

Pure prices

Two price-based methods for charting price action on standard bar charts

By Desmond MacRae

One of the biggest problems traders face is how to chart congestion – prices that move sideways when a market is neither trending up nor down. For many years, they have used point-and-figure charts which have a two or more ticks up represented by an X, and two or ticks down by an O marked in vertical columns on squared graph paper. (A tick is a futures contract's minimum price movement.) However, many of the standard tools of technical analysis like moving averages, MACD and stochastics can't be applied.

Meeting Challenges

The challenge was to plot meaningful price direction with standard vertical bar charts with their familiar opens, highs, lows, and closes. In 1996, the Cynthia Kase described a solution she called alternately Universal Bars, equal range bars or Kase bars in her book Trading with the Odds (Chapter 8). Kase is well-known for her many technical tools and her trading software.

In February 2003, another solution called Momentum Bars was introduced by Danton Long who is also an inventor of technical tools who has been trading futures since 1992. "I saw this charting method as the simplest way to plot pure price momentum to generate clear signals for more profitable trading," Long says.

Both Kase bars and MBars are charted as standard vertical bars with opens, highs, lows and closes. Both methods chose the size of the bars using price ranges rather than time periods or groups of ticks. By disregarding time, both techniques describe price momentum more accurately than time or tick charts, just as point and figure charts do. But, unlike the latter, many of the standard tools of technical analysis can be applied to both of these charting methods.

Differences

Kase determined the length of her bars as a function of what of what she called a period of time's true (price) range. An engineer by training, she suggests that true range is directly proportional to price volatility.

Illustrations in Kase's book have references to time on their horizontal axes. This will confuse readers at first because her range bars are not time-based. These references appear only because she did not have charting software available that disregarded time. Kase bars require constant re-calculation because her true ranges expand when volatility increases, so her bars are not always of equal length.

Danton Long's MBars are simpler to construct. Traders set a range of ticks that is suited to their specific appetite for risk. When a price moves one tick outside this range, a

new bar is begun. If there is a gap in prices, the MBars protocol will create “phantom” bars to fill the gap no matter how big it is.

Advantages

There are several advantages to using the MBars charting method. Sideways price congestion is eliminated. MBars automatically fill price gaps. Most charting tools that do not plot or indicate time or breakaway systems will work well when applied to them.

Another advantage to MBars is that some technical indicators, like moving averages, will adjust more quickly if price gaps are broken up into MBars. Anyone using a 3 over 7 moving average crossover trading method with MBars of 5 ticks will get an immediate signal if there is a gap of 20 ticks because five “phantom” bars will be created instantly. A time bar chart will take longer to generate a signal.

There are advantages to Kase bars as well. “Momentum overbought and oversold signals will react to expansions in volatility typical of situations where the minimum bar ranges exceed the target by a large margin,” Kase says. She argues that the “phantom” bars that fill gaps on MBar charts dampen such signals.

Kase points out is that it is very difficult to do simulated mechanical testing on MBar charts because of the phantom data is inserted where there are gaps. While MBars have not yet appeared in charting software, several software programmers have noted that “phantom” bars can be accounted for in mechanical testing programs.

On the other hand, there are no phantom data in Kase bars. By retaining gaps, Kase bars work with breakaway systems, which MBars do not. Unlike MBars which have to be preset, Kase bars can adapt to actual market conditions because they set target range to the actual average true range of a given market.

Kase bars are available in StatWare program, or can be self-programmed easily. Danton Long is in now contact with Ensign Software, and hopes that MBars will be available soon. Meanwhile, traders should note that another version of range bars now in the Fibonacci Trader charting package, but they are neither MBars nor Kase bars. They repeat themselves when it is not necessary so that they do not represent price action as well. However, they will give people interested in price bars some idea of how price bars work. END