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Learning Center

B01 Chapter 01
Technical Analysis

Topics covered in this chapter:

- Studies and theories used by traders for proper technical analysis.
- Purpose and drawbacks of technical analysis.
- How to read the charts under the scope of technical analysis in order to generate high probability trades.
- Integrating price action into technical analysis.
- How to deal with lagging and non-lagging indicators.
- Matching indicators across different time frames.

After studying the chapter 04 from Unit A, you may feel that although measuring supply and demand gives adequate pictures of future prices movements, it does not guarantee currency trading success and you may need to structure your analysis further.

Technical analysis helps you to organize the overall market picture while it lays the path to rule based trading. Having a technical approach will be very important, specially during your first attempts to develop a personal trading style.

There are a lot of ways to analyze market information through technicals and the potential variables are endless. Understanding how to wade through this data is vital at this stage. We will therefore not present you a technical analysis manual but rather insist on the flexibility of a few common indicators and the roles they can play in a trading system. This practical approach will prepare you for the more advanced Units of the Learning Center.

Technical analysis offers the ability to do some things not easily achieved otherwise. That is the reason why many traders include it among their trading tools arsenal. But still many aspiring traders don't fully understand the advantages of technical analysis - and refuse to differentiate between analysis and the other components of a trading plan such as money management and trade execution.

In its essence, a Forex price chart is a simple sequence of up and down pips forming visual patterns. Technical analysis aims to identify these patterns and measure their outcome in terms of probabilities. However, the repeated occurrence of such patterns would imply a certain consistency of the outcomes. But in reality, there is no absolute consistency as each pattern is somehow unique - even if it has some similarities with other patterns.This underlying dilemma will be present along this chapter and many ideas about how to deal with it will be disclosed.

1. The Purpose of Technical Analysis

The purpose of technical analysis is to carry out price forecasts. By processing historical market data of any instrument, you can try to anticipate how it should be traded. There are several premises in favor of the reliability of technical analysis that are based on the experience and prolonged observation. These premises are the following:

1. A market trend in motion is more likely to persist than to reverse.

This is obvious by simply looking at any Forex chart. Of course the aim of any trader is to be aware of the overall market direction, to lock into the prevailing trend and trade it for profit.

2. Market discounts all fundamentals by displaying them quickly in the price action.

In other words, technical analysts assume that market fundamentals are already represented in the price so what you perceive in the charts is a reflection on any fundamental variable impacting the market. Nowadays, with instant communications this is truer than ever.

Either the unidirectional price move during a trend or the rapid reaction to any new fundamental data throws evidence that markets show up human behavior. From the above premises we can derive that human psychology is always at work in the markets and that technical analysis aims to visualize and quantify it.

3. What has happened in the past will happen again.

This third premise is based on the assumption that human behavior as well as human psychology never change, and that price will reflect it through the repeated emergence of certain price action patterns and trends.

Price action, as a result of human decision making, can be thus considered as being purposeful. Although some people believe that price movement is completely random and unpredictable, technical analysts are always prone to identify and quantify those behavior patterns by examining past markets. While markets are unpredictable in essence, market participants are typically considered to adhere to certain habits, which are rarely broken. As a trader, your goal is to make use of this information in order to gain a slight advantage over the eventual unpredictability of the market.

Joseph Trevisani remarks that markets are a human invention, therefore:

> ... they are a uniquely human form of expression.. The continued appearance of these ratios in market behavior is an empirical phenomenon. These theories of market behavior maintain that the appearance of these ratios in the movements of markets is not coincidence but witness to patterns that have predictive power

in describing future market movement.

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No doubt you've already heard people say that technical analysis is never an exact science. However, ignoring it completely excludes an edge with a certain level of expectancy. You won't win every trade but by trading systematically only when the odds are in your favor, the true edge of technical analysis will reveal itself.

You should keep in mind that the theoretical knowledge you are going to receive in this chapter should be added to a thoughtful strategy in order to reach good results in trading. The subject of trading strategies will be presented in Unit 3. Technical analysis is just a piece in the overall trading plan you are building with the help of the Learning Center.

Drawbacks of technical analysis

Despite the fact it represents a true edge for the trader, technical analysis presents some disadvantages. Those who oppose technical analysis point out several problems related to the application of its methods.

1. The failure to know the underlying fundamentals.

A common argument is that technical analysis is aimed at predicting a certain outcome for a chart pattern, ignoring the reasons of the movements which are due to fundamental factors. This is an obvious limitation of technical analysis and any trader feeling uncomfortable with this handicap should find support in the next chapter dedicated to fundamental analysis.

2. The lack of scientific objectivity.

Although some technical methods offer a certain objectivity to the chart analysis, other elements of technical analysis may not necessarily lead to an objective interpretation. That is why technical analysis is sometimes referred to as being more an art than a science. It is also where individual biases can come into play.

In the previous unit, we talked about the self-fulfilling prophecy referring to the fact that the more people approaching markets with technical analytical methods, the more likely the expected move in price occurs. It's another typical argument that points out the lack of a proven thesis. The fact that traders operate with different time

horizons and with many different reasons besides making money makes it difficult to find a common approach to the self-fulfilling prophecy.

3. The uniqueness of the pattern occurrences.

Another legitimate argument in favor of the unreliability of technical analysis is based on the true observation that past price action upon which technical methods are based does not often repeat exactly the same way. This can lead to incongruities in the analysis and to inconsistency in the methods.

At this point, however, you should ask yourself whether these arguments can be dealt with in order to make money in the markets. Of course they can, and we are going to show you how!

It's true that traders will never be 100% correct when using any strategy based on technicals. However, more often than not technical studies do create a positive expectancy. You don't need much more than that.A valuable lesson is undoubtedly that analysis doesn't make the whole trading plan. A proper money management and a trained attitude to stick to the rules are elements which offer additional edges to include in the trading plan. Therefore, don't worry excessively about the above mentioned drawbacks - technical traders have learned how to deal with them.

James Chen writes in one of his blog posts:

> A good remedy against paralysis by analysis is a combination of solid risk control and money management. Technical analysis is very helpful in setting risk management measures like a logically-placed stop loss that's not too tight and not too loose, and a good reward-to-risk ratio. And money management is an absolute essential for any trader who wants to be successful. With these prudent measures in place, traders need not be paralyzed by the trade entry process. A trader will never come anywhere close to 100% correct, even with 50 indicators, oscillators, trendlines and squiggly lines pointing in the same direction at the same time. But that's OK, as long as risk and money management are in good order.
>
> This is not at all to say that traders should ever just jump into trades without first doing their proper analysis. As mentioned, that is an evil in and of itself. But I know of several traders that are utterly unable to pull the buy/sell trigger unless all of the many stars in the galaxy are perfectly aligned. This almost never happens.
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2. Technical Indicators

The indicators we are going to start with are moving averages, which fall under the category of trend indicators and basically serve to smooth historical price data and to create a composite of market direction.

We'll then move on to study several uses of the MACD, which is an oscillator. Oscillators determine the strength or weakness of a trend as it progresses over time, and they offer many ways in which they can be used: to spot divergences between the price and the indicator, to reveal overbought and oversold market conditions and to print crossovers. And this is just to name the most common uses. Other well known oscillators are the Stochastic and the RSI which are mentioned in a later section.

Indicators based on price levels, like Fibonacci levels and Pivot Points, are our next study. The advantage of these indicators is that they don't lag price and work very well in combination with other indicators. Besides, they are excellent visualizers of S&R levels.

Another category belongs to the volatility indicators. Volatility is a general term used to describe the dimension of price fluctuations independently from the direction of the trend. Bollinger Bands are a good example and deserve to be rescued later on when covering trading strategies in the next Unit of the Learning Center.

There is no reason to complicate things when learning technical analysis. That is the reason why we will study only a few common indicators, but in turn we will study their nature and see what implementations and parameters make them more effective.

You don't need to devote your time collecting price data to make use of technical indicators. Any private trader can access numerous technical tools through most trading platforms.

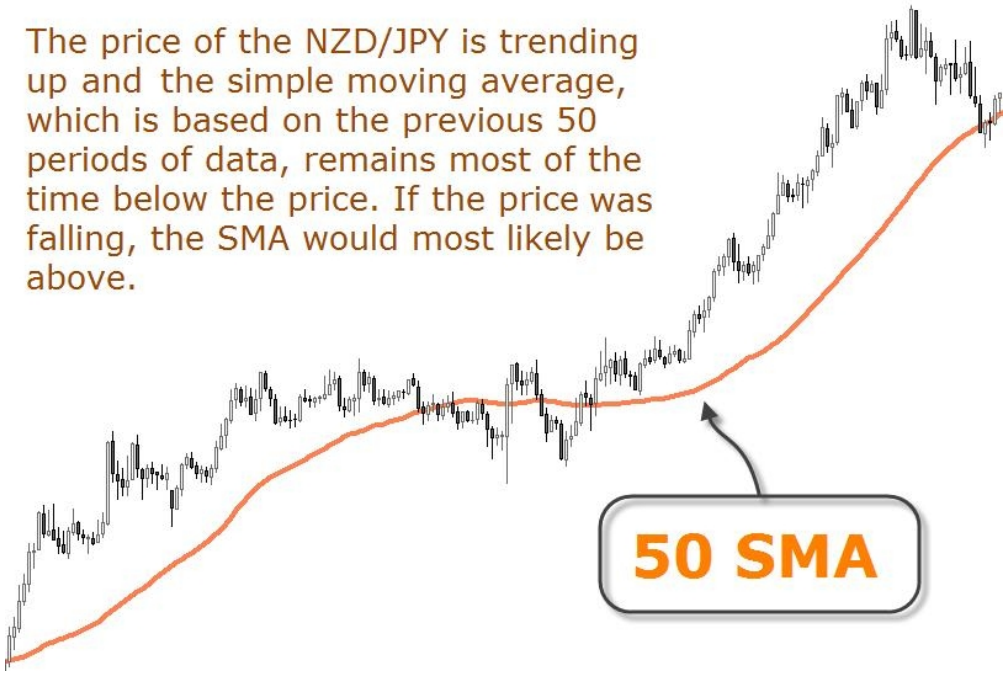
Moving Averages

Moving averages are one of the most popular technical indicators. They are very convenient for smoothing out price data series and making the identification of the direction of trends easier, something that is especially helpful in volatile markets as the Forex. Because past price data is the core variable of their formula, they are considered as lagging indicators. Therefore Moving averages better suit for trend following purposes than to predict when a trend is starting or is coming to an end. But who needs to predict the future?

With this in mind, we should first consider moving averages for what they are able to do. This process does not have to be a scientific examination - at least not at this stage. Usually, a simple visual assessment of the moving average can determine if it has the characteristics we need to put into practice our trading strategy.

The most popular types of moving averages are the **simple moving average (SMA)**, the **exponential moving average (EMA)** and the **weighted moving average**

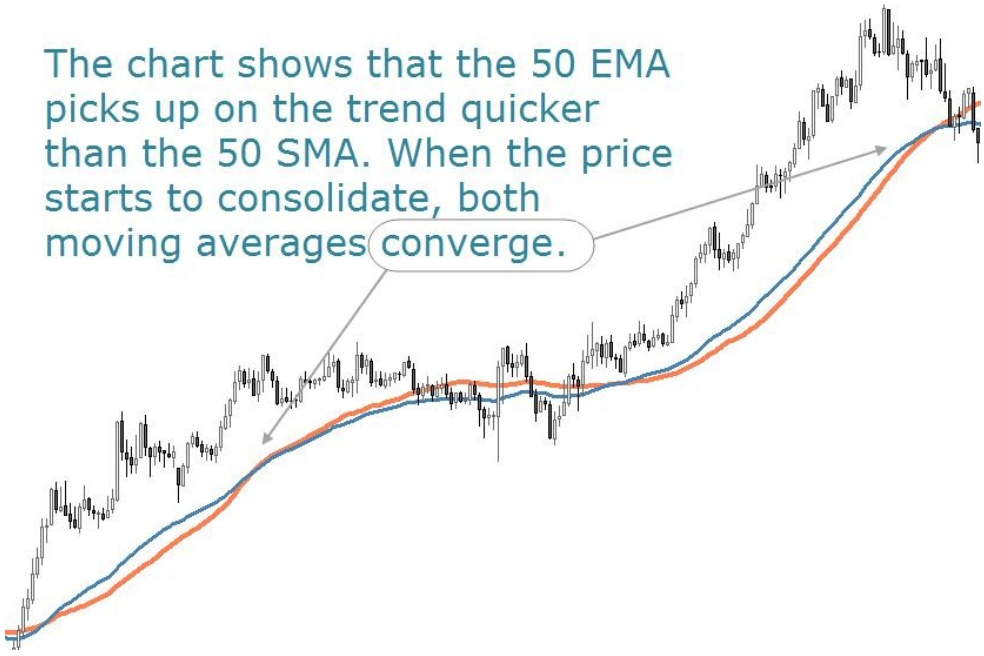
(WMA). The first is formed by computing the average price of a currency pair over a specified number of periods. Most moving averages are created using the closing price although it's possible to create moving averages from the open-, the high-, and the low prices.



