

EQUITY TRADING TECHNIQUES

Options: Volatility and volume

BY CHRIS MARCZAK

Options volume lacks the attention provided to other market metrics. The Option Deviation Index (ODI) is a purely statistical method of taking better measure of the options market.

Regardless of noticeable growth in the option market's volume on U.S. exchanges during the last 20 years, the literature covering this subject is limited in comparison to the number of books and articles written about traditional instruments such as stocks. Existing books about options focus on valuation models rather than techniques used by options strategists in their everyday work.

According to statistical data coming from option exchanges, most option positions are offset before expiration. This simple statement does not correspond with the option literature on the subject, where most strategies are analyzed by their performance upon expiration.

Option Mobility Index
Option Deviation Index
Range Indicators

In March 2005, an article in this magazine introduced the Option Deviation Index (ODI), a purely statistical method of market analysis measuring market movement in consecutive time intervals, expressed as percentage of the starting value. Since its introduction, the ODI concept has proven to be a useful tool, due to its simplicity and psychological

advantage. Following simple percentage readings seems to be less psychologically draining on investors, who, being familiar with technical analysis, tend to recall excessive numbers of patterns on the charts. The ODI has projected the distribution of the S&P 500 Index with high accuracy, allowing the application of appropriate option strategies and enhancing the chances of success.

Range indicator

Since the S&P 500 distribution range, as periodically calculated, is presumably correlated with volatility, attempts were made to calculate this range in relationship to volatility values; however, the results were too random. Calculations were missing an additional factor measuring the range of the S&P 500 Index movements in a similar way as was applied for the ODI. The Option Mobility Index (OMI) was the solution.

The OMI measures the range of the underlying movement for option trading purposes. Its formula is as follows:

$$OMI \% = HiD - LoD$$

Where: **HiD**: Maximum price during analyzed period in comparison to starting value (expressed in percent)

LoD: Minimum price during analyzed



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period in comparison to starting value (expressed in percent)

[In a trader's world, hunting for exploitable trends is common, but there is no indicative analytical method available to use. Some traders say that instrument X is "trendous," which means that price distribution favors one market direction over the other for the time sufficient to capture a profit. Such market movements are commonly called "tradable trends."

As there is no clear method to indicate tradable trends conditions, experience is the key. An experienced trader may somewhat recognize the market environment having a higher chance of potential profit, but if asked about the rationale standing behind his opinion, he may have a hard time giving a clear answer.

Many market watchers call this phenomenon "intuition," but a more scientific answer is that the human brain has the ability to analyze more data than is obvious. We can see this effect in many areas, where people can analyze very complex issues, giving outputs of high accuracy, but at the same time their explanation of

the whole rational process is lacking.

One of the areas where we observe this phenomenon is the game of chess. For centuries, chess has been a game in which certain people could analyze more data, and better, than others, but there was no simple rational explanation of this phenomenon. A famous highly publicized match, lost by the Grandmaster Kasparov to the IBM supercomputer Deep Blue in 1997, proved that the whole secret behind success in a chess game was the capacity to analyze data. But since Kasparov was competing with such a computationally powerful machine, it also showed the enormous potential of the human brain.

The financial world faces similar competition between computers and humans. A market, though, is an evolving environment, unlike a chess board. This explains the initial success of some trading systems that eventually break down. Our present technology has a high capacity for analyzing large amounts of data, but in a changing environment, the human brain naturally adapts faster to new conditions, while computerized systems need reprogramming. Today, humans still learn faster.

Finding trends

OMI is a helpful tool for indicating markets where tradable trends may appear with a higher frequency, thus giving the trader more opportunities to catch trend-following profits. As our trading programs are based on the S&P 500 Index, we analyzed the index data using the OMI calculation. Initial results are shown in “Mobility trends” (right).

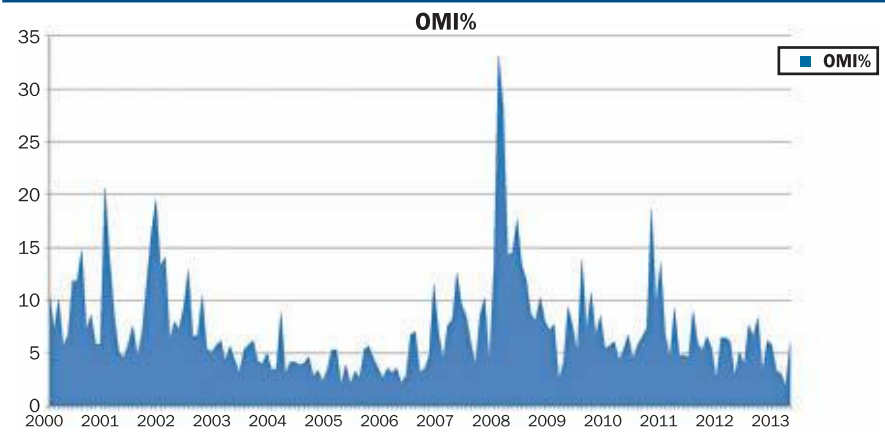
In some periods, the S&P 500 value’s mobility tends to be relatively higher, and some long-term patterns can be captured in this process. But the OMI readings seem to be too volatile to have any usefulness for market analysis. Smoothing results using moving averages may not bring appropriate outputs because the OMI may reach extreme values during periods of high market volatility.

