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### **Investor Psychology Series** ***Trying to predict the market***

Most mistakes that cost investors money are not due to ignorance or laziness, but to psychological baggage that leads us to ask the wrong questions and then make the wrong conclusions, especially conclusions about the future. These *thinking errors* fall into three major categories, which behavioral finance gurus call: (1) heuristic-driven bias, (2) frame dependence, and (3) inefficient markets. In this series of articles this week, we will try to understand these common thinking errors that keep us from achieving success in the markets. Let's start with a real story, one which relates to a conversation between a US TV journalist and Barton Biggs, global market strategist for Morgan Stanley...

*Biggs: My view is that we're at the very tag end of a super bull market. That means the prudent person who's thinking ahead toward retirement should assume that over the next five to ten years the total return from his equity portfolio is going to be in the 5% to 6% a year range.*

*Journalist: Not the 15% to 20% we've come to love and expect? (in the 1990s)*

*Biggs: Right. It's very late in the game.*

*Journalist: Trouble is, it's looked that way for a long time.*

*Biggs: Yes, but it's never looked as much that way as it does right now.*

*Journalist: It's been better to have been a novice than a professional the past few years, because people with the most experience have been the most cautious. But markets do regress back to the mean (return to their long-term average performance), and I guess we are late in the ball game. This is the longest period we've ever had with such high returns from equities, and I can't believe it's a new era that will just keep going forever. I don't know if returns going forward will be 7% or 8%, but I'm pretty sure they will be below average.*

## **Law of *Small Numbers*?**

This interview raises many important issues that illustrate the idea of heuristic-driven bias. We can start with the last few sentences in the Journalist's remarks, where he predicts below-average returns. What's his rationale? Well, he says markets regress back to the mean and points out that this is the longest period we've ever had with such high returns.

Is a prediction of below-average returns appropriate? A human psychologist specializing in behavioral finance would say NO, that the journalist is underestimating the market with this prediction. Why? It stems from a human thinking error called *gambler's fallacy*. If five tosses of a fair coin all turn out to be heads, most gamblers will bet the next toss will be tails, with the unreasonable reasoning that tails is due.

Gambler's fallacy can be proven in the classroom. If a class is divided into two groups, the first group asked to toss a real coin 100 times and record the series of heads/tails, and the second group is asked to simply predict the head/tail outcome mentally without really tossing a coin. Invariably, the real tossers will be surprised by the long strings of head after head or tail after tail, while the mental tossers will more evenly distribute their heads and tails without ever having more than four of each in a row.

Gambler's fallacy arises because people misinterpret the law of averages, technically known as the law of large numbers. They think the law of large numbers applies to small samples as well as to large samples. Let's go back to the journalist's view of market returns in the conversation above, where he tells us he is, pretty sure they will be below average. The comments were made in 1997, and as we know now, the DOW gained 31% in 1997 (after rising 33.5% in 1996 and 26% in 1995). In fact, a severe bear market was still about 4 years away. The idea of regression to a mean isn't well understood. Technically, it means results will tend to gravitate back toward the long term average, but not necessarily bounce to the other side of the average.

## Overconfidence

The last comment we'll explore today is the comment Biggs makes in his statement that he is pretty sure-- which is an example of one of the most dangerous of all thinking errors-- *overconfidence*.

Let's start with another quiz...

Question: *The Dow Jones Industrial Average (DOW) does not take into account dividends of the companies in the index. Predict, within a range you are comfortable with, the value of the Dow (around 10,000 today) if it would have been designed to reflect reinvested dividends since inception. The DOW commenced at a value of 40 in 1896. Write down your best guess and a range of high to low you are comfortable with.*

If people were what behavioral finance psychologists call well calibrated, then they would extend the range of their guess to reflect their ability to make reasonable predictions. That is, if they admitted their ignorance or inability to make a sound guess, their range would expand very wide. In this case, I'll bet you were too confident and gave an answer with a range too narrow to include the correct answer, which is a DOW of about 750,000! Remind someone of this number whenever they tell you dividends aren't important to long-term investors!

Oddly enough, behavioral finance psychologists have determined that investors are at the same time *overconfident* and *overly conservative*. We guess with too much confidence, and our guesses always tend to be too low. Here's another demonstration to drive home the point...

Game: *Imagine 100 bags, each with 1,000 poker chips. 45 bags contain 500 black chips and 300 red chips, while the other 55 bags contain 300 black chips and 700 red chips. You can't see inside the bags. You are asked to select a bag at random and answer the following questions:*

1. *What probability would you assign to the event that the selected bag contains predominantly black chips?*
2. *Now imagine that 12 chips are drawn, with replacement, from the selected bag. These twelve draws produce 8 blacks and 4 reds. With this new*

*information, how would you revise your probability that you have selected a bag containing predominantly black chips? What new probability would you assign.*

This problem is quite similar to the task faced by stock market analysts. The bag is like a company that in the future may operate in the black or in the red. So in accordance with generally accepted accounting colors, black chips stand for profits and red for losses. Analysts start out with information that leads them to form their initial opinion. In this case, your assigned probability that your bag has more black chips. The most frequent answer is 45%, so your company is initially more likely to produce losses than earnings.

The second question is a lot more difficult than the first. The drawing of 8 black chips and 4 red chips in your 12-chip sample is akin to a positive earnings announcement. So, now the question is how to you adjust your opinion with this new information? The most frequent answers are 45% and 67%-- some sticking to their original guess where 45% represents the number of bags with more black chips, and some making an adjustment to 67% representing the number of black chips drawn in the 12-chip sample (8 of 12).

Both guesses are illogical. Since 45% represents only the original guess with then limited information, to stick to this guess when important new information is offered is foolish and ill-fated. Likewise, the 67% guessers have focused on only the additional information from the 12-chip draw, and forgotten the initial information altogether. What is the correct answer? Would you believe 96.04%? Of 100 analysts or investors asked this question, none would guess high enough. Most people make adjustments that are too conservative when positive information is received. This probably explains why one positive earnings surprise often leads to several more positive surprises, because the initial adjustment was too conservative (but made with great confidence, even though it was illogical).

That's enough for today, but we'll continue this discussion throughout this week as we explore several more *thinking errors* that cost investors money!

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*The author, Curtis J Montgomery, is no psychologist, and thus has committed most of the illogical mistakes we will discuss this week. These ideas are gleaned from a book by Hersh Shefrin, Beyond Greed and Fear, published in 2000 by Harvard Business Press.*