



Technical Analysis

eBook

What is Technical Analysis?

Technical Analysis is the study of market action through the use of charts, in order to forecast future price trends. Market action includes: price, volume and open interest. Technical analysis can be used for short-term, medium-term and long-term trading.

Technical analyst develop trading rules and trading systems by using various theories, charting tools, and indicators.

The three principles of Technical Analysis:

- ✓ The market discounts everything
- ✓ Price moves in trends
- ✓ History tends to repeat itself

CHARTING ANALYSIS

- Bar charts
- Candle charts
- Trend lines
- Channels
- Levels (S/R)
- Chart patterns
- Gaps

MECHANICAL ANALYSIS

- Moving averages
- Oscillators
- Envelops/bands
- Other technical indicators

← **Technical Analysis**

Charts

We have three chart types available on MT4:

✓ The line chart

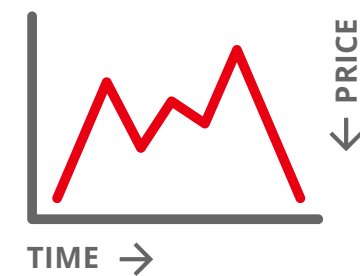
✓ The bar chart

✓ The candlestick chart



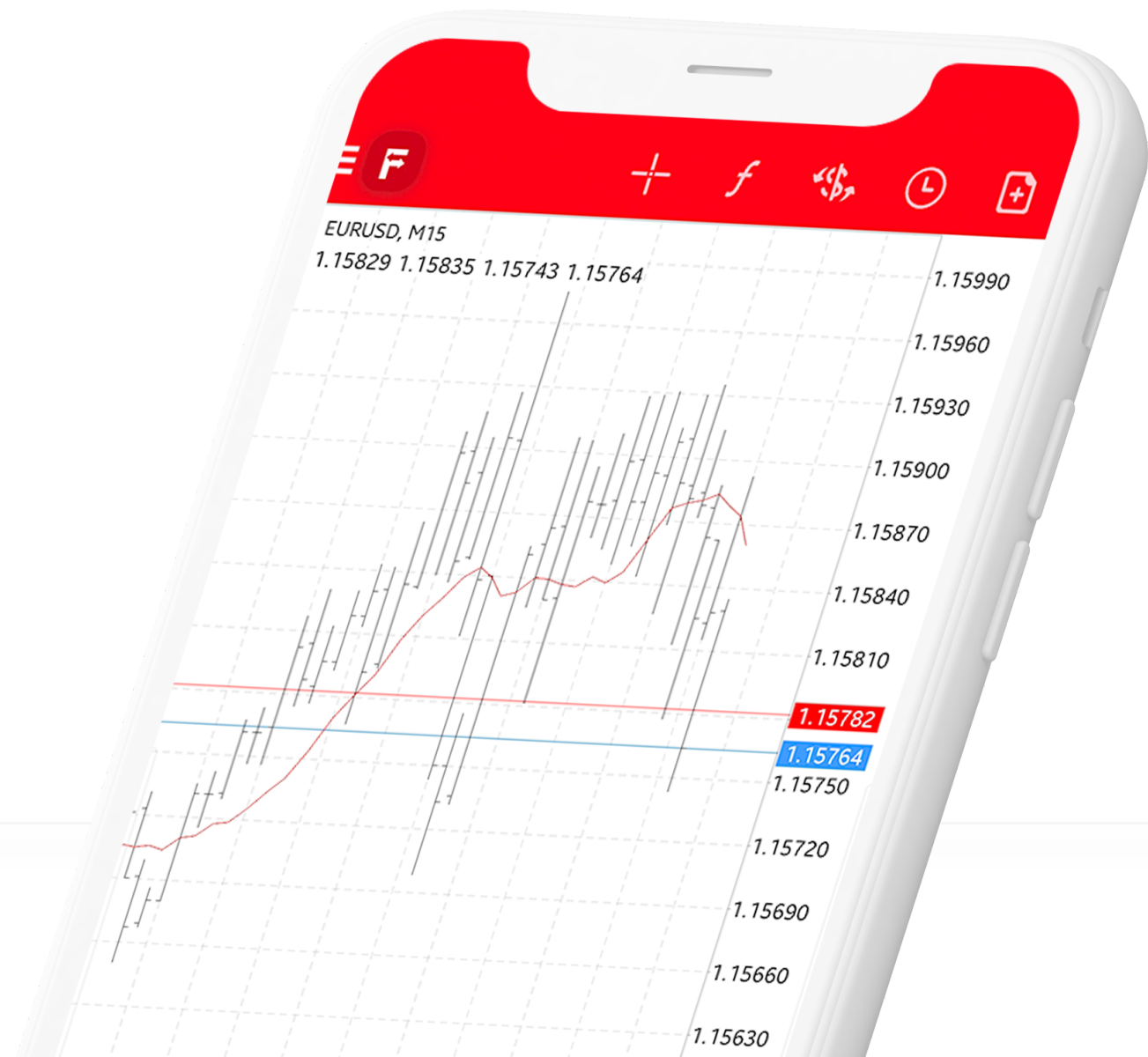
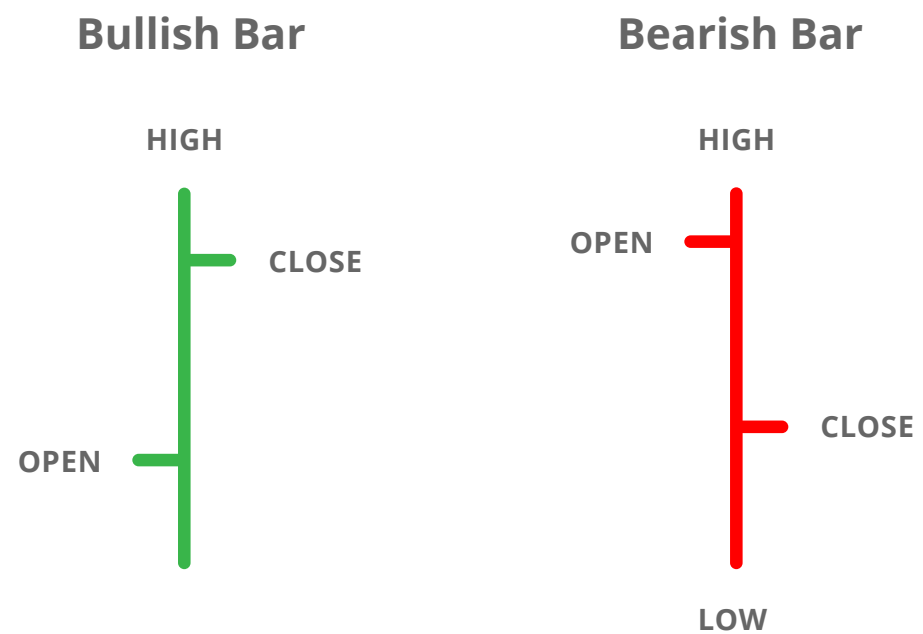
Line Chart

The most simple of all charts is the line chart. The line chart consists of only a single line which connects consecutive closing prices, without giving us any information about the trading range during the selected time interval.



