

Take Me Out to the Stockgame

Home Field Advantage Familiarity Breeds (Over) Confidence The Evidence for Investor Overreaction Stock Prices Are In Our Heads, Or, Maybe Investors Are Just Head Cases

By John Mauldin

Exactly what are investors thinking? How can I be right about being in something called a secular bear market if stocks just keep going up? Isn't it time for me to throw in the towel, admit I was wrong and declare a new bull has begun? I answer these questions and more as we ponder the meaning of several important, if somewhat obscure, academic studies.

We begin with the question posed to me by Butch, an astute businessman and reader, as we watched the Texas Rangers from the balcony office suites in right field at the Ballpark in Arlington. Last Saturday, they looked like World Champions, with six home runs, solid pitching and great fielding. The fact they are in last place and going lower did not diminish our enjoyment of the atypical display in front of us. Alas, one game does not make a trend, nor a season. And as we will see, our home team bias has an analogy which will give you some insights into the direction of the markets.

"Where," he asked, "is the stock market going? Will it go higher before the end of the year?" It was of more than academic interest to Butch, as he had December '03 LEAPS put options (a bet the market was headed down), which are losing value every day as the market goes up.

My quick answer was, "I don't know where the market will be in December." We are approaching stock market valuations that were last seen in the run-up to the Bubble. This time, we are told, it is really different. The economy is improving; therefore, it is only right that the stock market should be. Never mind that the economy was improving in 1999 and 2000. Investors have learned their lessons.

The P/E ratio of the S&P 500 on March 31, 2000 was 29.41. Today the level is at 29.46, according to S&P's own web site estimates. That means the P/E for core earnings (which is accountant speak for cash in your pocket earnings) is somewhere north of 35.

I agreed with him the market was irrationally high, based upon historic trends. But that does not mean it cannot go higher.

As the father of 7 kids, I have some experience with teenagers. I have learned to never underestimate the potential for a teenager to act irrational. Just because they acted irrational yesterday and have seemed to learn the error of their ways does not mean they cannot think of completely new and even more astounding ways to become irrational tomorrow. Even as I write these very thoughts, my wife calls to inform me of the

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evidence of my words. When my friends ask me, “How are your kids doing?” it is more with prayerful hope than any sense of real certainty about the future that I answer, “They’re doing fine.”

Of course, many parents wish they had to deal with my set of “irrational” teenage behaviors than that of their own lovely offspring. There are many different types of irrationality. As parents, we all have our own definitions. My kids have regularly informed me that my standards are way too conservative, especially when compared to those of “everybody else.”

As investors, we seem to have a wide variety of standards as to what is actually an irrational price for a stock as opposed to a screaming value. Yet history shows us that valuations will revert to the mean over time and even move significantly below trend. There has never been a time in history when P/E ratios are in the range they are today that ten years later investors in the broad stock market have made a penny. None. Nada. Zippo. Yet investors pile into the markets in a belief that the markets will behave in entirely new and different fashions.

Insanity, my wife frequently informs me, is doing the same thing over and over and expecting different results. Yet investors keep running stocks up to nosebleed valuations and somehow expect that this time it will all be different. It never is.

Today we look at some of the reasons for such behavior. They are rooted not in mathematics and economic foresight, but in psychology.

There is a school of economic thought called the Efficient Market Theory which says that security prices correctly (and almost immediately) reflect all information and expectations. It says that you cannot consistently outperform the stock market due to the random nature in which information arrives and the fact that prices react and adjust almost immediately to reflect the latest information. Therefore, it assumes that at any given time, the market correctly prices all securities. The result, or so the Theory advocates, is that securities cannot be overpriced or underpriced for a long enough period of time to profit from the changes.

The only way to profitably invest is to buy and hold broad market baskets.

The Theory holds that since prices reflect all available information, and since information arrives in a random fashion, there is little to be gained by any type of analysis, whether fundamental or technical. It assumes that every piece of information has been collected and processed by thousands of investors and this information (both old and new) is correctly reflected in the price. Returns cannot be increased by studying historical data, either fundamental or technical, since past data will have no effect on future prices. (marketscreen.com)

Nobel prizes in economics have been given for developing this theory. Careers have been built upon expanding such knowledge. Whole books have been given over to the math which proves the Theory. Sadly, such economists are like a blind javelin

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thrower. They are not likely to win on accuracy but they will be sure to keep the crowd's attention.