To get a readable long-term outlook, we used the standard deviation function of the array consisting of two variables: High % Deviation and Low % Deviation. The result can be seen in “OMI line” (above).

For example, the period of very low OMI during the years 2003-07 was a

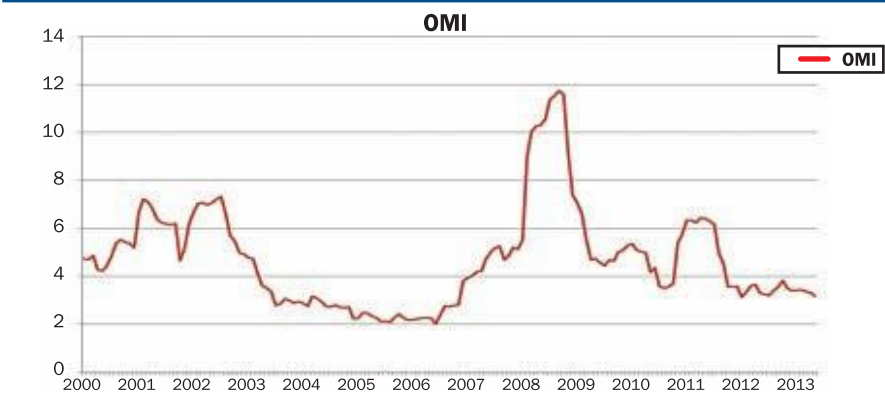
MOBILITY TRENDS

While the OMI offers quality information about trends in the S&P 500, signals can come too quickly during volatile markets to be of much value.



OMI LINE

The OMI line is useful for determining which strategies are likely to be successful—broadly speaking, trend strategies work well amid high OMI levels, while gamma negative strategies are more effective during low readings.



favorable time for many premium-selling strategies (gamma negative); however, the crisis of 2008 turned the table around. Regardless of relative mobility going lower since the end of 2008, the majority of gamma-positive option strategies and trend-following techniques were quite successful for the last five years. While approaching the tapering of the Federal Reserve’s quantitative easing program, the OMI fell to pre-crisis levels, but not as low as six to eight years ago when short selling options premiums on the futures index was the hottest game in the town.

Index analysis

In a comparison of the S&P 500 (month-

ly) and the OMI, the usefulness of the OMI looks even more convincing. According to the OMI readings, option sellers may have recently entered a favorable period over option buyers, while examination of the regular S&P 500 chart does not show significant changes. Likewise, during the 2000-03 bear market, the number of tradable trends was higher than during the bull market of 2003-07 when the market looked bullish from the regular chart standpoint, but for option traders was relatively flat (see “S&P view,” page 36).

While the OMI idea may appear similar to market volatility, the readings and interpretation of it are significantly dif-

S&P VIEW

History shows OMI may reveal S&P 500 trade bias before it's apparent on a price chart.



Source: S&P data: Barchart.com

ferent. Correlation tests of both show that while generally the OMI and volatility measured by the VIX are correlated positively, their relationship varies significantly through time, periodically reaching negative values and running quite often through periods of low-to-no correlation.

In applying option strategies, the OMI

is more indicative than historical volatility. It shows a clear picture of the periods when market mobility is more favorable for option buyers vs. sellers, and vice versa. It is also noticeable that prior to the financial crisis of 2008, the OMI had reached its lowest level in February 2007, but it started rising after that and kept that progressive pace until it showed an

explosive market mobility in late 2008. While recent OMI readings are relatively low, they are currently fluctuating in a higher range than during the bull market of 2003-07. This may be an indication of a further stage of bull market when trends are generally shorter, less dynamic and the S&P 500 stalls more often at resistance levels; but at the same time, looking from the OMI perspective, there are no signs of oncoming market turn.

While originally developed for different purposes, it appears that the OMI may also be helpful as an analytical tool, besides its usefulness in trading, such as for options and trend-following strategies. The lucid picture of the market condition painted by the OMI does not reflect an advanced technical market interpretation, but rather one of simplicity. **F**

Chris Marczak is president of UNISystems Research Inc. (www.unisystems.us), a CTA firm managing option trading programs and the developer of the Option Deviation Index and the Option Mobility Index market indicators. Reach him at info@unisystems.us.

