

The Channel Line

A channel starts out either in the form of a support or resistance trendline. Subsequent price action allows a parallel line to be drawn. These two parallel lines guide prices either higher or lower.

Ascending Channel

A channel that is rising as an uptrend remains in effect is referred to as an ascending channel.

Implications: *The channel pattern will constrain price action to a rising range. Pullbacks to support can be used to initiate long positions, while the channel line can be used to take profit. Once the boundaries of the channel are penetrated, the price objective is the width of the channel measured from the point of penetration.*

18. Ascending Channel and Bearish Trend Reversal



Source: Trademate International Ltd.

Descending Channel

A channel that is falling as a downtrend remains in effect is referred to as a descending channel.

Implications: *The channel pattern will constrain price action to a falling range. Rallies to resistance can be used to initiate short positions, while the channel line can be used to take profit. Once the boundaries of the channel are penetrated, the price objective is the width of the channel measured from the point of penetration.*

19. Descending Channel and Bullish Trend Reversal



Source: Trademate International Ltd.

Moving Averages

A moving average is the average of a number of data points over a chosen time period. The data is smoothed and is used to identify the beginning or termination of a trend. **The moving average does not anticipate price movement; rather, it reacts to price movement.**

Types of Moving Averages

- The **simple moving average** is commonly referred to as the *arithmetic mean*: it is the sum of all values for a chosen period divided by the number of observations.
- The **linear moving average** is an average of observations for a specified time period, with each observation assigned a weighting.
- The **exponential moving average** is not only a weighted average that assigns a greater weight to more recent observations, but it also includes all data in a given sample for weighting.

Implications: *Important moving averages such as the 40, 55 and 200-day moving average often become support and resistance areas and are also used to identify trend reversals.*



Source: Tradedmade International Ltd.

40-day simple = blue line

40-day weighted = red line

40-day exponential = green line

Single Moving Average Crossover

A buy signal is generated in the context of a single moving average crossover when the closing price of an instrument moves above the selected moving average. Conversely, a sell signal is generated when the closing price moves below the moving average.

Implications: *A bullish crossover can be used to implement long positions, while a bearish crossover can be used to reverse positions and to initiate a short position.*



Source: Tradedmade International Ltd.

Double Crossover Method

A buy signal is generated as part of the double crossover method when the shorter moving average closes above the longer moving average. This is often referred to as “the *golden cross*”. Conversely, a sell signal is generated when the shorter moving average closes below the longer moving average. This is often referred to as “the *death cross*”.

Implications: *The “golden cross” can be used to implement long positions, while a “death cross” can be used as a take profit and to initiate a short position.*



Source: Tradedmade International Ltd.

Continuation Patterns

Continuation patterns usually indicate that consolidative price activity will resolve in the *same* direction as the trend that was in effect before the pattern formed.

Symmetrical Triangle

The symmetrical triangle is a continuation pattern that is formed by an ascending lower trendline (the base) and descending upper trendline (the top) with similar slopes that converge. While this pattern can be bullish in an uptrend or bearish in a downtrend, a price breakout must occur *before* the three-quarter point of the triangle apex in order for this pattern to remain valid.

Implications: *Once a bullish or bearish breakout materializes, the price objective is the vertical height of the triangle from its widest point, projected from the breakout point. Figure 23 illustrates a bullish symmetrical triangle.*

Ascending Triangle

An ascending triangle is formed by a flat upper resistance line and an ascending lower support trendline that converge. With price action indicating that buyers are more aggressive than sellers (hence the rising support line), this pattern is bullish in nature.

Implications: *Once a bullish breakout materializes, the price objective is the vertical height of the triangle from its widest point, projected up from the breakout point.*

Descending Triangle

A descending triangle is formed by a declining upper resistance line and a flat lower support trendline that converge. With price action indicating that sellers are more aggressive than buyers (hence the declining resistance line), this pattern is bearish in nature.

Implications: *Once a bearish breakout materializes, the price objective is the vertical height of the triangle from its widest point, projected down from the breakout point.*



Source: Tradermade International Ltd.



Source: Tradermade International Ltd.



Source: Tradermade International Ltd.

Flag

A flag pattern is formed when prices pause during a very sharp market move. The period of consolidation is denoted by price activity that slopes against the previous trend before resuming in the same direction of the trend. The counter-trend pause results in the formation of parallel support and resistance trendlines. These patterns are normally short-term in nature and can be bullish or bearish.

