



Seeking Certainty in an Uncertain World

“Complex human activities do not lend themselves to automation. Computerized learning systems have not replaced teachers; income tax software has not created unemployment among accountants. Most human activities call for an exercise of judgment....”¹ *Dr. Alexander Elder*

The Information Revolution (or Digital Revolution, if you prefer) is today’s analog to the Industrial Revolution of the late 19th century. Gaining momentum during the latter half of the 20th century and extending into the 21st century, this period saw rapid development and utilization of scientific knowledge and of exponential increases in computational power, ostensibly to enhance or improve our daily lives. Examples abound – mobile phones, iPads, navigation systems and the ubiquitous Internet of Things. Today, the unbridled collection of data and applications of “big data” confront you each time you open your internet browser! Much of this development is attributable to an increased emphasis on mathematics during the 20th century; the science of quantitative relationships using numbers and symbols.² In turn, this emphasis on the quantifiable has reinforced notions of specificity – the idea that things can be measured or quantified and that the application of statistical analysis or algorithms can be relied upon to provide a higher degree of certainty in an uncertain world. This formulaic, analytical approach has manifested in economic analysis and security valuation, fostering the idea that we have the ability to identify and potentially mitigate or capitalize on deviations from the mathematically determined relationships between two or more things (events).

We often are blind to the limitations of such calculations when they are presented in convincing ways. When presented with quantitative or statistical information, we tend to accept the conclusions at face value. After all, the man in the doctor’s coat assured us the medication is “99% effective”... These calculations are predicated on assumptions – the size of the data sample, the quality of the data, rounding errors, etc. and can lead to confusing correlation with causality....

¹ The New Trading for a Living, Dr. Alexander Elder, John Wiley & Sons, 2014

² <https://math.iupui.edu/math/undergraduate/whymathematicalsciences>



Regrettably, human beings have emotions and free will, both of which compromise the predictability of linear, rational mathematics. Nobel Laureate Daniel Kahneman (*Thinking Fast and Slow*) and Richard Thaler (*Nudge*) were early proponents of what we now refer to as Behavioral Economics. Their work, and that of others, has demonstrated beyond reasonable doubt that our emotions and inherent biases tend to have an unduly large influence over our actions. Some simple examples include the *endowment effect* our aversion to incurring financial losses from securities we own (“hold on to the stock, it’ll come back!”); *recency bias* – the tendency to place greater emphasis on recent events; and *confirmation bias* - our tendency to believe information that confirms our view rather than remaining objective.

Nowhere does this fallacy of certainty hold more true than in the stock and bond markets. Reassured by statistical measures of risk, we are shocked and dismayed when idiosyncratic or exogenous events cause a 25% plunge in the value of global equities. Refusing to look at our brokerage statements affords a false sense of security and maintaining the status quo is far easier than re-evaluating whether incremental adjustments need to be made to insure that our financial assets remain aligned with our longer-term life goals. No, it is far easier to succumb to our emotional responses and ignore the change in circumstances - like an ostrich burying its head in the sand - or to just react – sell everything before we lose any more of our money.

These are not easy times and are certainly not like anything I have witnessed in 40 years of being a professional engaged in the securities markets. It may be uncomfortable, but NOW is the time to talk to your financial advisor, take stock and make sure you are positioned for YOUR future.

Oh, and take the numbers with a grain of salt....!

For more on the nature of exogenous events and their impact, you may be interested in Nassim Taleb’s book, *Fooled by Randomness*, Random House, 2005.

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