, Messrs. Fama and French (p. 136) are mentioned and cited as the co-authors of an academic paper. It is the first publication of what came to be known as the Three-Factor Model of return. Mr. Stattman is also mentioned and cited, but his paper is not an academic paper in the strict sense.

Mr. Siegel mentions normative price-to-earnings (P/E) ratios. It is impossible to stipulate a so-called normal P/E ratio for an individual stock or for the stock market portfolio that is not arbitrary in the sense that one number is just as right and just as wrong as another number, and no number need be bound by any historical range.

Mr. Siegel defines risk for investors as the difference between the highest and the lowest historic returns. He defines risk for portfolio theory and asset allocation as the standard deviation of average real annual returns. He defines return as total real return.

Siegel (2002, p. 136) states: “A number of academic papers, beginning with Dennis Stattman’s in 1980 and culminating in the paper by Eugene Fama and Ken French in 1992, have suggested that price-to-book ratios may be even more significant than P-E ratios in predicting future cross-sectional stock returns.¹¹” Footnote 11 contains no citation of the paper by Stattman, but refers to it as an unpublished MBA honors paper.

The full citation is Stattman, Dennis W., 1980, "Book Values and Stock Returns", *The Chicago MBA: A Journal of Selected Papers*, Vol. 4, pp. 25-45. It includes a statistical analysis but no econometric model. Footnote 11 also contains a citation of Fama, Eugene F. and Kenneth R. French, 1992, "The Cross-Section of Expected Stock Returns", *Journal of Finance*, Vol. 47, No. 2, June, 427-465.

Mr. Siegel is silent about the first published econometric models with price-to-book equity ratio or its equivalent inverse ratio, book-to-market ratio, as a stock return factor. Rosenberg, Barr M. and Vinay Marathe, 1976, "Common Factors in Stock Returns: Macroeconomic Correlates and Microeconomic Determinants", *Proceedings: Seminar on the Analysis of Security Prices*, Volume 21, No. 1, May 13-14, 1976, Center for Research in Security Prices (sponsored by Merrill Lynch, Pierce, Fenner & Smith Inc.), Graduate School of Business, University of Chicago, includes economy-wide aggregate factors. Rosenberg, Barr, Kenneth Reid and Ronald Lanstein, 1985, "Persuasive Evidence of Market Inefficiency", *Journal of Portfolio Management*, Vol. 11, No. 2, Winter, 9-16, includes individual firm-level factors.

Siegel (2002), Table 8-2 is a variation of the Morningstar Investment Style Box, and both are based on the Three-Factor Model of return. Table 8-2 is a five-by-five table with book-to-market as the vertical dimension and size as the horizontal dimension. Switch the dimensions of the table and interchange the rows and columns, i.e., rotate the table ninety degrees. Eliminate the second and fourth quintiles of the rows and the columns, and this produces a three-by-three table composed of the remaining first, third and fifth quintiles. Size is also known as cap, and book-to-market ratio is also known as style. That completes the transition from Table 8-2 to the Morningstar Investment Style Box.

Science in the sense of scientific inquiry means logic, causality and experimentation. History is not science. There is a history of science, but no science of history. Historical descriptions are not scientific descriptions. Every historical vision has a political ideology. The advantages and disadvantages of different ideas for the productive analysis of history are not discussed by Mr. Siegel.

Mr. Siegel calls his study a historical analysis. The phrase “historical analysis” is ambiguous. It can refer to an analysis of past data using the tools and techniques of the historian, or it can refer to the analysis of past data using techniques other than those of the historian. Such other techniques include descriptive statistics, inferential statistics and econometrics. There is no place in history, statistics and econometrics for vicious circular reasoning or tautologies of logic.

Productive histories, whether in the vision of Herodotus or the vision of Thucydides, have intellectual substance beyond mere chronological ordering. Mr. Siegel is a professor of finance, not a professor of history or economic history. Finance and financial economics are secondary fields in the primary field of economic sciences. To support his illogical argument, Mr. Siegel cites authors of scientific articles published in academic research journals of finance and financial economics. Published empirical scientific studies in finance and financial economics use econometrics and financial econometrics as part of their analyses to test their hypotheses. Mr. Siegel is not known to have acquired the specialized expertise of a historian. The analysis of Mr. Siegel is historical only in the chronological sense of the past in contrast to the present and the future.

Econometrics is a method of causal inference applied to economics. A large part of econometrics is diagnostic testing of models. Diagnostics can be used to detect and reject

fallacies and biases. Fallacies can be identified and removed. Biases can be identified, but not all biases are avoidable. Avoidable biases can be removed. Unavoidable biases must be reported as part of the research findings in the discussion of diagnostics. In advance of model testing, diagnostics can be used to identify and reject fatal fallacies such as vicious circular reasoning. There is no scientifically valid way to econometrically test models containing vicious circular reasoning, and such models can be diagnosed and rejected before testing.

In both history and science, historical returns can be described using factors alleged to determine returns. There is no rational way to describe historical returns using viciously logically circular factors, and there is no scientific way to describe or explain expected future returns using viciously logically circular factors.

An argument such as that in Siegel (2002) that alleges the size and value factors are sources of stock returns is analogous to a study reporting that marital divorce results in two divorcees, and furthermore, that the number of female divorcees equals the number of male divorcees. Such vicious circular reasoning is devoid of intellectual substance and does not serve even beneficial pedagogical purposes. So-called historical analysis that is tautological in logic cannot be valid as logical, finance, economic, econometric or scientific analysis. The analysis may be written entertainingly in the guise of a historical study, but it is not useful analysis. There is no logically meaningful way to either describe or explain total returns by factors related to size, value or dividends, regardless of what the analysis is called or how entertainingly it is presented to an audience of unwary readers who do not have the requisite specialized knowledge to discern the fatal flaws.

This book is not recommended for studious investors. It is confused and confusing. It is misled and misleading. It commits major errors of both commission and omission. It actively perpetuates the biggest hoax in stock market history, the Three-Factor Model of return, which is the end of a grand design based on price-, shares- and dividends-related factors in econometric models of expected total return for stock-portfolio pricing. Such factors in econometric models of return are irremediably, materially, fatally fallacious, due to vicious circular reasoning in the form of something in introductory econometrics known as circular simultaneity.

Every field of study has its history and its historical data. Historical data in a scientific field of study can be either historically analyzed or scientifically analyzed. History and historical analysis can be instructive, but only science and scientific analysis are reliably predictive.