Implications: *Once the flag pattern has broken out, the price objective is said to be equal to the “flagpole” – which is the previous sharp advance or decline that took place. Figure 26 presents an example of a bearish flag pattern.*

26. Flag Pattern - Bearish



Source: Tradermade International Ltd.

Pennant

A pennant pattern is also formed when prices pause during a very sharp market move. While the period of consolidation slopes against the previous trend before resuming in the same direction as the trend, the resulting support and resistance trendlines converge (as opposed to being parallel as in the case of the flag). Pennants are often short-term in nature and can be bullish or bearish.

Implications: *Once the pennant pattern has broken out, the price objective is said to be equal to the “flagpole” – which is the previous sharp advance or decline that took place. Figure 27 presents an example of a bullish pennant pattern.*

27. Pennant Pattern - Bullish



Source: Tradermade International Ltd.

Rectangle

A rectangle pattern denotes a period of price consolidation that represents a pause in the current trend. Although the resolution of the pattern is usually in the direction of the preceding trend, *care must be taken to ensure that it does not turn into a reversal pattern* (reversal patterns are covered in the next section).

Implications: *While the range of the rectangle pattern may present a trading opportunity while prices consolidate, once prices break out of the rectangle pattern, the measured move objective is the vertical height of the rectangle projected from the breakout point.*

28. Rectangle Pattern



Source: Tradermade International Ltd.

Rising Wedge

Although similar to a triangle pattern in shape, the rising wedge pattern differs by virtue of the rising slant of the pattern: the pattern slants *against* the prior *downtrend* as a series of narrowing higher lows and highs forms during a period of consolidation. In addition, while prices usually resolve the pattern two-thirds of the way to the apex, they may still move to the apex before breaking out. Price action is expected to resolve in the direction of the prior downtrend as part of the continuation theme.

Implications:

The rising wedge pattern is considered a bearish pattern in the context of a downtrend. The price objective is the height of the wedge from its widest point, projected from the breakout point.



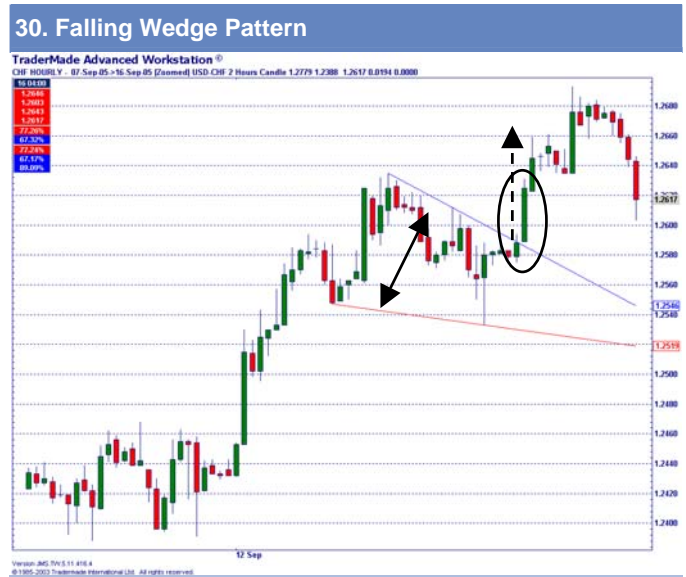
Source: Trademade International Ltd.

Falling Wedge

The falling wedge pattern is simply a mirror image of the rising wedge. The pattern slants *against* the prior *uptrend* as a series of narrowing lower lows and highs form during a period of consolidation. Price action is expected to resolve in the direction of the prior uptrend as part of the continuation theme.

Implications:

The falling wedge pattern is considered a bullish pattern in the context of an uptrend. The price objective is the height of the wedge from its widest point, projected from the breakout point.



Source: Trademade International Ltd.

Reversal Patterns

Reversal patterns usually indicate that consolidative price activity will resolve in the *opposite* direction of the trend that was in effect before the pattern formed.

Double Top and Double Bottom

A double top (bottom) pattern features two price peaks (troughs) that occur at approximately the same level. This bearish (bullish) pattern is completed when prices break below the intervening lows (highs) that formed the pattern.

Implications: Once a breakout has materialized, the price objective of the double top (bottom) is the difference between the price peaks (troughs) and the intervening lows (highs), projected from the breakout point. Figure 31 illustrates a bearish double top pattern.

Triple Top and Triple Bottom

While less common than the double top or double bottom pattern, a triple top (bottom) features three price peaks (troughs) that occur at approximately the same level. This bearish (bullish) pattern is completed when prices break below the intervening lows (highs) that formed the pattern.

