The Fallacies of Our Mind **August 2016**

Imagine that you are at the airport and boarding has just been announced. You see that 10-15 people have rushed to the boarding gate and formed a queue; although the gate is yet to open. Within the next two minutes, another 10-15 join the queue. If you are like most other people, you would also be heading for the queue (or would have probably joined the queue) by now, despite the gate not having opened as yet. Ten minutes have passed without any activity at the gate; you are now at the center of a 60 people long queue and the laptop bag on your shoulder has started pulling its weight on you. You wonder if you should go back to the comfort of your seat as the queue doesn't seem to be moving. But then you think about the time you have spent standing in the queue. You thus decide to endure and continue standing in the queue, as going back to your seat would mean that the effort you have put in so far goes to waste. A similar narrative could be chronicled about disembarking once your flight lands at its destination.

In either case, you could have chosen the comfort of your seat from the beginning. You could have joined the queue either once it started moving, or better still, once most people were through. However, the moment you saw more than a handful people forming a queue, a voice in your head started pushing you towards the queue. Even if you tried to sit back and read a book, the voice would continue to pester you to join the queue, forcing you to check the queue every few minutes, until you figured that you can't read anymore and decided to join the queue. Your mind would be at peace agonizing with a crowd rather than sit comfortably, but alone. Boarding/disembarking the aircraft at the earliest would have given you a sense of achievement, even after knowing the fact that the doors wouldn't close until the last passenger had boarded/disembarked the aircraft respectively.

Often, it is easier to feel good about being a part of a large group rather than doing the right thing. This, the above, and a number of other logical fallacies have been the subject of a number of studies in the last half century; paving the way for a new branch of finance called Behavioral Finance.

Traditionally, success in investing would have been attributed to having an analytical and informational edge[1]. However, contemporary view adds a third dimension – behavioral. The vice of lures, traditionally found in religious texts, now finds a mention in most modern financial literature. While a broad and expanding subject, we initiate our discussion on this subject with some of the most common and most lethal behavioral pitfalls.

Overconfidence Bias

The overconfidence effect is observed when people's perceptive confidence in their own ability is greater than their objective (actual) ability to perform a given a task. Consider the following text from Rolf Dobelli's *The Art of Thinking Clearly*:

> How much confidence should we have in our own knowledge? Psychologists Howard Raiffa and Marc Alpert, wondering the same thing, have interviewed hundreds of people in this way. They have asked participants to estimate the total egg production in the U.S., or the number of physicians and surgeons listed in the Yellow Pages of the phone directory for Boston, or the number of foreign automobiles imported into the U.S., or even the toll collections of the Panama Canal in millions of dollars. Subjects could choose any range they liked, with the aim of not being wrong more than 2% of the time. The results were amazing. In the final tally, instead of just 2%, they were off 40% of the time. The researchers dubbed this amazing phenomenon overconfidence.

[1] legally, having an informational edge would entail doing on-ground research, going beyond information captured in annual reports and press releases. Arguably, it could also entail having a longer time horizon compared to the average investor, as you would then be looking at information (forecast) that is beyond of scope of study for most investors.

…In another survey, 93% of the U.S. students asked estimated themselves to be 'above average' drivers. And 68% of the faculty at the University of Nebraska rated themselves in the top 25% for teaching ability.

A rather high confidence in one's own ability can have catastrophic results, especially in the field of investing. In its most extreme form, overconfidence is usually accompanied by excessive leverage, and followed soon by a disaster. One well-documented example is that of Long-Term Capital Management (LTCM) that used excessive leverage to back its confidence in an efficient market.

If is further observed that the degree of overconfidence is usually higher amongst experts. Thus, the next time you attempt at making a forecast, be aware that you tend to overestimate your knowledge; be even more skeptical if those forecasts come from so-called experts. For investors, it is important that assumptions are tested, initially for deviation from history/base rates and later with actual outcomes (documenting the deviations can help in understanding the degree of overconfidence). Investors could also do well in working with pessimistic scenarios to overcome this bias.

Herding / Confirmation Bias

Humans are social by nature. We like to group-think. To quote John Maynard Keynes, "Investors may be quite willing to take the risk of being wrong in the company of others, while being much more reluctant to take the risk of being right alone." This tendency, known as herding, is what pushed you to join the airport queue the moment you saw a group of people standing in a formation.