Charts

The Bar Chart

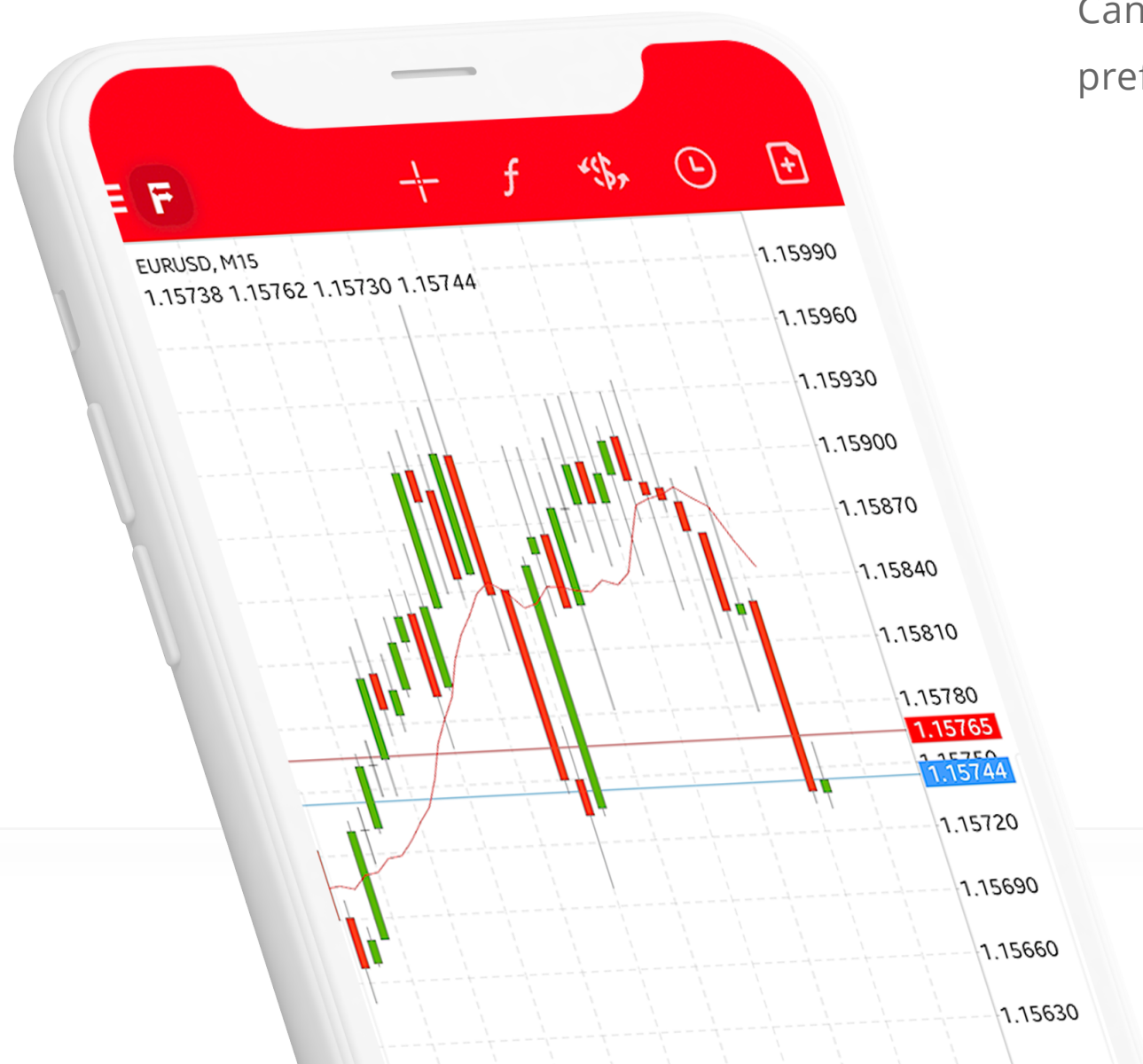


Charts

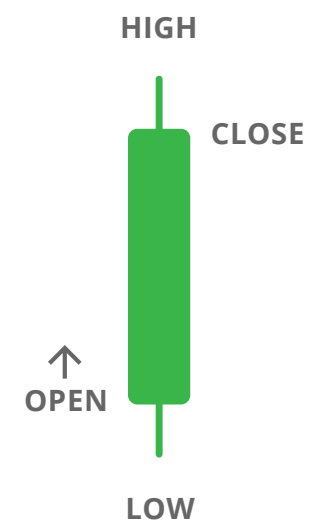
The Candlestick Chart

The area between the open and the close is called the real body and price excursions above and below the real body are called shadows.

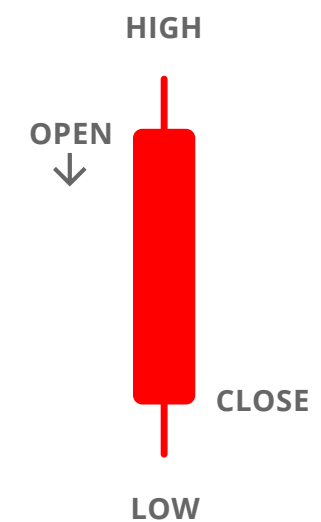
Candlestick charts are visually superior to bar charts, and thus preferred by traders.



Bullish Bar



Bearish Bar

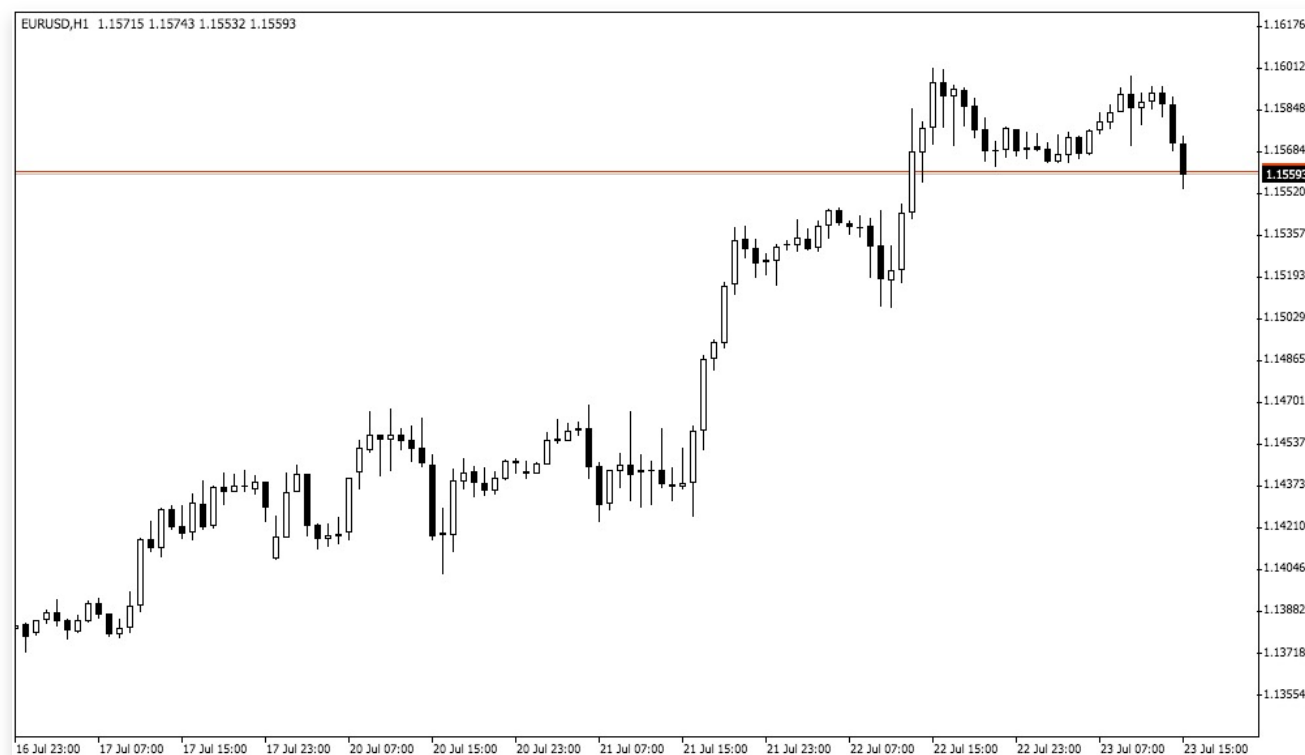


Timeframes

The period represented by a candlestick or a bar can vary from one minute to an hour, to a day, a week or even a month.

