Profiting
with Indicators

By Jeff Drake
with Ed Downs

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1

Introduction to Indicators

Trading is a game of odds. Nothing is certain when it comes to the financial markets, and the only way in which we can consistently win in this game is to take action when the odds are in our favor.

When looking at a list of candidates to trade or analyzing a potential trading opportunity on a particular chart, we can improve our odds of winning by only taking the trades with the "least technical risk". Let's face it – it can be a daunting task when looking at list of trade candidates and deciding which ones present the best opportunity for success. Yet by applying confirmation techniques such as chart patterns and indicators we can arrive at a select few candidates that present the least technical risk. By trading these candidates only at the proper time, we are increasing the likelihood of a profitable trade. Of course, the key to isolating these opportunities is to know which confirming tools to use when making trading decisions.

"Profiting with Indicators" is designed to help you find the opportunities with the best gain potential and least technical risk by properly applying indicators. While there are many books and other materials available that tell you how to construct an indicator, the purpose of "Profiting with Indicators" is to explain the practical application of using indicators in your trading. Our focus is not on how to calculate an indicator (most trading software will already do this for you), but on how to make money by using indicators to confirm trade candidates.

However, before we begin discussing individual indicators, it's important that we define exactly what an indicator is.

What is an Indicator?

An indicator is a mathematical calculation, using price and/or volume data, which is designed to "indicate" when a condition exists or when a condition has been met. Indicators can be plotted on the price chart or below the price chart. For example, moving averages are normally plotted on the price chart itself, while oscillators are normally plotted below the chart. We'll discuss this in more detail when we cover individual indicators.

When using indicators for confirmation, it is important to understand what condition the indicator is looking for before applying it to your trading. While one indicator may be looking to identify trend direction, another may be looking to identify the speed at which price is changing. However, regardless of the type of indicator, they are all trying to do one thing – that is to help us determine future price direction.

An Indicator is...

…A mathematical calculation that "indicates" when a condition has been met or exists.

Leading vs. Lagging Indicators

Most indicators can be classified into two different categories – lagging indicators and leading indicators. A lagging indicator is best used to identify trend direction. They get their name from the fact that they trail, or lag behind, price direction. Lagging indicators will miss sharp reversals, but many feel that the slightly minimized reward of a lagging indicator is offset by the minimized risk.

A leading indicator, sometimes referred to as a predictive indicator, attempts to predict trend reversal. Most leading indicators try to identify "overbought" or "oversold" levels, operating on the assumption that securities that are overbought will then fall in price, while oversold securities will see price advance. Due to the predictive nature of these indicators, they tend to give false readings more often than lagging indicators. However, they are good at bringing our attention to the potential of a direction reversal.

As a general rule of thumb, lagging indicators work best in markets that trend for long periods, while leading indicators are more effective in trading range, or sideways, markets.

Indicator Classes

There are four main classes of indicators: trending indicators, momentum indicators, volume indicators, and volatility indicators. Each class of indicator is looking to identify different conditions when they are applied. For example, a trend indicator is simply attempting to identify the current trend direction, and a volume indicator attempts to identify when abnormal volume is accompanying a price move. The table below gives us a working definition of each major indicator class.

Indicator Class	Attempts to Identify
Trending Indicators	Direction of current trend and reversals
Momentum Indicators	Overbought and Oversold levels
Volume Indicators	Abnormal volume
Volatility Indicators	Abnormal volatility

While these definitions give us an idea of how these classes of indicators are meant to be used, most indicators have multiple methods in which you can apply them to your charts. A popular application of the momentum class of indicators is to look for divergence between the indicator and the price chart. Another method that can be applied to momentum indicators is the classic overbought and oversold level method. While each method attempts to identify the potential for a reversal, you might choose one method over the other depending on the length of trade you are looking for . We

will discuss the different methods of applying each class of indicator when we discuss that particular class.

To begin our discussion of each indicator class, let's begin with the most commonly used indicator – the trending indicator.

Chapter

2

Trending Indicators

Trend Indicators attempt to identify the direction of trend and alert us to the potential change in trend. In order to do so, they attempt to eliminate the 'noise' that is inherent in bar and candle charts, and provide a visual representation of the trend that is more easily identifiable. The majority of trend indicators make use of moving averages almost exclusively, and due to this characteristic they are lagging indictors. In fact, another term used for trend indicators is *trend following indicators*.

Some of the most commonly used Trend Indicators include Typical Price, Median Price, Vertical Horizontal Filter, MACD, Trend Intensity Index and Average Directional Movement. Yet far and away the most commonly used trend indicator is the moving average. Since this is the case, let's take a look at moving averages in general, and then discuss some of the most popular types of moving averages and their application.

A Simple Moving Average applied to the chart of Nike

Moving Averages

Moving averages attempt to give us an objective measure of trend direction by smoothing the price data. This is usually done by using the close price of data bars, but

high and low prices are used at certain times as well. The shorter the time period of the moving average, the more reactive it will be to the latest price change. This is to say that a 20-period moving average will follow the nuances of the price chart more closely than a 50-period moving average. This can be beneficial in identifying trend reversals more quickly, but it also leads to more false readings.

While moving averages can be constructed using any number of periods, some of the most popular periods are 200-periods for long term trend indication, 45-65 periods for medium term and 20-period for short term.

The three most common types of moving averages are the Simple Moving Average, the Exponential Moving Average, and the Weighted Moving Average. Let's take a look at each type.

Simple Moving Averages (SMA)

The Simple Moving Average is constructed by taking the sum of the values of the latest *n* periods and then dividing by *n*. For example, a 20-period Simple Moving Average would take the sum of the close price for the last 20-periods and divide by 20. Since the Simple Moving Average applies equal weight to each one of the values in the calculation, it is the slowest of the three types of moving averages which we will discuss. However, this does not nullify its value. Simple Moving Averages give us a good, conservative indication of trend direction.

This chart for Occidental petroleum shows a 21-period Simple Moving Average following price in a downward and upward trend.

Exponential Moving Averages (EMA)

Exponential Moving Averages (EMA's) are constructed similarly to Simple Moving Averages, yet more weight is applied to the latest price. This is done by applying a percentage of the latest period's closing price to the previous period's moving average value. Since Exponential Moving Averages apply more weight to the latest values, they will turn more quickly than a Simple Moving Average and follow price more closely.

Here again we see the chart for Alcoa, but this time it is displayed with a 21-period Exponential Moving Average as opposed to the Simple Moving Average in the previous example. While it looks very similar, notice how the Exponential Moving Average "hugs" price just a bit closer than the Simple Moving Average.

Weighted Moving Average

A Weighted Moving Average (WMA) is designed to put more weight on the latest data and less weight on the past data, similar to the Exponential Moving Average. Weighted Moving Averages assign the most weight to the most recent data period, the second most weight to the previous data period, the third most weight to the data period before that, and so on. Of the moving averages that we have discussed, the Weighted Moving Average will "track" a security more closely than the Simple Moving Average and the Exponential Moving Average. Due to the weighting of this type of moving average, some see it as a truer representation of the current trend. Yet it tracks a security in a manner that is similar to the EMA as shown in this example.

Applying a Moving Average

The simplest application of moving averages to your trading would be to look for price to penetrate the moving average. In the chart below, we see four examples of the price penetrating a 40 period SMA. In example A, we see where price penetrated the moving average twice. Price penetrated the moving average to the downside and then turned around and penetrated price to the upside on the next bar. This is known as a "whipsaw" and it is common with moving averages. We will discuss whipsaws in more detail later. Example B shows price penetrating the moving average to the downside and a strong downward trend follows. And finally, in example C we see price penetrating the moving average to the upside, indicating the beginning of a strong upward trend.

The application of a moving average can be used for entries and/or exits. In this example, let's say that we go long when price penetrates the moving average to the upside, and exit when price penetrates the moving average to the downside. We could also go short when there is a downside penetration and cover the short position on an upside penetration. This would have resulted in four trades, with three of them being profitable. However, this scenario only works effectively when a security trends well. During periods of consolidation, a moving average will give you multiple false signals. This is why the moving average should only be applied as a **trend confirmation tool**, and not as a systematic approach to trading.

