ProSticks: More than meets the eye

BY THOMAS STRIDSMAN

Remember the old Market Profile analysis technique developed around 20 years ago by trader Peter Steidlmayer and the Chicago Board of Trade? If you don't, it's basically a method of charting real-time data in such a way that the daily distribution of trade prices — i.e., how much volume occurred at different price levels — can be easily monitored and compared with previous price action (see Figure 1).

This charting and analysis method used to be popular on the trading floors of Chicago and New York. However, it didn't make it into many mainstream charting packages, most likely because it was too unorthodox for such programs to handle.

Enter ProSticks, a Canadian-based company (www.prosticks.com) that has combined the basic elements of Market Profile with a standard bar chart in such a way that each bar resembles a cross between a normal bar and a Japanese candlestick, but with much more information available at a glance.

Here's how it works. To create a chart of the daily distribution of prices we track how many times a market trades (or how many contracts or shares are traded) at each price level throughout the day. This produces the kind of chart shown in Figure 1. In this case the distribution of prices resembles a normal (bell-shaped) distribution, with a modal price (the mode value of a data set is the value that occurs the most times — e.g., 6 in the set 4, 5, 6, 7, 6, 8, 6, 9, 6, 10) equal to the average price.

However, the final distribution doesn't always have to take the form of a normal distribution, in which case the average and modal prices will be different. (This can have far-reaching implications for your analysis, but more on that in a while.)

Once the data is collected, the average price and standard deviation of all prices for the day can be calculated. For example, if the data for a specific day had the distribution depicted in Figure 1, the average price for the day would be $79.50. If the standard deviation of all prices was $0.75, that means approximately 68 percent of all prices should fall between $78.75 and $80.25 (the average price plus and minus one standard deviation).

FIGURE 1: PROFILE OF A MARKET

Market Profile shows how much volume occurred at different price levels. Here, 79.50 was the most frequently traded (modal) price.
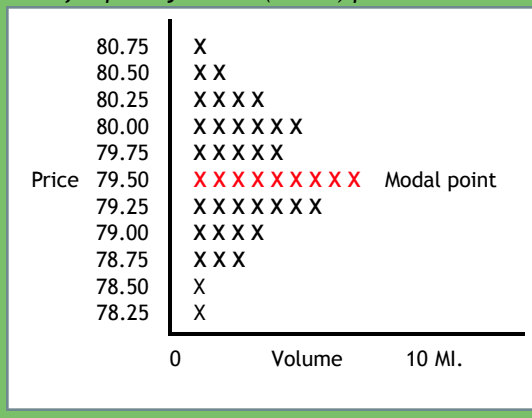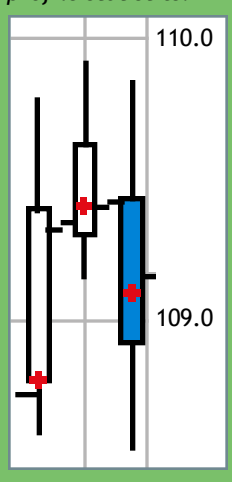

A hybrid price bar

To make the information in Figure 1 more digestible and depict several days of consecutive price action, ProSticks substitutes the open-to-close body area in a normal Japanese candlestick with a body area representing the plus/minus standard deviation interval around the day's average price (the "active range"), as shown in Figure 2. Note that, just like a candlestick, bodies are colored differently for up days and down days. The opening and closing prices are represented the same way they are on a normal bar chart, with small horizontal hash marks on the left and right of the bar.

The red dot within the body is the modal price, representing the center point of that day's struggle between buyers and sellers and, by implication, an important support or resistance point. The average price for the day is always in the middle of the body.

According to Market Profile theories and guidelines for interpreting a ProSticks chart, knowing the modal price and the price distribution can help you make more accurate trading decisions. For example, if you are a short-term trader you can use the lower one-standard deviation boundary as a support point and long-entry level. If price reaches this point, you buy with the objective to sell and make a profit as soon as the market reaches the upper standard deviation boundary. If you also like to trade short, you can sell the market with the objective of buying as soon as price finds its way back to the lower level.

If you are a long-term trader, you could go long when the market trades above what you deem to be a significant modal price, thus using the modal price as a more accurate breakout level than the latest highs and lows. On the ProSticks Web site you also can use the modal point as the input price for several popular indicators, including moving averages and Bollinger Bands.

The ProSticks Web site is noteworthy in its own right. It's nicely designed and contains plenty of information about technical analysis in general and ProSticks in particular — without being too pushy about trying to sell you its features. It covers the American and Canadian stock markets as well as the international Forex market (all in real time), and has several chart types to choose from.

FIGURE 2: PROSTICKS PRICE BAR

The bars combine elements of standard bars, candlesticks and market profile statistics.

ProSticks Charts help highlight unique support and resistance levels.

Japanese yen (JPY), daily

03/10 O 111.30 H 111.56 L 110.70 C 110.74 MP(MC) 111.20(111) AR 110.83-111.30

Source: ProSticks

FIGURE 5: MODAL AND AVERAGE

The modal price's central location in the active range indicates it was close to the average price.