Analysing more than one timeframes (at least 3 is suggested) allows the trader or the analyst to grasp the multidimensional character of the market.

Although traders opt for shorter timeframes this comes at a trade-off, since longer timeframes contain less “noise” and are thus seen as more reliable.



EUR/USD 1-hour Chart

Each candle represents the trading activity within an hour



EUR/USD 1-Daily Chart

Each candle represents the trading activity within a day

Basic Concepts of Trend

TREND is the direction of the market.

Market moves are characterized by a series of zigzags. These zigzags generate a series of successive peaks and troughs. It is the direction of those peaks and troughs that constitutes a market trend.

The concept of trend is very important as many traders rely on the existence of a trend to predict price movements.

“ *The trend is your friend* ”

“ *Don't go against the trend* ”

“ *Always trade in the direction of the trend.* ”

A trend can have three directions

- ✓ Bar charts
- ✓ Candle charts
- ✓ Trend lines

Trend lines are used to identify the directional movement of prices, to mark a trend. The slope of the trend can be used in order to grasp the rate of price changes. Their usefulness is based on the principle that once a trend is established, it usually persists for some time.

Trend lines can be used to manage trades, identify entry and exit points by focusing on:

- ✓ Trend line breaks and
- ✓ Trend line bounces

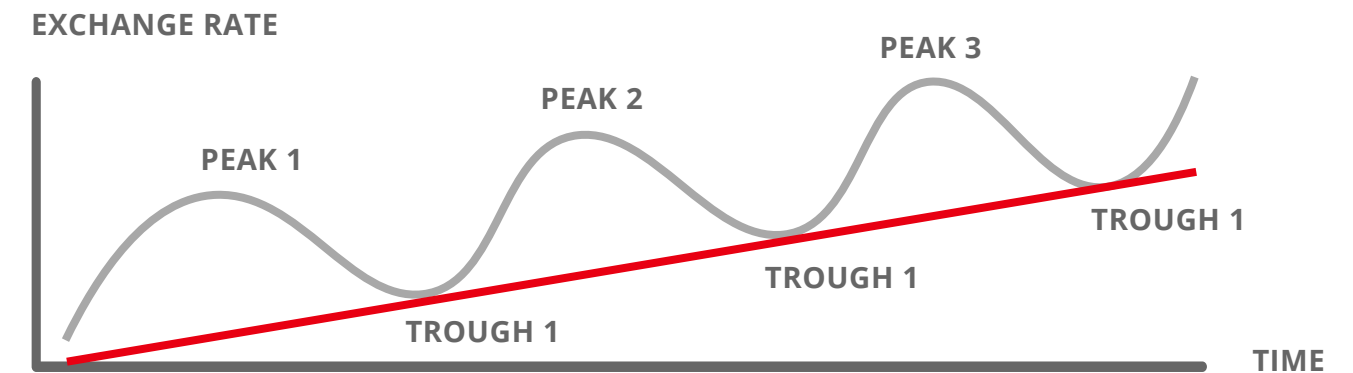
Basic Concepts of Trend

Uptrend

AN UPTREND is a series of consecutive higher peaks and consecutive higher troughs.

An uptrend line is constructed by connecting two or more higher lows. The line is extended into the future in order to act as a support during the development of the trend. It signals bullish sentiment, i.e. that prices are likely to increase.

Traders look to buy the pullbacks near the trend line.



Downtrend and Sideways Trend

The Downtrend

A DOWNTREND is a series of consecutive lower peaks and consecutive lower troughs. A downtrend line is constructed by connecting two or more lower highs.

The line is extended into the future in order to act as a resistance during the development of the trend.

It signals bearish sentiment, i.e. that prices are likely to decrease. Traders look to sell the corrective rebounds near the trend line.



The Sideways Trend

A SIDEWAYS TREND is identified by drawing two parallel trend lines, with the one acting as a support and the other as a resistance, hence forming a trading range rectangle.

The market is trading in a horizontal range with neither the bears nor the bulls taking control of prices.

Traders usually buy near the lower end of the range and sell near the upper bound.



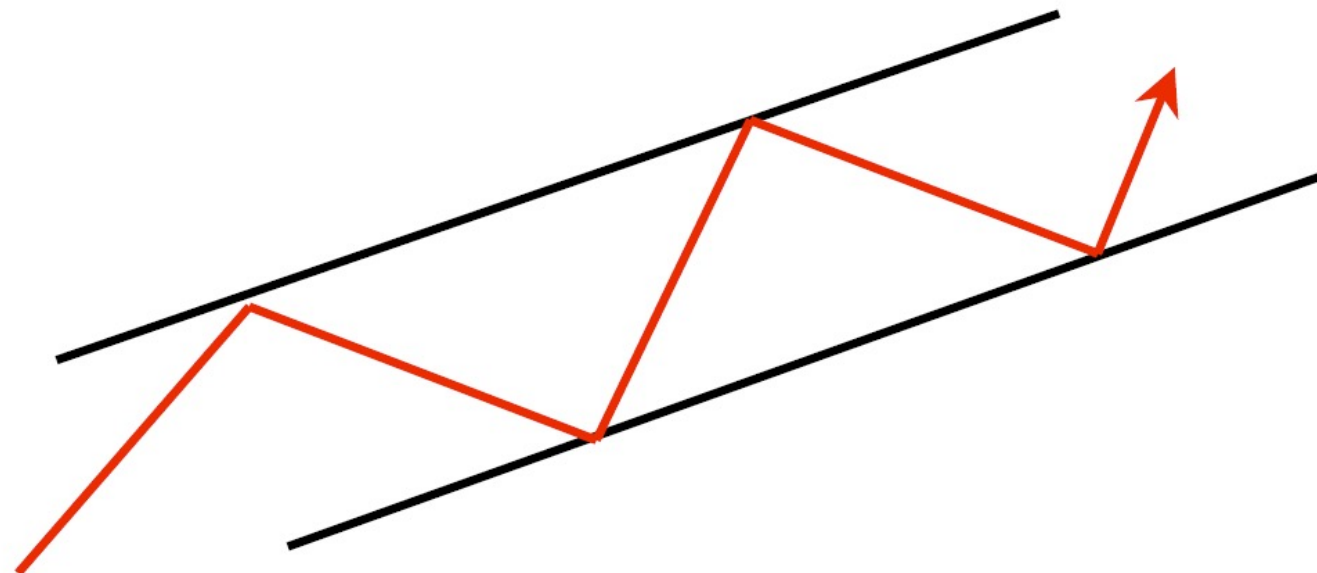
Downtrend and Sideways Trend

Channel

When prices trend between two parallel lines they form a channel. Channels can be upward sloping, downward sloping, and horizontal

If the channel is ascending, traders can enter long positions near the lower bound and take profit near the upper bound.

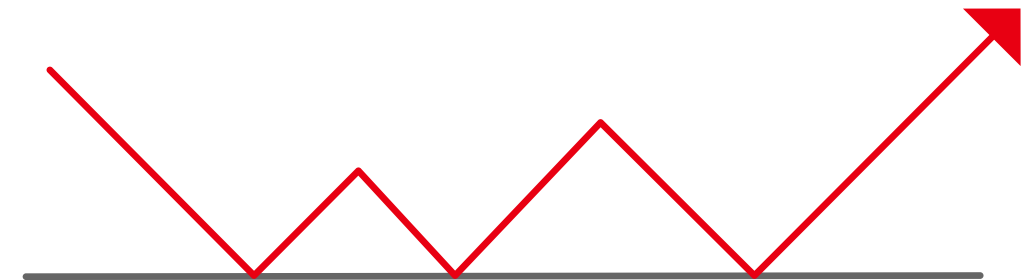
The break out of a channel can also assist to identify trend acceleration or trend reversal.