Using Two Moving Averages

Another popular application of moving averages is to use multiple moving averages. Since moving averages are lagging indicators, the application of two moving averages will result in later signals, but it will help reduce whipsaws. Let's look at an example of using two moving averages. We have applied a 15-period Simple Moving Average and a 40-period Simple Moving Average to the same chart as before. If we are to take a

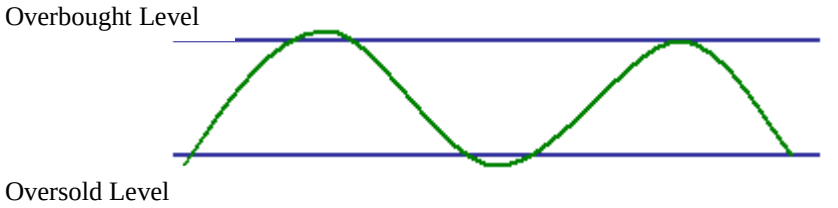
position in the direction of the faster moving average (15-period) when it penetrates the slower moving average (40-period), we have only two positions; one short and one long. The whipsaw from the previous example is eliminated due to the lagging nature of a moving average.

The use of two moving averages is common in trading. Moving averages smooth price, and by using two moving averages we can better eliminate the inherent noise associated with price charts and help reduce the negative effects of whipsaws. Yet regardless of the number of moving averages used, they will still fail in sideways markets.

A 15-period Simple Moving Average and a 40- period Simple Moving Average plotted on the chart for Ford. Using two moving averages helps to eliminate whipsaws.

Moving Average Oscillators

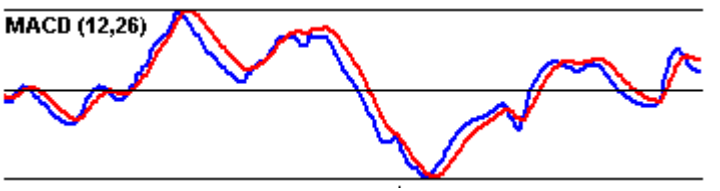
The moving averages that we have covered to this point are applied directly to the price chart. Yet moving averages can also be presented as an oscillator. An oscillating indicator will fluctuate between two extreme levels, with the upper extreme being considered an overbought level and the lower extreme being an oversold level.



There are various interpretations of oscillators, and the majority of them are covered in the momentum indicators section. In our discussion of trend indicators, we will look at applications of moving average oscillators that are exclusive to these indicators, and also look at how they can help us identify trend strength and potential reversal points.

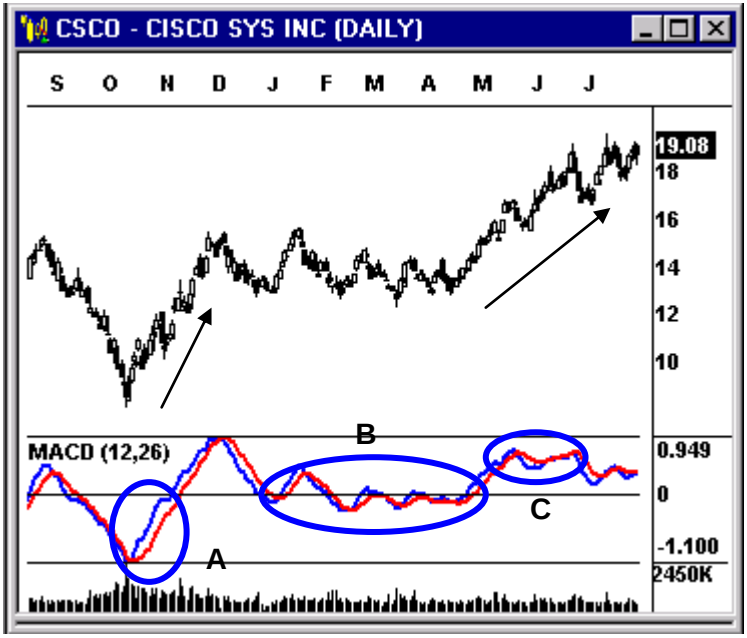
Moving Average Convergence/Divergence

The Moving Average Convergence/Divergence (MACD) indicator uses two exponential moving averages, with the "classic" parameters being a 12-period EMA and a 26-period EMA. The difference of these moving averages is presented as an oscillator, and then a 9-period moving average of the difference is then applied. This is known as the signal line due to the fact that a buy signal is generated when MACD crosses the signal line to the upside, and a sell (or short) signal is generated when it crosses the signal line to the downside. It's important to note at this time that this type of application of the MACD results in whipsaws in a sideways market, just as the other moving average indicators we have looked at.



The MACD Indicator. The faster line represents the MACD Line, while the slower line is the trigger line.

The MACD is a responsive indicator, in that it reacts to recent price information quickly. This makes it prone to whipsaws. Yet the MACD indicator is useful in other ways.



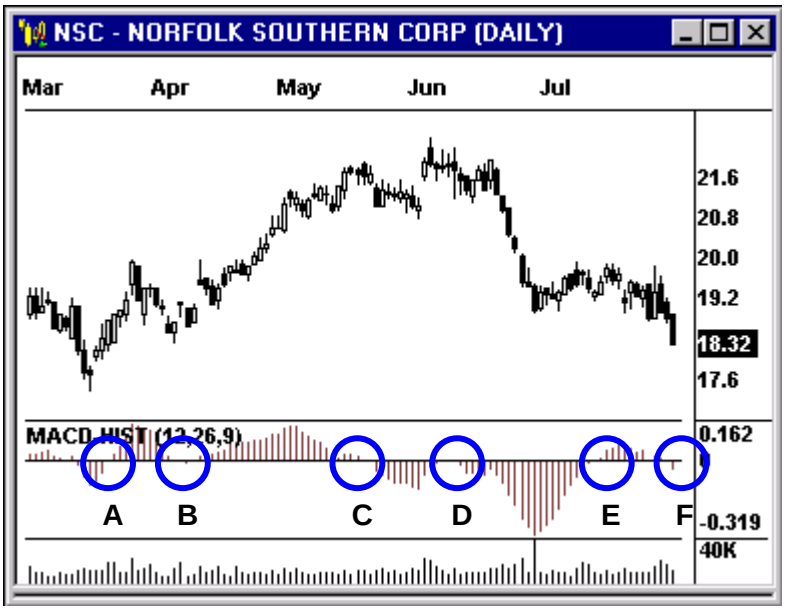
On the chart for CSCO, we have marked three different ways in which you can use MACD. Example A shows divergence of the MACD from the trigger line. This is helpful in indicating a strong upward move. While some may see the MACD crossing the trigger line as good long signal in this example, the next example shows why this is an unreliable method of applying MACD. In example B we see a period of tight consolidation, and that there are multiple false signals that would occur if we were to use the signal line crossover method. Yet another useful characteristic of the indicator is to look for the MACD to go horizontal at the zero line. This tells us that the security is in a period of consolidation, and it is not a good time to take a trade in either direction. Example C shows another use of the MACD indicator, and that is to determine the current strength of trend. When the indicator is at the top of the oscillator, we know that an upward trend is still in effect.

The MACD indicator has additional interpretations as well, yet they fall more along the lines of momentum indicator methods so they are discussed in momentum indicator chapter.

The MACD Histogram

The MACD Histogram displays the difference between the MACD line and the signal line as a histogram. This makes the visual interpretation of the MACD much easier

than the regular MACD indicator. If the histogram is above the zero line, it signifies an upward trend, and of course if the histogram is below the zero line, then it signifies a downward trend. The MACD Histogram is an effective tool when confirming short term trading opportunities.

