

On-balance volume is one of the most useful indicators in the stock market and is particularly effective when used as a diverging indicator. The Price, Open Interest, Volume (POIV) indicator takes this idea one step further and creates an even better tool for today's volatile markets.

All in one: Price, volume and open interest

BY LARRY WILLIAMS

Volume is a powerful indication of market strength. However, in many cases, we can get a better idea of its significance by tracking it over time, in terms of moves in the markets. One method for doing that is On Balance Volume (OBV). The index is calculated by adding today's volume to a baseline (yesterday's value) if the market closed up for the day or subtracting today's volume if price closed down for the day.

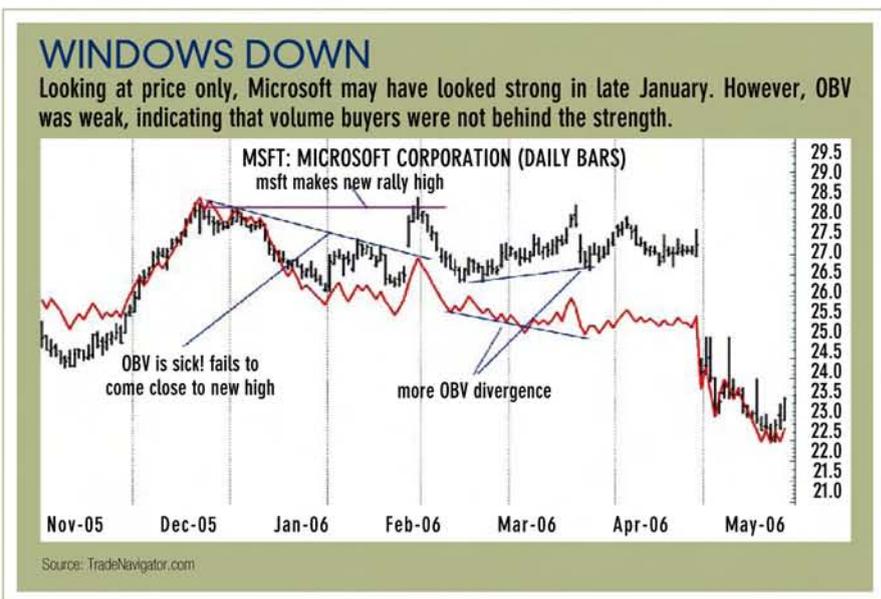
While the idea was largely popularized by well-known technician Joe Granville, who contends he discovered the idea on his own in 1961, it perhaps may have originated with two guys in San Francisco, known only as Woods and Vignolia. They authored a course in 1940 that referred to this calculation as "cumulative volume."

Before we look at how this indicator can be improved by introducing price and open interest to create the Price, Open Interest, Volume (POIV) indicator, let's look at a few examples of OBV to get an idea of how it works.

The general philosophy behind OBV analysis is to find a stock that is

making a new low in price while the OBV line is not matching that low. This condition suggests that sellers have dried up and the stock is in strong hands. Conversely, when price makes a new rally high that is not matched by a new high in OBV, the indicator is suggesting that the market has perhaps topped.

Microsoft (MSFT) was a great OBV short sale in February 2006 (see "Windows down," below). We saw massive divergence between price and the actual buying and selling as evidenced by the cumulative flow of volume, as measured by the OBV indicator. As price spurted up in late January, breaking out and sucking technicians



into the stock, there was no support from volume buyers. OBV (the red line) was pathetic.

This was the start of the fall, which continued into March and April and gave away to a significant tumble in the fortunes of Microsoft longs.

"Fast on the fly" (right) shows the stock price of the company Fastenal (FAST). Notice the bullish divergent pattern in September 2005. As FAST took out the August lows in September, the X-Ray view of OBV was showing a different picture. OBV was holding up, not going to a new low, suggesting that on the September sell off, the stock was in strong hands. Indeed it was. Price rallied from \$29 per share to more than \$40 in fewer than 35 trading sessions.

ISSUES WITH VOLUME

Although we can see here that volume is a useful measure for the markets, there are real problems when we use volume. Problems for stock traders arise when a huge block of stock is swapped from fund to fund; this is not real buying and selling pressure. An even greater problem crept in with the advent of arbitrage programs, whose trades do not necessarily represent supply and demand but minute price differences that are being bought and sold in huge chunks to lock in gains.