Support & Resistance

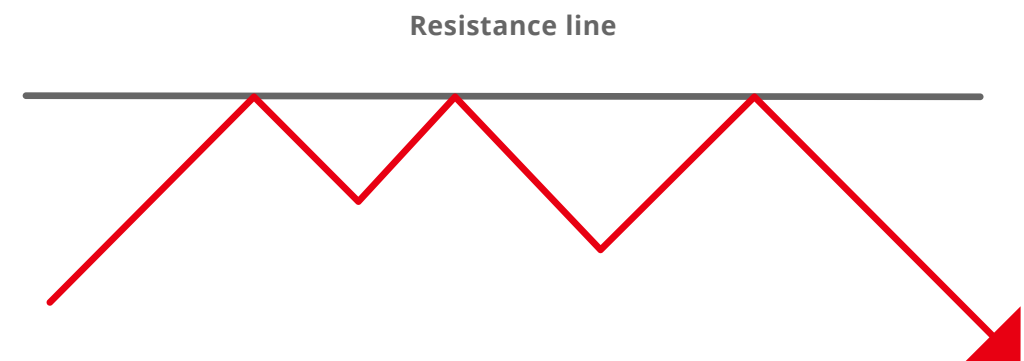
Support

Is a level or area on the chart where buying interest is sufficiently strong to overcome selling pressure. A decline is halted and prices turn back up. A support level is identified beforehand by a previous reaction low.



Support

Is the opposite of support and represents a price level or area where selling pressure overcomes buying pressure and a price advance is turned back. A resistance level is identified by a previous peak.



Whenever a support or resistance level is broken by a significant amount, they reverse their roles and become the opposite. In other words, a resistance level becomes a support level and a support level becomes a resistance.

Fibonacci Retracements

The Fibonacci sequence

Is a sequence that starts with 0 and 1 and each subsequent number is the sum of the previous two: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89...

Fibonacci Ratios

Are found by dividing any number in the sequence by: the number that immediately follows it (61.8%), the number after two places (38.2%) and three places (23.6%), with 50% being another Fibonacci level.



Fibonacci Retracements

Fibonacci Levels

Are drawn by connecting two extreme points on a chart and dividing the vertical distance by the key Fibonacci ratios.

These levels can act as key support and resistance levels in the course of a retracement (a move in the opposite direction of the prevailing trend).

0.0% is the start of the retracement while 100.0% is the complete reversal of the move. The 38.2% and 61.8% retracement levels are considered the most significant.



Reversal Patterns

Reversal Patterns Indicate that a reversal in trend is taking place.

Preliminary points for all reversal patterns:

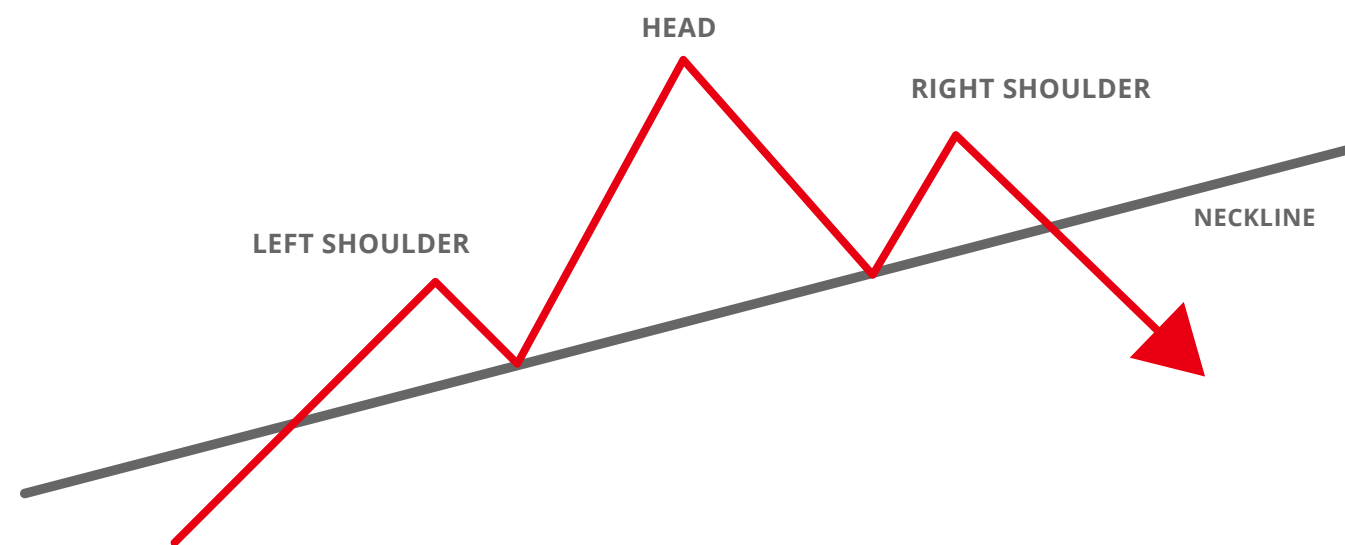
- ✓ Existence of prior trend
- ✓ The first signal of an impending trend reversal is the breaking of an important trend line
- ✓ The larger the pattern, the greater the subsequent move
- ✓ Topping patterns are usually shorter in duration and more volatile than bottoms
- ✓ Bottoms usually have smaller price ranges and take longer to build
- ✓ Volume is usually more important on the upside

Most common reversal patterns:

- ✓ Head and Shoulders
- ✓ Double tops and bottoms
- ✓ Triple tops and bottoms
- ✓ Ascending and Descending Wedge

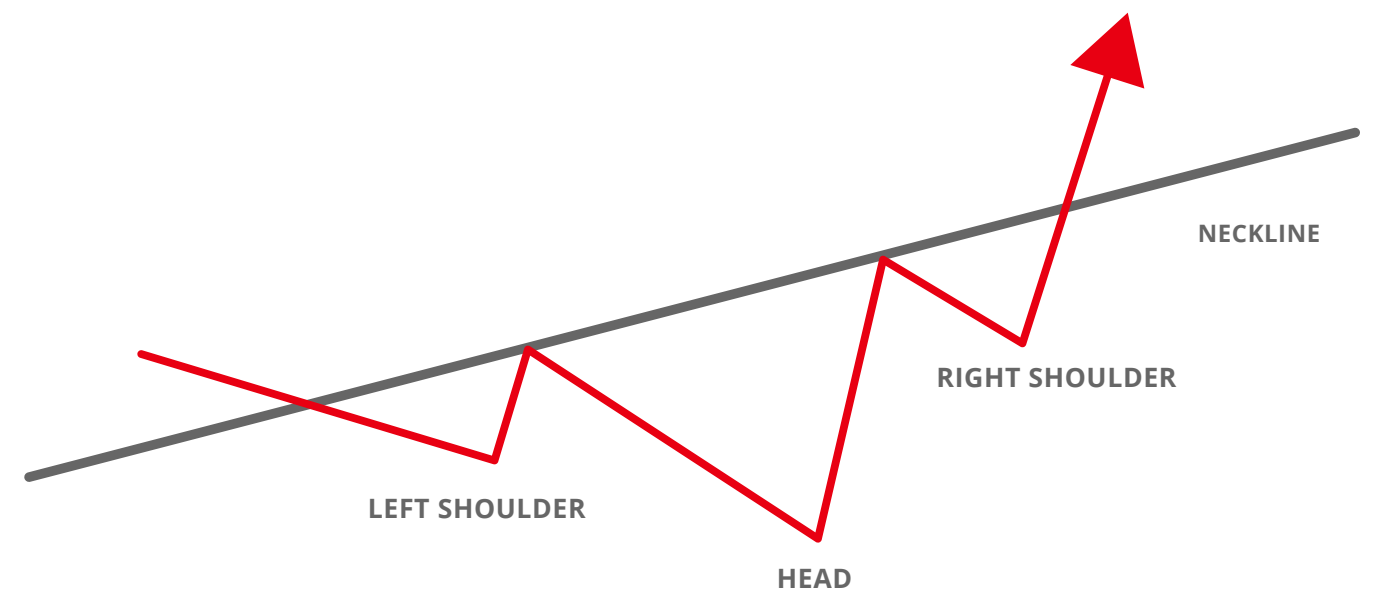
Reversal Patterns

Head & Shoulders top



Consists of three peaks where the center peak is the highest. A neckline is drawn connecting the lowest points of the head. A break through the neckline provides a “Sell opportunity”.