Implications: Once a breakout has materialized, the price objective of the triple top (bottom) is the difference between the price peaks (troughs) and the intervening lows (highs), projected from the breakout point. Figure 32 illustrates a bullish triple bottom pattern.

Head and Shoulders/Inverted Head and Shoulders

The head and shoulders pattern is one of the more popular and reliable technical price patterns. In an uptrend, prices experience a correction before rallying to new highs. This is followed by another retreat that stalls near the previous correction point. An ensuing, but feeble rally allows a support trendline to be drawn. This line is called the *neckline*. The penetration of the neckline produces the *bearish* resolution of the head and shoulders pattern – and a return price move fails against the neckline. The inverted head and shoulders pattern is merely the mirror image of the head and shoulders pattern – with *bullish* implications.

Implications: Once the neckline is penetrated, the measured move objective is the distance from the head to the neckline, projected from the breakdown point. Figure 33 illustrates a bearish head and shoulders pattern.

31. Double Top Pattern



Source: Tradermade International Ltd.

32. Triple Bottom Pattern



Source: Tradermade International Ltd.

33. Head and Shoulders Pattern



Source: Tradermade International Ltd.

Rising Wedge

As a *continuation pattern*, a rising wedge slopes *against* the prevailing trend (see page 10). However, in some instances, a rising wedge pattern may slope in the *same* direction as the prevailing trend. *In this case, the rising wedge is considered as a bearish reversal pattern in the context of an uptrend.* Prices may reach the apex of the wedge before resolving the pattern.

Implications:

The price objective is the height of the wedge from its widest point, projected from the breakout point.



Source: Trademade International Ltd.

Falling Wedge

As a reversal pattern, the falling wedge is simply a mirror image of the rising wedge. The pattern slants in the same direction as the prevailing trend. *In this case, the falling wedge is considered as a bullish reversal pattern in the context of a downtrend.* Prices may reach the apex of the wedge before resolving the pattern.

Implications:

The price objective is the height of the wedge from its widest point, projected from the breakout point.



Source: Trademade International Ltd.

Bullish/Bearish Key Reversal Day

A key reversal day can take place in an uptrend or in a downtrend. A bullish key reversal day occurs in a downtrend when prices form a lower low than the previous day, a higher high, and close *above* the previous day's close. Conversely, a bearish key reversal day occurs in an uptrend when prices form a higher high than the previous day, a lower low, and close *below* the previous day's close.

Implications:

Although a bullish or bearish key reversal day has the most predictive value when it takes place at the low or high of a move, it has no measured move objective per se. It just warns of a potential price reversal and can be confirmed by the break of a key trendline or the resolution of a reversal price pattern.



Source: Trademade International Ltd.

Diamond Pattern

This relatively rare pattern is the combination of expanding and symmetrical triangles and normally appears as price action forms a market top.

Implications:

This pattern is often a reversal pattern and is completed when the lower support trendline is broken. The measured move objective is the height of the pattern from its widest point, projected from the breakout point.



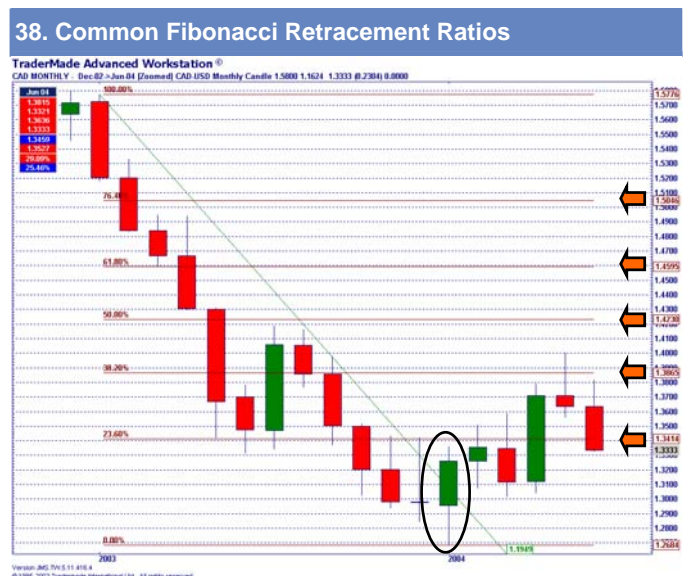
Source: Tradermade International Ltd.

Fibonacci Retracement Ratios

Once a reversal pattern is confirmed, technicians often apply *Fibonacci retracement ratios* in order to assess how far a potential retracement may progress. These ratios utilize mathematical relationships that deal with a numerical sequence.

