

On Why Investment Performance Should Be Reviewed (At Most) Once A Year

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The value we place on a bottle of water is higher when we're parched than when we're quenched. In other words, consumption has time value. Generally speaking, consumption is worth more to us now than later. So, like money, we discount its future value. This concept is what economists refer to as "inter-temporal choice" or "discounted utility".

Originally theorized by economist Paul Samuelson in 1937, this economic theory presumed people would behave rationally by discounting future consumption at a constant rate (e.g. 10% per year) such that their preferences would not change over time. For example, if we were guaranteed a choice of one of the following (a) tickets to this year's American Division League Series (ALDS), (b) tickets to the 2017 American League Championship Series (ALCS), or (c) tickets to the 2018 World Series, and we valued these tickets in the following order (1) 2018 World Series, (2) 2017 ALCS, and (3) this year's ALDS, our value order preference should not change over time. In other words, one year from now, we should still prefer the 2018 World Series tickets to the 2017 ALCS tickets. Unfortunately, there are limits to this theory because there are bounds or limits to human rationality. No one can behave rationally all of the time.

Behavioral economists have found that we tend to discount the future at varying rates (e.g. 30% discount one year from now, 10% discount two years from now, 5% discount three years from now, etc.), implying that we disproportionately distort the present value and significance of events and things. We exhibit what behavioral economists call "present bias" due to impatience or lack of self-control. Influenced by present bias, we change our minds in spite of our preferences. A present bias in the baseball tickets example might go as follows: while our preference is to attend the 2018 World Series, if the 2017 ALCS is now upon us, we would irrationally change our mind, take the 2017 ALCS tickets (for instant gratification) and forego the 2018 World Series tickets. This is considered irrational because nothing has occurred to change our general preference for World Series tickets over ALCS tickets except the passage of time. We have abandoned our preference, become impatient and given in to a lesser temptation. In our desire for instant gratification, we have temporarily elevated the value of the 2017 ALCS tickets above the value of the 2018 World Series tickets. Imagine our level of post-purchase dissonance a year later when we learn our favorite team is in the 2018 World Series.

Baseball tickets are trivial but financial health is not. “Present bias” can be hazardous to financial health. It can lead to overestimating the significance of what is said by the financial media. Present bias can cause overreactions to good or bad performance of a single investment or a portfolio of investments, and thus lead us to extrapolate this good or bad performance into the future. Overemphasis and overvaluation of the present is a product of short-term thinking (or no thinking at all), which is something that far too many of us indulge in with respect to investing. If we are overvaluing the present, then we are also likely to be undervaluing the future (and the past). Moreover, time is an abstract concept that does not exist on a timeline. Basing any type of investment decision on personal biases at an abstract moment in time is a recipe for disaster.

To illustrate my next point, I have adapted an experiment from Richard H. Thaler’s book, *Misbehaving: The Making of Behavioral Economics* (2015) that I call the “The Tree and The Forest”. Mr. Thaler is a professor of behavioral science and economics at the University of Chicago Booth School of Business, the current president of the American Economic Association, and (along with psychologists Daniel Kahneman and the late Amos Tversky) is considered to be one of the founders of the field of behavioral economics. To briefly digress, although he spent almost the first half of his career at Cornell University, it is pleasingly ironic that Thaler’s academic home of the past 21 years is the birthplace and staunch defender of mathematically based neo-classical economic theory and the concept of rational human behavior.

Back to “The Tree and The Forest”. Suppose I offered you a single investment opportunity in which there is a 50% chance of losing \$50,000 and a 50% chance of gaining \$100,000. Would you accept this offer? Now, suppose I offered you 100 single investment opportunities, each with a 50% chance of losing \$50,000 and a 50% chance of gaining \$100,000. Would you accept this offer? Most people reject the first offer but accept the second one, which is odd given that each offer has a positive average expected outcome -- \$25,000 and \$2,500,000 respectively. According to Thaler, Kahneman and Tversky, the reason why the first offer is usually rejected is that people tend to focus too much on the loss potential (i.e. suffer “myopic loss aversion”) because people dislike losses about twice as much as they like gains.

The reason most people accept the second offer is because it is extremely unlikely that they will lose money. Like flipping a coin 100 times, the number of investments that produce a gain will tend to average 50, producing a total net gain of \$2,500,000. Regarding this second offer, the chance of losing any money is just 1 in 2,300, the chance of losing more than \$250,000 is about 1 in 62,000, and the chance of losing money on all 100 investments is so infinitesimal that it requires scientific notation to quantify (approximately 1 in 1.267×10^{30}). In light of this information, it is irrational to the point of insanity to reject the 100-investment offer. But if the second offer is merely a bundle of 100 single investment offers, it is also irrational to reject the single investment offer. After all, each investment is independent, uncorrelated and economically identical. To paraphrase Thaler, “The only way you can ever accept 100 attractive investments is by first accepting the first one, and it is only thinking about the single investment in isolation that fools you into rejecting it.”

Experiments cited in *Misbehaving* clearly indicate that “present bias” and “myopic loss aversion” have negative effects on investor decisions and investment outcomes. One experiment

showed that the more often people looked at their investments, the more loss averse they became because they would myopically focus only on the losing investments. Another experiment involved participants acting as portfolio managers that were given two investment choices for their portfolios: (1) a riskier one with higher potential returns – i.e. stocks; and (2) a safer one with lower potential returns – i.e. bonds. The only variable in this experiment was how frequently the participants got to look at the performance results of their portfolios. Due to myopic loss aversion, the more often participants looked at their results the more cautious they became, swapping stocks for bonds. For example, participants who saw their results eight times a year, invested only 41% of their portfolio in stocks, while participants who saw their results just once a year invested 70% of their portfolio in stocks – the riskier asset. This behavior is consistent with the behavior people exhibit in “The Tree and The Forest” example above. While bonds can outperform stocks in any given year, stocks will outperform bonds over several years. In fact, based on research conducted by Jeremy J. Siegel in his book *Stocks for the Long Run* (2002), between 1802 and 2002 stocks outperformed T-bills by an average of 5.4% each year. This is known as the “equity-risk premium”. And for some reason, the average equity-risk premium has been higher during recent history (e.g. it was 8.4% between 1926 and 2002). Thaler’s research implies this is because investors look at their portfolio returns too often.

A related experiment cited and conducted by Thaler in *Misbehaving* sought to determine “how often investors would have to evaluate their portfolios to make them indifferent between stocks and bonds, or to want to hold a portfolio that was a 50-50 mixture of the two assets.” The answer was... about a year.