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## INSIGHTS

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“Insights” features the thoughts and views of the top authorities from academia and the profession. This section offers unique perspectives from the leading minds in investment management.

### THE INEVITABLE BAGGAGE WE DISPLAY

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*Until the point at which investment models began melting, too many investment practitioners operated within a myopic belief system that failed to contemplate certain fundamentals that are rigorously observed in other scientific disciplines. Flaws crept into our research under various headings of convenient simplification, behavioral finance, and statistical tools. Biases influenced our work leading to conclusions that, in retrospect, should logically have been suspect. We are writing a new chapter of economic history where the future will, quite likely, be unlike anything we can remember from the past. We can no longer assume that the best forecast of the future is the present condition; that autocorrelation is the rule of the day; and that, of course, the future repeats the past. We must recognize our biases and understand their influence on our work.*



#### 1 Introduction

Like the quest of *Journal of Investment Management* in this series to foresee the future of finance, I have spent a professional lifetime looking around corners to anticipate the future to aid clients and, not incidentally, to get there before competitors. But, today, I am one who believes we are writing a new chapter of economic history where the future will, quite likely, be unlike anything we can remember from the past. Our best rough guide may be long wave cycle patterns like those suggested by Nikolai Kondratieff (Russian economist, 1892–1938) in

which the west, perhaps the economic world, will be in a double-decade-long economic winter. It is better to be humble and flexible at this stage than to program an outcome likely to be wrong.

Meanwhile, we cannot be inert. We must apply our talents to useful purposes somewhere. I suggest we correct some of the flaws that have crept into our research under various headings of *convenient simplification, behavioral finance, and statistical tools*. In other words, we should clean house before we design and build a new one.

When readers invest their time and attention in a research paper in JOIM or in another serious journal in their field, they have a reasonable expectation that the work is balanced, unbiased, grounded in

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data, and with conclusions that can be retested. We understand that scientific conclusions need to be tested for their bounds, but those tests should be internal to the proposition, not related to the background of the researcher. And we often note an implied confidence of authors as they report results to the *n*'th decimal, conveying greater significance than might be warranted by the tools being used.

All of us have acquired biases that creep into our work, often without a conscious thought on our part. We cannot eliminate that which we do not recognize. We hear the repeated reminders of other researchers to be careful. Werner Heisenberg (German theoretical physicist, 1901–1976) reminded us that the researcher is often more important in determining a result than the data, and I doubt he was limiting his comment to high energy physics in Germany. More closely related to our field, John Maynard Keynes (British economist, 1883–1946) advised us to look at the judges rather than the beauties if our challenge is to forecast a contest.

There are at least two main types of bias that we acquire: those we know and can guard against, many of which persist for ease or convenience; and those that are unknown, which can produce more insidious—because they form the foundation of our thinking—errors. To that end, I present a list of biases influencing our work and leading to conclusions that must, logically, be suspect.

## 2 The Biases

- *The stability of data bias.* The frequent assumption of stability of data through time rather than allowing for dynamic change—a statistical ease—is a static methodology that produces a result that may be convincing on the surface but is inherently likely to change.
- *The imprint bias.* Some relationships are imprinted on our minds and may become intuitive whether or not they fit. For example, time is often shown on the X or horizontal axis, expressed in equal units.
- *The continuous time bias.* The notion of continuous time is novel to other sciences but, in ours, it is an unchallenged given. In the natural sciences, time is a complex and unknowable subject. It may be continuous with correlations from history projectable into the future; or it may be discontinuous exhibiting sharp breaks from one period to another and even, upon occasion, illustrating repetitive cycles. These scientists remind us that any random number series with a defined start and stop will have patterns within the data that look suspiciously suggestive of information ... when, in fact, they are just random. In finance we tend to see time as continuous without a serious challenge to the assumption.
- *The time-is-good bias.* Time has usually been given an upward tilt reflecting the notion that as time progresses (does it progress or lurch?) it does so in even increments toward improvement. We believe that time is good for financial instruments ... we expect them to go up and to the right on most charts.
- *The long-term bias.* Traditional investors may hold the perception that a long-term investment return is better than a series of short-term returns. The perceived difference may partly be due to the insertion of a moral issue ... a long-term investment may contribute more to capital formation than those of shorter—speculative—durations. And, even within accepted performance measurement guidelines, computations of a series of short-term averages frequently use different asset amounts, different periods, different benchmarks, and even different marketing objectives. We should guard against the accidental adoption of a long-term bias by ensuring that our tools are neutrally selected.