The above illustration highlights the fact that the indicator lags price action, that is, it's always behind the price. Therefore, when prices are not trending, moving averages can give misleading information. In order to reduce the lag, technicians created an array of other moving averages, the most common being the mentioned exponential and the weighted moving average. EMAs reduce the lag by applying more weight to recent prices relative to older prices, and the WMAs put more weight on the most recent data and less weight on the older data.

For a detailed view about the formula for an exponential moving average, please check the report '[A Practical Guide to Technical Indicators]' by S.A. Ghafari.

At a first glance, the difference between an exponential moving average and a simple moving average looks minimal. Nevertheless, the exponential moving average is consistently closer to the actual price when it is trending.



Which moving average to use will depend on the concept you base your trading method on, as well as how the specific currency pair has reacted to it in the past. The simple moving average obviously has a lag, but the exponential and the weighted moving average may be prone to more volatility and will generate more false alerts. So your role is to take these aspects into account or even think about ways to take advantage of it. Some traders prefer to use exponential moving averages on shorter time frames to capture incipient trends, while others prefer simple moving averages over large time spans for longer positions.

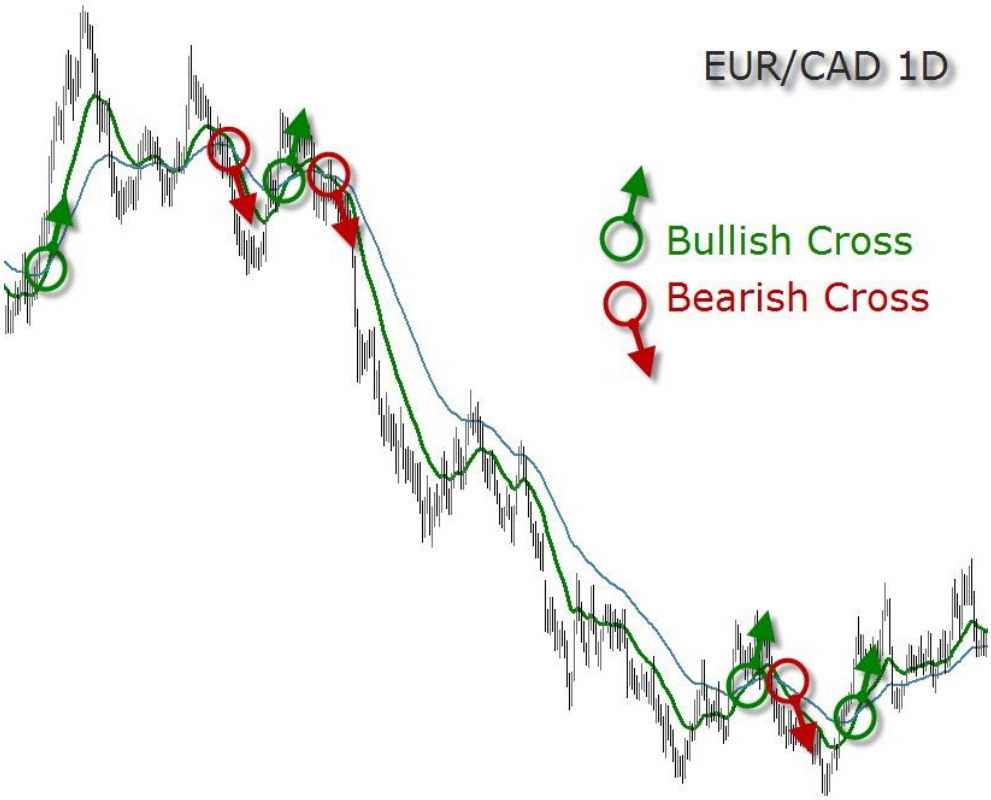
A very popular exponential moving average explained by Rob Booker: Using the 62 Exponential Moving Average in Currency Trading.

A perfect moving average should therefore have a minimal lag when the price starts trending and at the same time be smooth enough when price action is range bound. But there is no such perfect moving average and we can have only one attribute at a time. In fact there is no perfect technical indicator, all of them produce the so called 'false' signals.

As a first approach to any indicator you should experiment with it by plotting it on a chart and play with different settings in order to get a feel between the sensitivity of the indicator for a specific currency pair and its reliability as signal generator. Let the

dilemma of the sensitivity and the reliability for the technical analysts: as a trader, your purpose is to find a tool which can help you interpret what you are already seeing in the price action.

The above EUR/CAD chart doesn't tell you much? Indeed, a moving average alone is probably not the best choice to build a trading strategy. Prior to the decline, the price gyrated above and below its moving average. After the decline, the pair continued its erratic behavior without developing much of a trend, giving no clear signals on what to do and how to profit from the price action.What about adding a 50 EMA to the chart and use the two moving averages in order to provide entry signals?



Keeping the same chart, we can see the exchange rate trending inbetween periods of consolidation. It is sometimes difficult to determine when a trend will stop and a trading range will begin. But notice the trading range periods, the breakouts (both up and down) and the trending periods. Also observe the direction of the moving average crossovers and how they could point to the direction of the trend.
The faster moving average, which is measured over the shorter period of time, may be used as proxy for price and thereby eliminate the short-term fluctuations in price action. Many analysts consider the crossover of the fast average above the slow average as a bullish signal and the crossover of the fast average below the slow average as a bearish signal.

There are many formulas to calculate averages. For a detailed explanation on the modified exponential moving average, please read the related article.

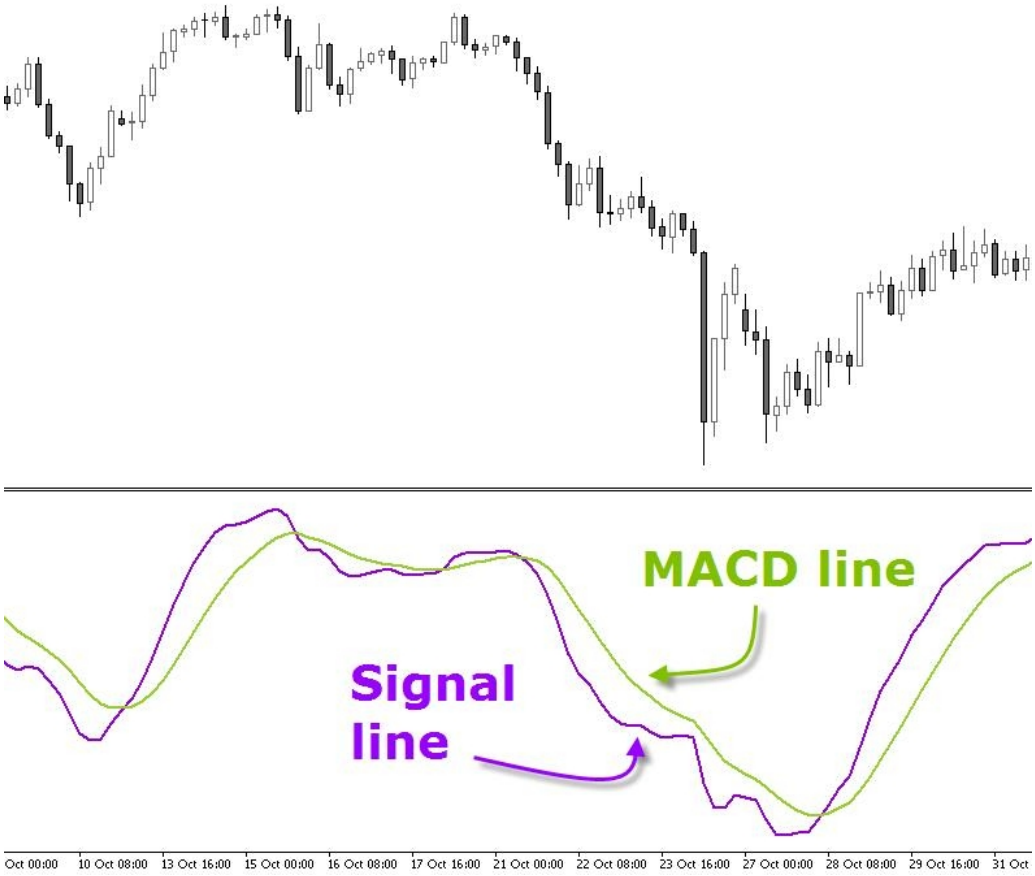
Moving averages also form the building blocks for many other technical indicators. This is the case of our next indicator, the moving average convergence divergence (MACD).

MACD

The MACD may be interpreted similarly to other moving averages and used as a trend-following indicator. That is, when the MACD crosses above the MACD signal line, it's a bullish signal, and conversely, when the MACD crosses below the MACD signal line, a downtrend may be beginning and the signal is bearish.Its default settings are usually 26, 12, 9 and its **components** are:

1. The **MACD line** which takes a short length and a long length exponential moving average (defaulted to 12 and 26) and calculates the difference between these two averages.

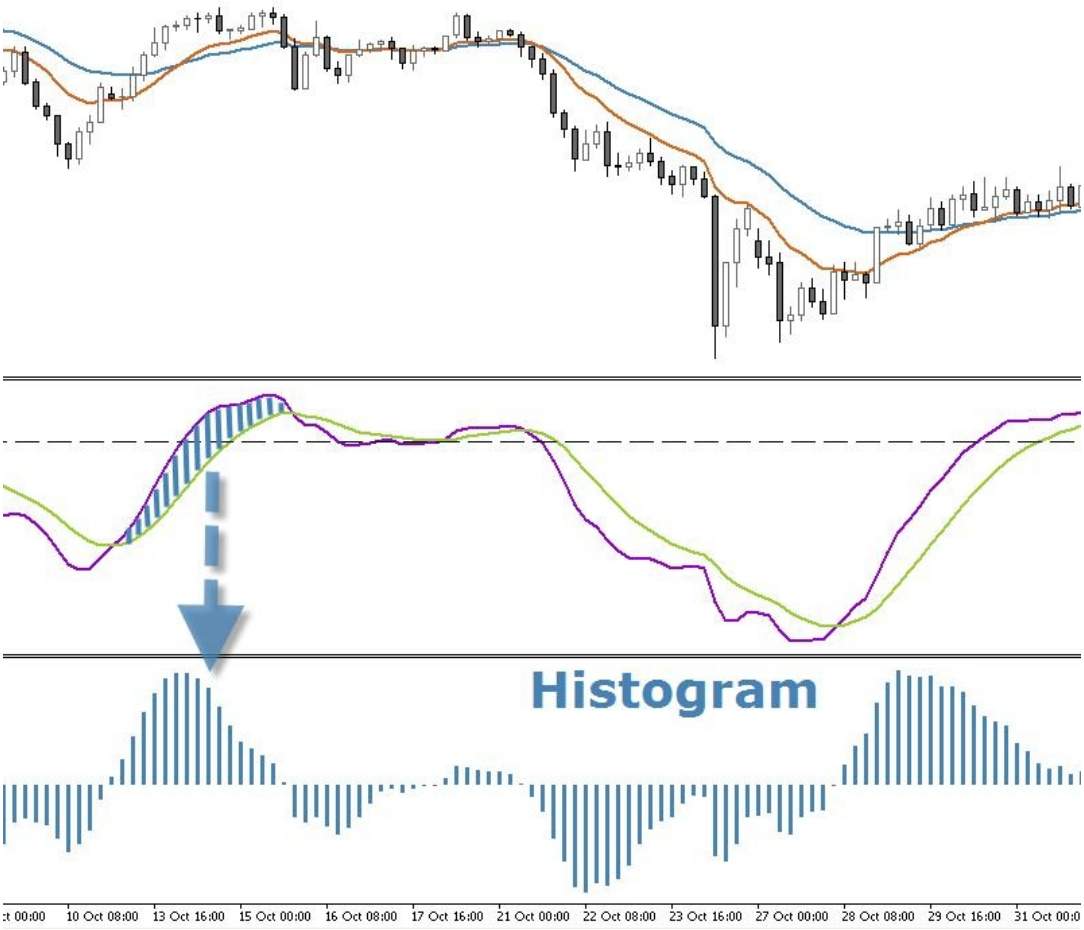
2. A signal line which is then derived by calculating an exponential moving average of the MACD line. This is plotted as the **MACD signal**.