Yet, some academic economists are beginning to assert that the Theory is fundamentally at odds with reality. Some of us less scholarly types simply note that it is a silly way to look at the world, the economic equivalent of asserting it is mathematically impossible for bumblebees to fly. It demonstrates that just because an academic, even a Nobel Laureate, presents mathematic "proof" of a proposition, we would be wise to examine the assumptions made in developing his theory. As we will see, the Theory does not hold up well under examination.

(Why is this important to you as an investor? Because marketing types will use it to demonstrate that you should invest in certain ways, like buy and hold stocks and mutual funds. How can you disagree with an idea that won a Nobel Prize? "Trust me," are at least trust the Nobel genius, "you are told." I should note that the vast majority of Nobel economic laureates deserve your trust for their ideas, but there are a **few** that either get very abused by those who want to sell you investments, or they make nice theories, but bad investments.)

Home Field Advantage

There is a growing field of study called behavioral finance. These researchers try to determine why we do what we do when it comes to money. And yes, two psychologists were recently granted a Nobel Prize for Economics for their contribution to this field. We are going to look at some examples and research of why investors do seemingly irrational things.

Arnold Wood, CEO of Martingale Asset Management recently gave a speech to a group of financial analysts in Dallas. He highlighted two interesting studies.

First, a researcher takes a deck of 52 cards and holds one card up. Watchers give a dollar for the chance to win \$100 if that card is picked out of the deck. Keep in mind the expected payout is $1/52 \times 100 = 1.92$. Las Vegas would quickly go broke with such odds. Then they are asked if they would like to sell their chance and roughly 80% would sell if they could, asking for an average price of \$1.86. If you could get such a price, it would be a reasonable sell. For someone who could buy all 52 chances, it would be a good purchase or arbitrage. He would make a quick 3.18%

Now it gets interesting. Next time the person is allowed to pick a card out of the deck and offered the same chance as above, but now they have a personal attachment to the card because they touched it. Only about 60% of these were willing to sell their chance and wanted an average price of just over \$6.00. However when this same trick was performed at MBA schools the average sale price has been over \$9.

"I know this card. I have studied it. I have a personal involvement with the card, therefore it is worth more," thinks the investor. Of course, it is worth no more than in the

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first case, but the psychology of “owning” the card makes investors value it more. Hold this thought as we explore the next idea.

Familiarity Breeds (Over) Confidence

Think this doesn't play out in the real world? Let's look at a few studies in a recent Special Edition of the Journal of Psychology and Financial Markets. I would encourage my more serious readers and investment professionals to get this journal. Five of the six papers are highly worth reading, The sixth is incomprehensible to me, which means it will probably get a Nobel Prize, and then later they will blow up a hedge fund.. (www.psychologyandmarkets.org)

First Michael Kilka and Martin Weber give us a paper called “Home Bias in International Stock Return Expectations.” They compare German and US investors. Each group feels more competent about their home markets and stocks. And each group assesses the probable future returns for their “home” stocks to be higher than the foreign stocks.

Simply because they are more familiar with a stock they think it is more likely to go up than another stock with which they are less familiar. Rationally, how could you make such a statement if you do not know much about the other stocks? What is your basis in fact for making such a comparison? The fact that they know nothing about the other stocks does not deter them from making a judgment.

Think this only applies to the small guy? Think again. The study shows a similar bias seems to apply for professional (institutional) investors. The study reveals that for both test groups the stocks with which they are familiar are judged more optimistically than stocks which are “foreign” or about which they know little.

They then cite other studies which support this point. Heath and Tversky [1991] “...demonstrate that people on average prefer to bet on their own judgment over an equally probable chance event when they consider themselves competent about the event being judged. Otherwise, they prefer betting on the chance event.”