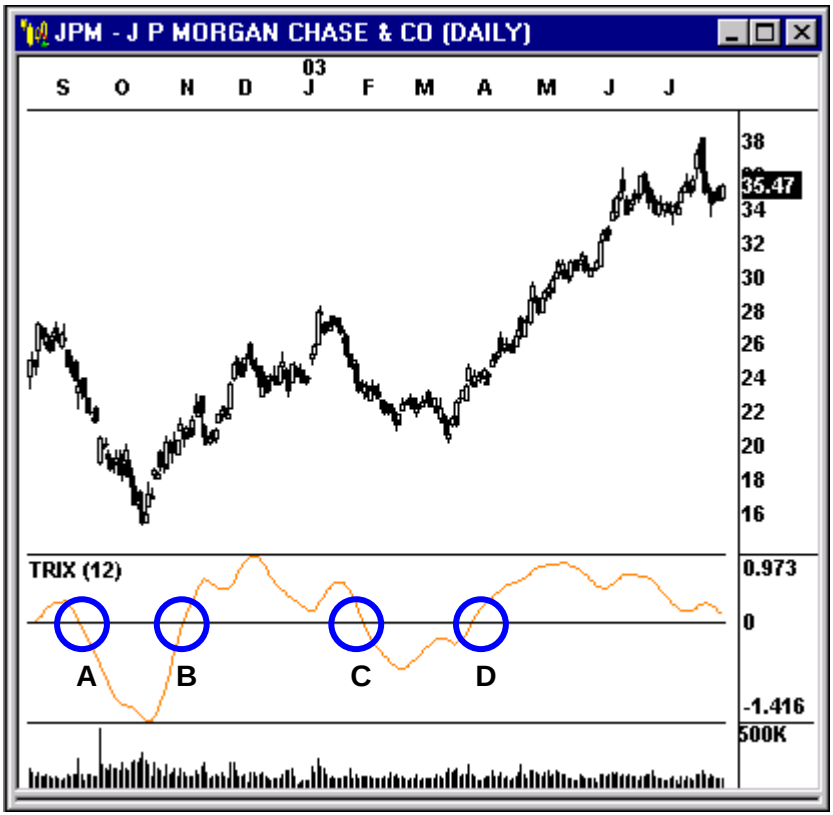


In the chart above we have marked six points where the histogram crossed the zero line. Point A shows a move up through the zero line, but the true upward trend didn't take place until the histogram had fallen back slightly and then moved through the zero line at point B. Since the MACD Histogram is based on the same information as the MACD, it is also highly reactive to price and possesses all of the MACD's strengths and weaknesses. Point C shows another example of an early move through the zero line, but similar to the previous example, the downward trend didn't actually take effect until point D. At point E, the stock is consolidating and we get a false long reading from the indicator. This is a good example of the fact that although the MACD Histogram is displayed differently than a moving average, it is still based on moving averages and it is prone to the same false signals during periods of consolidation. Point F shows a break of the zero line to the downside as the stock falls out of its consolidation.

Some traders also look for peaks in the MACD Histogram for short-term confirmation, and others will consider the slope of the histogram as a trend indicator (i.e. sloping upward means a short term upward trend). Studying the MACD Histogram will help you determine which application best suits your style of trading.

The TRIX Indicator

The TRIX Indicator uses a triple smoothed moving average (a moving average of a moving average of a moving average), and it is less prone to whipsaws than many other trend indicators. Presented as an oscillator, the application of the TRIX indicator is pretty straightforward. When the TRIX indicator is above the zero line, it means that the security is trending upwards. Conversely, when it is below the zero line it means that the security is trending downward.



The chart of JPM shows how effective this indicator can be in confirming entries. Points A, B and D show that a profitable trend occurred once the indicator crossed the zero line. Yet before we rush out and apply the TRIX indicator to all of our charts, its important to know that the nature of the triple smoothing can often result in late signals and missed opportunities. Point C on the JPM charts shows that the indicator crossed the zero line after a short term trend had already completed for the most part. This illustrates why using this indicator in this manner is more conducive to long term trading than short term trading.

Trend Indicator Summary

We have just looked at the most popular trend indicators. Of course, there are many more trend indicators, all of which attempt to tell us the same information. Trend indicators are best used to help us identify the current trend and potential reversal points. Almost all trend indicators make use of a moving average, and this causes them to be classified as lagging indicators. The most important point to remember about trend indicators is that ***their value is severely limited in a sideways market***. Regardless of which type of trend indicator you choose to apply to your trading, it will only help you confirm entries in a trending market. If the market starts to move sideways, or in a trading range, you would be best suited using a different class of indicator for confirmation. Even so, we know that in trading the money is in the trend, and most traders will always apply a trend indicator to their charts to help them identify the strength of the current trend as well as trend reversals.

Chapter

3

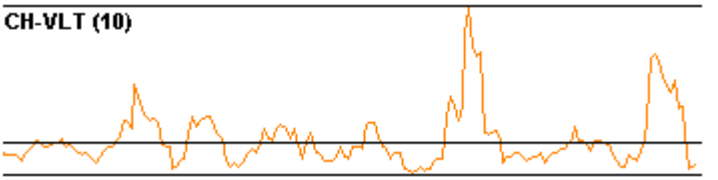
Volatility Indicators

The second class of indicators that we will cover is the Volatility Indicators. These indicators are meant to measure the typical behavior of a security's movement, and alert us to the points when its behavior is abnormal. This can be in the form of either contraction or expansion, and it assists us in determining market tops and bottoms as well as potential breakout moves.

Volatility is one of the most overlooked measurable characteristics of technical analysis. While it would be difficult to construct a successful trading system using a volatility indicator exclusively, adding a volatility indicator to your analysis arsenal will help you isolate situations where a reversal or continuation is more likely. We'll discuss the application of volatility indicators later, but first we want to take a look at a couple of the most popular volatility indicators which are available in most technical analysis programs: Chaikin Volatility and Average True Range.

Chaikin Volatility

The first volatility indicator that we will look at is Chaikin Volatility. This indicator measures volatility by looking at the difference in the Exponential Moving Averages of the high and lows of the last 10 bars (typically) and alerts you to a sudden increase in the daily price range. A high indicator reading can be used to confirm the likelihood of a reversal or breakout.



Peaks in the Chaikin Volatility Indicator alert us to potential breakouts.

This chart for Sears shows two examples. At point A, we see an unusually high Chaikin Volatility reading that accompanies a reversal. We have marked the resistance level that the security was at once volatility began to expand. Situations like this alert us to a high probability of a break in one direction or the other. However, point B shows where a high indicator reading does not result in a reversal and only a very short term breakout. This gives us a good example of the usefulness of this indicator. While it can help in determining higher odds of a reversal or breakout, it should be applied with other indicators from a different class to increase odds of entering a profitable trade. In other words, this indicator tells us when the conditions are good for a reversal or breakout, but additional analysis is required.

Average True Range (ATR)

J. Welles Wilder developed the Average True Range Indicator and first presented it in his classic book *New Concepts in Technical Trading Systems*. This indicator is also commonly referred to as Wilders Volatility. Its construction is a bit complicated, but its application is similar to the straightforward approach we discussed with Chaikin Volatility. High Average True Range, or ATR, levels indicate that the odds are in favor of a reversal or breakout. Another use of ATR's is to look for a rise in the indicator to help determine market participation in the current move.

In this example, we see a high ATR reading occurring as Tyco reverses to the upside. As you apply the ATR indicator to charts, you will see that the high readings will often occur after a market top or bottom. While some may see this as a detrimental behavior of this indicator, it will tend to give fewer false readings than Chaikin Volatility, and it proves to be a useful tool in confirming reversals.

Chapter

4

Momentum Indicators

Momentum indicators attempt to measure the velocity at which price changes. While there are various indicators that fall into the momentum category, including Rate of Change, Moving Average Convergence/Divergence, Stochastics and RSI, they are all attempting to tell us when there is a change in a security's current momentum. These indicators are applied to give us an early indication of trend reversal, and are thus classified as leading, or predictive, indicators.

Although there are many different kinds of momentum indicators, they are all designed to tell us when a security is ready to reverse by one of the following methods:

1. Overbought and oversold levels

2. Indicator divergence from price direction

3. Indicator trendline penetration

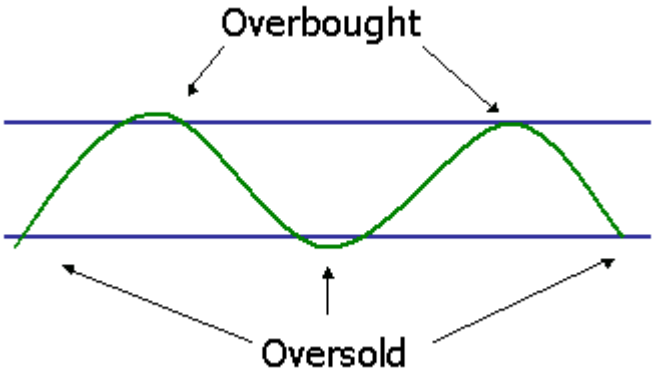
4. Indicator moving average penetration

The most common of these methods are the overbought/oversold indication, and the divergence method. Let's take a moment to define these two methods.