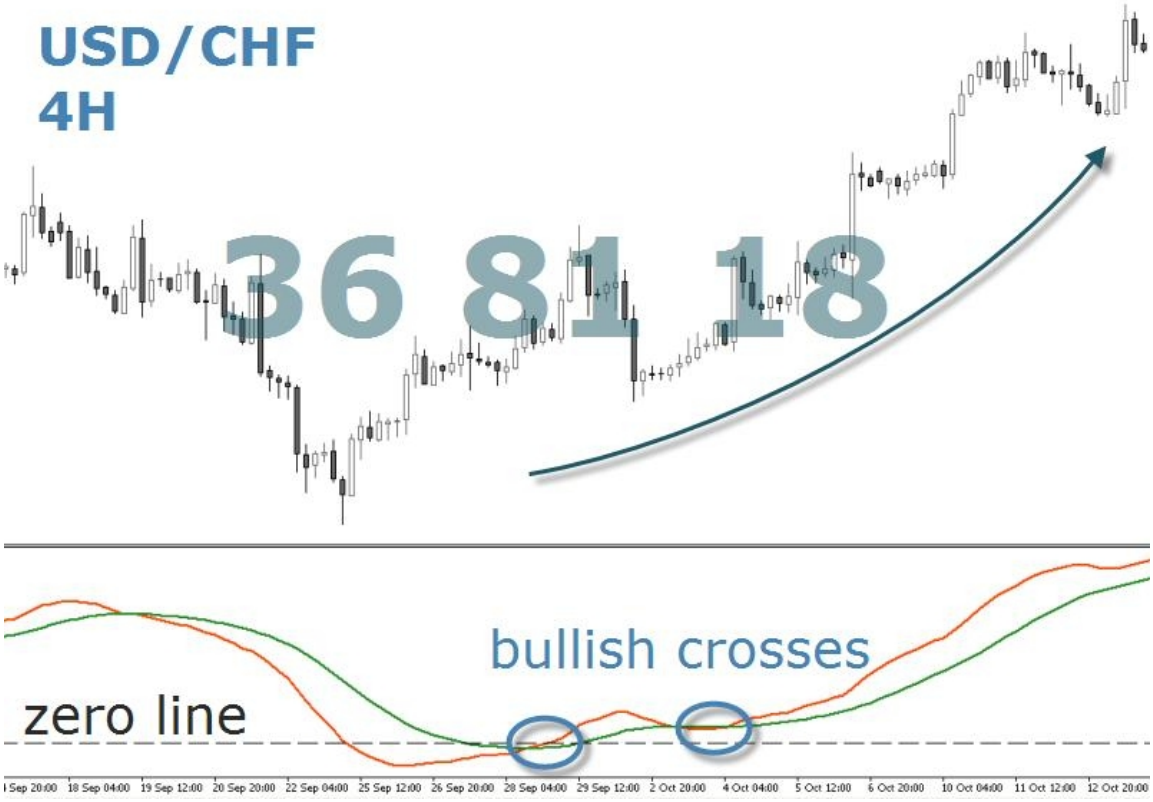
3. The third element is the median line also called **'zero line'** or **'center line'**.

The MACD moves around a center line and it has not upper or lower limits as other oscillators have. It is thus called an 'open oscillator'. The median line represents the point at which the moving averages are equal.If the EMAs which compose the MACD cross a bearish signal, the indicator translates it into a simultaneous bearish crossing of the MACD line with its median line. And vice versa, when the MACD line crosses its median line to the upside, this means the two EMAs built in the indicator are crossing upwards.

4. Finally, the difference between the MACD and the MACD signal line is calculated and plotted in a **histogram**.

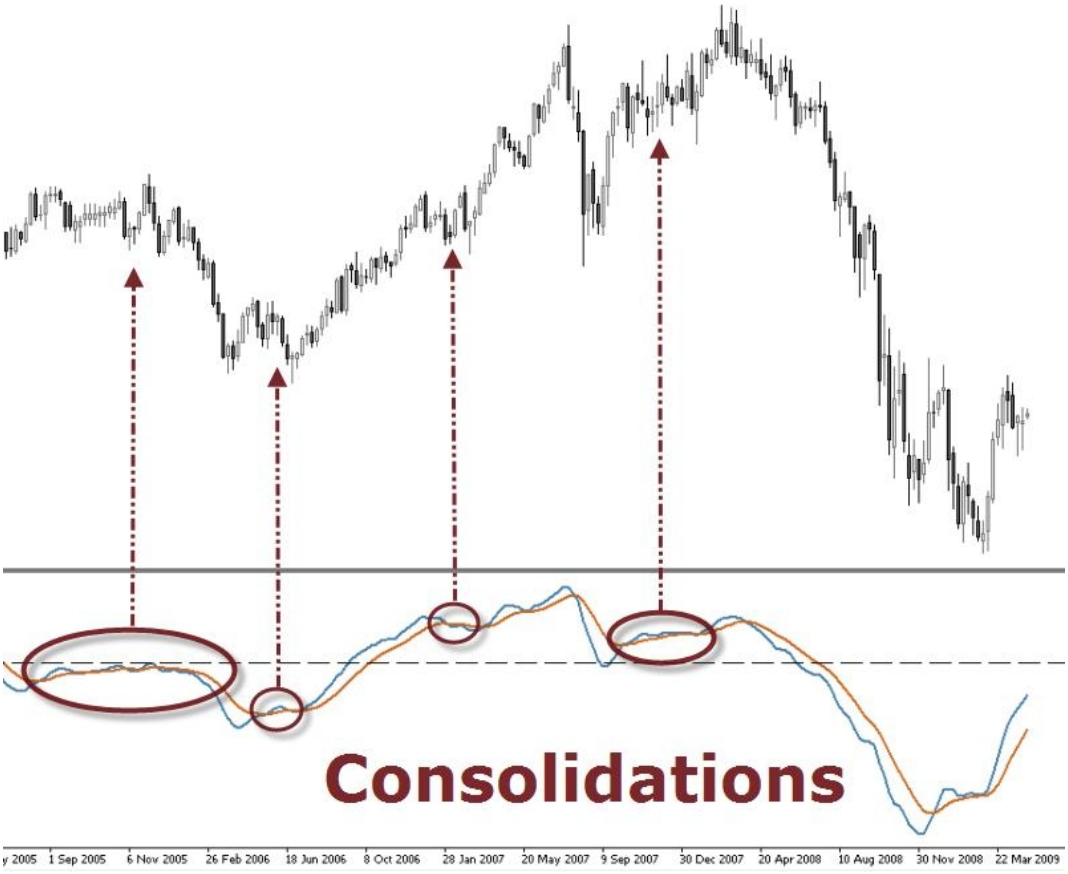


If you are going to use the MACD, don't exclude the histogram. On occasion, the MACD itself may be following the price nicely, but the histogram can alert the trained analyst that a turn in price is in the air by giving signs of divergence. What a divergence is will be explained further below.
The same dilemma as for the moving averages applies for the MACD: shorter moving averages will be more sensitive and generate more crosses, and longer moving averages will always lag price and generate fewer signals.Why then not change its default settings and do something creative with the MACD? The signals provided with the settings 36,81,18 may be few, but are they therefore less reliable? Note how the below settings evidence the start of a trend when the MACD line crossover is close to its median line. You may ask where this weird numbers are coming from. The answer is that they are multiples of 9.



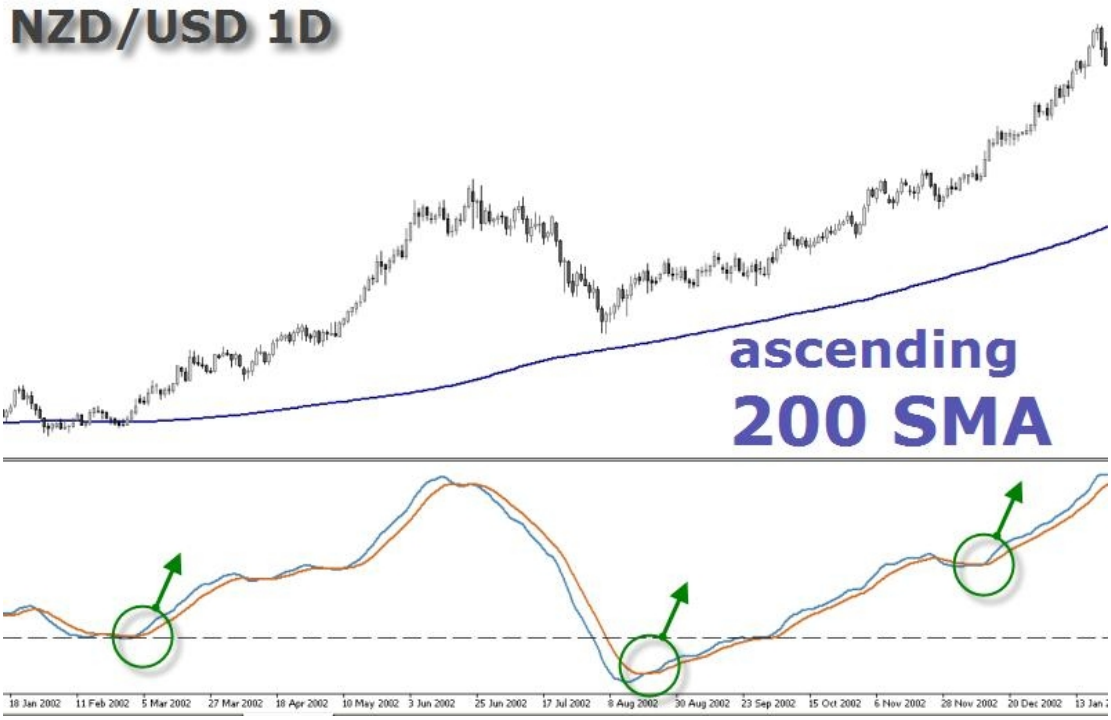
The MACD is based on the concept of convergence-divergence. But what is the convergence-divergence of a moving average? We have said the MACD consists of two exponential moving averages that range around the median line. The result is an indicator that oscillates above and below that line.
When the MACD is above the median line, this means the 12-period moving average is above the 26-period moving average, indicating that recent prices are higher than the previous ones.Conversely, when the MACD is below the median line, it means the 12-period moving average has a value of less than 26 periods, indicating that prices are falling.In other words, the bigger the spread between the two EMAs taken into the equation of the MACD line is, the more distance the indicator will print to its median line.

When a currency pair is volatile, all elements of the MACD show broad movements on both sides of the median line. However, when the market is calm, moving averages converge and the MACD lines consolidate as well.These feature make the MACD indicator useful to measure volatility and market sentiment. Notice how each volatility boost starts after a period of **consolidation**.



The MACD indicator is an open indicator which means that overbought and oversold conditions are relative to previous highs and lows of the MACD line.Being an open indicator implies that, unlike other oscillators with values ranging from 0% to 100%, in the MACD there is no maximum or minimum value. Since the EMAs forming MACD can't theoretically distance from each other ad infinitum, there is logically always a return of the lines towards the median line. To identify periods of overbought and oversold conditions, we must look at past figures in the range of values which the MACD has registered.

Technical indicators work particularly well when combined with each other. Besides, they also perform well with different settings than the default ones. A proof of it is the below illustration.



A 200 SMA has been displayed on the chart, combined with a MACD using the following settings: 21, 55, 8. You may ask again where these weird numbers are coming from. The answer is they belong to the Fibonacci sequence. The next section will cover the sequence in more detail, but for now just observe how an ascending 200 SMA acted as a filter for the signals generated by the MACD crossovers. The purpose was to go with the trend, therefore no bearish cross was taken as valid.