This is why local horses (at the horse races) generally get better odds from the local bettors than they do when they are out of town. It is why the bookies know my local fellow citizens will bet more on the Dallas Cowboys than they would on the Seattle Seahawks. We read and study the papers every day, learning more and more about “our” team. Since we know more about them, we judge them more likely to win. Of course, you don't have to be from Dallas to be sucked into such irrationality. The same phenomenon occurs all over the world.

This is not just a German/US issue. Another study in 1996 shows the exact same response from institutional investors with regards to Japan and the US. Yet another study shows that the more we know about a stock, the more likely we are to be optimistic and the more likely we judge ourselves competent and to trust our analysis.

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Familiarity in stocks does not breed contempt. It breeds confidence. Worse, what we will find from the next study is that given enough time, it can breed unreasonable confidence. Pride goeth before a fall, we are told by the ancient fount of wisdom. Over-confidence seems to result in market losses. Either can be painful.

The Evidence for Investor Overreaction

Long time readers know that it is my contention that we are in a decade long secular bear market. It typically takes years for valuations to fall to levels from where a new bull market can begin. Why does it take so long? Why don't we see an almost immediate return to low valuations once the process has begun?

Because investors overreact to good news and underreact to bad news on stocks they like, and do just the opposite to stocks that are out of favor. Past perception seems to dictate future performance. And it takes time to change those perceptions.

This is forcefully born out by a study produced in 2000 by David Dreman (one of the brightest lights in investment analysis) and Eric Lufkin. The work, entitled "Investor Overreaction: Evidence That Its Basis is Psychological" is a well written analysis of investor behavior which illustrates that perceptions are more important than the fundamentals. Let's look at that study in detail. Stay with me. This is important.

In any given year, there are stocks which are in favor, as evidenced by high valuations and rising prices. There are also stocks which are just the opposite. Dreman and Lufkin (or DL for the rest of this letter) look at a database for 4,721 companies from 1973 through 1998. Each year, they divide the database up into five parts, or quintiles, based upon their perceived market valuations. They separately study Price to Book Value (P/BV), Price to Cash Flow (P/CF) and the traditional Price to Earnings (P/E). This creates three separate ways to analyze stocks by value for any given year, so as to remove the bias that might occur from just using one measure of valuation.

The top and bottom quintile become stock investment "portfolios" for all three valuation measures. You might think of them as a mutual fund created to buy just these stocks. They then look ten years back and five years forward for these portfolios. There is enough data to create 85 such portfolios or funds. They first analyze these portfolios as how they do relative to the market or the average of all the stocks. They then analyze these portfolios in terms of five basic investment fundamentals: Cash Flow Growth, Sales Growth, Earnings Growth, Return on Equity and Profit Margin. They do this latter test to see if you can discern a fundamental reason for the price action of the stock.

I wish Dreman would make these table available for free – hint, hint – on his website. It would be a good reason to visit. But let me describe what I think are the more pertinent facts which leap out as we go through their presentation.

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First, both the “out-performance” and “under-performance” of these stocks happens in the ten years leading up to the formation of the portfolio. Almost immediately upon creating the portfolio, the price performance comparisons change, and change dramatically. The “in-favor” stocks underperform the market for the next five years, and the out-of-favor (value) stocks outperform the market.

I should point out that other studies, which Dreman does not cite, seem to indicate that the actual experience of many investors is more like these static portfolios than one might first think. That is because investors tend to chase price performance. In fact, the higher the price and more rapid the movement, the more new investors there are who jump in. The Dalbar study, among many others, shows us that investors do not actually make what the mutual funds make because they chase the hottest funds, buying high and selling low when the funds do not live up to their expectations. The key word, as we will see later, is expectations. Other studies document that investors tend to chase the latest hot stock and shun those which are lagging in price performance. Thus, forming a portfolio of the highest performing quintiles is an uncanny mirror to what happens in the real world.

Why does this “chasing the hot stock” happen? DL tells us it is because investors become over-confident that the trends of the fundamentals in the first ten years will repeat forever, “...thereby carrying the prices of stocks that appear to have the ‘best’ and ‘worst’ prospects. Investors are likely to forecast a future not very different from the recent past, i.e., continuing improving fundamentals for favorites and deteriorating fundamentals for out-of-favor issues. Such forecasts result in favorites being overpriced, while out-of-favor issues are priced at a substantial discount to the real worth. The extrapolation of past results well into the future and the high confidence in the precise forecast is one of the most common errors made in finance.”