Oscillators

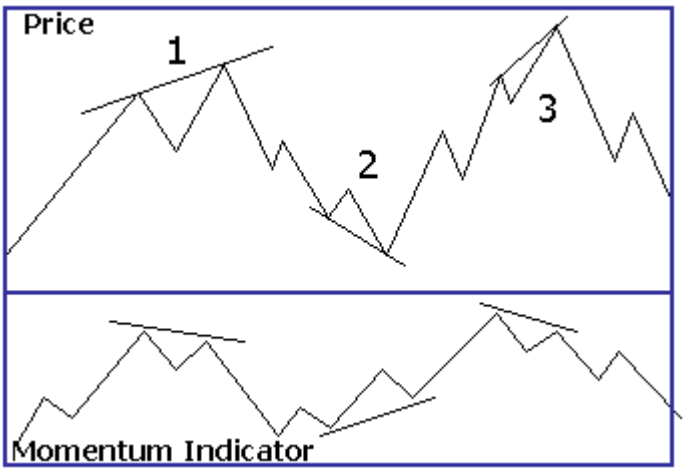
Momentum indicators are presented as oscillators, in that they are constructed to oscillate between two extreme levels. This concept was touched on when we discussed moving average oscillators, but let's expand the discussion just a bit.

The higher extreme is known as the overbought level, and the lower extreme is known as the oversold level. This illustration shows how the indicator, represented by the wavy line, is oscillating between the extreme levels. Once the indicator reaches or exceeds the upper level, the security is said to be overbought. In contrast, once it reaches or exceeds the lower level, it is said to be oversold.



Overbought and oversold are used to show when a trend reversal is likely, but they are far from definite levels. There will be times when a momentum indicator is at an overbought level, yet the security that it has been applied to is continuing to trend upwards. The practical application of this method is to realize that the likelihood of a reversal has increased, not that a reversal is imminent.

Divergence



Divergence refers to the case when an indicators primary direction diverges from price direction. For example, if the price of the security is rising, yet the value of an applied indicator is falling, the indicator is said to be diverging from price. When we look for indicator divergence, we are in effect looking for a forecast of price direction, and this illustrates the predictive nature of using this form of analysis with momentum indicators. Divergence tells us that momentum is either weakening or gaining strength.

Similar to the overbought and oversold indication, it is only signifying that the chances of a reversal are likely, not guaranteed.

The previous illustration shows three examples of divergence. By looking at the slope of a line drawn across the peaks in examples 1 and 3, we see that price is rising while the indicator is falling, indicating bearish divergence. Example 2 shows divergence in the valleys of the price and indicator chart, indicating bullish divergence. We'll look at more examples of divergence as we explore some of the most commonly used momentum indicators.

The Momentum Indicator

The first momentum indicator that we will look at is the aptly titled Momentum Indicator. Momentum measures the rate of change in closing price over the past *n* periods. This indicator is simple, yet effective when looking for trend reversals. In this chart we see an example of both bearish and bullish divergence. Notice that when we are looking for bearish divergence, we are comparing peaks, while we look at valleys for bullish divergence.

The Momentum Indicator can also be used to identify overbought and oversold levels, but due to the nature of the indicator, the levels will vary from security to security. We

will see a more straightforward approach to identifying overbought and oversold levels in our discussion of the next momentum indicator, Stochastics.

The Stochastics Oscillator

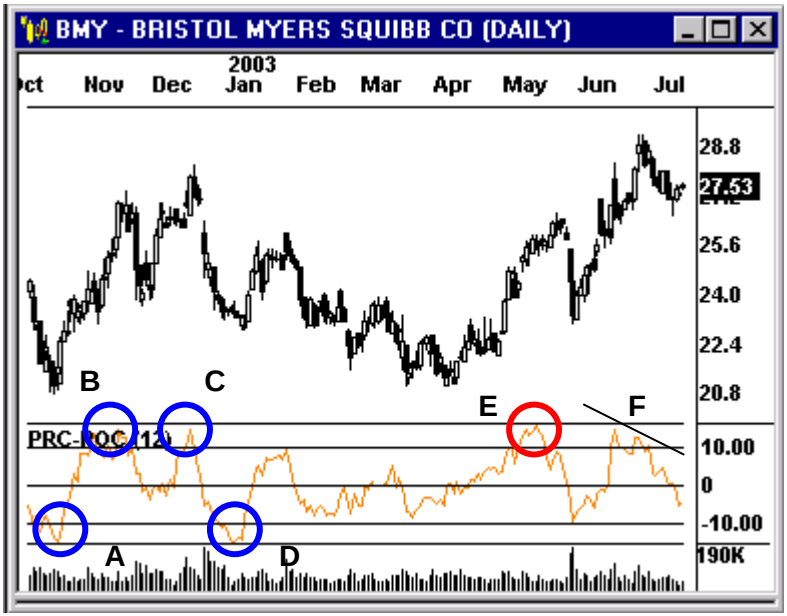
The Stochastics Oscillator is constructed by using two lines. The first line, referred to as the %K line, compares the latest price to the recent range. This line can be constructed using various time ranges. A general rule to use is that the shorter the period used to construct the line, the shorter the timeframe of trade you desire. The second line, the %D line, simply smoothes the %K line and is used as a "signal" line. These lines will oscillate between 0 and 100, with overbought and oversold levels being indicated by 80 and 20, respectively.

In this chart, we see a very good example of how effective the Stochastics Oscillator can be in determining these levels. From February through April, Nextel moved in a fairly tight range, and the Stochastics indicator was able to pick up reversals. Unfortunately, once the stock began to go into an upward trend, Stochastics became ineffective. This illustrates an important fact about Stochastics; the indicator is only truly effective in ranging markets.

Stochastics can also be applied in the same method as the Momentum Indicator, in that you can look for divergences between peaks and valleys. If you choose to use Stochastics in this manner, be sure and use a higher period for the %K calculation for better results.

Rate of Change (ROC)

Rate of Change is similar to the Momentum Indicator, but it is more effective at identifying overbought and oversold levels. The Rate of Change indicator is presented as an oscillator, with 10% representing the overbought area, and –10% representing the oversold area. These are guidelines to assist you in determining overbought and oversold levels, but not exact levels in and of themselves.



In this illustration, we see multiple price reversals once the ROC indicator passes back through the overbought and oversold areas. In examples A-D, we see how effective the indictor can be in a well defined range. However, example E shows an overbought indication that is suspect due to a more poorly defined short-term range.

The ROC indicator also lends itself well to divergence studies, as illustrated in example F.

The Relative Strength Index (RSI)

The Relative Strength Index is one of the most popular momentum indicators. It is constructed by comparing the upward movement of price with the downward movement over a certain period. This indicator lends itself to overbought and oversold analysis, with 70 representing the overbought level and 30 the oversold level. In this example, we see that a clear break of these levels is a good indication of reversal potential.

Another interpretation of the RSI indicator is to look for values above and below the 50 line. When the indicator is above 50, then the security should be in an upward trend. Conversely, a value below 50 would indicate a downward trend. The example above shows the value to this approach.

Unlike the previously mentioned momentum indicators, the Relative Strength Index is not as commonly used with divergence analysis. Yet it can still help indicate a reversal when the indicator diverges from price.

More Momentum Indicators

We have just covered the most popular momentum indicators used in technical analysis. Other indicators that can be used for momentum analysis include:

1. The TRIX Indicator
2. Williams %R Indicator
3. The Commodity Channel Index
4. The Detrended Price Oscillator
5. Vertical/Horizontal Filter
6. MACD

Most of these indicators are available in the majority of technical analysis programs, and all of these indicators are available to you in Nirvana Systems' OmniTrader and VisualTrader. The Indicators Help File in your OmniTrader program includes additional information on these indicators if you would like to learn more about them.