Futures traders have different problems with volume in that the largest players, commercial firms that have a business reason for trading the derivative, are usually hedging positions. So, they are not taking on speculative positions that represent buying and selling pressures. These hedges also may become spread buying/selling in the same item or spreads between, say, silver and gold, corn and wheat, or live cattle and feeders.

ONE SOLUTION

Despite the problem, volume indicators have proven their worth, but while it is a good idea to watch the cumulative flow of buying and selling

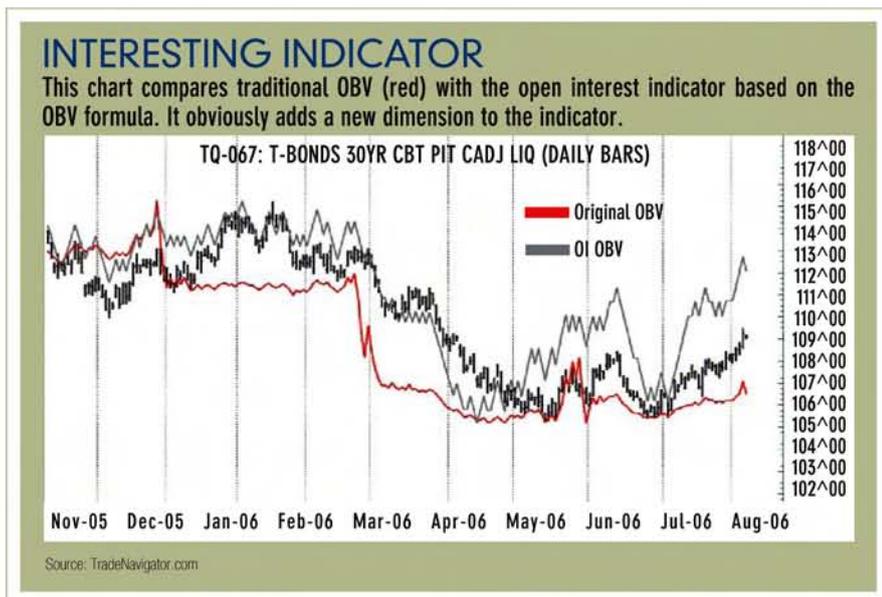
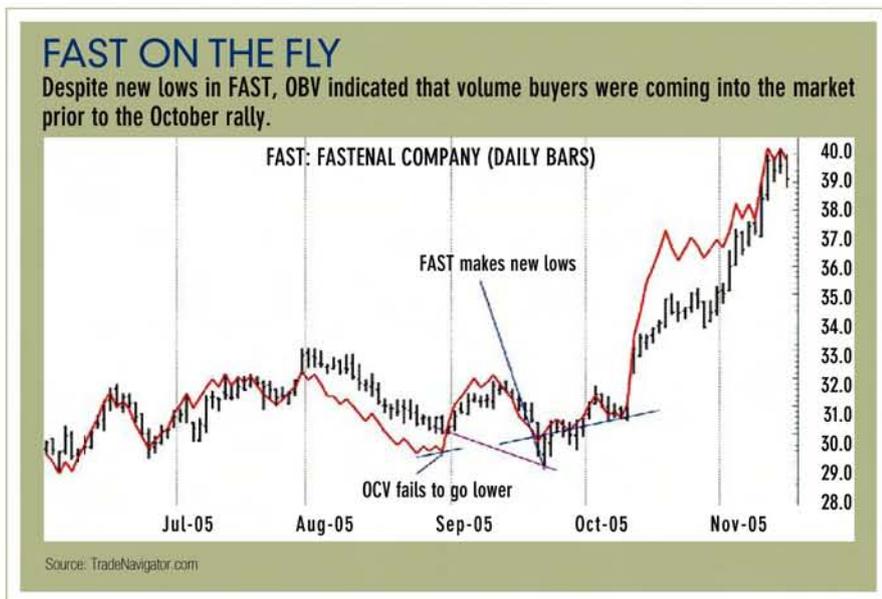
pressure, you should not assign all of this buying and selling to bulls and bears. Combined with other concepts, such as keying off the open, we can focus on something more germane to trading based just on volume, or what some might consider related volatility indicators, such as daily ranges.