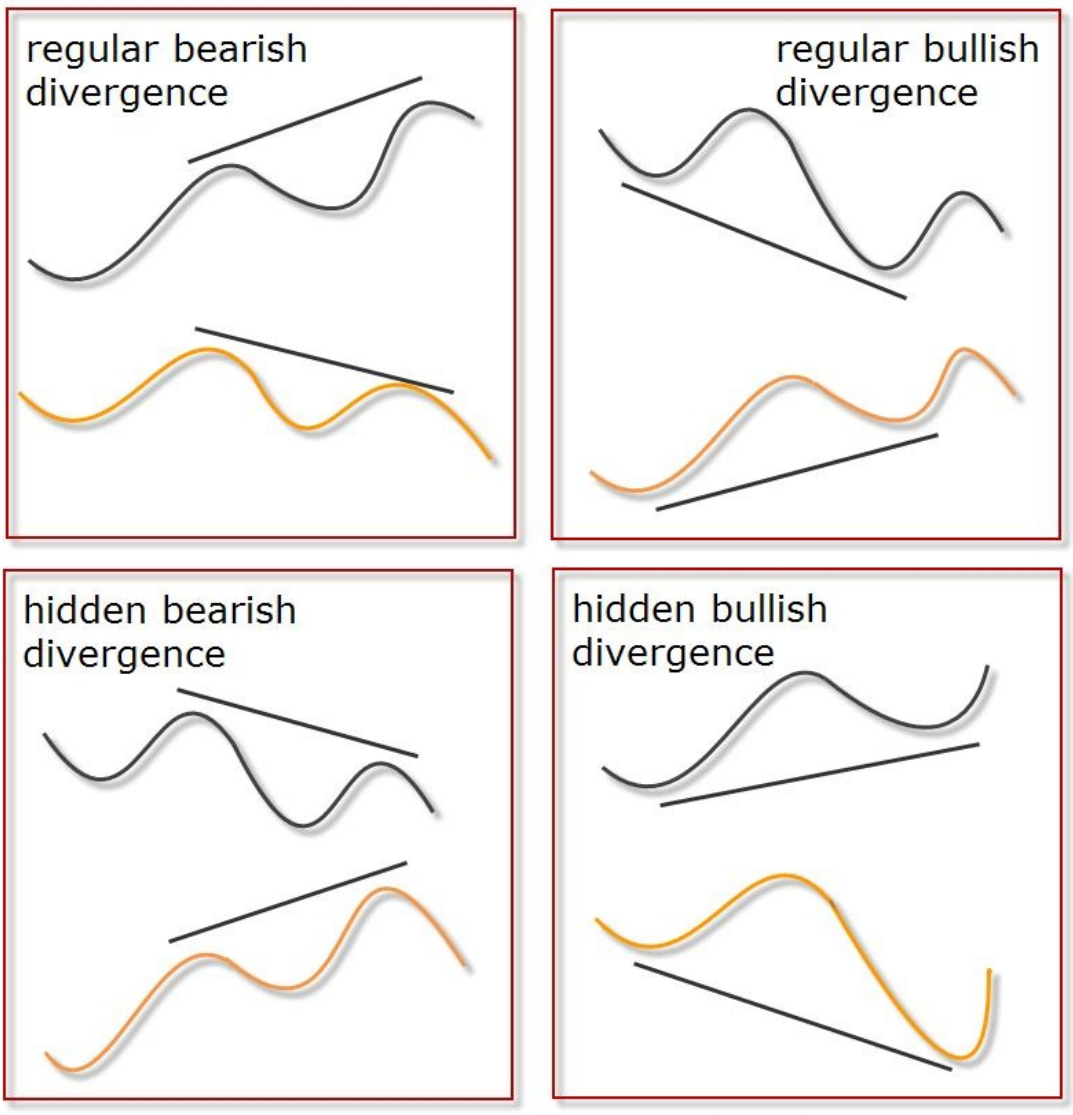
Do you conceive the MACD or even moving average crossovers as the only way to determine the overall trend in your analysis? It's true these are great methods, but they always produce series of losses, specially when the market is consolidating.

There is another method which enables traders to profit from consolidation periods, and this is done by identifying divergences between price and the MACD lines.

One of the things traders look for are signs of convergence and divergence between price action and the indicator. A **convergence** is when the indicator and the price action are hinting a similar signal and, therefore, reinforcing their signals. But when the indicator and the price are telling a different story, there is a **divergence**, showing that price is not supported by the indicator.

There are basically four types of divergences, which can be identified with the MACD or any other oscillator (Stochastic, Momentum, RSI, etc.). Divergences, like its name suggests, happen when the price and the oscillator go in opposite directions, hence diverging from each other.

The **four types of divergences** are:

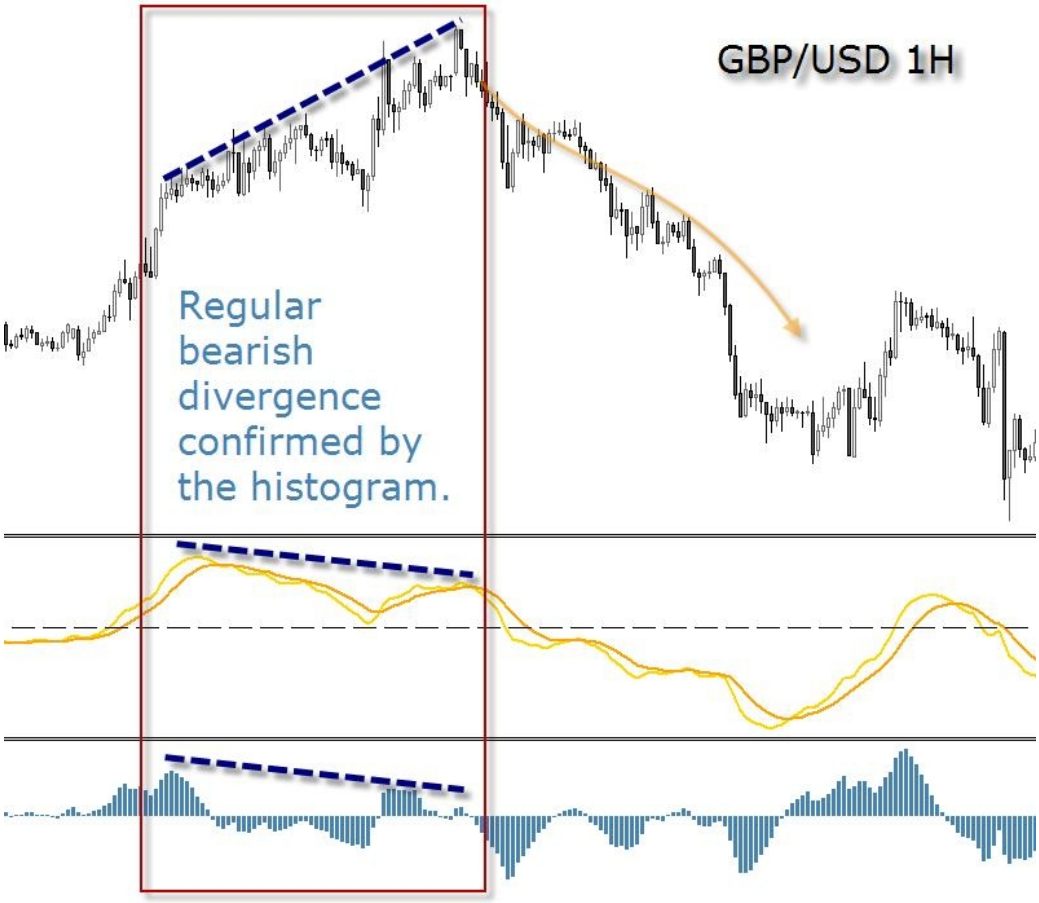


A **regular divergence** simply means one of two things - that price has made higher highs while the oscillator has made lower highs (this is the case of a regular bearish divergence), or that price has made lower lows while the oscillator has made a higher low (a bullish divergence).

A **regular bearish divergence** is a sign that an upside momentum may be failing and that there may be an impending downturn, while a **bullish divergence**, on the other hand, is a sign that downside momentum may be exhausted and may be interpreted as a warning of weakness of the trend.

Hidden divergences, in turn, are signs of trend strengthening: when price has made a higher low while the oscillator has made a lower lows (this is the case of a **hidden bullish divergence**), or that price has made lower highs while the oscillator has made a higher high (a **bearish hidden divergence**).

The MACD histogram, which is the difference between both MACD lines, can also be used to confirm MACD divergences. As such, if it is divergent to price, it can suggest the move is running out of steam.



Use the MACD and the histogram to find divergences. A double confirmation provided by both indicators will filter out some false signals and enhance the odds in your favor.The GBP/USD plays out regular divergences very frequently. An observed pattern takes place on Friday afternoons when the London session is about to close. London session traders closing their positions and taking profits on Friday afternoon makes the pair trigger regular divergences against the prevailing weekly trend.

Why some strategies that are so effective during the week seem to fail on Fridays? Remember: London is responsible for about one third of all the Forex volume. This means that 2 PM on a Friday in New York is already late afternoon in London, and London traders are closing their positions for the week. At the same time it is already Saturday morning in Asia, so we can't expect any volume from that part of the world. The closing of London positions in a less liquid environment - due to the absence of Asian traders - gives way to violent price reversals and erratic moves.

It is recommended to close short term positions until Monday and avoid to open new trades on Friday afternoon London time. In any case, it will depend on the strategy you're using. If you take the above edge and focus on profiting from the closing of London positions, then Friday might be a good time to trade.

Divergences should not be seen as all-encompassing, self-sufficient trading strategies. They can certainly be reliable but they should only be used in tandem with another confirming factor such as S&R analysis or another technical indicator, in order to get firm confirmations of market reversals.

Fibonacci

Leonardo Fibonacci explained the exponential growth in nature through a well-known number sequence. In this sequence each number is the sum of the previous two consecutive numbers.

The sequence starts with 0 and 1 and goes on with: **1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584,** etc.

To learn more about the Italian mathematician Leonardo Fibonacci, you can visit Wikipedia.

Fibonacci proved that this sequence can be manifested in the evolution of a natural growth phenomenon, as a solution to a mathematical problem based on the reproduction process of a pair of rabbits. However, the utility of the sequence lies in its fundamental properties, discovered in the eighteenth century:

1. When **dividing the consecutive numbers** of the sequence, ie: 1/1, 1/2, 2/3, 3/5, 5/8, 8/13, etc., the result tends to approach the number 0,618.

2. When **dividing the non-consecutive numbers** of the sequence, ie, 1/2, 1/3, 2/5 3/8, 5/13, 8/21, etc., the result is the number 0,382.

3. The **ratio** of any number of the sequence **in relation to the next lowest number**, ie: 21/13, 13/8, 8/5, tends to be 1,618.

4. The **ratio** of any number of the sequence **in relation to the next lowest non-consecutive number**, ie: 21/8, 13/5, 8/3, tends to be 2,618.

The difference between the ratios and the result of the equation is greater when the the numbers used in the series are smaller. For example:

144/233 = 0,618: the result of the equation is a precise Fibonacci ratio.144/89= 1.6179: with a smaller number the result of the equation only comes close to the Fibonacci ratio.

The 1,618 ratio and its inverse, the 0,618, were called by the ancient Greeks the '**golden ratio**'.

Traders are not so interested in the numbers of the sequence as in the ratios between the numbers. These ratios can be used to identify support or resistance levels, find the targets for price movements, or even to determine the time period that a movement will last.

The most popular levels or ratios are:

23.6%, 38.2%, 61.8% and 161,8%

The 100% which is the full size of the movement to be analyzed and its half, the 50%, are commonly added to the Fibonacci levels, although they are not ratios of the sequence.

It's common to see a price correction towards a Fibonacci level after a clear trend has been developing. This doesn't mean that a price correction is to halt accurately at these levels, but most of the time price will slow down or interrupt the directional move and find temporary support and resistance at a Fibonacci level.

In a study titled 'Using Fibonacci to determinate market goals', Facundo Molina analyzes past market data in order to prove objectively that a combination of the Fibonacci retracements and the ZigZag oscillator will determine with more than 70% of accuracy the target zones where prices will go.As a conclusion of his work, he proposes to use Fibonacci tools in intermediate time frames as an excellent tool for short term technical traders.

Although very useful, Fibonacci ratios are not less subjective than any other tool used in technical analysis because it leaves some room for interpretation and personal preferences. However, this subjectivity is relatively easy to handle, and the charts below illustrate this flexibility and adaptiveness.

In this daily USD/CHF chart, the Fibonacci tool is anchored in the extremes of a trend that lasted about a month in late 2006. For nearly a year, prices were consolidated at the 23.6%, 38.2%; 61.8% levels. The 50% level has been omitted here for more clarity, but we encourage you to include it in your toolbox.