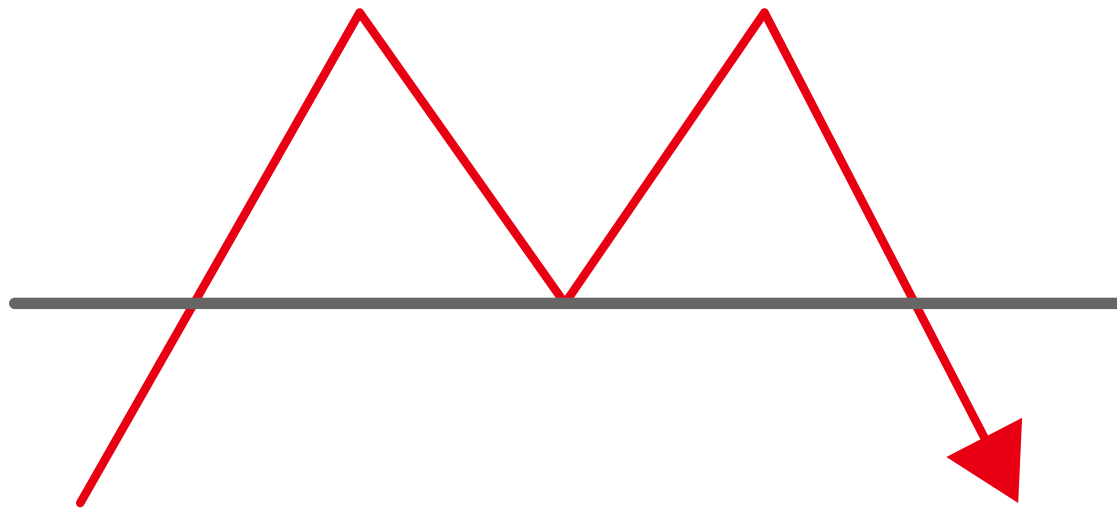
Inverted Head & Shoulders



Consists of three lows where the center peak is the lowest. A neckline is drawn connecting the highest points of the head. A break through the neckline provides a “Buy opportunity”.

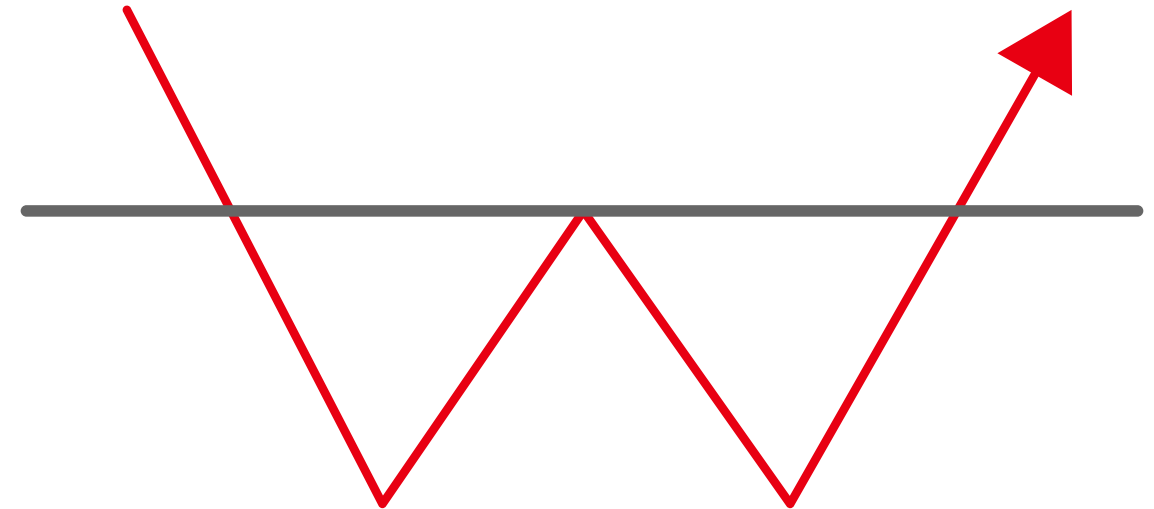
Reversal Patterns

Double Top



The Double Top pattern consists of two peaks at about the same level. The pattern is completed when the support marked by the middle trough is broken.

Double Bottom



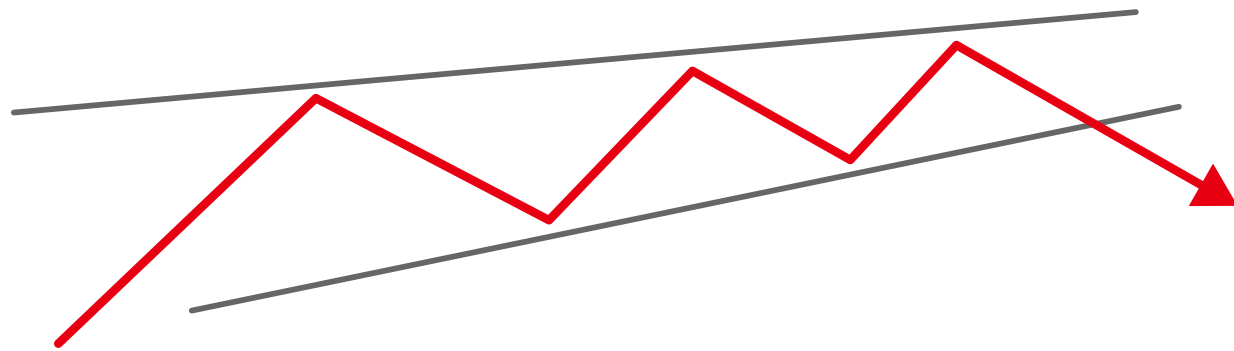
The Double Bottom is a mirror image of the Double Top. The top is also referred as M and bottom as W.

Tripple Tops and Bottoms:

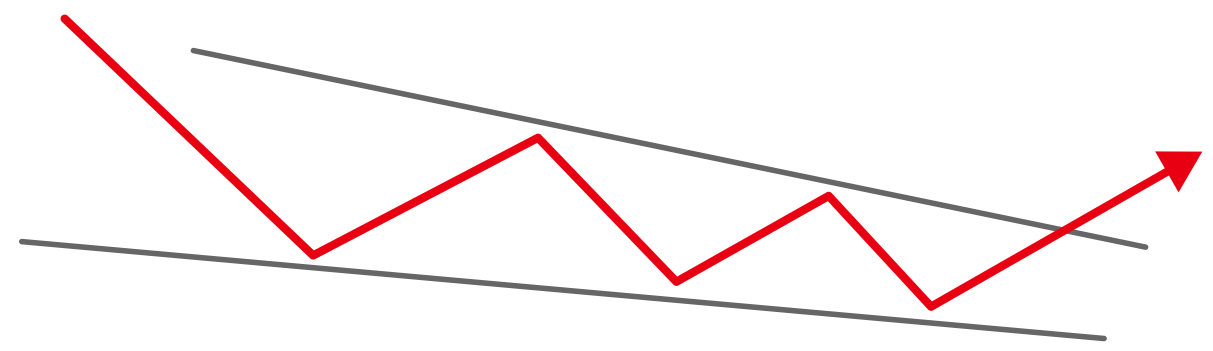
They are very similar to double tops and bottoms, but instead of two peaks, we have three peaks at the same about level.

