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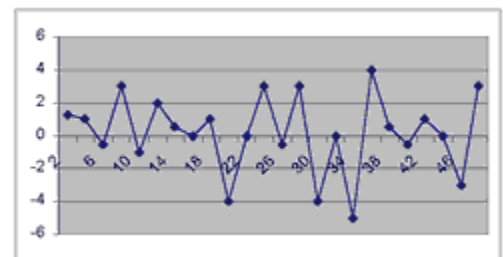
Investor Psychology Series **Frame Dependence & Technicians Super Flaw**

We finished up our first article in this series with a discussion about overconfidence of investors and analysts, even as they have strong tendencies towards over-conservatism. Let's hammer home that last point with one more quiz before we dive into another common thinking error, what psychologists call frame dependence...

In this quiz you will be asked to write down (don't cheat!) answers to five wide-ranging questions. You aren't expected to know the exact answers, so answer with a range (high and low) you are comfortable with. Don't make the range too narrow, or you will appear overconfident, and don't make the range too wide so that you appear underconfident and totally ignorant. Here's the 5 questions...

1. *How long, in days, is the gestation period of an Asian elephant?*
2. *How deep, in feet, is the deepest known point in the ocean?*
3. *A stock price chart shows a general uptrend from a starting point of \$7.50/share at month 1. It peaks at month 24 around \$9.00/share, then falls to \$8.00 at month 33, finally to rise sharply to a new high of \$9.50 by month 48. What is your prediction for the share price value six months beyond this 48-month period?*
4. *A stock price chart shows a gradual downtrend from a starting point of \$3.00 and trading in a narrow range of \$3.00 to \$3.75 over the next 35 months, then slowly tails off to a low of \$2.00 by the end of month 48. Predict the share price value six months beyond this 48-month period.*

5. *The chart to the right describes the dollar change in share price for a particular security over a 48-month period. What is your prediction for the average change in the share price, per month, for the six months beyond this 48-month period.*



The answers are: (1) 645, (2) 36,198 feet, (3) \$10.30, (4) \$3.08, and (5) \$0.83.

Now, as we discussed in the first article, if you are well calibrated (you admit your own ignorance and reflect it in wide ranges to compensate for little knowledge, and narrow ranges only when you have reliable knowledge), then you should not miss more than 1 answer above. Most people miss at least three, and usually miss them on the low side. Why? Because people tend to be overconfident (ranges too narrow), and over-conservative (don't project high end of range high enough). In fact, only 1 in 100 people answer 4 correct, meaning 99% of us are overconfident!

Making Frame-dependent Predictions

This thinking flaw is seen in the stock markets quite often, even by very smart people. On 1 January 1997 the S&P 500 (largest stocks in the universe) stood at 740. Abby Joseph Cohen, investment policy head with Goldman Sachs, and the hottest market predictor of the day, predicted a year end target for the S&P of 815 to 825, an 11.5% increase. The S&P actually ended 1997 at 970, up 31%! Cohen was not alone, as *Barron's* poll of esteemed analysts that included Marshall Acuff of Salomon Smith Barney, Charles Clough of Merrill Lynch, Edward Kerschner of PaineWebber, Elizateth Mackay of Bear Sterns, David Shulman of Salomon, and Byron Wien of Morgan Stanley all underestimated the market's 1997 performance, with an average forecast of *decline* of 0.2%.

Where did all these very intelligent market forecasters go so wrong? In fact, these super analysts were allowed to adjust their forecasts at midyear 1997, when the market was up about 15% already. How did they react? They all forecast a *fall*, on average by 10% by year-end, and the market powered ahead to end up 31%! Not only do experienced analysts and amateurs make prediction mistakes, but they make the same mistakes over and over.

The Folly of Trends and Extrapolation

Questions 3 & 4 on your quiz deal directly with overconfidence associated with predicting the market. The questions are taken from a study by Werner De Bondt (1993) titled *Betting on Trends*. In both questions, the security depicted is an S&P

500 index fund, although the 48-month time period differs. Three major findings emerged from De Bondt's study:

1. People tend to formulate their predictions by naively projecting trends that they perceive in the charts.
2. People tend to be overconfident in their ability to predict accurately.
3. People's confidence intervals are skewed, meaning that their best guesses do not lie midway between their low and high guesses.

What does skewness mean? It's an example of people framing their view of the future based on the recent past. When the market has been going up, people think there is only a little room left on the upside, in which case they guess too low. But if they turn out to be wrong on the downside, then they would not be surprised by a large drop.

Think back to the comments by global strategist Barton Biggs of Morgan Stanley in the first article yesterday, when in August 1997 Biggs stated, we're at the very tag end of a super bull market, and although it has looked that way for a long time, It's never looked as much that way as it does right now. In the next 24 months, the S&P 500 gained more than 41%.

Biggs has a common view that most people are comfortable with. They think, since the market (or a stock) has gone up so much already, it can't possibly go up by much more. Legendary fund manager (Fidelity Magellan Fund) Peter Lynch once said this thinking was, one of the silliest (and most dangerous) things people say about stock prices. In fact, question 3 and 5 in the quiz are based on the exact same data, one in terms of absolute prices, the other in terms of change. Most people predict a higher change in share price for question 5 than for question 3.

Experienced analysts are prone to committing gambler's fallacy, whereas individual investors are prone to betting on trends. The result is that in rising markets, we get to see headlines like, *Joe Investor Beats the Mavens*, or *Taxi Driver Beats the Pros*.

Technical Analysts Super Flaw

If I asked a class of bright MBA students to predict the outcome of 100 coin tosses, they would correctly assume a 50:50 outcome. However, if I told them I had altered the coin to favor heads 51% of the time, their toss to toss predictions would still be 50:50, with a random sequence that showed no runs greater than 4 heads or 4 tails in sequence. If I then told them I had altered the coin more drastically to favor heads 55% of the time, the students would still make random guesses, but would adjust their total to favor about 55 to 60% heads. Is this a logical way to make predictions?

The optimal prediction pattern for all versions of this game is to *predict heads every time*. This surprises most people, because our instincts are to make the predictions representative of the process they are trying to predict. However an optimal forecast is much less variable than the process being predicted. The key to optimal forecasting is to minimize the likelihood of mismatching; yet a variable forecast does just the opposite.

Technical analysts are prone to making excessively volatile predictions because they are like generals who continually fight the last war. The point is, markets behave a lot like coin tosses where the coin favors 55% heads (the market creep ever higher over long periods of time), and along the way the coin tosses result in interesting random patterns, but those patterns have little value in predicting future patterns.

The only really logical prediction is that over many years, or decades, the market will move higher. Higher stock prices will reward patient equity investors. Betting consistently in the favor of equities, and remaining fully invested throughout all the impossible to predict volatility along the way between young age and retirement is an efficient and logical forecast.

Nonetheless, technical analysis remains a respected career. Why? Because the logic (however illogical) seems so compelling. Because others believe it. Because the popular financial press continues to perpetuate the myth. Because selective memories create compelling stories, forever emphasizing evidence that confirms their own point of view, and overlooking evidence that disconfirms their point of

view. Consequently, they end up with a biased view *and* an overconfident attitude to boot. These biases are deeply ingrained: Learning is a slow process.

Well, that's enough abuse for technical chartists for one day. Tomorrow, we'll move on to take a closer look at thinking flaws among individual investors who suffer from *get-evenitis*.

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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.