In the next chart, the anchorages of the Fibonacci tool were moved when the price reached new highs and lows. Observe how the old consolidation levels are mostly coinciding with the new levels, despite the fact they are dislocating the tool.

In the next chart, the upper anchorage is simply displaced in time but remains at the same price level. In contrast, the lower anchor has been placed at the new low reached by the price. Again, observe how the price takes into account the new Fibonacci levels.

By moving the tool to the newest extremes, we are also segmenting the chart into smaller sections, which in turn can be used as entry or exit points, or just as levels to adjust a trade size.

In the next chart, despite the Fibonacci tool has been displaced down, the previous consolidations match with the new levels - what was before 23.6% is now 38.2%, for example.
This is not a coincidence, but rather how this analysis works and how the price tends to respect the Fibonacci ratios. Specially stronger consolidations tend to remain clustered at key Fibonacci levels.

Andrei Pehar says that using this tool is easier than to pronounce the word Fibonacci. He reaches a similar conclusion with a simple pattern, yielding a powerful 77% win ratio: Institutional Trading Strategies: The ABCs of Fibonacci.

Our Fibonacci calculator can be a useful tool to help you in your analysis.

John Jagerson, in this video titled Using fibonacci retracements to identify support and resistance, goes into intermarket Fibonacci analysis and Fibonacci time series. Using Fibonacci levels to project price targets and timing is another recorded session worth watching too.

Pivot Points

As Raul Lopez explains in an article published in 2006:

> Pivot points, a technique developed by floor traders, help us see where the price is relative to previous market action.
>
> As a definition, a pivot point is a turning point or condition. The same applies to the Forex market, the pivot point is a level in which the sentiment of the market changes from 'bull' to 'bear' or vice versa. If the market breaks this level up, then the sentiment is said to be a bull market and it is likely to continue its way up, on the other hand, if the market breaks this level down, then the sentiment is bear, and it is expected to continue its way down. Also at this level, the market is expected to have some kind of support/resistance, and if price can't break the pivot point, a possible bounce from it is plausible.
>
> Pivot points work better on highly liquid markets, like the spot currency market, but they can also be used in other markets as well.
>
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The great advantage of a technique based on pivot points is the fact that this indicator is based on price action (high, low and close of the day) and doesn't lag price as other technical indicators do. For some strategies, the signal of any lagging indicator could come too late, when the motion to capture is already accomplished.

Pivot Points can be applied to any time frame, but they are mainly used to identify the intraday directional bias as well as significant support and resistance levels. For that reason they are best visualized on intraday time frames such as 1 hour and below.

Pivot Points can be applied to any time frame, but they are mainly used to identify the intraday directional bias as well as significant support and resistance levels. For that reason they are best visualized on intraday time frames such as 1 hour and below.

Resistance 2 (R2) = P + (H - L)

Resistance 1 (R1) = P + (P - L)

Pivot Point (PP) = (H + L + C) / 3

Support 1 (S1) = PP - (H - P)

Support 2 (S2) = P - (H - L)

Since the Forex is a 24hr market there is an eternal debate on deciding at which time the open, the close, the high and the low from each session should be taken. Nevertheless, the majority of traders agree that the most accurate predictions are achieved when the pivot point is adjusted to the GMT or the Eastern (New York - EST) times. That is made by taking the open at 00:00 GMT and the close at 23:59 GMT, or by taking the open at 00:00 EST and the close at 23:59 EST.
There are variations of this formula, where support and resistance levels are calculated differently, leading to slightly different results. Here are some of these variations of the original formula:

R2 = P + (R1 - S1)
R1 = (P * 2) - L
PP = (H + L + C) / 3
S1 = (P * 2) - H
S2 = P - (R1 - S1)

R2 = P - (S1 + R1)
R1 = (2*P) - L
PP = (H + L + C) / 3
S1 = (2*P) - H
S2 = P - (R1 + S1)

Some charting platforms also integrate the (S3) and (R3) within the pivot point formula, which is useful for volatile pairs such as the GBP/JPY. Other platforms calculate intermediary levels too, called (M), which also provide additional information to the main levels. The latter is useful after some days of high volatility as the S&R levels are very distant from each other.

$$R3 = H + 2 X (P - L)$$
$$R2 = P + H - L$$
$$R1 = (2 X P) - L$$
$$\mathbf{PP = (H + L + C) / 3}$$
$$S1 = (2 X P) - H$$
$$S2 = P - H + L$$
$$S3 = L - 2 X (H - P)$$

The so-called '**Woodie**' pivot points are similar to the standard ones, but with a slight variation in the calculation of the PP, which gives more weight to the closing price of the previous period.

$$R2 = P + H - L$$
$$R1 = (2 X P) - L$$
$$\mathbf{PP = (H + L + 2 X C) / 4}$$
$$S1 = (2 X P) - H$$
$$S2 = P - H + L$$

The '**Camarilla**' pivot points is a series of eight S&R levels which are used for the same purpose as the other applications: to identify S&R levels for a certain period of time.

$$R4 = (H - L) X 1.1 / 2 + C$$
$$R3 = (H - L) X 1.1 / 4 + C$$
$$R2 = (H - L) X 1.1 / 6 + C$$
$$R1 = (H - L) X 1.1 / 12 + C$$
$$S1 = C - (H - L) X 1.1 / 12$$
$$S2 = C - (H - L) X 1.1 / 6$$
$$S3 = C - (H - L) X 1.1 / 4$$
$$S4 = C - (H - L) X 1.1 / 2$$

Don Dawson offers an interesting perspective about why pivot points work so well in today's electronic markets, even if they were originally created in a time when such devices didn't existed:

> The numbers worked so well when they first came out. Then like many trading ideas in the markets, everybody started using them and they lost some of their strength. Also, people started using them thinking that they were going to be the "exact" projected High or Low of the day and the study was used improperly. This just caused more opportunities for the floor traders to fade these levels where the public would Buy or Sell blindly on these numbers. You see, back then we only had a handful of technical studies to look at and a lot of traders. Today, we literally have hundreds of studies to look at. For this reason I believe that some of the more traditional studies are starting to work well again. With much more variety to trade from, the idea of too many people using one tool is not as likely.

Continue reading...

Other technical indicators, such as Bollinger Bands, RSI, Stochastic, etc., are explained in this Forex Indicators Manual by Doug Schaff.

3. Price Action Supported by Technicals

Let's start this section with a quick reminder of a previous lesson from Unit A : support and resistance levels are those levels where the exchange rate experiences upward or downward pressure. A support level is usually a low point in any displayed chart pattern, whereas a resistance level is a peak point in the chart. These points are identified as support and resistance when they show a tendency to reappear. Support and resistance zones work the same way in a trending market than in a range bound market.

Once these levels are broken, they tend to become the opposite obstacle. Thus, in a rising market, a resistance level that is broken could serve as a support for the upward trend; whereas in a falling market, once a support level is broken, it could turn into a resistance.

Before we go on with technical indicators, we have to keep in mind that there is one indicator that stands above the rest: **the price**. Most technical indicators boil down to price, as they are simply an equation or formula that is applied to the price.

A moving average is a good example, as it consists of the average - or mean price - of a trading vehicle over a designated period of time. Oscillators, such as stochastic or RSI, measure the difference between the current price and recent prices to determine if a currency pair is overbought or oversold.

Price information is thus of utmost importance for traders because unlike most indicators, support and resistance levels tell us where the buyers and sellers have set up camp. Remember: many of the large market players, like hedge funds and market maker banks, forecast price movements and plan their positions by looking primarily at raw market-generated data, that is, price action.

To know whether the supply or demand is growing or is being depleted, a trader can support price action analysis with a visual evidence derived from technical indicators. Facundo Molina emphasizes on this fruitful combination:

> Many traders look at technical indicators for clues as to where price action will be moving in the future.There are many problems associated with this approach. First and foremost, technical indicators lag current price. The indicators are created from data that is compiled from where price has been at some point in the past, the rate at which it is changing, and perhaps use volume as an additional filter. Technical indicators are simply a mathematical way of analyzing and representing price action and offering a different perspective of what price is doing. A trader should never rely exclusively on an indicator for a buy or sell signal. However, when used in conjunction with price behavior analysis, a trader can gain confidence for entries and exits as well as identify opportunities as they appear. Technical indicators should be used as a decision support tool.

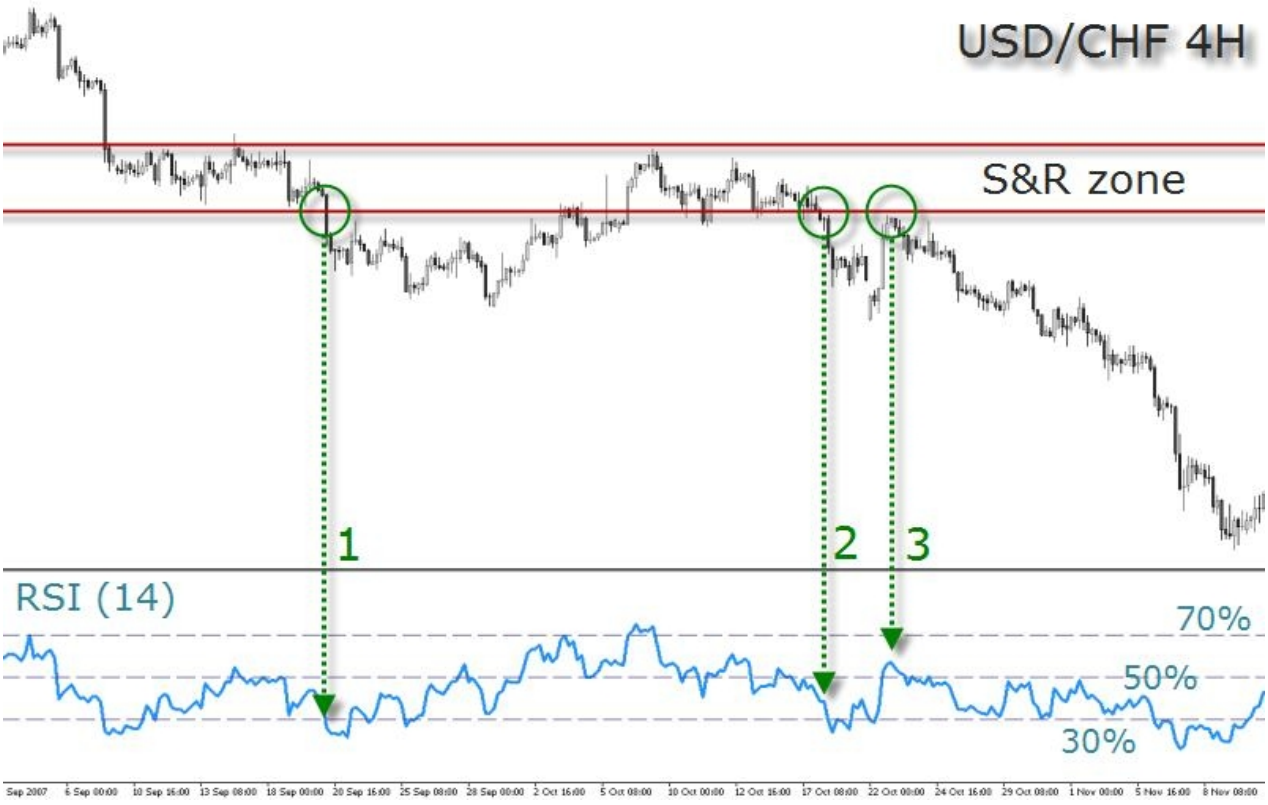
Continue reading...

There are many uses of indicators that serve as means to confirm and fine tune

signals coming from evidence of price action. Let's see some ways of measuring the strength of supply and demand with the help of technical indicators.