Remember the study first mentioned above? The more we learn about a stock, the more we think we are competent to analyze it and the more convinced we are of the correctness of our judgment.

Since you are not looking at the graphs, let me describe them for you. Predictably, the fundamentals improve quite steadily for the first ten years for the favorite stocks in comparison to the entire universe of stocks. But the price performance rises at very high rates, far faster than the fundamentals, particularly in the latter years. It clearly accelerates. It seems the longer a stock does well the more confident investors are that it will continue to do well and thereby award it with higher and higher multiples. The exact opposite is true of the out-of-favor stocks. Even though many of the fundamentals were actually slowly improving, in relationship to the market as a whole, they were lagging and the market punished them with ever lower relative prices.

At five years prior to the formation of a portfolio, the trends of each group were set in place. The next five years just re-enforced these trends. This re-enforces the perceptions about these stocks and increases the level of confidence about the future.

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Again, past (and accumulated and re-enforced over time) perception creates future price action.

Never mind that it is impossible for Dell to grow 50% a year or GE to compound earnings at 15% forever. As many times as we say it, investors continue to ignore the old saw “Past performance is not indicative of future results.”

How much better did the good performing stocks do than the bad performing stocks in the ten years prior to creating the portfolios? The highest P/BV (Price to Book Value) stocks outperformed the market by 187%. The lowest stocks underperformed the market by -79% for a differential of 266%! If you look at the P/CF (Price to Cash Flow) the differential between the two is 172%.

Yet in the next five years, the hot stocks underperformed the market by a negative -26% on a P/BV basis, and -30% on a P/CF basis. The out of favor stocks did 33% and 22% better than the market, respectively. This is a HUGE reversal of trend.

So, what happened? Did the trends stop? Did the former outcasts finally get their act together and start to show better fundamentals than the all-stars? The answer is a very curious “no.”

“...there is no reversal in fundamentals to match the reversal in returns. That is, as favored stocks go from outperforming the market, their fundamentals do not deteriorate significantly, in some case they actually improve.... The fundamentals of the ‘worst’ stocks are weaker than both those of the market and of the ‘best’ stocks in both periods.”

In some cases, the trends of the worst stocks actually got worse. Even as the out-of-favor stocks improved in relative performance in the last five years, their cash flow growth actually fell from 14.6% to 6.6%. While cash flow growth for the best performing stocks did drop by 6%, it was still almost 2.5 times that of the lower group. Read the following carefully:

“Thus, while there is a marked transition in the return profiles [share price], with value stocks underperforming growth in the prior period and outperforming growth stocks in the measurement period, this is not true for fundamentals. In nearly every panel [areas in which they made measurements], fundamentals for growth stocks are better than those for value stocks *both before and after portfolio formation.*”

“Although there is a major reversal in the returns [prices] to the best and worst stocks, there is no corresponding reversal in the fundamentals.” In fact, in many cases the fundamentals continue to improve for the growth stocks and deteriorate for the value stocks. The data and the graphs clearly show the fundamentals for the growth stocks clearly beat those of the value stocks even for the five years after portfolio formation.

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And yet, there is a very stark reversal in price. Why, if not based upon the fundamentals?

DL goes to another research paper which shows (Dreman and Berry – DB) “...that even a small earnings surprise can initiate a reversal in returns that lasts many years. They demonstrate that negative surprises on favorite stocks result in significant underperformance of this group not only in the year of the surprise but for at least four years following the initial event. They also show that positive surprises on out-of-favor stocks resulted in significant outperformance in the year of the surprise, and again for at least the four years following the initial event. DB attributes these results to major changes in investor expectations following the surprise.”

So where was the overreaction? Was it in the years leading up to the surprise which resulted in a very high or low priced stock (relative to the fundamentals), or was it in the immediate reaction to the surprise?