Additional Momentum Analysis

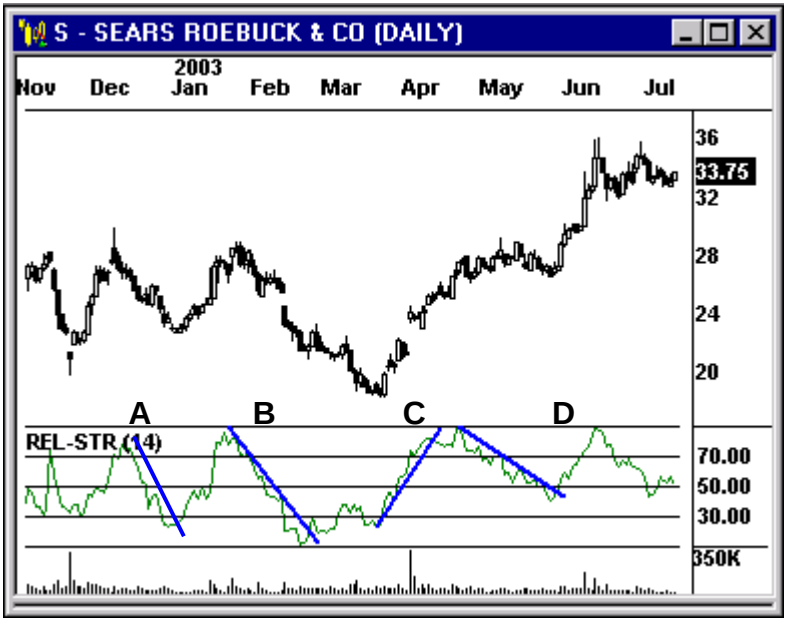
Our discussion on momentum indicator analysis has been limited to overbought and oversold levels and divergence. Yet there are other analytical methods that can be applied to momentum indicators. Two common methods are indicator trendlines and applying price patterns to momentum indicators. Let's take a look at each type of analysis.

Momentum Indicator Trendlines

Technical analysis makes common use of applying trendlines to price charts. In fact, two of the basic tenets of technical analysis are that 'prices move in trends' and 'a trend is valid until proven otherwise'. Recognizing price trends and their breaks are fundamental requirements to successful trading.

So is it valid to apply trendline analysis to momentum indicators? The answer is yes, but there are important considerations you must take into account when analyzing momentum trends. Momentum, like price, will move in trends. Yet when we see a price trend break, we know that the market sees this occurrence as well, and the likelihood of a reversal trend is high. On the other hand, let's consider a momentum

trend break. Remember that momentum is a leading indicator. When a momentum trend is broken, it is not telling us that the price trend will reverse. It is alerting us to the increased odds of a price trend reversal.



In this example, we have plotted the Relative Strength Index on a chart for Sears. We can see four clear examples of trendline breaks on the RSI indicator. Some of these examples helped us identify a change in the price trend. Examples A and D help us identify a change in momentum, as Sears made a nice upside run after a lengthy consolidation. These examples help illustrate the fact that a break in the momentum trend helps us identify when the odds of a price trend reversal are good. When using this type, or for that matter any type of momentum analysis, remember that price confirmation is essential.

Applying Price Patterns to Momentum

The final type of momentum analysis we will discuss is applying price patterns to momentum. There are many publications and educational resources that teach this method of analysis. Unfortunately, it is difficult to find any supporting evidence to the value of this practice (outside of indicator trendline analysis).

Almost all price patterns are constructed with some form of support and resistance lines. Consolidations, double tops and bottoms, head and shoulders, etc… all make use of support and resistance levels. These levels represent fulcrums that often dictate the direction that price will move once honored or penetrated.

Due to the fact that momentum indicators are oscillators, logic tells us that the lower level of the oscillator is not support, nor is the upper level of the oscillator resistance. These levels cannot be penetrated, and hold no significance in the classic sense of support or resistance. This is just one example of the questionable logic of applying price patterns to momentum indicators.

It may be possible to find a momentum indicator pattern that reflects a price pattern, and it may correspond with a price move. Yet this occurrence is truly rare, and one must heavily weigh the possibility of coincidence. We believe that your analysis time will always be better spent using momentum indicators in the other methods we have discussed as opposed to price patterns.

Momentum Indicator Summary

In summary, it is important to remember these key points about momentum indicators:

1. Momentum indicators cover a wide variety of indicators, but they are all trying to measure the velocity of price change, and they all present themselves as oscillators.

2. The two most popular types of momentum analysis are to look for overbought and oversold levels, and to look for indicator divergence.

3. Momentum moves in trends, and trendline analysis applied to momentum can help you determine when a price trend reversal is likely.

4. Although price patterns have been applied to momentum indicators in other publications, the practical application of this analysis is difficult to support.

5. Momentum alone can help you determine when a short term price reversal is likely, but longer term moves require additional indicators or techniques to be used with momentum.

At this point, we have looked at the most popular indicators. Our final class of indicators is often overlooked, but one of the most reliable - The volume indicators.

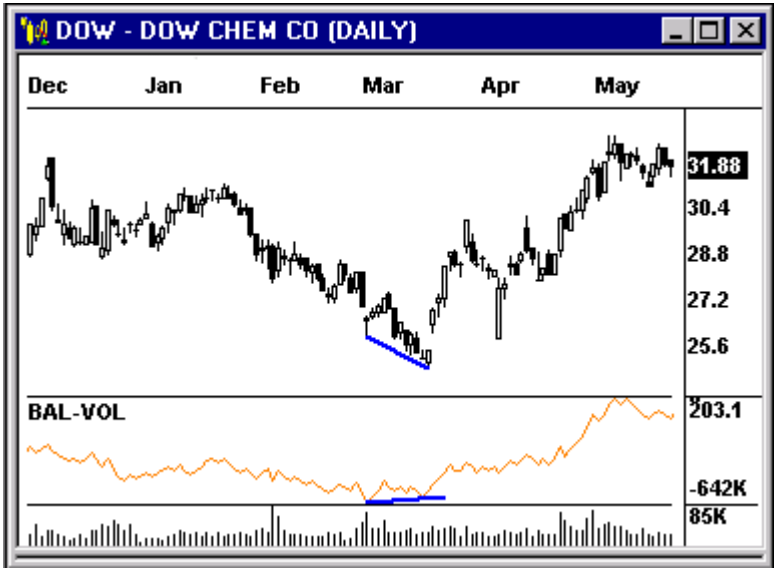
Chapter

5

Volume Indicators

The leading and lagging indicators that we have covered are based solely on price. Yet volume indicators give us the advantage of knowing the strength of market participation by incorporating volume into the indicator formula. These indicators give us an added level of confirmation by measuring the buying and selling pressure at a given point in time.

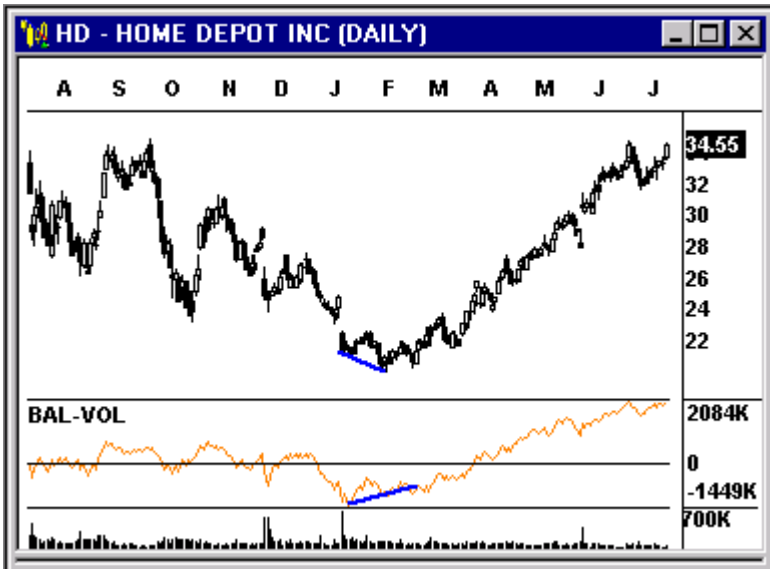
Let's look at three of the most popular volume indicators: On Balance Volume, Accumulation Distribution, and Money Flow.