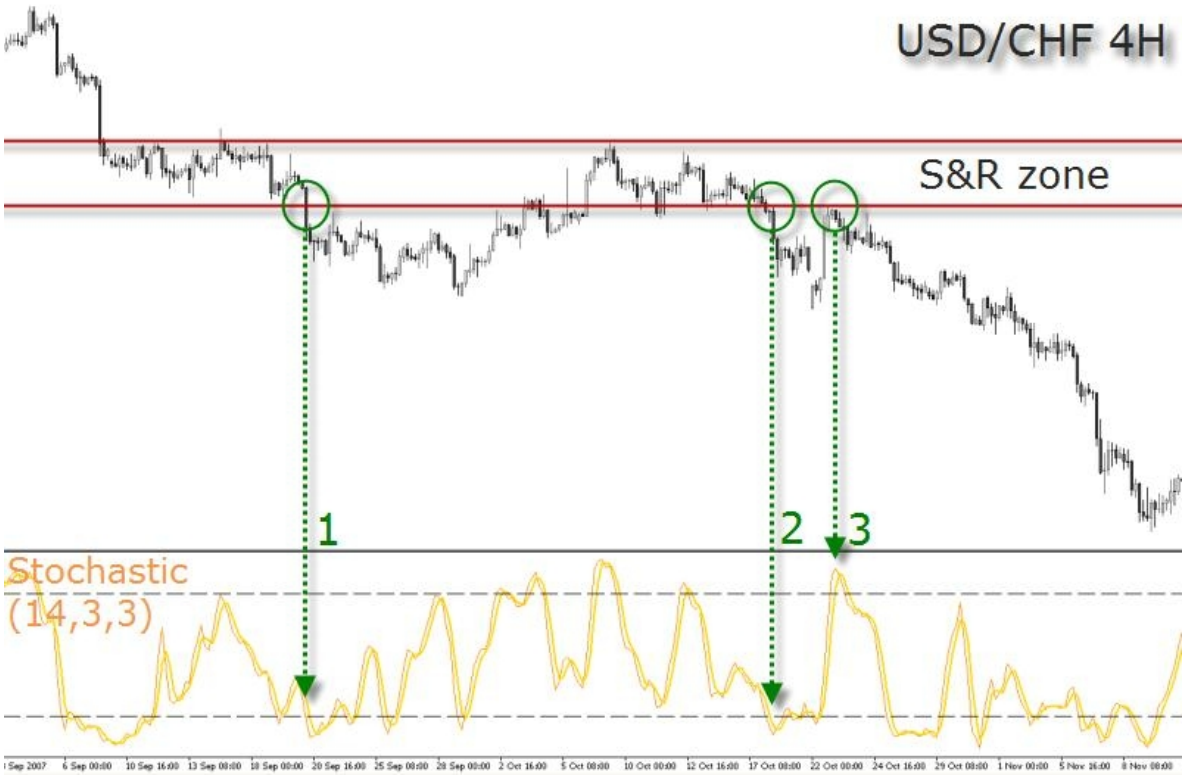
Oscillators and price action

Consider the price action sequence in the graph below in which we rely on the RSI to get a sell signal. The downtrend hits an already existing support level and stagnates for a while. Finally demand is exhausted and supply gains ground, leading to a breakout at point 1.< br/>However, during the consolidation phase, the RSI was most of the time below the 50% level (and even went below the oversold level at 30%). Thereafter a breakout occurs followed by a return to the former support area which, once broken, remember, turned into a resistance.



When price breaks down for the second time at point 2, the RSI is much closer to the 50% territory, having actually exceeded the overbought level of 70%. If the price has not been able to break the resistance level during the overbought condition, then we can conclude that the demand was low comparatively to the supply.

As usual, when price records a breakout, a pullback follows. In this 4H time frame the dimension of the pullback is almost of 200 PIPs and takes 3 days to form. Only then, the bearish trend resumes its course. The pullback at point 3 indicates the best entry, when the RSI turns slightly above the level 50 to revert back down immediately towards negative territory.



By means of these two examples, you've seen that the main signal was obtained from the action price first. Breakouts, and especially the pullbacks, are very reliable prints of low risk trading opportunities.This emphasizes the importance of the price action to obtain the first evidence of what is happening in the market, and categorizes the indicators as a support tool to confirm what is already visible on the chart. Oscillators, in this case, can be used to confirm breakouts because they measure the strength of supply and demand.
When developing a trading method, it's important to think of all the arguments at disposal, whether these are given by trendlines, candle patterns or technical indicators. When confronted with contradictions, you must simply wait for these contradictions to disappear.

If, for instance, the oscillator shows an overbought condition, and price reaches a support level (remember: support means demand), then be careful! It could be a trap, and support may not work. Analytical tools must be used in unison with price action.

Sam Seiden points the hidden danger of giving priority to the indicator's signal.

> Understand that the movement in price in any and all free markets is a function of the pure laws and principles of supply and demand. Opportunity exists when this simple and straight forward relationship is out of balance, period. What most people don't understand is that when you ignore a governing dynamic that has been around longer than man has walked the earth, you are almost guaranteed a losing trading strategy. You can spend a lifetime attempting to come up with the perfect set of indicators and oscillators with the perfect set of inputs with hopes of attaining all the worlds' wealth and get nowhere.There is a reason for this which is the one thing you need to know about indicators and oscillators: They have NO IDEA there is an ongoing supply and demand relationship at work every second in every market at every price level. They are simple math calculations derived from price. Most are averages of price which means they lag price. Any indicator that lags price adds risk and decreases profit margins in your trading which is not ideal. Don't get the wrong idea, this is not another article beating up the indicators. My goal is to expose the flaws associated with using them and also show you a very astute way to use them in all your trading.
>
> Continue reading...

As a trader, you can read dozens of books on technical analysis and have several indicators plotted to your charts and yet still end basically break-even (or worse) at the end of the month.The vast majority of aspiring traders don't approach technical analysis in a way that works. To a large degree, this is not their fault because most have been taught to prioritize technical indicators instead of price action.

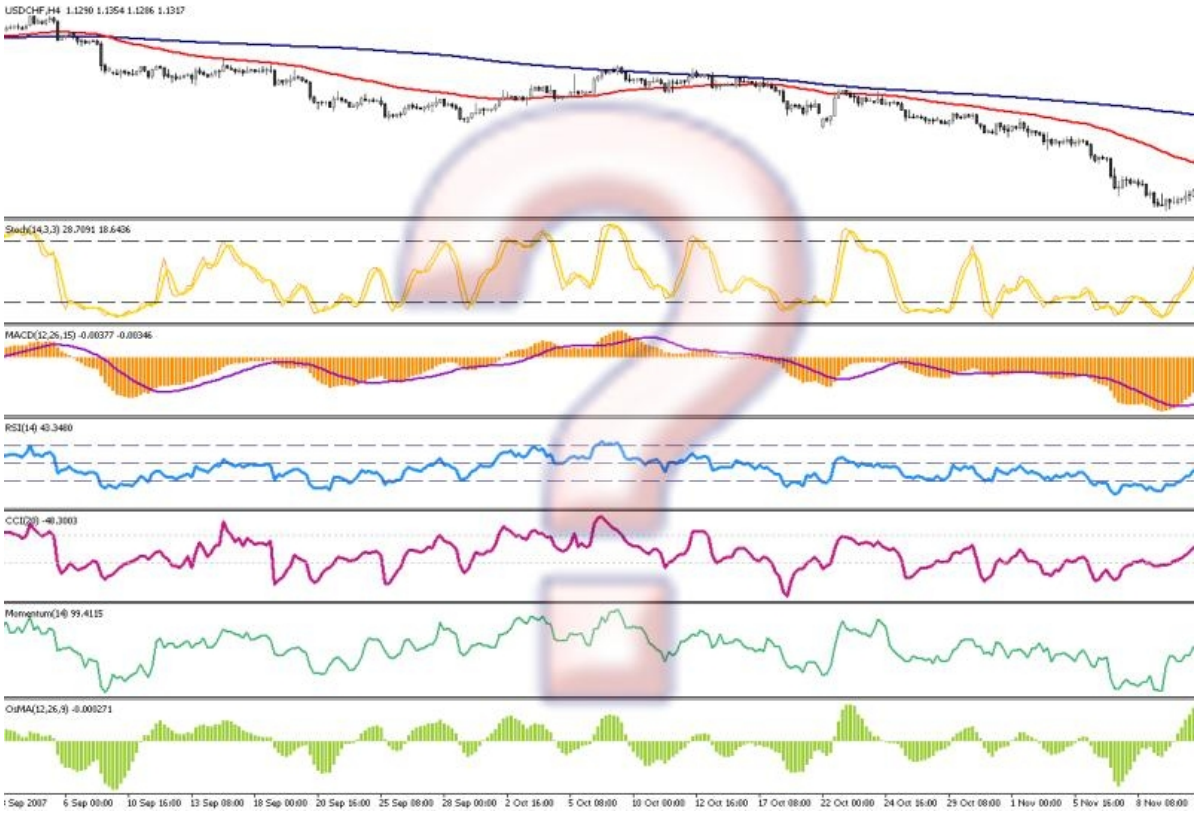
No indicator will reveal completely what the market is doing. But there is something you can do to avoid entering trades based solely on technical indicators: use your judgment. You are not a robot and you will never become one. The better you learn to optimize that judgment through simplicity, practice and record keeping, the better the results will be. Preferably, settle on a strategy (a set of trading tactics) that suits your personality and thinking patterns. But first, start by observing price, and confirm its actions with one or two technical indicators that you understand well.

James Chen invokes a similar approach on how to use S&R levels in conjunction with technical indicators:

> The most tradable ranges are bounded by two horizontal lines (but they can also be slightly-sloped parallel lines), and have enough height in pips to make trading them worthwhile from a risk:reward perspective. Usually, two approximately equal touches of a price level on top and two alternating touches of a price level on the bottom create a potentially tradable range. Sometimes, though, traders may anticipate a range by just waiting for two touches of a top/bottom and only one touch on the other side of the range.
>
> Within a horizontal range, traders will often draw diagonal intra-range trend lines, and then trade breakouts/breakdowns of these trendlines. This can be one of the most advantageous methods of range trading. Although it gets the trader in a bit late on the turn, it provides a higher probability confirmation that the turn indeed took place. Beyond the intra-range trendline breaks, range traders will also use oscillators (like Stochastics, RSI, CCI, or similar) to confirm overbought/oversold conditions, and therefore possible impending turns. When the forex market is experiencing prolonged ranging conditions, which it often does, range trading can be the most logical approach to tackling the currency markets.

Continue reading...

The use of too many technical indicators is an often underestimated peril when applying technical analysis. When you accumulate to many indicators on a price chart, you lose simplicity. Because technical indicators abound and are so readily at hand through charting platforms, unprepared traders often gravitate to them as the easy solution for their trading. The first experience of knowledge and control can quickly change into a paralysis. This can actually be a major inconvenient in the use of an otherwise useful tool.



If you apply technical indicators knowing that they are mere representations of price action, but not price action itself, you will focus on making better trades. Moving averages are a representation of price and they don't exist anywhere else than on the chart. Van K. Tharp refers to these informational short cuts, or heuristics, as something useful under most circumstances, but with strong implications for traders. One of them is what he calls the 'representation bias':

> People assume that when something is supposed to represent something, that it really is what it is supposed to represent. Thus, we assume that the daily bar chart is the market or that our favorite indicator is the market. Instead, we need to keep in mind that the representation is just a short cut for presenting a lot of information, or even worse, a distortion of that information.