Implications:

The most common ratios to watch for are: 23.6% retracement, 38.2% retracement, 50% retracement, 61.8% retracement, 76.4% retracement and 100% retracement.



Source: Tradermade International Ltd.

Price Studies and Oscillators

Although technical studies and oscillators defer to the primary trend that is in effect, they do perform very important functions for the technician. Key functions include the following:

- The identification of *overbought or oversold* market conditions.
- The identification of *bullish or bearish divergences* when compared with actual price action.
- The generation of *buy or sell trading signals* when a designated trigger line is penetrated.
- To help capture price tops and bottoms within a *consolidation phase* characterized by non-trending markets.

Momentum

Momentum is a simple measure of the rate of change of prices for a designated time period. The current price of an instrument is compared to the price *x* days ago – with the difference used to plot the momentum study. The crossing of the zero line is often used to generate buy and sell signals, and overbought and oversold conditions can be identified when the study moves to designated extreme values.

Implications:

The crossing of the zero line from above will produce a sell signal while the crossing of the zero line from below will produce a buy signal. The movement of the indicator to designated overbought or oversold levels will often indicate that the trend in effect will begin to lose directional momentum, as the price move will likely not be sustainable. Figure 39 shows a 10-day momentum study for USD/CAD. Note that the study reached overbought levels (above the blue horizontal line) before crossing the zero line and generating a sell signal later in the month.

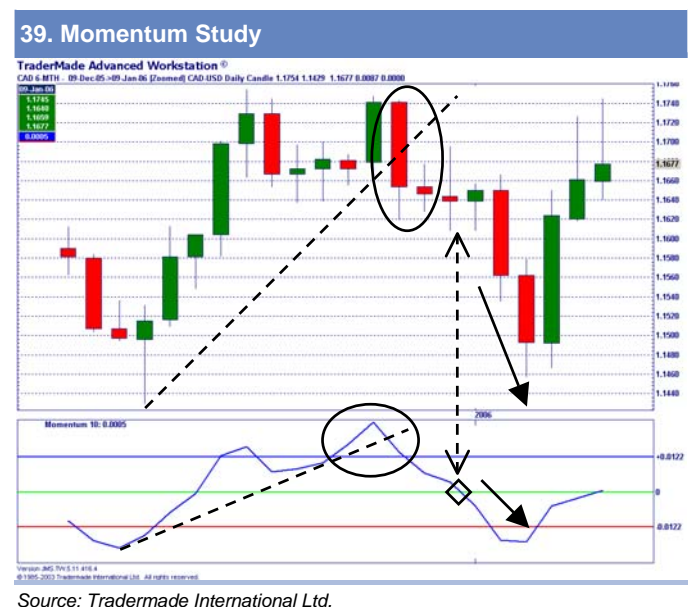
Relative Strength Index

The Relative Strength Index, or RSI, is the ratio of the average number of days with rising prices compared to the average value of days with falling prices for a designated time period. The data is recalculated to fit on a percentage scale that ranges from 0% to 100%. Designated values are then established in order to identify overbought and oversold conditions.

Implications:

Indicator values above 75% are considered overbought, while values below 25% are considered oversold. The movement of the indicator to the designated overbought or oversold level will often indicate that the trend in effect will begin to lose directional momentum, as the price move will likely not be

sustainable. Figure 40 shows a 10-day RSI study for USD/CAD. Note that the study reached overbought levels (above the blue horizontal line) just as USD/CAD was producing a bearish trend reversal.



Bollinger Bands

Bollinger Bands are trading envelopes located around a chosen moving average. A moving average is plotted, with the bands located x number of standard deviations from the average. The bands expand as price action becomes volatile and contract when prices consolidate.

Implications:

When prices bounce off the lower band and cross the moving average from below, the upper band serves as a price target and vice-versa. In addition, when the price continually touches the upper band markets are said to be overbought, while oversold conditions result when prices repeatedly touch the lower band. Such outcomes may cause outstanding positions to be closed out. Figure 41 shows 2 standard deviation Bollinger Bands plotted around a 20-day moving average. Notice how USD/CAD bounced off of the lower band on the last two tests – with the resulting break above the moving average causing prices to reach the top band.