On Balance Volume plotted with the price chart for Dow Chemical.

On Balance Volume (OBV)

On Balance Volume is designed to measure the level of accumulation or distribution by comparing volume to price movement. Volume is added to the indicator if closing price moves up, and subtracted if closing price moves down. If the closing price is unchanged, the indicator stays at its previous level.

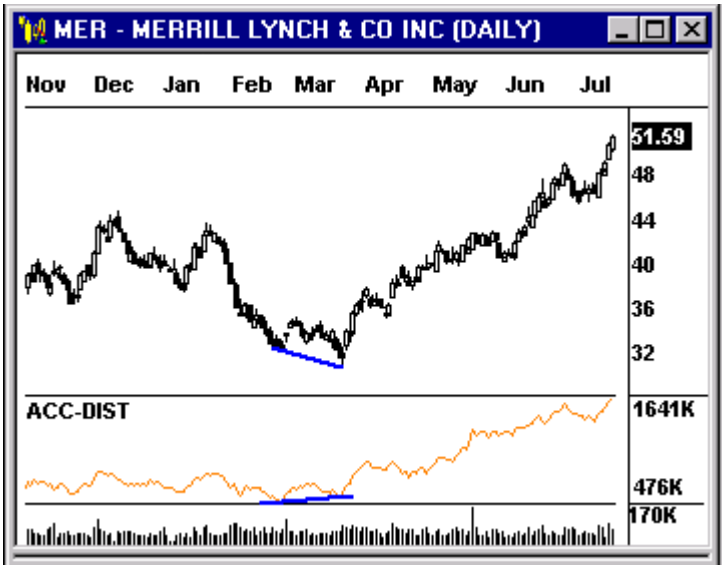


The interpretation of OBV is quite simple. When the indicator is rising, it is telling us that there is heavier market participation in the upward movement, and that an upside move is likely. Conversely, if OBV is falling it indicates that downward price movement is likely. This makes trendline analysis with the indicator a useful method of determining price trend strength.

Another popular method of applying OBV is to look for divergence. In this example, we see that the divergence of OBV from price preceded a reversal and an extended upward trend for Home Depot.

Accumulation Distribution

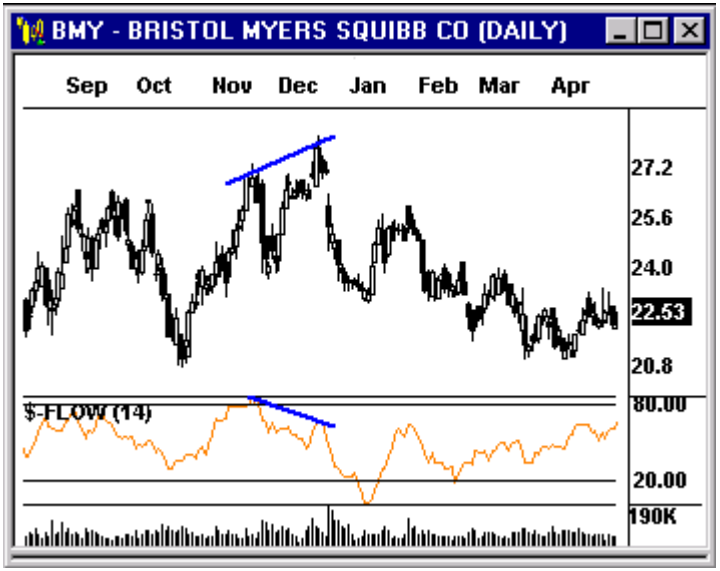
Accumulation Distribution measures the relationship between price and volume, and is similar to On Balance Volume. It tracks the commitment of buyers and sellers, and the most common method of analysis used with Accumulation Distribution is to look for indicator divergence from price.



The chart for Merrill Lynch shows a clear example of Accumulation Distribution divergence from price, which preceded a steady upward trend.

Money Flow

Money Flow is based on the Relative Strength Index, and uses a volume weighted formula in an attempt to indicate the likelihood of a trend reversal. Since it is based on the RSI indicator, it is an oscillator, and its interpretation is similar to momentum indicators discussed in the previous section.



Money Flow identifies overbought levels when it exceeds 80 and oversold levels when it falls below 20. While it can be used in this manner, its most common interpretation is to look for divergence. In this example, we see that the Money Flow indicator diverged from price as Bristol Myers was making new highs. An extended, although choppy, downward trend followed.

Volume Indicator Summary

Let's summarize what we have learned about volume indicators:

1. Volume indicators help you measure the market's participation in a price move.

2. The direction of the volume indicators that we have covered will help you identify trend strength.

3. Divergence of these indicators from price is an early sign of a likely reversal. This is the most common method of analysis used with these indicators.

4. We also need to realize that while volume is important in all time frames, most volume indicators are not as effective when analyzing real time charts. The heavy volume at the beginning and end of trading sessions will cause volume-based indicators to give false readings. This is not to say that volume analysis has no place in real time trading; it only refers to inherent problems that are created by using volume indicators in real time.

Chapter

6

Which Indicators Should I Use?

In the previous chapters, we have looked at the most popular indicators in different classes and discussed the application of each. Armed with this information, we can now begin to address the question of which ones you should use for your individual trading.

What Type of Trader are You?

Before deciding which indicators you want to apply to your trading, you must first identify your trading style. As we have seen in the previous chapters, different indicators are looking for different types of behavior. For an indicator to assist you in your trading, you need to know what you are looking for when you are considering a trade, and then select the indicator that is best suited to help you identify that type of setup.

Long Term or Short Term

We can begin to identify ourselves as traders by understanding the term, or length, of trade that we are looking for. Are you looking to take a position in a security and take profits after a few bars have formed, or are you looking to take a trade and watch as the primary trend plays out over a longer period of time? The answer to this question will play an important part in determining your choice of indicators. The following table will assist you in deciding on the class of indicator to use depending on the term of trade you are looking for.

Indicator Class	Short Term	Long Term
Trend Indicators	Good for entries and exits on crossovers	Effective trend indication
Momentum Indicators	Overbought and oversold levels help with entry confirmation	Use divergence analysis for confirmation
Volume Indicators	Slope for continuation, divergence for reversals	Divergence for long term reversals

Conservative or Aggressive

It is also important to know what types of moves you are looking for. For instance, some traders look to take trades on securities that exhibit low volatility and move in nice, steady trends. These types of trades take more time to blossom and would lend themselves more towards the conservative mindset. Other traders are looking to capitalize on the irregular behavior by a security. They are willing to accept a higher risk in return for the chance of a higher reward. This factor is important to identify because it will help dictate the method in which to apply an indicator. A volatility indicator is a good example of an indicator that could be used by both type of traders, but they would be applying it differently in their individual trading.

Reversal or Continuation Trades

There are only two types of trades: reversals and continuations. Yet depending on which type of trade you are looking for, you will use different types of indicators, or use an indicator differently than if you were looking for the other type of trade. For example, if you are looking for continuation trades, moving averages could help you identify the trend but most momentum indicators would be of little value.

Of course, there are some that look for both types of trades. In fact, there are many traders that take both reversals and continuation trades, but the application of indicators can get tricky. If you are new to trading, it is recommended that you concentrate on one type of trade so that your application of indicators (as well as chart patterns) is more

straightforward. Once you have gained some experience, it is realistic to believe that you can effectively identify both types of trades.

The Personality of the Current Market

The state of the current market is an important factor to consider as well. While this does not concern your personal trading style, it will play an important role in the value of your indicator readings. You may remember that when we discussed momentum indicators we mentioned that in trending markets you would get false overbought and oversold indications. While a short term trader who is looking for reversals will get excellent value from momentum indicators in a ranging market, he will get little to no value from the overbought and oversold indication in a trending market. Remember, you cannot trade an indicator. You can only trade price, and it is important to consider when an indicator is capable of assisting you.

The following table will help you in determining which class of indicator is best suited for a market state.