Reversal Patterns

Ascending Wedge



Descending Wedge



The Wedge is identified by two converging trend lines that come together at an apex. What distinguishes the wedge is its noticeable slant either to the upside or the downside.

A rising wedge is considered bearish and a falling wedge is considered bullish.

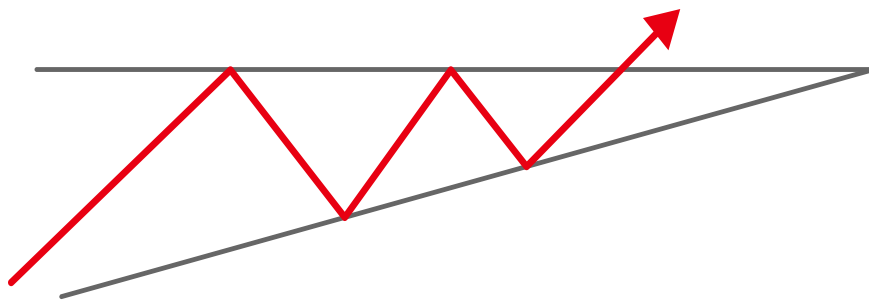
Continuation Patterns

Usually indicate that the sideways price action on the chart is nothing more than a pause in the prevailing trend, and that the next move will be in the same direction as the trend that preceded the formation.

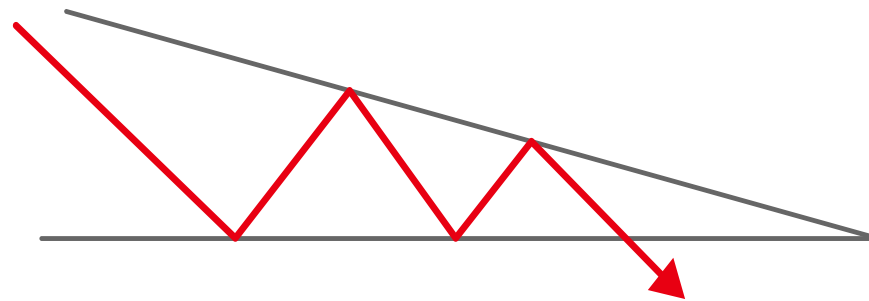
Ascending Wedge

There are three types of triangles – symmetrical, ascending and descending. Each type of triangle has a slightly different shape and different forecasting implications.

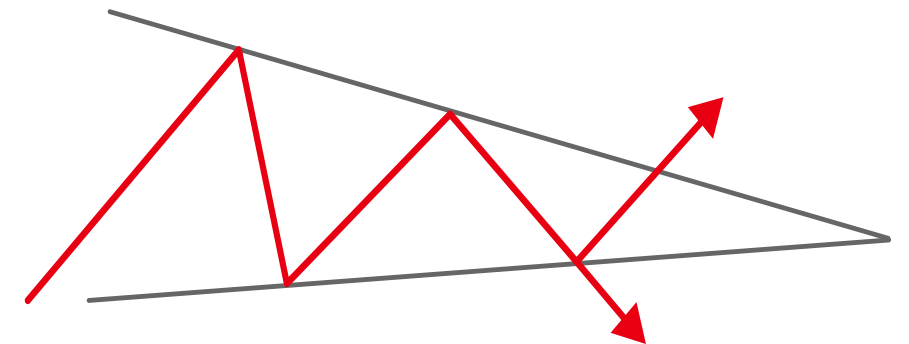
Ascending Triangle - Bullish



Descending Triangle - Bearish



Symmetrical Triangle



Flags and Pennants

Represent brief pauses after dynamic market moves. They represent situations where a steep advance or decline has gotten ahead of itself, and where the market pauses briefly to “catch its breath” before running off again in the same direction



Technical Indicators

Moving Averages

THE MOVING AVERAGE is one of the most widely used technical indicators. It identifies if a new trend has begun or if an old trend has ended or reversed. It tracks the progress of a trend.

It is the average for a certain body of data. For example, if a 10-day average of closing prices is desired, the closing prices for the last 10 days are added up and the total is divided by 10. The body of data to be averaged moves forwards with each new day and hence, the term 'moving'.

By averaging the price data, a smoother line is produced, making it much easier to view the underlying trend. A short-term moving average would hug the action price more closely than a longer-term one. The greater the number of time periods used the greater the smoothing.

There are 3 types of Moving Averages:

- ✓ Simple Moving Average (SMA)
- ✓ Linearly Weighted Moving Average (WMA)
- ✓ Exponentially Smoothed Moving Average (EMA)



Technical Indicators

The Moving Average:

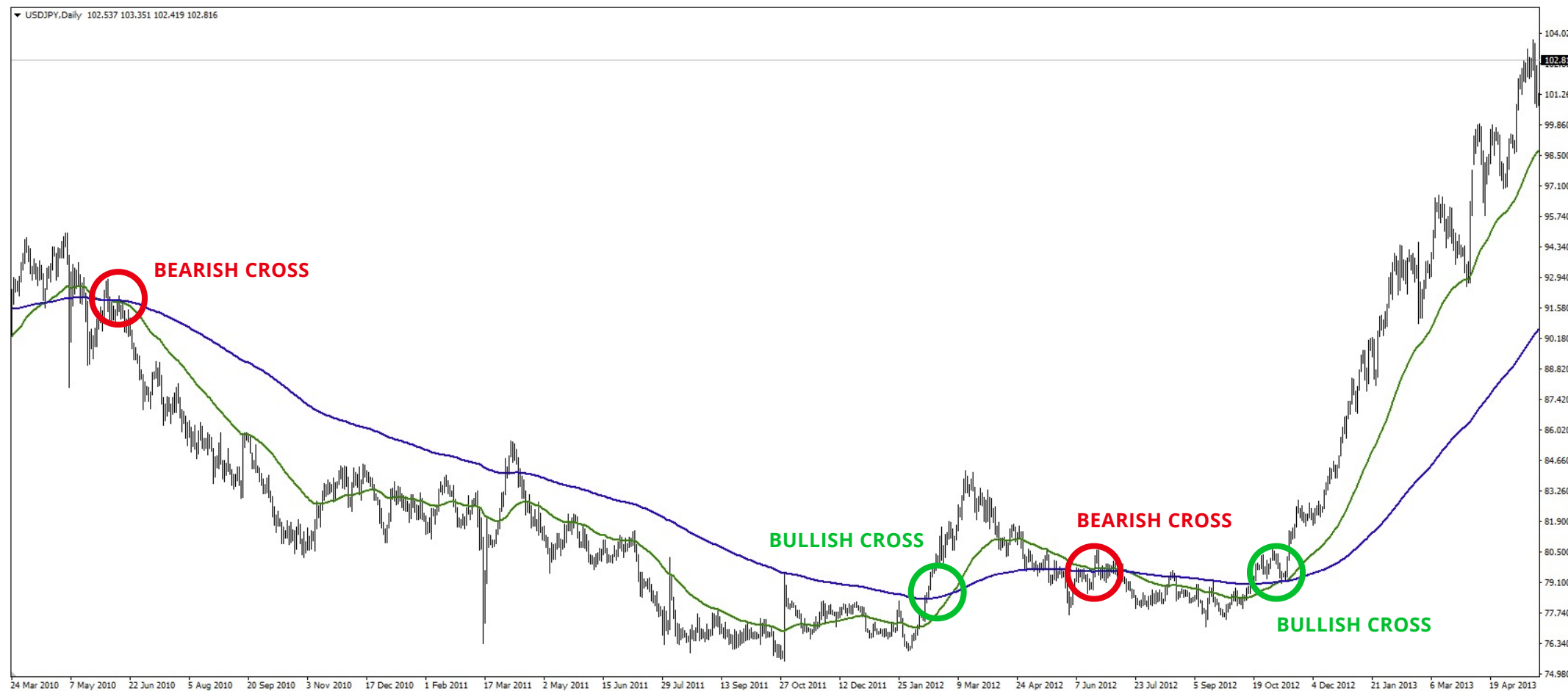
Is a follower, not a leader. It follows the market and signals that a trend has begun, but only after that happened.