Another of these implications, the author explains, is

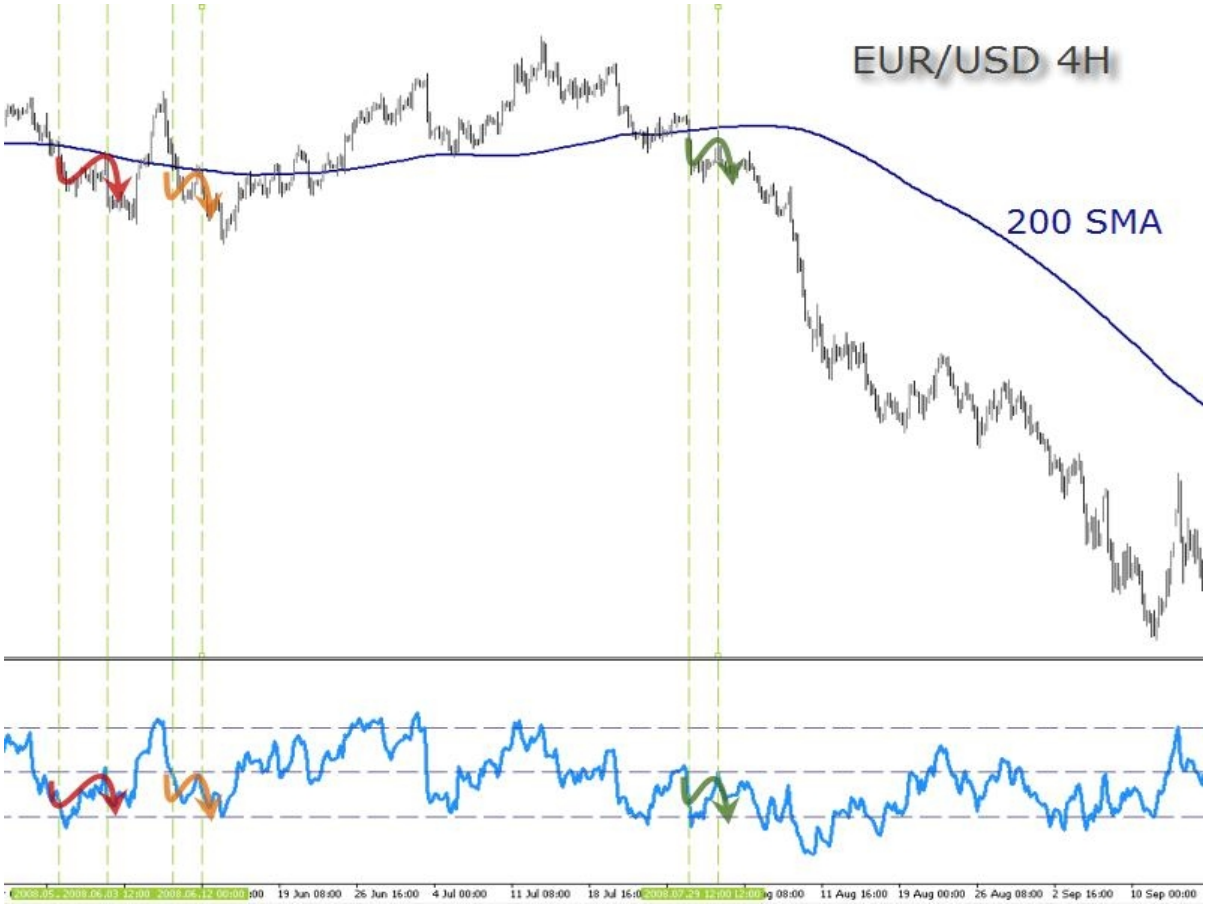
> .. our attempt to make order out of the market and find reasons for everything. This attempt to find order tends to block our ability to go with the flow of the markets because we see what we expect to see rather than what is really happening.

Source: "Trade Your Way to Financial Freedom" by Van K. Tharp, McGraw-Hill, 2007, p.44-45

Moving averages combined

The location of the price relatively to the moving average can be used to identify the trend. If the price is above the moving average(s), the trend is considered to be **up**. If the price is below the moving average(s), the trend is considered **down**. This is a pretty straightforward technique.

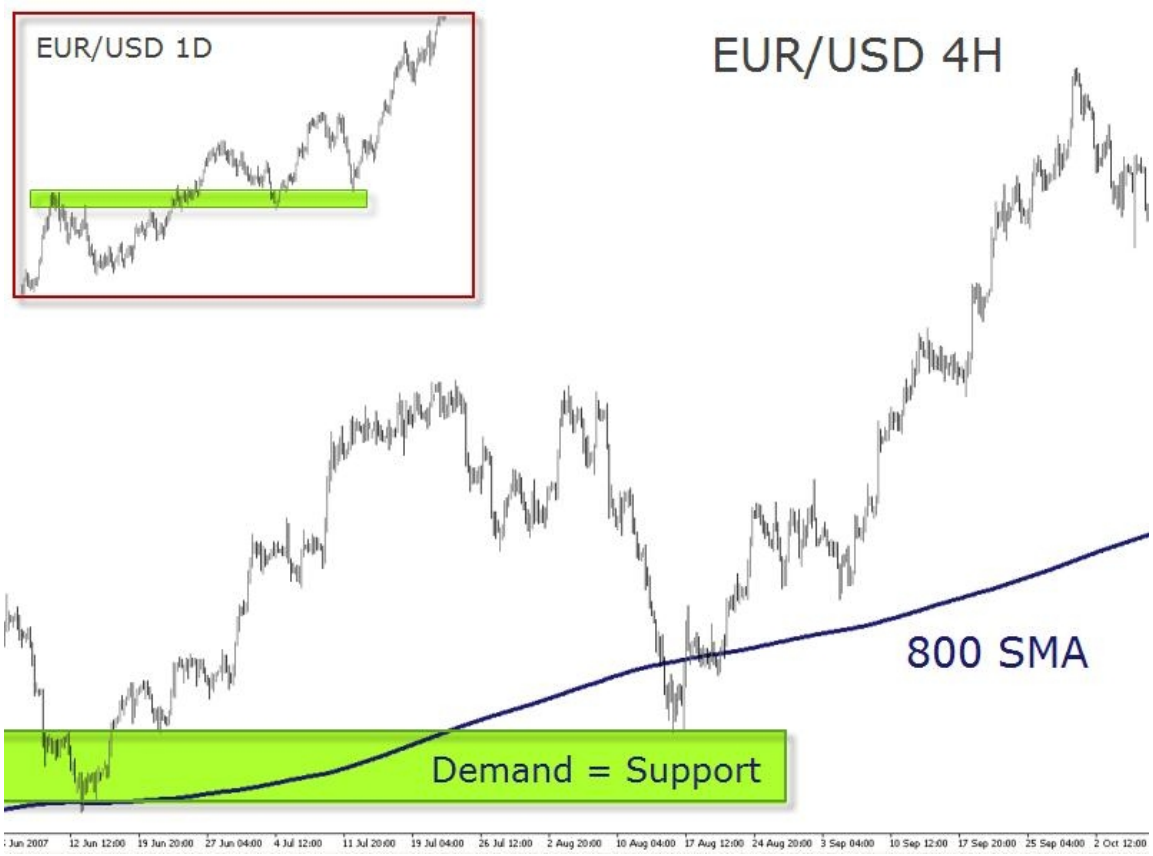
The following EUR/USD chart shows that buy and sell signals could be generated by crosses above and below the moving average. But that would be too simplistic. Let's filter out some signals with the RSI oscillator. In the example below the goal was to find breakouts of the 200 simple moving average, confirmed by pullbacks. The RSI confirmed those pullbacks by retracing to its 50% line. The first two breakouts of the SMA were short-lived, but the third was a clear winner. All the breakouts which were not confirmed by price action and sustained by the RSI were simply ignored.



Another technique for trend identification is based on the location of the shorter moving average in relation with to the longer moving average. If the shorter moving average is above the longer moving average, the trend is considered up. If the shorter moving average is below the longer moving average, the trend is considered down. In the example below, the 21 SMA acted as a filter reducing the number of signals from 3 to 2.

The classical uses of moving averages need to be carefully considered: moving averages are trend following indicators. However, currency pairs spend a great deal of time in trading ranges, which can render moving averages ineffective if only used to identify trends. This is not a problem though, then there is another reason why moving averages are widely used indicators: they behave very well as support and resistance levels. Geared with the expanded knowledge on S&R from chapter 4 in Unit A, you will now better understand this dynamics.
This is usually accomplished by identifying past S&R levels and match them with the current moving average location. The 800 period simple moving average may seem very static on any chart - but still it acts very well as S&R.

In the illustration below, the pair tested the 800 simple moving average support before breaking out. Therefore, the moving average acted as a confirmation of resistance-turned-support. The break of the support made by the moving average would serve as a warning that the pair may resume the trend.



Moving averages can be effective tools to identify and confirm trend, identify support and resistance levels, and develop trading strategies based on the collected ideas. However, traders should learn to identify which pairs suit to which moving averages. Usually, a visual examination of the price chart is a good way to start, although later it will require a more detailed approach.

As with most tools of technical analysis, moving averages should not be used on their own, but in conjunction with other tools that complement them. Using moving averages to confirm other indicators and analysis can greatly enhance your technical analysis skills. About this alignment of indicators Robert Nowak writes:

> One interesting phenomenon that we have noticed is that the pivot tend to align themselves with the 10, 20 50, & 200 period exponential moving averages at various points on 4 hour and daily compression. In addition, the pivot and the moving averages seem to correlate strongly to 'classic' support and resistance levels-that is support and resistance drawn on closing prices. When we see a pivot and a 20, 50 or 200 period moving average aligned together, we will generally regard this as a very strong line of support or resistance. Thus, we would get into the market on a 'bounce' or reversal from that pivot. This is by far the safest way to trade pivots as you have identifiable support and resistance.

Continue reading...

Matching Pivot Points with other tools

Here are some concepts you may use as a first approach to build a trading system based on pivot points:

1. The London session is still the most liquid of all sessions traded, specially during its start and during the overlap period with the start of the New York session. You want to calculate your pivots points using **the GMT session high, low and close**. Why? Much like any Support or Resistance level created during a high liquid session, the highs and lows of the day are more significant during these hours.

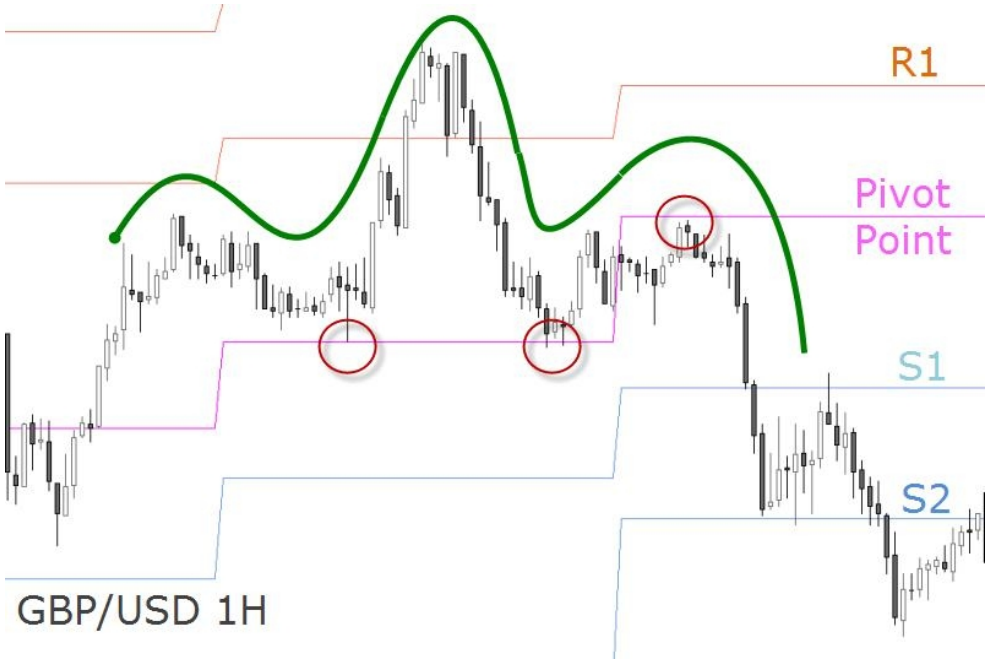
2. Just like all traditional S&R price levels, the pivot levels can **reverse roles** also. An old resistance can turn into a new support once it is violated, and vice versa.

3. You can also use indicators (Bollinger Bands, Stochastics, RSI, Commodity Channel Index etc.) to time your entries around these levels. A very useful print is the **161,8% extension of the Fibonacci tool**: when this level matches with one of the S&R pivot levels, price is likely to be attracted by this confluence. This is specially helpful for breakout trades making them much more effective. Pivot points act as veritable price magnets for the next day's trading.

4. Pivot points can also be used on **weekly and monthly charts** to get a perspective of where price is trading in reference to the previous week's or month's price range.

5. Any long term pivot point (weekly and monthly) which has not been touched by price for a large period of time gains attractiveness **as a target level for counter trend moves**. So if you don't feel comfortable with all the trend following techniques mentioned, this one is for you.

6. On high volatile market conditions, a break of the first support or resistance pivot level will mostly lead to a move to the next level (S2 and R2 respectively). This phenomenon is observed in pairs with higher volatility as well.



The chart above illustrates a head and shoulders pattern guided by the daily pivot point and its associated S&R levels.

Don't forget pivots when trading intraday as they are areas of support and resistance calculated from the previous day's high, low, open and close. The true value of pivot numbers is that they are heavily followed. So when you look at a widely traded currency pair, price will bounce, consolidate, and break around pivot points. Here is an excellent pivot point calculator.

4. Time Frames: A Matter Of Scope

There is an old saying which states that 'Time is nature's way of making sure everything doesn't happen at once.' Time is probably the variable in technical analysis which is always somehow involved, but rarely used with a defined purpose.