Indicator Class	Trending Market	Trading Range Market
Trend Indicators	Good for entries and exits on crossovers	Do Not Use
Momentum Indicators	Divergence for long term entries	Excellent help in determining reversals in a range
Volume Indicators	Slope for continuation, divergence for reversals	Divergence for short term reversals

These general guidelines will help you decide which class of indicator to apply to your trading. Of course, each class has multiple indicators that can be selected. The selection of exactly which indicator to use is a personal choice. But the following chapter will shed some light on the application of various indicators, and assist you in determining which indicators can help you succeed.

Chapter

7

Applying Different Classes of Indicators

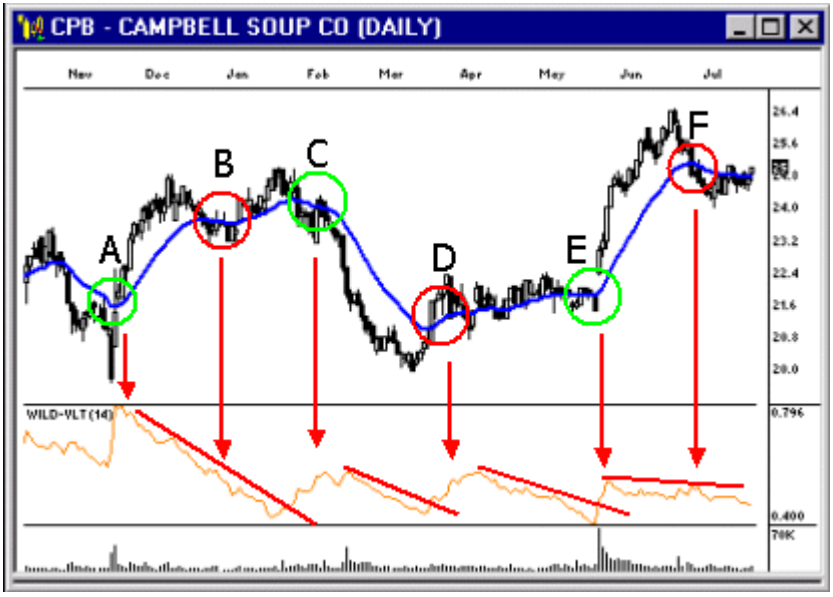
In the previous chapter, we looked at which indicators to apply depending on your trading style. With this information, we can now look at different examples of combining different classes of indicators to help us isolate trade opportunities. In each example, we will define what type of trade we are looking for, and then apply indicators from different classes to show how they can help us in identifying trade opportunities that match our criteria. In these examples, we are loosely defining short term trades as trades that take a few days to a few weeks to complete, and long term trades are trades that take a few weeks to a few months to complete.

Example #1: Short Term Trade Confirmation using EMA and ATR Indicators

In our first example, we will use a trending indicator to help determine when the trend is changing, and a volatility indicator to help us determine abnormal behavior in price activity for additional confirmation.

We have applied a 21 day Exponential Moving Average with the Average True Range indicator. We are looking for short to intermediate term trades, confirmed by price crossing the moving average and a significant rise in the ATR value. We have drawn trendlines across the ATR (Wilder's Volatility) indicator to better show periods of a rising value.

Our first point of crossover, point A, shows that there is a significant rise in the ATR value, indicating strength in the move that was followed by a nice short-term move in the desired direction. Point B shows a crossover to the downside, and then the upside. This is the classic problem with moving averages, as the security's sideways movement is creating whipsaws. Yet in this example, we are seeing a decline in the ATR value, which means that a break in either direction is unlikely. The lack of multiple indicator confirmation would result in us not taking action on a trade at point B.



Price again penetrates the moving average at point C, and we have ATR confirmation as well. The subsequent move would have resulted in a nice short trade. Point D provides an example of multiple indicator confirmation, yet a profitable trade would not have occurred. Notice how volatility dries up during the consolidation period in April.

Point E shows a good breakout move, and we have multiple indicator confirmation. The sharp rise in the ATR confirms the breakout, and a good long position would have followed. In our final example on this chart, point F shows a break to the downside, yet a steady ATR reading. By not reacting to the crossover due to a steady ATR, we would have avoided entering a short position before the period of consolidation.

Example #2: Long Term Confirmation Using Two Moving Averages and Chaikin Volatility

For this example, we are going to look at using two Simple Moving Averages in conjunction with the Chaikin Volatility indicator to identify longer-term trend changes. We are using a 21-period SMA and a 55-period SMA. At point A, we see that we have the shorter moving average crossing over the longer moving average. While this could be construed as a sign that an upward trend is taking place, we see that our volatility indicator is near the zero level. Since we are looking for a peak in volatility, we do not react to the moving average crossover. Yet when we look at point B, we see that at the same time that the moving average crossover takes place, our volatility indicator forms a very definite peak. This helps us confirm the trend reversal, and subsequently a six-month downward trend followed this event.

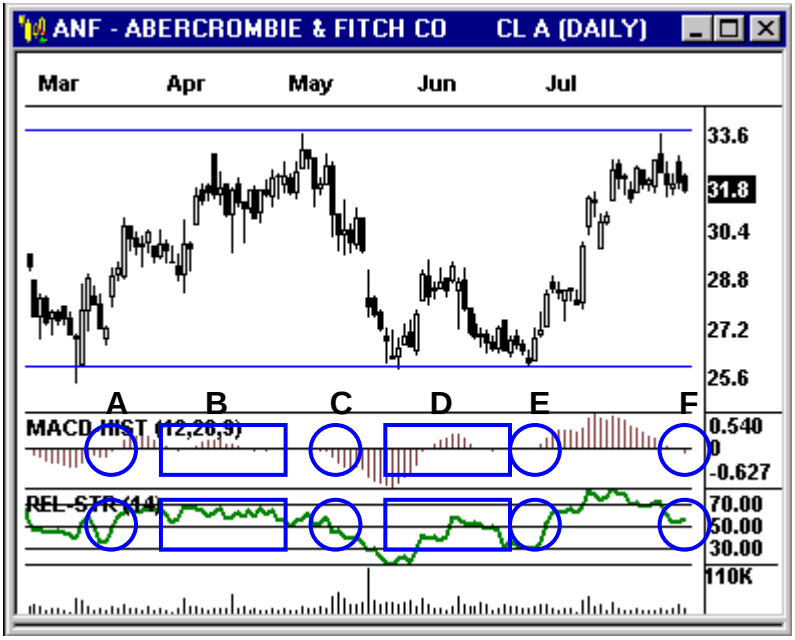
Point C is a bit more ambiguous than the other examples. When we get the moving average crossover, we see that there was a definite peak in volatility that preceded the crossover by about a week. Remember that moving averages are lagging indicators, and they will often be late with their confirmation signals. Considering this, some may reason that there is sufficient volatility confirmation. Yet others may look for the indicators to synch up on a timelier basis, and pass on this opportunity. Whether this can be viewed as sufficient confirmation would probably depend upon the term of trade

you are looking for. Longer-term traders could view this as sufficient confirmation, while shorter-term traders may want to pass on this candidate at this time. Price action after this event bears out this point out.

Our final example at point D shows that the moving averages are about to crossover, but we will need a much greater increase in volatility to consider a short trade. It is too early to tell if this is a good opportunity or not, but a clear crossover coupled with a Chaikin Volatility peak would present a good indication of a pending move to the downside.

Example #3: Short-Term Confirmation Using MACD Histogram and Relative Strength Index

The MACD Histogram and Relative Strength Index lend themselves well to short-term confirmation. In this example, we are looking for the MACD Histogram to cross the zero line and Relative Strength Index to cross the 50 level. We are concentrating on entry confirmation, but this technique is also effective for exit confirmation. Before we begin our analysis, remember that momentum indicators are effective in ranging markets, so it is important to identify what state the market is in before confirming entries.