Using One Move Average:

When the market closes above the moving average, tis is a bullish sign.
When it closes below the MA, we have a bearish sign.

Using Two Move Average:

When the short-term average crossed above the long-term average, a bullish trend has begun.
When the short-term average crossed below the long-term one, a bearish trend is in place.



Technical Indicators

Bollinger Bands

This technique was developed by John Bollinger.

Two bands are placed around a 20-day moving average.

Upper Band = 20-day + 2 st. dev.

Lower Band = 20-day - 2 st. dev.

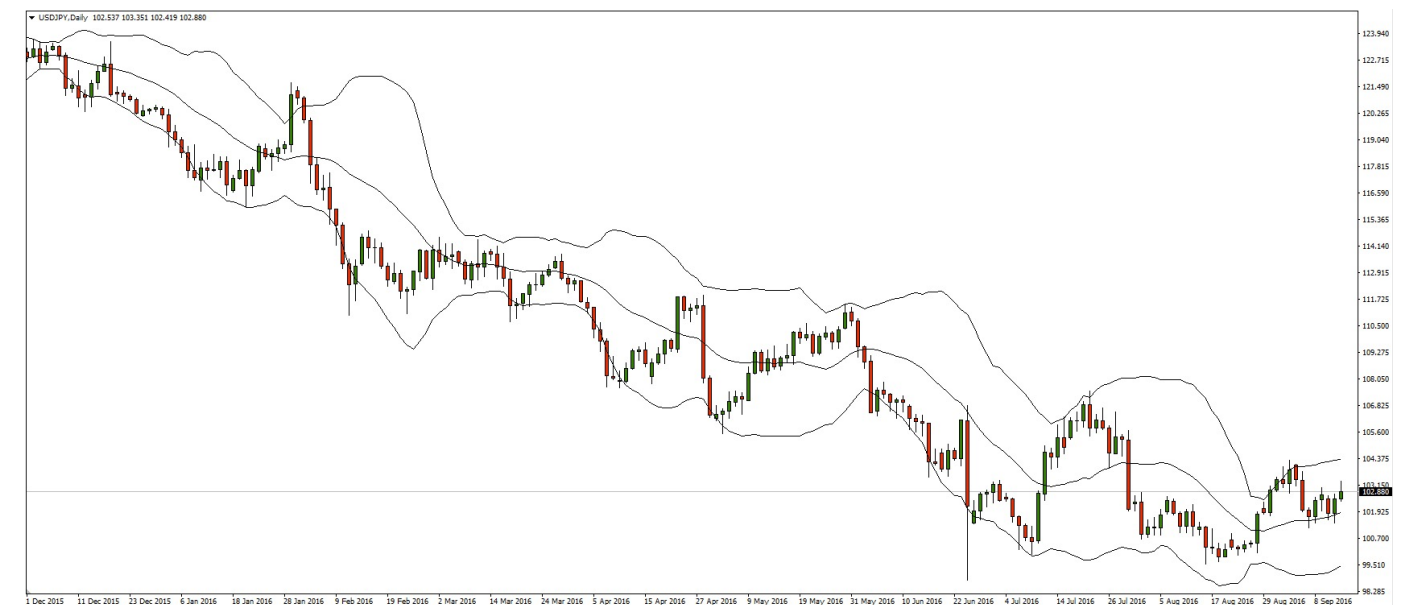
Standard Deviation

is a statistical concept that describes how prices are spread around an average value. Using two st. deviations ensures that 95% of the price data will fall between the bands.

Bollinger bands measure the volatility of the instrument under study. When the market becomes more volatile, the bands widen, while during quiet periods, the bands contract.

The closer the prices move to the upper band, the more overbought the market is. The closer the prices move to the lower band, the more oversold the market is.

Upper and lower bands can also be used as price targets.



Technical Indicators

Oscillators

Oscillators are momentum indicators. In a sense, they measure the “speed” of the price action, how fast prices are going up or down.

The Stochastic Oscillator

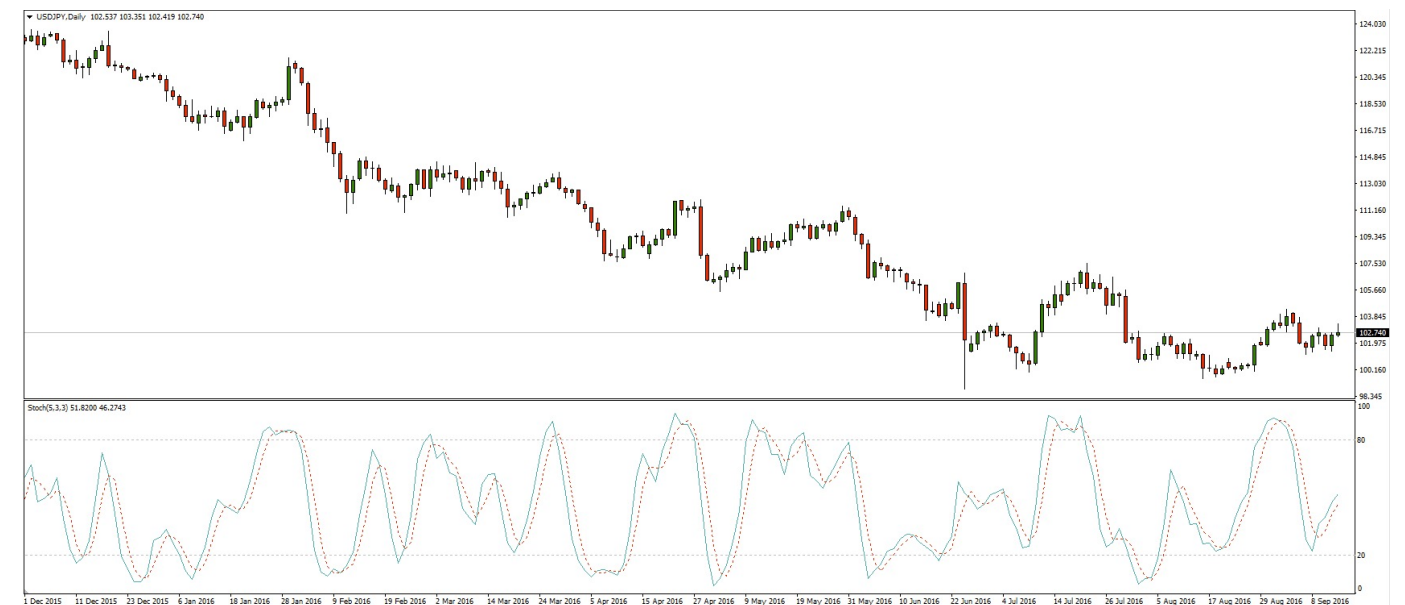
Is a momentum indicator based on where prices close within their high-low range.

It ranges between 0 and 100, and alerts traders for overbought or oversold conditions. Readings above 80 are considered overbought, and below 20 oversold.

The crossovers between the filled line and the dashed line are used in a similar manner as MA crossovers.