Other studies show analysts (as opposed to investors) are too slow to react to earnings surprises by being too slow to adjust earnings. Even nine months later, analysts expectations are too high.

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Dreman and Lufkin then come to the meat of their analysis. For them, underreaction and overreaction are part and parcel of the same process. The overreaction begins in the years prior to the stock reaching lofty heights. As Nobel Laureate Hyman Minsky points out, stability leads to instability. The more comfortable we get with a given condition or trend, the longer it will persist and then when the trend fails, the more dramatic the correction.

The cause of the price reversal is not fundamentals. It is not risk, as numerous studies show value stocks to be less risky.

“We conclude,” they write “that the cause of the major price reversals is psychological, or more specifically, investor overreaction.”

But DL go on to point out that when the correction comes, we tend to underreact. While we do not like the surprise, we tend to think of it as maybe a one time thing. Things, we believe, will soon get back to normal. We do not scale back our expectations sufficiently for our growth stocks (or vice-versa), so the stage is set for another surprise and more reaction. It apparently takes years for this to work itself out.

As they note in their conclusion, “The [initial] corrections are sharp and, we suspect, violent. But they do not fully adjust prices to more realistic levels. After this period, we return to a gradual but persistent move to more realistic levels as the underreaction process continues through [the next five years].”

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The studies clearly show it takes time for these over-valued portfolios to “come back to earth” or back to trend. Would not, I muse, this apply to over-valued markets as a whole? Might not this explain why bear market cycles take so long? Is it not just an earnings surprise for one stock which moves the whole market, but a series of events and recessions which slowly change the perception of the majority of investors?

Thus my contention that we are in just the beginning stages of the current secular bear market. These cycles take lots of time, anywhere from 8 to 17 years. We are just in year three, and at nosebleed valuation levels. The next “surprise” or disappointment will surely come from out of nowhere. That is why it is called a surprise. When it is followed by the next recession, stocks will drop one more leg on their path to the low valuations that are the hallmark of the bottom of secular bear markets.

Given the level of investor overconfidence in the market place, and given the length of the last secular bull, it might take more than one recession and a few more years to find a true bottom to this cycle. It will come, of course.

But in the meantime, investors would do well to examine their own perceptions about the future, both positive and negative, and see if it might possibly be clouding their investment strategies. Remember, just because stocks are in a secular bear cycle does not mean there are not plenty of investment opportunities in other markets and strategies.

Just as there is more to life than work and money, there is more to investments than the stock market.

Me and Richard

I write today from La Jolla, California. Last night I had dinner with Richard Russell and his fabulous wife Faye, who clearly is a prime reason he stays so young and on top of his game. Richard has been writing Dow Theory Letter since 1958. At 79, he writes a massive letter every day, and like a fine wine, he just gets better and better every year. I accused him of tanking the bond market, as almost to the very day he wrote that he sold his bonds, the bond market went into its recent nose dive. I consider him one of the truly great investment writers and educators. You can go to www.dowtheoryletters.com and subscribe. I suggest you do.

He would tell us that one of the areas that should be on your investment plate is gold and gold stocks. We are in agreement on that aspect of investing. Having spent the afternoon with Rick Rule, one of the best gold stock analysts in the world (in my opinion), I was pretty convinced that this run is not over.

Though we did have to work for a compromise on another matter. We were going to a famous local restaurant (George's) which is not known, shall we say, for its low priced menu. (I consider a great meal something of an investment, as I carry the evidence

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of many of them with me, thus sadly demonstrating an over-sized return on my gastronomic speculations.)

I was sure it was my time to buy dinner. “Didn’t you buy last time?” he asked. Sensing a stalemate, I proposed a compromise. “I’ll invite Jon Sundt of Altegris Investments to go along with us,” I suggested, “and we can get him to pay.” Great minds can always find a way to work together.

It is time to run for the plane, as I must get back to Dallas to speak tomorrow morning to a local investment club, then I have promised my bride an evening away (after gold, of course!) Life truly is more than investments.

Next week is my birthday, and I will be writing a special edition of this letter, thinking about the next thirty years and the changes we will see. I hope you enjoy it.

Your more excited about the future than ever analyst,

John Mauldin