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Paradigm Shift Lights the Way to Momentum Bars

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Every once in a great while, someone finds a new way to describe perceived reality that changes significantly the way people view things. Many historians call this progress. A new development in how prices of futures and securities are charted, called "Momentum Bars," appears to be one of these rare and infrequent steps in the progress of technical analysis. The insights this new method of charting can provide is a paradigm shift that will probably alter permanently the way traders and investors now analyze price data.

As long as technical analysis has been used to guide trading, time-based bar charts have been the traditional standard on which this kind of analysis was based. The only exceptions to widely accepted time-bars are point and figure charts. They are easily recognized because of their vertical columns of X's for up-prices and O's for down-prices.

Point and figure charting disregards time, and it tracks only price changes. Its adherents argue correctly that only price fluctuations generate trading profits, so that is what traders should chart. However, it is very difficult to apply standard technical tools to the point and figure charting method. Thomas Dorsey (Point & Figure Charting, 2nd edition, Wiley 2001) describes how to use these charts, but depends heavily on pattern recognition for his success. The standard technical tools - moving averages, stochastics and the like - don't work very well on point and figure charts.

Bar Chart Flow

Values of investment/trading instruments are almost always charted in time (and now sometimes in groups of ticks) simply because that's the way it's done. Despite the great advances in technical tool development since the publication of Edward's and Magee's Technical Analysis of Stock Trends 54 years ago, the inherent flaw in charting price data by time or ticks on standard bar charts has not been addressed until now.

In short, most traders have been seduced by long usage into believing that standard bar charting is the correct way to study price action when, in fact, it grossly misrepresents what is actually happening to values as prices fluctuate.

MBars are charted as standard vertical bars with opens, highs, lows and closes, but charted in specified price ranges rather than being charted in units of time or ticks. However, the new Momentum Bar charting technique describes price action more accurately just as point and figure charts do, but its traditional bar chart format accommodates all of the tools used in standard bar charts.

Patent Pending

MBars were developed more than a year ago by the then 39 year-old Danton Steven Long of Michigan City, Ind., who previously had created a number of technical trading tools, among them Shock Wave Analysis and the Danton Stop.

His application for a patent on MBars has been accepted by U.S. Patent Office. "Given the process all patent applications have to go through, I expect my client will be granted a patent sometime in the next six months or so," says Long's patent attorney Nancy Iatarola of Porter, Ind., who filed his application early last August.

What the Heck Are "Mbars?"

Momentum Bars are a completely new and unique adaptation of standard bar charts. They look like standard bars, but are different in three ways. One is that they are always equal in height. This is because they are based on specific price ranges selected by their users. If, for example, the price range chosen is six ticks, which in the S&P 500 E-mini futures contract equals \$75, all of the bars represent a price value of \$75.

The second difference is that the open of a new bar is always one price tick above or below the close of the previous bar. This is because a new bar does not begin until the old bar has been completed, which can only occur when a price tick exceeds the range set by the trader using them. While opens can appear anywhere on MBars, closes are always at the tops or the bottoms of these bars.

The third difference is that MBar charts have no gaps. Say, for example, the MBar value for the S&P500 E-mini is set at six ticks (\$75). Say, too, that there is a sudden event that causes this contract to gap up 12 points from 910 to 922. This 12-point gap has a total of 36 ticks (each point equaling \$50 is composed of four \$12.50 ticks).

Handling the Gaps

On a six-tick (\$75) MBar chart, this 12-point gap would be filled with seven six-tick "phantom" up-bars. The sequence is as follows: 910 to 911.50 is the first bar; the second bar opens at 911.75 and closes at 913.25; the third bar opens at 913.50, closing at 915. The fourth is 915.25 to 916.75; fifth is 917 to 918.50; sixth is 918.75 to 920.25; seventh is 920.50 to 922. If this contract were to gap down 12 points from 910 to 898, the sequence for six-tick (1.5 point) MBars would be the same, but in descending order.