There are three situations when an oscillator is most useful:

- ✓ When its value reaches an extreme level, near the upper or lower end of its boundaries
- ✓ When we have divergence between the oscillator and the price action
- ✓ When the oscillator crosses a zero line or a midpoint



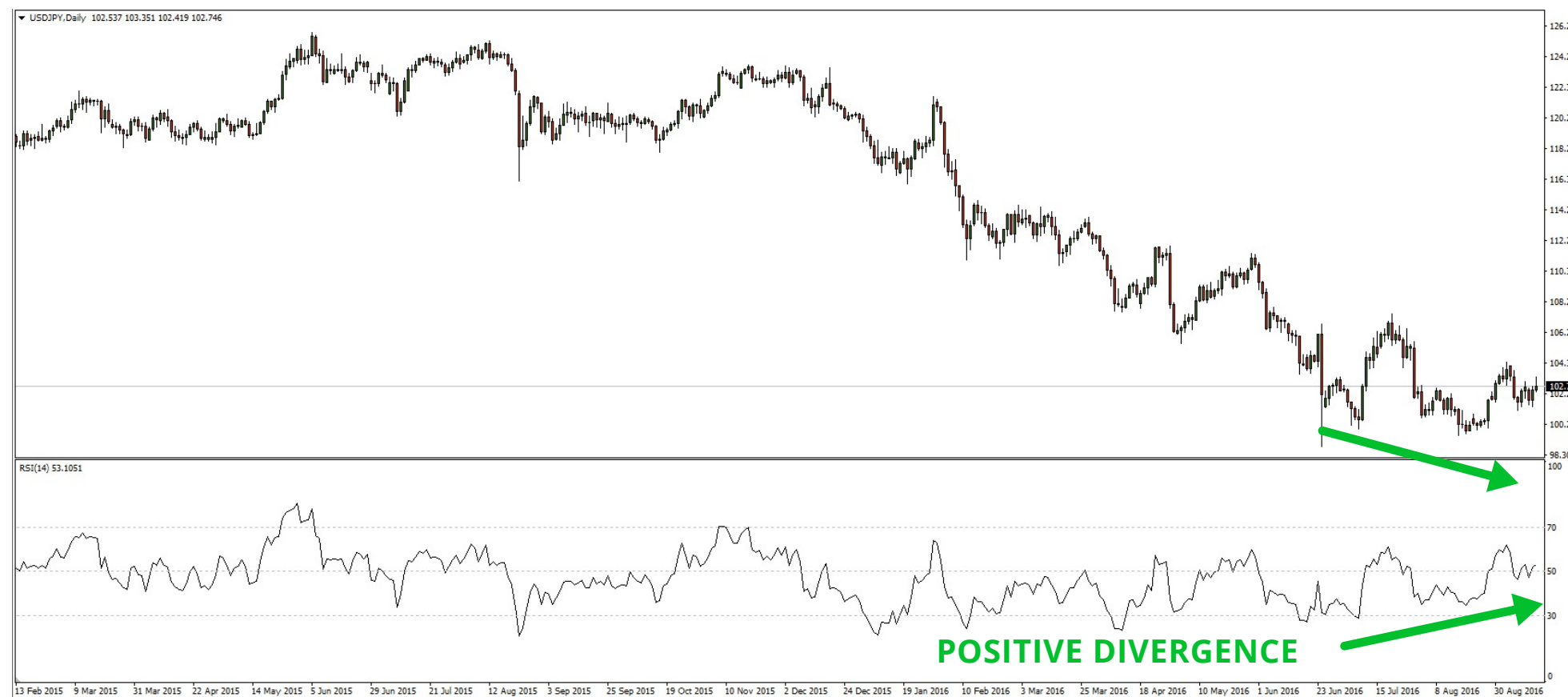
Technical Indicators

RSI

THE RELATIVE STRENGTH INDEX (RSI) measures the speed and change of price movements, usually over the past 14 periods.

It ranges between 0 and 100, and alerts traders for overbought or oversold conditions, as the Stochastic does. Readings above 70 are considered overbought, and below 30 oversold.

Many use the 50 midpoint to distinguish between bullish and bearish momentum.



Technical Indicators

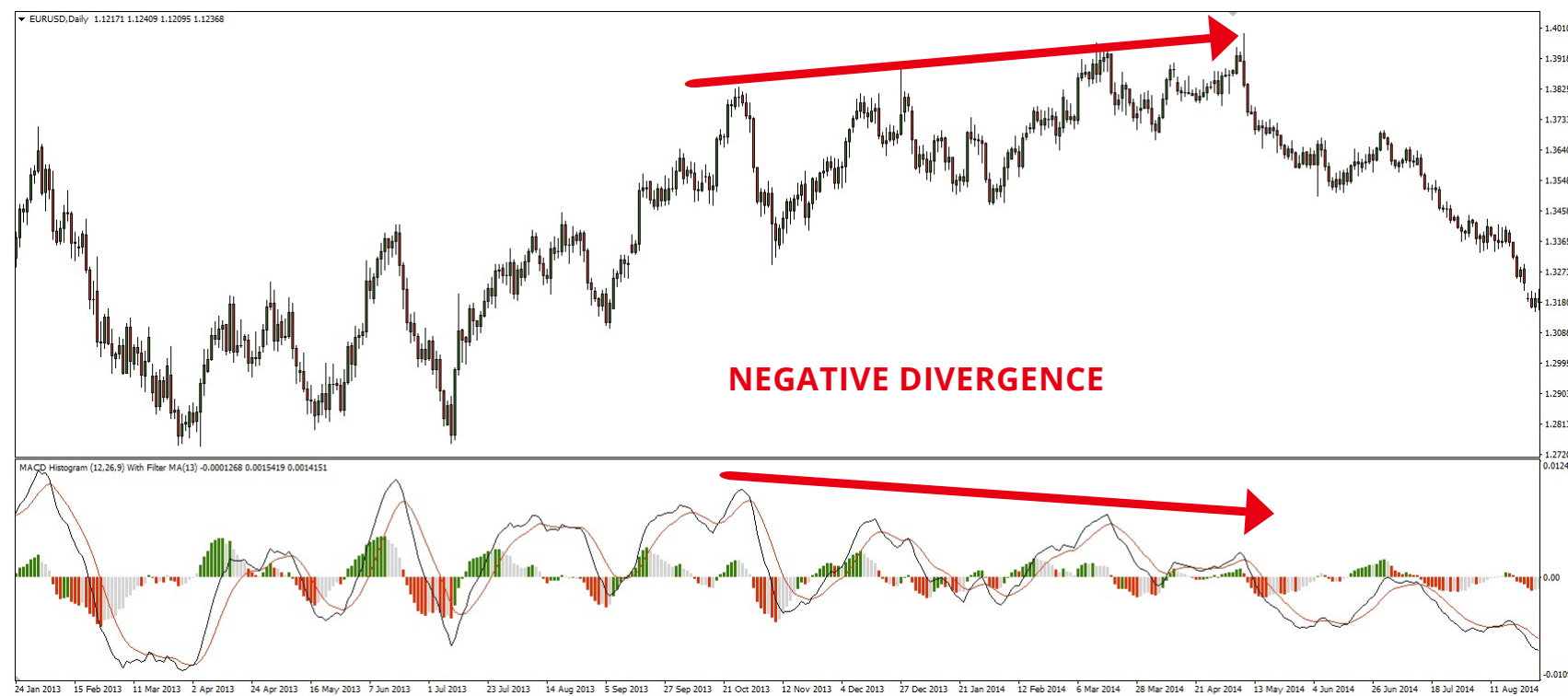
MACD

THE MOVING AVERAGE CONVERGENCE DIVERGENCE (MACD) takes two trendfollowing indicators, the 12-period and 26-period EMAs, and turns them into a momentum oscillator by subtracting the shorter EMA from the longer one.

When the MACD crosses above zero, it signals positive momentum, and when it falls below zero, it indicates negative momentum.

The trigger or signal line is a 9-period EMA of the MACD. Crossovers between the trigger line are used in a similar fashion as crossovers between two moving averages.

Divergence between the oscillator and the price action signals that the trend is losing momentum. Pos. Div. is when the price forms lower lows, while the oscillator prints higher lows. Neg. Div. is when the price forms higher highs, while the oscillator prints lower highs.



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