Modal price

Analysis in action

Let's look at a typical ProSticks chart and a few analysis scenarios. Figure 3 shows the last few months' price action in the Japanese yen. The blue bars represent down days while the white bars represent up days.

The red dot within each bar's body represents the modal price. At the bottom of the chart there is information on a selected bar, including the open, high, low and close prices. In this case, the text "MP(MC) 111.20(111)" means the modal price for the select-ed day (March 10) was 111.20, based on a total of 111 observa-tions. The text "AR 110.83-111.30" means the one-standard deviation action range for that day spanned these price levels.

The situation marked A in Figure 3 has been magnified in Figure 4. The first relatively wide blue bar shows the market failed to break through the 106 price level and eventually ended up trading lower, indicating resistance at this level. But over the following days trading stayed within a tight range, and although each day was a down day, the market did not manage to break below 105.30. This set up a situation in which the yen was trapped between strong support and resistance, favoring an upside breakout because the downside also had been tested at a previous occasion, which had built up a cluster of modal price levels and narrow trading ranges around 105.30.

Also, the modal prices for all the down days in Figure 4 are at the bottom of each bar's active range, just above the 105.30 level, indicating buyers were determined not to let price go below this level. Overall, buyers had built up a much stronger position around the 105.30 support level than sellers had around the 106 resistance level. When the market subsequent-ly broke out to the upside it did so with an explosive three-day

FIGURE 4: HIGHLIGHTING SUPPORT

The red dots represent a bar's modal price.
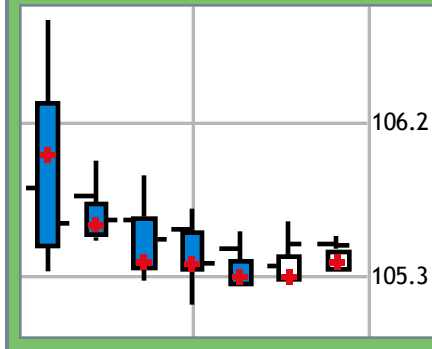
move (refer again to Figure 3).

This brings us to scenario B, which consists of the last bar in this rally plus the two retracement bars that followed it. Figure 5 gives a more detailed look at this situa-tion. After a strong rally through significant resist-ance it is only natural for the market to take a "breather" for a couple of days, but how can you know how much lower it will go during a retrace-ment?

In this case the answer can be found in the last bar for the rally. Notice how the modal price is nearly centered in this the bar's active range. A perfectly cen-tered modal price means the average price for the day is almost identical to the modal price, which in turn implies the price dis-tribution for this day will likely resemble the classical bell-shaped normal distribution. Here the average price is slightly above the modal price. With these price levels so close to each other, they form a strong support area. The bodies and modal prices of the retracement bars further highlight this support area, because they did not penetrate the level for the average price, much less test the modal price. And sure enough, after a two-day breather the market took off to the upside.

Hidden signals

The third example, scenario C in Figure 3, is the most interest-ing because it incorporates information that is not directly apparent on the chart. Look at the long white bar in Figure 6's close-up (p. 26). Notice how the modal price is located at the very bottom of the bar's active range. Because we know the average price is in the middle of the active range, with so much trading occurring that far below the average price there must
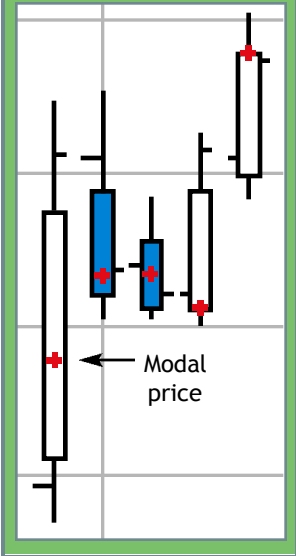
FIGURE 6

*The modal price's loca -
tion at the bottom of
the bar implies hidden
support higher in the
active range.*
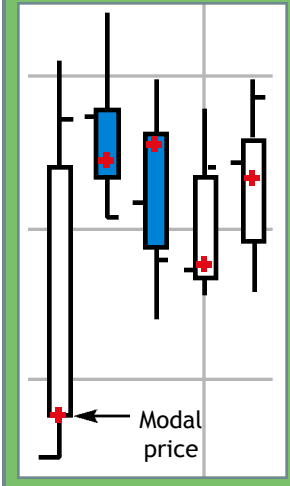
Modal
price

have been a great deal of trading going on just below the upper end of the active range as well — otherwise, the relationship between the modal price, average price and the active range would not be what it is.

This means that there must be a second strong support level hidden between the average price and the active range's upper boundary. It is around this hidden level the market found support during the subsequent retracement and before it turned back to the upside.

You will not find this last bit of analysis described on the ProSticks Web site (or anywhere else, for that matter). So if you surf over to ProSticks.com to try out ProSticks for yourself, remember where you read about it first.

One thing not tested is how well the modal price fares when used as the basis to calculate other indicators, but there's no reason to believe it should be any less effective than any other price input.

The ProSticks analysis technique is one of the better ones I have come across in a long time. In fact, I was a little surprised I hadn't heard of ProSticks before. Both the site and the analysis techniques are worth further study.☊

For information on the author see p. 10.