

A Close Look At The Random Walk

**Portfolios heavy
with
under-
performing
stocks almost
never
outperform the
market.
Ignat's Law**

**The random walk does
not mean that stocks
don't trend.**

**If stocks exhibit
unpredictable trend
movement, then stock
charts are indispensable
to the investor so he will
know when that trend
changes.**

**When a trend is in place,
the distribution of daily
changes will show a
mean that is significantly
different from zero.**

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

[http://
www.clavallen.com/](http://www.clavallen.com/)

Market Dynamics
7325 S. Jackson St.
Centennial, Colorado
80122

Phone: 303-804-0507

clavallen@msn.com

It is interesting to examine the statistics generated by the stock market over the past year. This is especially true since the last year represents one of the worst bear markets in almost 80 years.

The chart in the upper left of the next page shows the distribution of annual returns based on price changes for the year ended April 3, 2009 for 4225 stocks. It is certainly a bell shaped curve with an average annual change of a little below minus 40% and a standard deviation of 32. The level of kurtosis was extremely high which indicates that the distribution exhibited very fat tails.

This distribution was characterized by roughly 30% of the stocks that showed declines of minus 56% or greater. At the other extreme, approximately 30% of the stocks showed losses of minus 24% or less and a significant proportion actually went up in this bad bear market. This indicates that about 2/3 of the stocks showed strong trend movement either up or down and these trends persisted.

In the middle of the distribution were about 1/3 of the stocks that showed weak or no trend movement at all. These were the stocks that didn't trend and their movements during the year relative to the market were best characterized as a trading range. These were the stocks that are best described as being in a random walk.

On the left side of the distribution were the 1/3 of all stocks that showed strong negative trend movement. Conversely, the 1/3 of all stocks on the right side showed strong trend movement up relative to the market. These stocks departed significantly from a random walk because of their trend movement.

All of these stocks exhibited random movement day-to-day. This is not to say that because there were many

stocks that didn't conform to the random walk that they were predictable. This means that an investor cannot predict when a stock's trend might change direction. The only way he can know when the trend changes is by observing the price movement for indications of a trend change. This is the best reason to use stock charts. The investor should monitor the long-term stock charts to measure the trend movement so he/she will know when it changes.

The other three charts on the next page were produced by a computer program that produced a simulated stock's trend movement. The proportion of up days versus down days was set by a random number generator that produced these changes, up versus down at 50/50.

The chart in the upper right panel produced a random walk because the step sizes were equal. The chart actually looks like it might be the trend of a real stock. Actually, when the steps are equal there will be no trend movement one way or the other as long as the up days versus the down days occur in a random 50/50 ratio. Some trend lines were drawn in to show the lack of persistent trend movement.

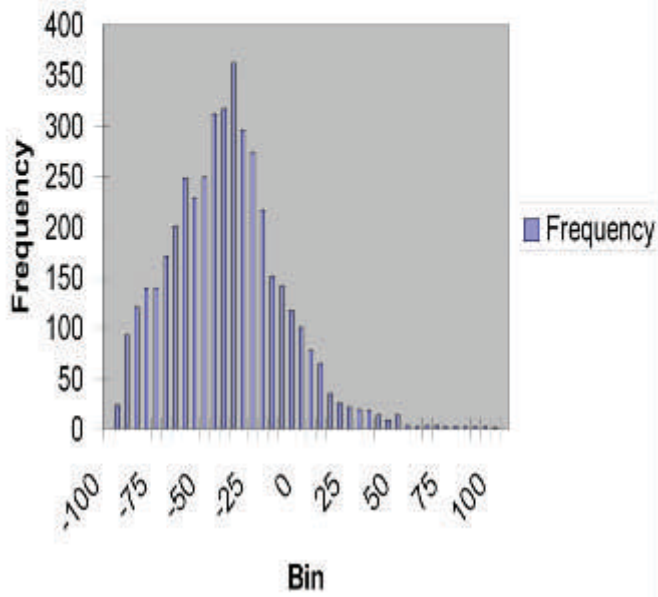
The charts in the lower two panels were also based on 50/50, up versus down movement but in the chart on the left, the step size for the up days was greater than the step size for the down days. The lower right panel shows a 50/50, up versus down movement but the step size on the down days was greater than the step size for the up days. Both of these simulated stocks showed persistent trend movement either up or down.

It is also very revealing that these simulated trend patterns look like they were generated by a real stock in the real market. I think this makes the point that almost all stocks show movement that is close to 50/50, up versus down, day-to-day, but the step sizes differ depending on the existence of a trend.

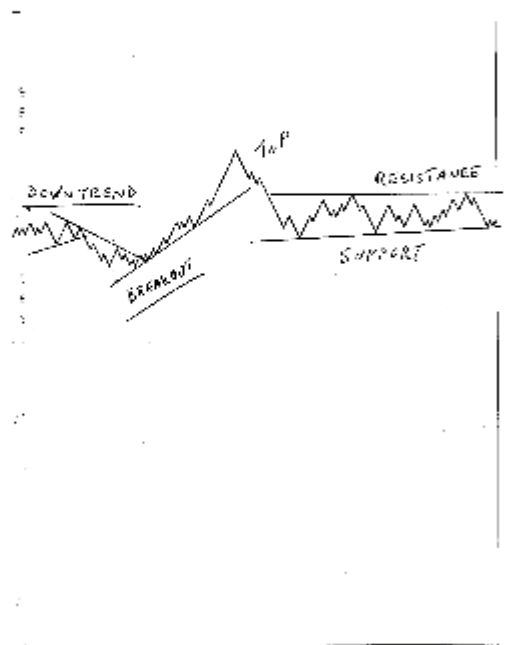
Trends do not last forever and the investor needs to know when the trend changes direction so he can make corrective adjustments in the portfolio.

W. Clay Allen CFA

Histogram - 4225 stocks
Annual percent change 04-03-2009
Average = -40.5%



SIMULATED RANDOM WALK
UNEQUAL STEP SIZES
STEP UP EQUAL TO STEP DOWN



SIMULATED RANDOM WALK
UNEQUAL STEP SIZES
STEP UP GREATER THAN STEP DOWN



SIMULATED RANDOM WALK
UNEQUAL STEP SIZES
STEP DOWN GREATER THAN STEP UP