The strong advantage of technical analysis when used to trade financial markets is that it can be applied in any time scale.

Regardless of whether you are measuring a trend in a one minute time frame or observing a major pullback on the daily chart, the same indicators and techniques can be applied. It all comes back to behavior patterns which are not time frame dependent. It is just a matter of scope.

At any time the market is filled with participants who have different opinions of which way the market shall be moving. One of the reasons they sustain different beliefs about what price could be doing next is probably derived from the time frame they are looking at.

A trader who looks at daily charts may think an uptrend is in process, while a trader who looks at a 60 minute chart may think the market is trending down. The fact is that they may both be right in their analysis. So when it comes to discussing a trading opportunity, the goal is not to find out who is right, but rather understanding where the technical argument comes from. The first question shall therefore inquires what the time horizon is.

Time frames: Correspondences Between Moving Averages

One of the biggest reasons why so many traders, especially those with a short-term time frame, flock to technical analysis is the synchronism between tools displayed across different time frames. The table below illustrates this aspect. It shows several simple moving averages and their correspondence across different time frames.The 800 SMA, for instance, corresponds to the 200 SMA on a 60 minute chart and to the 50 SMA on a 240 minute chart.

Chart	15 min	30 min	60 min	240 min	1 daysay	1 week
5 SMA	1,2 hrs	2,5 hrs	5 hrs	20 hrs	5 days	5 weeks
13	3,2 hrs	6,5 hrs	13 hrs	2,2 days	13 days	13 weeks
15	3,7 hrs	7,5 hrs	15 hrsr	2,5 days	15 days	15 weeks
20	5 hrs	10 hrs	20 hrs	3,3 days	20 days	20 weeks
36	9 hrs	18 hrs	1,5 days	6 days	1,2 months	9months
50	12,5 hrs	1 days	20 hrs	8,3 days	1,6 months	1 years
62	15,5 hrs	1,3 days	2,6 days	10,3 days	2 months	1,2 years
81	20,2 hrs	1,7 days	3,4 days	13,5 days	2,7 months	1,5 years
98	1 days	2 days	4 days	16,3 days	3,2 months	1,9 years
144	1,5 days	3 days	6 days	19,2 days	4,8 months	2,7 years
200	2,5 days	4,2 days	8,3 days	1,1 months	6,6 months	3,8 years
800 SMA	8,3 days	16,6 days	1,1 months	4,4 months	2,2 years	15,3 years

Working with several time frames simultaneously is a form of analysis. Here are some guidelines for this approach:

1. Each time frame displays its own technical structure.

2. On less liquid pairs, shorter-term movements tend to clutter the picture as they may contain more noise. Apparent chaos on a small time frame can be a clear defined pattern on a higher time scale.

3. Weekly and monthly charts better suit for identifying longer-term trends and patterns.

If you plan to trade around a day job?, check out the longer term charts at Ryan Okeefe's blog. Ryan is great at finding S&R levels on charts and provides you with clean and entertaining chart interpretations. His motto: 'When it's not obvious, it's not a trade.'

4. Shorter time frames usually respect technical levels from the higher time frames.

5. S&R levels from higher time frames can be validated but also violated in lower time scales. In any case there will be some sort of reaction.

6. The direction of the trade is better given by a higher time frame than by a lower one.

An extract from James Chen's blog about using 3 time frames simultaneously says:

While the market is still essentially in consolidation mode, I thought I would bring up what I consider to be one of the highest-probability technical approaches to Forex trading. Many of you may be familiar with it. First originated by Dr. Alexander Elder in his book, Trading for a Living (John Wiley & Sons, 1993), the Triple Screen is a simple but ingenious multiple time frame approach.

To trade the Triple Screen, you would begin with your favorite time frame, and call it the intermediate chart. Multiply that time frame by 4-to-6 times to get the long-term chart, and divide it by 4-to-6 to get the short-term chart. So for example, if you usually trade the 4-hour as your intermediate, you may choose the daily as your long-term and the 1-hour as your short-term.

On the long-term chart, which is your first screen, you would use trend-following indicators like moving averages, MACD, trendlines, etc., to decide whether to go long, sell short, or stay out of trading altogether due to a lack of trend.

On the intermediate chart, which is your second screen, you would use oscillators (Stochastics, RSI, etc.) to identify a likely pullback entry zone.

And on the short-term chart, which is the third screen, you might look for support/resistance breakouts in the direction of your planned trade to actually pinpoint the trade entry.

In sum, the Triple Screen is a classic technical methodology that, with practice and experience, can potentially contribute significantly to your trading approach.

From the same author, James Chen, you can watch a recorded webinar on the subject of Multiple Timeframe Trading.

Regarding timing, what are the best times of the day to trade certain pairs?

For example GBP/JPY can have tremendous moves during the Asian session, but it's hard for traders located outside the Asian zone to keep

up and profit from it. Nevertheless, it keeps moving with its typical volatility around the clock.In turn, the EUR/USD and the GBP/USD offer nice technical set-ups right at the start of the Frankfurt and London markets which often sets the tone for the rest of the day. These pairs very often display continuation moves, the so-called 'second-legs', during the morning session in New York when both sessions, the European and the American, overlap and many US Dollar related economical news are published.The reason why we see big moves at the London open is because London is the world's capital of Forex trading, and when those big traders start throwing their weight around, the market responds with volatility. Also U.K. economic indicators are often released at that time of the day, contributing to the overall climate of high volume and volatility.

Regarding what time frame would be the best to trade... if the answer were a particular time frame, the whole world would probably trade accordingly.
To begin with, it must be clear that although observed through different time scales the market is the same, and going to lower time frames is like zooming our perspective of the price action.

For the purposes of orientation and interpretation of what we see, the choice of a distant or close vision responds to very similar criteria to those we use in our day-to-day. If you walk down the street looking to the ground, it's easy we run into a lamppost, while if we only look on the horizon we can stumble upon anything on the floor. It is clear that we must keep a global overview while observing the detail at the same time.

In trading, as in other professions, there is a time scale we use to analyze and a time scale we act upon. The later corresponds to the distance that helps us work better. A computer programmer has a shorter distance in his work place than a taxi driver who has a larger visual field. Also traders make a predominant use of a certain distance to price action accordingly to their trading style.

Depending on their goals traders will act in a certain time scale and this will be their time frame to trade. They may detect trading opportunities in a large time frame, and effectively trade in a shorter time frame where they better manage the risk of position. Obviously, there should be a reasonable relationship between the two time frames, between the potential area to capitalize on the bigger chart and the terrain used to trade on the smaller chart.

Determining how far you need to zoom in the charts depends on your trading approach. You can start answering yourself some questions:

- How to adapt a 24 hour market to my lifestyle?

- Am I available to pay attention to the market at peak hours?

- Am I able to sustain a position in a negative territory before it plays out into a winner?

- Will I indulge in overtrading if my method has a low frequency generating

buy and sell signals?

Therefore time frame you choose to work should reflect the trading concept you're looking for. It should not be too large, to avoid losing too many opportunities, nor too short because of the higher swipsaws within small time frames. The smaller the time scale is, the more random behavior price action shows. Besides, it's easy to lose track of what is happening if you do not keep an eye on large charts.

There are many traders who indeed use very small time frames, but what most of them do is to use small charts to define entry and exit points to manage the positions, while the opportunities have been spotted in larger time frames. Except in some cases, the majority of the so-called 'scalpers' do not exclusively rely on small time frames.

Ultimately, what is intended by combining large and small charts, is to reduce the impact of randomness and improve the trading edges. It cannot be emphasized enough that trading without an edge is the same as throwing a coin to decide in which direction to trade.

We have come to the end of this chapter. Now that we have covered price action and technical methods, in the next chapter we will move forward exploring the fundamental factors which move the markets, the third part of the market analysis triangle. At that point you can decide for yourself whether you would like to base you trading on price action alone, support it with technical analysis, work with fundamentals, or a combination of the three.

One thing you can do straight away is visit our forum to find out if there are traders with similar resources as you, i.e. same available times to trade, similar technical tools, even similar manners to combine technical tools, and find out what is working for them and share your point of view too!

What you have learned from this chapter:

- Technical analysis can be effectively and safely employed if combined with price action analysis.
- Each trading opportunity, like any other risk-taking venture, requires a thorough understanding of both the application of the

methods and the risks involved.
- Technical indicators can be used to generate buy and sell signals, but they can also be used to filter out false signals.
- Correspondences among different time frames and the matching of several indicators at one level confirms the importance of that price.
- The use of different time frames is a reasonable approach, but it requires some previous considerations.

FXstreet.com contents:

- Trading with moving averages by Valera Bednarik.
- Perceiving Forex Volatility via Descriptive Statistics: Deriving Trending and Reversals - Part 2 by Mark Whistler
- It's All Relative by Brandon Wendell
- Using Fibonacci to determinate market goals- Part I by Facundo Molina
- Using Fibonacci to determinate market goals - Part II by Facundo Molina
- Pivot Points in Forex by Raul Lopez
- A Practical Guide to Technical Indicators; Part 1 'Moving Averages' by S.A Ghafari
- Forex, schaff & manual indicators by Doug Schaff
- Trading Changes in Forex Volatility, by James Chen
- Trading Divergences in the Forex Market (Book Excerpt) by James Chen
- Forex Oscillator Trading by James Chen
- Forex Profit Targets by James Chen
- Forex Range Trading by James Chen
- Paralysis by Analysis by James Chen
- Bollinger Bands and Bandwidth by James Chen
- How I Use Stochastics by James Chen
- Trading Divergences in Forex by James Chen
- Average Directional Index (ADX) by James Chen
- Average True Range (ATR) by James Chen
- Stochastics Oscillator by James Chen
- Parabolic SAR by James Chen
- Price-Oscillator Divergence by James Chen
- Technical Trading Strategist in the short and longer term by Valeria Bednarik
- Multi-time frames for entry and exit signals in Forex by Peter Leonidou

- Catching Redfish off the pool: Trend Lines and Technical Indicators by S.A. Ghafari
- Institutional Trading Strategies: Pivot Points - Webinar Recording by Andrei Pehar
- Institutional Trading Strategies: The ABCs of Fibonacci - Webinar Recording by Andrei Pehar
- Advanced Forex Trading: Momentum Versus Reversals Within Indicators - Webinar Recording by Mark Whistler
- Tell me the Fibonacci ratios don't work - Harmonic Patterns - Webinar Recording by Sunil Mangwani
- Bollinger Bands and RSI - Webinar Recording by Valeria Bednarik
- Trading set ups when breakouts aren't an option - Fibonacci trades - Webinar Recording by Phil Newton
- Institutional Trading Strategies: The Indicators - Webinar Recording by Andrei Pehar
- Understand & Use Fibonacci Ratio's Effectively - Webinar Recording by Sunil Mangwani
- Multiple Timeframe Trading - Webinar Recording by James Chen
- Understand & Use Fibonacci Ratio's Effectively - Webinar Recording by Sunil Mangwani
- Reversals with indicators - Webinar Recording Sam Seiden
- Technical Analysis Bootcamp: The indicators you need to know and how to interpret them - Webinar Recording by Dan Blystone
- Using Fibonacci levels to project price targets and timing - Webinar Recording by John Jagerson
- Trading with Bollinger Bands and the ATR - Webinar Recording by Chris Capre
- Trading Forex on a Daily Basis Using Daily Charts - Webinar Recording by James Chen
- Fibonacci retracements and the Elliot Wave concept - Q&A Transcripts by Joseph Trevisani
- Using maths, statistics and market memory for simple and effective trading - Q&A Transcripts by Valeria Bednarik
- Using Moving Average in Trading - Q&A Transcripts by Valeria Bednarik
- Different methods for calculating pivot points - Q&A Transcriptsby Dan Johnson
- 'How to Become a Thriving Trader?' Series: Part II The Art & Science Pivot Point Trading - Q&A Transcripts by Robert Nowak
- How to incorporate MACD into your trading strategy - Q&A Transcripts by John S. Alesia
- Using the 62 Exponential Moving Average in Currency Trading - Q&A Transcripts by Rob Booker
- The World of Forex Breakout Trading - Webinar Recording by James Chen

External Links:

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- How to read the MACD?, Autotradingfx.com
- Technical Analysis, CMEGroup.com
- How to Read a Chart & Act Effectively, ForexQuestions.com
- Understanding Technical Analysis, FXDD.com
- Tales From The Trenches: Trading Divergences In FX, by James Chen, Investopedia.com
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