Consider the following text from Rolf Dobelli's *The Art of Thinking Clearly*:

A simple experiment carried out in the 1950s by legendary psychologist Solomon Asch shows how peer pressure can warp common sense. A subject is shown a line drawn on paper, and next to it three lines – numbered 1, 2 and 3 – one shorter, one longer and one of the same length as the original one. He or she must indicate which of the three lines corresponds to the original one. If the person is alone in the room, he gives correct answers – unsurprising, because the task is really quite simple. Now five other people enter the room; they are all actors, which the subject does not know. One after another, they give wrong answers, saying 'number 1', although it's very clear that number 3 is the correct answer. Then it is the subject's turn again. In one third of cases, he will answer incorrectly to match the other people's responses.

Further research into the subject provides interesting insights. Not only do we prefer making decisions that are in line with a group, we feel pain and agony in going against a herd. For instance, in *The Little Book of Behavioral Investing*, James Montier highlights experiments that were conducted while the subjects were undergoing brain scans (MRI). In one of the experiments, similar to the one described above, it was observed that that when people went with the group answer they seemed to show a decrease in activity of the parts of the brain associated with logical thinking and increased activity in the part of the brain associated with fear and emotion. Simply put, they seemed to stop thinking. In another experiment, a subject was asked to be a part of the three player game in which the other two players were actors. After a while, the two actors start ignoring the subject in the game. This social exclusion generated brain activity in the regions which are also activated by real physical pain. Thus, doing something different from the crowd is equivalent to having an arm broken.

As painful as it may be, investors would be better off in going contrarian to herds. Herding is one of the primary causes of bubbles and panics. From the Tulip mania of the sixteenth century to the global financial crisis of the twentieth century, history is replete with examples of the irrationality of crowds. Blindly following the crowd is detrimental to investment performance. To quote Sir John Templeton, "*It is impossible to produce superior performance unless you do something different from the majority*," or to quote John Maynard Keynes again, "*The central principle of investment is to go contrary to the general opinion on the grounds that if everyone agreed about its merits, the investment is inevitably too dear and therefore unattractive*."

Many a fortunes have been made, and saved, in going against the crowd. While a painful endeavor, *No Pain, No Gain*, as they say.

Loss Aversion/Sunk Cost Fallacy

Our brain seeks comfort over pain. We constantly look for the easier way out. In investing parlance, we seek loss minimization over profit maximization. Going back to the airport example, you chose to continue to stand in the queue instead of breaking out of it and sitting in comfort. You were constrained by the effort you had put in standing in the queue so far, rather than motivated by the comfort of a chair – *loss minimization over profit maximization*. This tendency to continue performing an action because you spent some effort on it is called as a sunk cost fallacy. Corporates tend to exhibit this when make additional investment in a loss making project just because they are already invested in it (*putting good money behind bad money*). Investors averaging down a losing position in order to reduce losses (and not because they continue to find the fundamentals attractive) also exhibit the sunk cost fallacy

Loss aversion, on the other hand, is a tendency to avoid losses. How often has it happened that investors have not resisted taking profit but have been reluctant in exiting a loss making investment – *selling your winners and holding on to your losers*? Our brains are wired such that we feel much more pain in taking a loss compared to the joy we feel in taking a profit of a similar amount. Consider the following text from James Montier's *The Little Book of Behavioral Investing* to understand the extent to which we dislike losses:

> This time, let's toss a fair coin. If you loose you must pay me $100.
>
> What is the minimum amount that you would need to win to make that bet attractive?
>
> Let's assume you can only deal in one dollar units. The rational response is therefore an answer above $100. In fact, if you are risk neutral you should be willing to play for $100. However, when I ask this question I generally get a much, much higher response than $100. In fact, the average response from the 600 fund managers who have taken my test is just over $200. That is, they need to win twice the amount they may lose before they will consider this a good bet.
>
> This result is typical for such a question. In general people hate losses somewhere between two and two -and-a half times as much as they enjoy equivalent gains. This is a property known as loss aversion.

Thus, emotionally, a profit of 100 is not the same as a loss of 100. Investors would be much better off if they evaluated each investment on its merit at the current market price, rather than fixating on the price at which they bought the investment. It's the incremental that matters in investing.

To Sum It Up….

From optical illusions to logical delusions, our brain tricks us all the time. A lot of our 'instincts' are inherited by us in the process of evolution. While moving in herds and being fearful were important for the survival of our hunter-gatherer forefathers, they are detrimental to an investor's well-being. While we cannot re-wire our brains, it is important that we understand its shortcoming and design an investment process that helps us overcome these emotional hurdles. We will follow up with more such hurdles and some measures to overcome them in the coming months.

Until next month,

Team Tamohara

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