Futures traders can consider at least one solution to this problem: open interest. Open interest is the number of outstanding contracts in a

particular market. Let's use open interest in the same formula popularized by Granville, but replace volume with open interest (see "Interesting indicator," below).

We can take this solution a step further with the following formula, which incorporates price, open interest and volume:

$$\text{CumulativeSum (Open Interest * (Close - Close.1) / (True High - True Low)) + OBV}$$



POIV TIMES TWO

With the addition of open interest, we can get a much more accurate picture of what is happening in the commodity markets.

CORN DAILY BARS WITH WILLIAMS POIV AD



30-YEAR T-BOND DAILY BARS WITH WILLIAMS POIV AD



Source: TradeNavigator.com

STOCKS ON THE RUN

In an extended bull move in equities, we can see how divergences between lower lows in price and higher lows in the POIV preceded rallies in the S&P 500.



Source: TradeNavigator.com

Let's break this down into units. The first measure is perhaps the most important, CumulativeSum. It means we will add or subtract a value each day to an ongoing line or indicator. This is not an oscillator. This is a continual flowing line of accumulation and distribution within the market.

The formula is calculating the cumulative sum of open interest times the net change in price, divided by the true range. We then add the OBV value to this cumulative sum.

So we first take the net change in price (today's close minus yesterday's close) to get a percentage of where within the range the close was. Not all of the activity will be buying or selling; the market "tells" us what percentage of open interest goes to the buy or sell side.

Not only that, it also means we are incorporating price and trend change into the formula.

What we have accomplished with the formula is to continue to use trend, the direction of the close-to-close change from yesterday. However, we are still unwilling to use all of the open interest on that day. Instead we arrived at a percentage of the range, which is then our multiplier for open interest. In the old OBV technique, both days would have assigned the total volume for the day.

The next step in the formula is to then add this value, a combination of price change and open interest into the original OBV formula. This final step combines price, open interest and volume all into one accumulation/distribution line, giving the indicator the full name of Williams POIV AD.

While POIV presents a very different view of accumulation and distribution it is used in the same fashion. In basic terms, look for divergences ("POIV times two," left) shows two examples of this new tool, borne from the stock market, but applied to commodities. In the futures markets, volume is not what it once was.

These examples indicate that open interest is indeed a better overall measure, at least for commodities.

This has become even truer with the advent of electronic markets. Traders really have a problem these days. There are two sessions of volume: pit and the electronic session. These can be two different things entirely. The constants are price change, close within the daily range and total open interest. What the Williams POIV AD does is combine all of these into one measure of accumulation and distribution so that we can more clearly see the inflows of money into the marketplace. That understanding also suggests that it's better to use total volume and total open interest, not just the figures for an individual contract.

In "Stocks on the run" (left), you can see how the divergence between this index and price in the S&P 500 has frequently been a harbinger of market rallies. The lesson here is that the indicator works on not only natural resource commodities, but also the financials.

WHAT ABOUT STOCKS?

Obviously, the results here beg the question of whether what we have learned from the futures markets can be applied to equities. The short answer is that cash equities don't have a comparable figure for open interest. However, single-stock futures do. Although this analysis has not yet been extended to looking at single-stock futures, there is no immediately apparent reason why it wouldn't be just as useful.

One note of warning is necessary. The Williams POIV AD is a specific formula that compensates for the close within the range relationship, as well telling us how much OI to use, but it is an indicator, not a trading system. In practice, it is useful to confirm a trade or to focus attention on a potential trade. It is not intended to stand as the sole reason to initiate a position in the market.

Hopefully, this index will add a new depth to understanding the daily pattern of buying and selling that goes on in the marketplace. It has a better foundation than what has come before, and that it combines all of the elements of price volume and open interest into one measure, basically an x-ray view, of buying and selling activity and the market place. **FM**

Larry Williams has been one of the most prolific educators in the arena of technical analysis; he is the foremost experts on commitment of trader's reports and has written several technical analysis books. He can be reached at: larrywms@worldnet.att.net.