

Of Trends And Friends

"You can observe a lot just by watching." - Yogi Berra

In the spirit of Yogi Berra, you can learn a lot by reading and listening, too, in this case to some reader e-mail following a [Columnist Conversation](#) between James Altucher and myself last Friday. Specifically, I had mentioned how commodity returns tend to be mean-reverting, while equity returns tend to be trending. This was Point 8 in a list of twelve technical trading differences between stocks and commodities presented in [January 2002](#).

What Is A Trend?

Many things simple on the surface turn out to be complex upon further examination. A price trend is one of them. Any one of us can look at a chart and offer a reasoned opinion on whether the market depicted is in a trend or not. Fair enough for the obvious major moves, but what about the multitude of situations wherein prices lurch in one direction or the other, pause and retrace, and then mount another charge higher or lower? Or, what about markets mired in a trading range?

A postulate for defining a trend is presented below.

An optimal moving average or trend line is the locus of points derived from an underlying price series whose volatility-adjusted sum of differences between itself and the underlying series is minimized, and whose volatility-adjusted sum of first differences also is minimized.

The mathematical definitions and a classification scheme for defining markets as trending, sideways or in a transitional state are discussed in Chapter Two of my book, *The Dynamic Option Selection System*; the classification is available as a [TradeStation](#) application as well.

Suffice to say markets defined as being in a trending state are to be traded on a "buy high, sell higher" basis, or vice-versa, while those in transitional or sideways states are to be traded on the mean-reverting basis of "buy low, sell high," or vice-versa.

Stocks And Commodities

As discussed in [March 2004](#), commodity prices are bounded by process economics. At some point, copper prices reach a level on the upside where demand falls due to the forces of substitution or technological improvement. Prices are limited on the downside as well by producers' collective willingness to keep operations going if prices fall below their marginal cost of production.

Individual stock prices have no such bounds. Unlike a commodity, a corporation can go bankrupt and see its stock price fall to zero without either encouraging demand or reducing supply. Demand for such a stock, the best efforts of Pink Sheet aficionados notwithstanding, tends to fall along with the stock's price, and neither corporations nor their underwriters "produce" stock on any sort of regular schedule.

The bounded nature of commodities and the unbounded nature of stocks should dictate that the former be traded over long periods of time as mean-reverting processes, while the latter should be traded over time as trending processes. Neither characterization precludes trading commodities in defined trends as such, nor does it preclude trading equities whose prices are judged to be well below or above their fair value as mean-reverting processes. The world is still safe for equity value investors and those who love them.

To paraphrase Yogi, 90% of the battle is being able to identify and classify the structure of the market as trending or not at any point in time. The other 50% is discipline and money management.

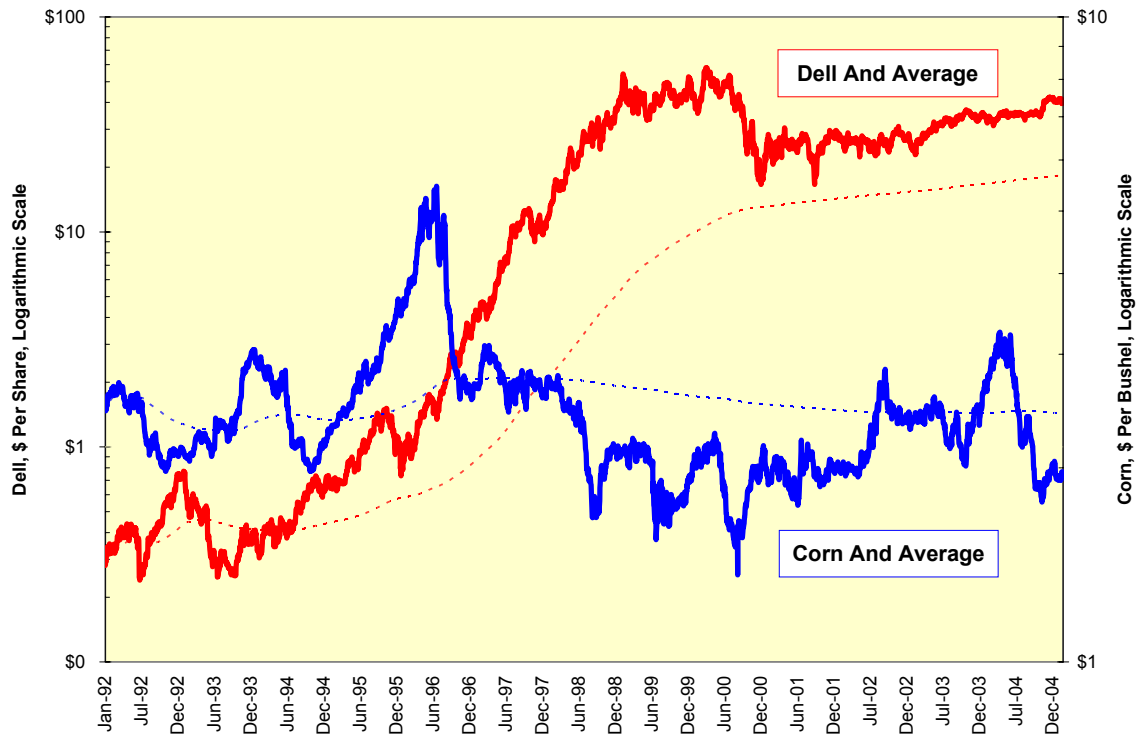
Corn And Dell: A Small Case Study

Let's illustrate the principles of a bounded commodity and an unbounded stock with the cash price of corn in storage elevators and Dell's common stock, adjusted for splits. The cash price of corn was selected as opposed to futures to avoid the convergences and crop cycles associated with futures, while Dell was chosen because it has no dividend; its price and total return are one and the same.