- *The causality bias.* Do we recognize the difference between data that is coincidentally correlated and that which is causal? I suspect not. Rather, when we note data that supports our conclusion, we readily assume causality. There are statistical tests of course but, as observed by Darrell Huff in *How to Lie with Statistics*, 1954: “If you torture the data long enough, it will confess to anything.”
- *The U.S. data bias.* We know that testing using U.S.-only data bases is flawed, but the data is more readily available and at lower cost.
- *The U.S. dollar bias.* Currency is often expressed in dollar terms even when the audience is not solely U.S. because the dollar is, after all, the world currency ... at the moment.
- *The size bias.* For many of my years investing in U.S. markets, we accepted the size effect although we tolerated sign changes. During the “nifty fifties” it was understood that large size mattered and was a “good.” In the founding days of Batterymarch Financial Management, during the late 1960s, we were able to pick off tiny companies with good balance sheet and cash flow features. For fun, we used to summarize the characteristics of the smaller stocks and compare them to a single large one. Typically a handful of small stocks would sell at a 90% discount to a comparable member of what we call today “too big to fail”. They are not too big to fail.
- *The momentum bias.* Deep-down we are all momentum traders, sometimes positive and sometimes negative, looking for a contrary bargain. Some asset classes carry added risks that are not always factored in. With foreign exchange, for example, central banks—also in the game—can make quick, unlikely, and long-term rebalancing decisions.
- *The preconception bias.* There can be classes of securities that hold on to their shibboleths long after they have worn out their usefulness. Farms, for example, seem incorrectly priced, at least

along institutional guidelines, after adjusting for non-scalable carrying costs.

- *The sticky bias.* Included in the unknown biases that may infiltrate our research is the *stickiness* of classifications. We become so accustomed to a category and its industries, such as growth and technology, for example, that we throw individual companies into the selections that, often, the data does not warrant. Companies morph without our taking notice.
- *The policy bias.* Portfolio policies should not be iron mandates to be followed slavishly. Rather they should be a guide for investing and the style for performance measurement ... little more.

Our own market psychological experiences are a collection of anecdotes, with an internal vow not to repeat the mistakes. Yet our published stories are often the glories of success. Few of us balance these in a disciplined manner.

It is possible, likely in fact, that finance is a complex of human emotion, scientific data, and structural relationships in a soup that is continuously in motion with occasional state changes. Within this soup, we specify characteristics in a one-to-one relationship in order to simplify illustrations of our conclusions. More than occasionally, marketing considerations influence our desire to document the undocumentable.

Today, much of our research is unwinding the simplifications—and false sense of scientific precision—we made in the days of modern portfolio theory (MPT) and the now-maligned Capital Asset Pricing Model (CAPM). The fallout includes more fluid definitions. What was once a measure of volatility, or systematic risk, beta is now risk of loss or, as some have learned recently, risk of a cash call. And, as a measure of the correlation of a security price over time with some market measure—a measure of independence from market moves—alpha is not necessarily a “good” as is often assumed.  $R^2$  is intended to measure the market component

of a security and does, but with difficulty, at lower portfolio samples.

In finance, we frequently assume the best forecast of the future is the present condition and that

autocorrelation is the rule of the day. Since it is hardly the rule in other sciences we should question our data more completely before accepting a convenient rule that, of course, the future repeats the past.