

Technical Analysis, the Markets and Moving Averages

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Technical Analysis begins with a very crucial assumption: All the information about the market is embedded in the market itself.

It may seem a narrow way of looking at the action of stock prices. However, technical analysis provides some very useful tools for investors. Especially when you consider that there is no single answer to the question of when you should increase or decrease investments in stocks or the markets. Technical analysis provides additional information and the serious investor cannot disregard this important form of analysis.

What is the "market"?

When reporters talk about what the market did at the end of the day, they generally report three leading market indices: The Dow Jones Industrial Average, the Standard and Poor's 500 Index and the NASDAQ Composite Index.

The Dow Jones Industrial Average was created more than 100 years ago when it was difficult to make complex computations of stock prices. For this reason, it consists of only 30 blue chip stocks that represent the best companies of American big business. People refer to the Dow as *the market*. Initially, it was concentrated in industrial stocks. However, with time, and as technology companies grew very rapidly, the Dow average has gradually lost its "smokestack" bias.

What drives the Dow Jones Industrial Average?

Because it was created before computers were invented, the Dow index is computed very simply. Originally, Charles Dow created this index by adding prices of 30 stocks and dividing the result by 30. Over the years, the divisor, which originally was 30, became smaller because of stock splits and the changing of the components in the average. However, the Dow Jones Industrial Average is still computed in the same way it was more than 100 years ago.

Because of the way it is computed, the index is a price-weighted average. As a result, the largest companies have the largest influence in the index. General Electric is one of the most influential stocks in the Dow, and, therefore, changes in General Electric stock have a large impact on the size of the change in the Dow Jones Industrial Average.

What drives the Standard and Poor's 500 Index?

Another popular index is the S&P 500, and it's computed by weighting the market

capitalization of the stocks listed in the index. As a result, companies with large market values, such as General Electric, Cisco and Microsoft, have the biggest influence. The S&P 500 contains 500 stocks chosen by Standard and Poor's, which is a unit of McGraw-Hill. The stocks included in this index are the leading companies in all U.S. industries. The S&P 500 has a heavy representation of large international, steady-growth companies.

Because of the features of the S&P 500, it tends to mirror the action of the stocks of large companies.

What drives the NASDAQ Composite Index?

The NASDAQ Composite Index contains nearly 5,000 stocks. All these stocks are traded on the NASDAQ stock market. Computers, telecommunications and biotechnology companies, which represent almost 75 percent of the market value of the index, dominate this index.

Just as with the S&P 500, the NASDAQ is weighted by capitalization of the stocks included in its index and contains big technology stocks, such as Cisco, Microsoft and Intel, which have a huge influence on its movement.

What other influences are there on the market?

Other more specialized indices measure sectors of the market. You can find these sub-indices on any financial page of a daily newspaper.

Although the three indices previously described in this article do not represent "the market," they are a good proxy for what is happening in the marketplace. The purpose of technical analysis is to understand their action and have a sense of the likely direction of the market. To gain this kind of understanding, however, other information is necessary.

At the end of each day, several statistics are made available to investors about the action that took place on the New York Stock Exchange or the NASDAQ. For example, the number of stocks that have advanced during the day, the number that have declined and the number that were unchanged (in other words, those that exhibited no price change from the closing of the previous day to the closing of the current day).

Other important data are the trading volume of advancing stocks, trading volume of declining stocks and total trading volume that took place on a particular stock exchange.

Two of the most important technical indicators that paint a picture of the market's movement are the subject of the remainder of this article. For simplicity's sake, I'm using the Standard and Poor's index to show how these measures can help you derive more information about the action of the market and whether the market is at a high or low risk level.

Moving Averages

When one looks at the price action of the market, it is very difficult to establish its trend because of the jagged pattern of the price during a week or month. One of the most used techniques for smoothing the price action of stocks is moving averages.

A moving average is a way of averaging the price. The outcome derived -- a smooth line -- provides information on the direction of the market.

There are two types of moving averages. A simple moving average obtained over a period of, let's say 20 days, is obtained by adding the market value of 20 days and dividing the outcome by 20. The following week, the new week is added, and the first week is dropped out of the average. The total obtained is once again divided by 20.

Moving averages tend to lag the action of the market. This is the "price" that investors have to pay for the smoothing effect of the moving average. The use of moving averages is twofold. The first important use is as a visual aid for determining the trend of the market.

The second important use of a moving average comes into play when the actual value of the market falls below the value of the moving average. This is an important signal that should not be taken lightly -- especially if the moving average is over a period of 40 weeks. In fact, a rule of thumb is that the longer the periods used for the moving average, the more important the signal when the market falls either below or above the moving average.

For instance, if we use a 40-week moving average, and the market falls below the 40-week moving average, the signal is very important and should be taken as a serious warning that the trend in the market is changing in a significant way. On the other hand, the violation of the downside or the upside of a 10-day moving average is not as important as a violation of a 40-week moving average.

The risk with these kinds of timing techniques is that investors could be "whipsawed." The term whipsaw refers to the fact that, for instance, the market falls below the moving average, thus giving a sell signal and suddenly reverses itself, and after a few days or a few weeks, moves above the moving average again, providing a buy signal. As it was said at the beginning of this article, there are no simple or reliable rules in the investment arena. Each signal may or may not be important. It has to be put into context with all the rest of the information the investor is following.

Several websites and software applications provide stock market charts and stock charts with moving averages where the user can choose the moving average span. The most frequently used moving average is over 40 or 50 weeks, and when using daily charts, the 10- or 25-day moving average is also widely used.

Moving Average Crossovers

When one computes a 20-week moving average and then computes a 40-week moving average, the 20-week moving average moves more rapidly with the market than the 40-week. The use of a fast and a slow moving average can provide further information on the action of the market. The investor can obtain an oscillator, which is an indicator that moves around zero by taking the difference of the two moving averages. This indicator provides a buy signal when the oscillator rises above zero and a sell signal when it falls below zero. This methodology has been called a moving average convergence-divergence (MACD) indicator.

The indicator that uses the moving average crossover technique is called the MACD oscillator. This oscillator uses two exponential moving averages: One short-term and one long-term. The MACD indicators are available free from almost all charting services.

So, why use Moving Averages (and how, and when)?

Remember that Moving Averages track the trend of prices. They don't forecast; they shed light on what prices have been and are doing. Thus, they can provide you with decision support in knowing when to get in and out of a market. They work best in trending markets, which is why the oscillator comes in handy for choppy or sideways markets.

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