Both prices are presented on logarithmic scales where an equal distance depicts an equal percentage change; Dell's scale require three cycles to display while corn's requires only one. A continuous average, from January 2, 1992 to

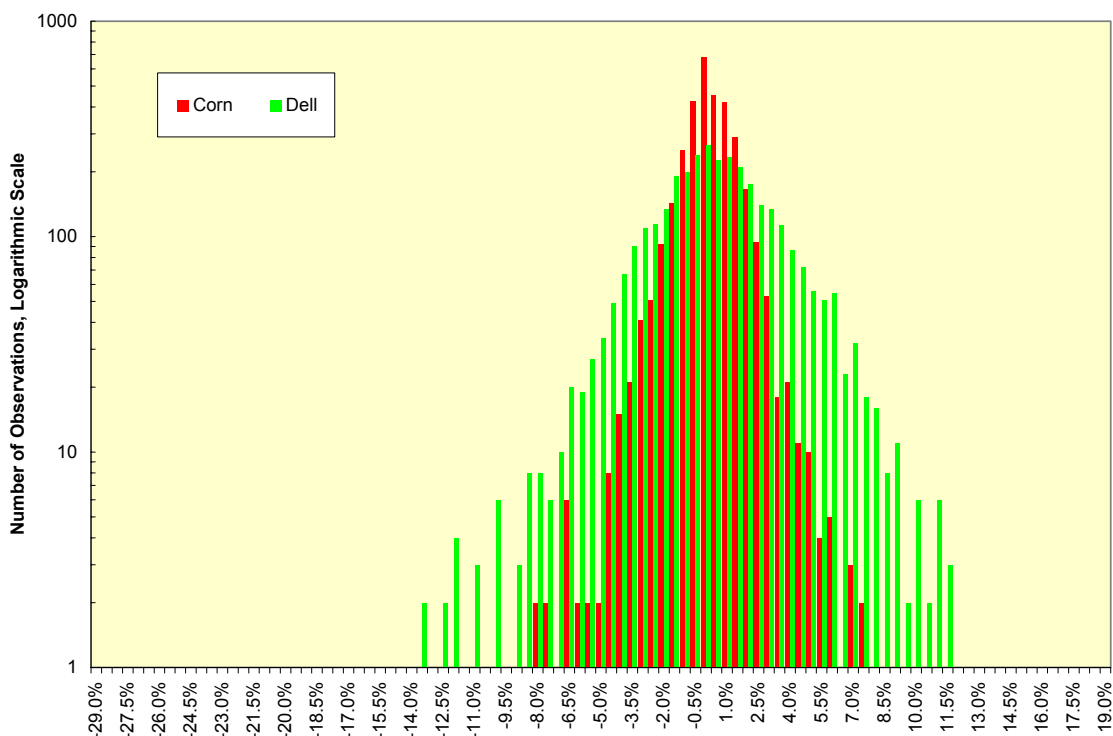
the current date, is presented as a dotted line for each price. Dell's price exceeds its average for years on end, indicating a trend of long endurance. Corn's price oscillates over and under its average line, a classic and unmistakable illustration of reversion to a mean.

The Farmer In The Dell



A second way of looking at long-term market structure is the distribution of returns, or daily percentage changes. A market capable of making large, sustained moves will have a wide distribution of returns; a mean-reverting market will tend to have a distribution of returns clustered around zero. This is certainly confirmed by thirteen years of daily data for both corn and for Dell. Statisticians - and no one else - might be interested in the kurtosis of these two distributions, 4.94 for Dell and 44.94 for corn.

Distribution of Returns, Corn And Dell



A third way of measuring a trend is the serial correlation of returns. One of the ways we recognize trends visually is to observe whether we have a large series of positive or negative changes strung together. A trending process will have positive serial correlation of returns. In contrast, a mean-reverting process will have negative serial correlation of returns as positive price changes will tend to be followed by negative price changes, and vice-versa. The serial correlation of returns for Dell has been .021, while the serial correlation for corn has been (.051).

Finally, the daily data for both Dell and corn were run through the classification algorithm referred to above to assign a market structure of trending, transitional or sideways. Dell had a trending market structure on 69.5% of the days, 9.4% more often than did corn with a trending structure on 63.5% of the days.

| | Dell | Corn | Difference |
|-------------------|-------|-------|------------|
| Trending | 69.5% | 63.5% | 9.4% |
| Transition | 17.4% | 20.8% | -16.1% |
| Sideways | 13.1% | 15.8% | -16.8% |

This comparison is but for one stock and one commodity over only 13 years of daily data. But it illustrates once again the technical differences between stocks and commodities. Simple prudence dictates that samples drawn from different populations should be treated differently. While this should give pause to the interlopers now drifting into commodities from their most recent endeavors, it will not. As Yogi said, "it's like déjà vu all over again."