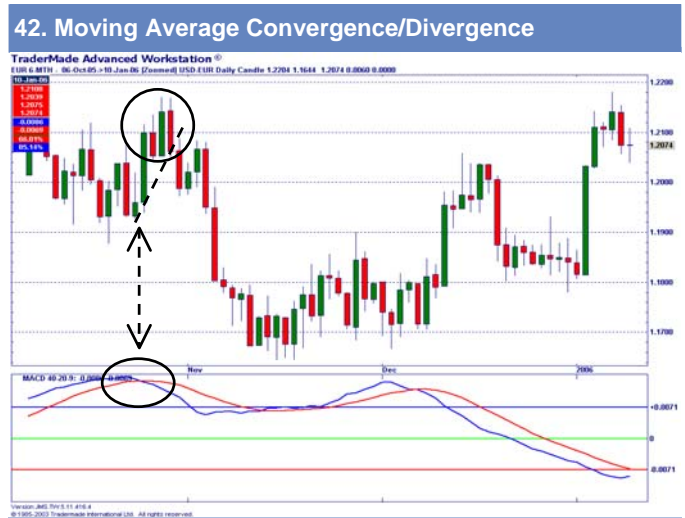
Source: Tradermade International Ltd.

Moving Average Convergence/Divergence

The Moving Average Convergence/Divergence, or MACD, shows the relationship between two moving averages. The difference between two chosen moving averages is plotted against a 9-day moving average of the MACD (the signal line) in order to examine dynamics of trend.

Implications:

When the MACD crosses below the signal line from above a sell signal is generated. Conversely, when the MACD crosses the signal line from below, a buy signal is generated. Figure 42 presents an example of a sell signal being generated by the MACD indicator.



Source: Tradermade International Ltd.

Slow Stochastics

The Stochastic Indicator is based on the premise that prices tend to close near the top end of the trading range in an uptrend and near the bottom of the trading range in a downtrend. Thus, in simple terms, the indicator measures where the closing price is in relation to the range for a selected time period, measured on a percentage basis.

Implications:

A high reading (above 75%) indicates that prices are closing near the top end of the range and are overbought, while a low reading (below 25) indicates that prices are closing near the bottom end of the range and are oversold. When the lines cross in overbought territory, a sell signal is generated (see Figure 43 for an example), while the crossing of the lines in oversold territory generates a buy signal.



Source: Tradermade International Ltd.

Bullish and Bearish Divergences

As mentioned on page 14, price studies and oscillators are not only used to identify overbought and oversold market conditions. They also have another very important function: to identify *bullish and bearish divergences*.

Bullish Divergence

A divergence occurs when study values and prices move in opposite directions. In the case of a bullish divergence, prices forge to new lows during a downtrend - while the study in question is moving higher.

Implications:

As the indicator fails to confirm a new low in prices, the potential for a price retracement or trend reversal is rising in probability. Figure 44 presents an example of a bullish divergence using the Momentum indicator.

Bearish Divergence

In the case of a bearish divergence, prices rally to new highs during an uptrend - while the study in question is moving lower.

Implications:

As the indicator fails to confirm a new high in prices, the potential for a price retracement or trend reversal is rising in probability. Figure 45 presents an example of a bearish divergence using the Relative Strength Index.

Divergence and Valuation Extremes

While the existence of overbought or oversold readings or bullish or bearish divergences highlights the mounting risk of a potential price retracement or trend reversal, **the existence of a divergence simultaneously accompanied by a valuation extreme greatly increases the probability of such an outcome.**

Implications:

The development of a bullish divergence from an oversold extreme greatly increases the probability of a pending (bullish) price retracement or trend reversal. Conversely, the development of a bearish divergence from an overbought extreme increases the probability of a pending (bearish) price retracement or trend reversal. In Figure 46, note that oversold valuations on the stochastic study have been accompanied by a bullish divergence and a buy signal on the indicator **before** a bullish trend reversal took place



Source: Trademade International Ltd.



Source: Trademade International Ltd.



Source: Trademade International Ltd.

Bibliography

The following books are recommended as reference materials on the subject of technical analysis:

Edwards, Robert D. and Magee, John, *Technical Analysis of Stock Trends*, 8th Edition, Chicago, Illinois.

Murphy, John J., *Technical Analysis of the Financial Markets*, New York Institute of Finance, New York, NY.

Murphy, John J., *Intermarket Technical Analysis*, John Wiley & Sons, Inc., New York, NY.

Pring, Martin, *Technical Analysis Explained*, 4th Edition, McGraw-Hill Book Company, New York, NY.

Schwager, Jack D., *Technical Analysis*, John Wiley & Sons, Inc., New York, NY.

Schwager, Jack D., *Getting Started in Technical Analysis*, John Wiley & Sons, Inc., New York, NY.

Schwager, Jack D., *A Complete Guide to the Futures Markets: Fundamental Analysis, Technical Analysis, Trading, Spreads and Options*, John Wiley & Sons, Inc., New York, NY.