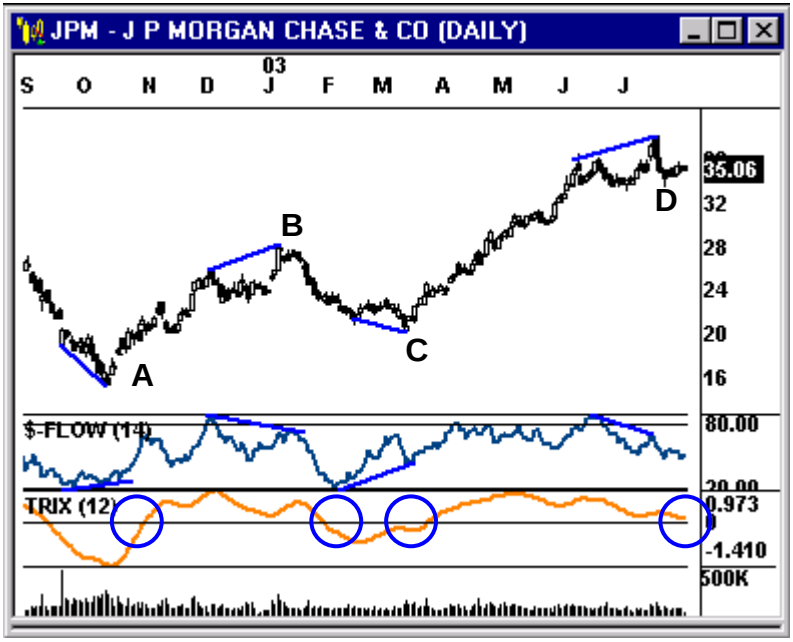
For our example, we are going to look at the chart of ANF, which has been in a well defined range for about six months. Point A shows a move by the MACD Histogram

through the zero level to the upside, and the RSI indicator breaking 50 to the upside. This would have proven to be a good short-term long position. The area marked B shows that the histogram is fluctuating around the zero line, which would result in whipsaws if we were to use it exclusively. However, RSI is still well above 50, so we do not have confirmation to take a short position. This illustrates the effectiveness of looking for confirmation across different classes of indicators.

At points C and E, we see good examples of the indicators breaking their significant levels, which would help confirm profitable trade opportunities. Area D is our only bad example on this chart, as the bounce by ANF off support in late May would likely have resulted losing trades. Our final example, point F, shows that the MACD Histogram has begun to fall through the zero line, yet RSI is still above 50. While this looks like a good short opportunity, we want to wait until we have both indicators confirming the move before taking action.

Example #4: Long-Term Confirmation Using TRIX and Money Flow

For our final example, we are going to look for long-term opportunities using the TRIX indicator and the Money Flow Index. We want to see TRIX break the zero level at the same time that the Money Flow Index is diverging from price. As with the previous example, we are looking for entry confirmation only.



J.P. Morgan is a stock that trends well, and we see that in a year's time we would have had four different trade opportunities using this type of analysis. At point A, we had Money Flow divergence from price early, yet the TRIX indicator didn't break the zero line until over a week later. Remember that divergence is a predictive form of analysis, and often times it will take a while for the predicted move to occur. In this case, the move occurred almost immediately, but since we are looking for long-term opportunities, we were also looking for TRIX to cross zero to the upside.

Point B shows a clear example of Money Flow diverging from price, but the TRIX indicator didn't cross the zero line until after much of the downward move had been made. However, point C shows how these two indicators lined up to confirm a move the upside that would have been an outstanding long term position. At the far right edge of the chart, we see that Money Flow is diverging from price while TRIX is descending towards the zero line. This is the best example of the divergence indication coming early, yet if the TRIX indicator falls below zero we should have a nice short opportunity.

Summary

The examples that we have just shown are meant to illustrate the effectiveness of combining indicator classes. By applying the information that we covered in the previous chapters, we are able to use indicators to isolate specific types of trading opportunities. When we use different classes of indicators, we are reducing our technical risk by confirming multiple market factors. While these examples can give you an idea of which indicators to apply, it is recommended that you analyze the different indicators that we have covered and select the ones that will help you isolate the exact type of opportunities that you are looking for.

Chapter

8

Tips on Profiting with Indicators

As we have seen in the previous pages, indicators can be used to help us identify when the market conditions that we are looking for have been met. While we have concentrated on using indicators to help us confirm entry opportunities, they are commonly used for trade management and exit techniques as well.

With literally hundreds of indicators that are available and multiple ways to apply most of them, it may seem like a daunting task to decide which ones to use and how to use them. Yet by following a few simple guidelines, you can greatly decrease the time and effort it takes to find which indicators are best suited for your trading.

1. Identify Yourself as a Trader

Before you can begin to decide which indicators to use, you must know the type of trade that you are looking for. This point was discussed in some detail in chapter 6, and it is essential in order to begin to decide which indicators to use. Are you a short-term or long-term trader? Are you more comfortable trading with the current trend, or are you looking for reversals? Questions such as these must be answered before you can begin to decide on an indicator to use and how to use it.

2. Know Your Desired Setup(s)

A setup is a combination of chart characteristics that must be present before you would consider taking a trade. Setups can consist of price behavior, volume behavior, or both. For example, you may wish to trade securities that are reversing on high volatility, or you may want to only trade a security that is moving in the direction of the primary trend on heavy volume. After you have clearly defined the type of setup that you are looking for, the indicators that you would want to use will be easier to identify.

3. Study Potential Indicators Extensively

Once you have decided on the chart behavior that you would like an indicator to bring to your attention, it is time to study multiple charts with various indicators applied in order to see if they will be effective. It is important to study the indicator on as many charts as possible. This will give you an idea of how useful the indicator will be across different markets, and assist you in determining the strengths and weaknesses of the indicator (which they all possess).

When analyzing an indicator, be sure to view its results from the chart's perspective as well as from the indicator's perspective. For example, if you were analyzing the MACD Histogram by looking at the trends in a chart and then looking at the indicator, you would be led to believe that the histogram is pinpointing trend reversals. While this may be the case, it would be easy from this perspective to overlook the fact that this indicator gives false readings during periods of consolidation. Be sure to look at the indicator behavior and then how it corresponds to the price chart as well. By looking at the potential usage of an indicator from these two different perspectives, you will not only have a more comprehensive understanding of how it behaves in relation to price, but it will also help you in deciding what other class of indicator you could use to help overcome its inherent weakness.

4. PRACTICE! Paper Trade with Potential Indicators

As much as we would like to believe that our historical analysis is objective, it is too easy to look at a chart's and indicator's history and see what we want to see, and not what is actually being shown. The only way to know whether an indicator will assist you in trading is to use it. However, risking real money while testing ideas usually results in an expensive lesson. While paper trading is void of the emotional aspect that is associated with trading real money, it will give you a respectable idea of whether or not the indicator will help you react to the right edge of the chart.

Conclusion

Indicators are tools. They help us visualize such important factors as trend direction, price momentum, volatility, and market participation in the form of volume. Financial institutions, brokerages, professional traders, and even long term investors make use of indicators when making decisions. As with any tool, indicators can only be helpful when applied correctly and analyzed with a proper knowledge of what information they are meant to show you.

Here are a few final points on applying indicators:

1. Less is more when it comes to applying indicators. Refrain from getting caught up in "stacking" them. The majority of successful traders will use one, two or three indicators at the most. You will find that by keeping your charts clean with only a few indicators plotted it is easier to spot the truly prime candidates.

2. When using multiple indicators, be sure to use indicators from different classes. By using indicators from different classes, you are gleaning much more information from the chart than by using indicators from the same class. The redundancy of multiple momentum indicators, for example, may possibly have value, but in our goal to trade candidates with the least technical risk we are arming ourselves with much more information when we use indicators from different classes.

3. You can only trade price. An indicator market does not exist, so do not try and trade them. A common mistake made by traders is to take a trade when indicator conditions have been met without proper analysis of the price chart itself. It is imperative that the price chart remains your focal point, and indicators are used to help you analyze the likelihood of a move.

Recognize your trading horizons. Identify the setup that you are looking for. Apply the proper indicators to help you isolate that setup. Once you have completed this process, you will find that your prospecting time, trade accuracy, and most importantly your trading account will see dramatic improvements.

Appendix A – Disclaimer

Trading stocks, mutual funds, futures and options involves high risk including possible loss of principal and other losses. Neither the software nor any demonstration of its operation should be construed as a recommendation or an offer to buy or sell securities or security derivative products of any kind.

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