Market Dynamics

Volume 10, Issue I26

July 1, 2011

Performance Management System

There Are Three Types Of Randomness

Portfolios heavy with under-performing stocks almost never outperform the market.

Ignat's Law

Investors who want to follow up on these ideas should see the article

"A focus on the exceptions that prove the rule" by Mandelbrot and Taleb

Financial Times March 23, 2006

A collection of recent newsletters is available on the web site.

Please visit my web site at http://www.clayallen.com/

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We are now being told that there are three different types of randomness; mild, slow and wild. What kind fits the stock market? The answer will startle the random walk crowd.

The slow and mild forms of randomness are often found in nature where the process is the result a physical system. The implications of this form of randomness fit well with the bell shaped curve, often called the normal distribution. The probabilities of events far away from the mean of the distribution fall off dramatically for events in the tails of the distribution. Many times these extreme events are considered outliers and their impact on the distribution is considered insignificant relative to the whole.

There are many types of events in finance and economics that do not fit with the normal distribution very well. They are often called a fractal or a scalable distribution. In this type of distribution the incidence of rare events are often of dramatic impact on the overall results recorded by the system. This is referred to as a wild form of randomness and it seems to fit better with the real world experience in dealing with stocks and the financial markets.

In a fractal distribution the probability of extreme events does not fall off as rapidly as a process that follows the normal distribution. The distribution is flatter and displays fat tails.

The main difference between the two types of randomness has to deal with the frequency of occurrence of extreme events. The wild form of randomness is characterized by frequent large price jumps and discontinuities.

This type of behavior is often observed in the movements of individual stock prices as well as the market as a whole. The Crash of 1987 is just such an example. It seems that the financial markets are prone to these kinds of price jumps and discontinuities.

These unusual price changes often occur to the downside. Experience suggests that these large price events follow the onset of a serious downtrend. It seems that a news item or event happens that completely polarizes the market and the usual buyers are completely overwhelmed by sellers with an urgent need to get out of the stock at almost any price. A full-fledged panic is a frightful thing to behold. The investors who do not own the stock are often not even aware of the price discontinuity while the owners panic. During a panic it is very difficult to resist the pull of the crowd and this crowd wants to sell.

Since downside discontinuities usually develop after a downtrend becomes recognizable, the trend of the performance of the stock becomes even more important to investors. In my experience many long-term investors are far too complacent when their stocks start to under-perform and assume that the downtrend is minor and short-term in nature. They are often shocked by the alarming price drop that occurs after the trend has turned down and an unexpected news item or event causes such an abnormal price drop.

The lesson is clear, long-term investors shouldn't hold stocks with persistently poor performance relative to the market in order to avoid these downside disasters that are largely unpredictable.

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