While no contracts would have traded at the prices represented by these “phantom” bars filling the gap, MBar charting assumes they did. It is obvious that traders’ orders cannot be filled on these “phantom” bars. Nevertheless, they have enormous practical value because the analytical tools that use opens, highs, lows and closes will accept these “phantom” data and function as though the data were real, thus generating signals more rapidly than waiting for real prices to appear.

A Real-Time Example

Chart 1 and Chart 2 show a rudimentary comparison of standard and MBar charts using a moving average crossover system. Say a trader was using MBars to trade the S&P500 E-mini contract last December 26th setting a 7 period close for the slow simple moving average (in blue), and a 3 period close for the fast simple moving average (in red). Trade signals are generated when the fast moving average (red) crosses the slow moving average (blue).

Chart 1 illustrates this moving average crossover system on a standard five-minute bar chart. Compare this with Chart 2, which is a six-tick (\$75 per bar value) MBar chart for the same S&P500 E-mini contracts on the same day (December 26, 2002). Note that the last bar on the MBar chart is not complete, because the market closed before a new six-tick MBar was established.

Chart 1 - S&P 500 E-Mini 5-Min. Bar Chart, Dec. 26, 2002



Blue=7 period moving average

Red=3 period moving average

It is immediately clear that there are three obvious advantages to this charting system. Because Momentum Bars are price-driven, the sideways congestion seen in Chart 1 has been reduced significantly. The price action of the market has been made clearer in Chart 2 so that the tools used here (a slow and a fast moving

average) do the job they are supposed to do more efficiently — simply because they have “cleaner” price data to work with.

The congestion, or temporary “fogging” of the main trend between 900 and 898 has been all but removed, and the uptick activity in the 895 and 892 price level areas that also hid the main trend briefly, have been almost eliminated. Even though the signal to go short at about 900 lagged, as signals do when using moving averages, the MBar chart with this analysis would have kept you on the short side all the way down. Using the MBar chart would have earned about 15 points for each contract traded, one-third on the upside early in the session, and the rest on the downside. It would also have provided a very high level of confidence to reverse direction and stick with the downside.

Chart 2 - S&P 500 E-Mini 6-Tick (\$75) MBar Chart, Dec. 26, 2002



Blue=7 period moving average
Red=3 period moving average

The second advantage is that if this market had gapped, the “phantom” MBars would have “filled” any gaps which, in turn, would have triggered these moving averages to respond and generate trading signals more quickly.

The third advantage is that MBars work in any price frame and for any contract or security. “My studies with stocks using \$2 bars show that asset managers and stock and single stock futures traders using MBars can lower the risks they must take, reduce the number of trades they do while raising their profits in a big way,” Long says. “MBars take out almost all of the noise, which means they are good for any type of manager — from very short-term day traders to long-term mutual fund managers who trade only from the long side.”

Two Rules

There are two general rules for using MBars. One is to pick suitable price range values. “With MBars, asset managers, hedge fund managers or day traders, each of whom have different risk tolerances, can use MBar values to create any risk parameter, large or small, that suits their particular portfolio,” Long continues.

The other is to use analytic tools that one knows and trusts. “If Bollinger Bands or MACD or stochastics are your thing, MBars will let you use them more efficiently than the old way,” Long notes. “There is no need to learn any new analytic system.” Because this is first time MBars have been described publicly, this charting method is not yet available in the standard charting packages. Asset managers, hedge funds or other professional traders with further questions can contact Long at danlong41@hotmail.com.

Momentum Bars are such a simple concept that many traders will wonder why no one thought of this before. Welcome to the rarefied world of original insights, but make no mistake. Danton Long’s concept of MBars is a paradigm shift in technical analysis that should alter permanently the way traders analyze prices. Momentum Bars are an important development that should prove to be very profitable for those who are willing to accept this paradigm shift and use them.