

Forex forecasting

Basic Forex forecast methods: Technical analysis and fundamental analysis

This article provides insight into the two major methods of analysis used to forecast the behavior of the Forex market. Technical analysis and fundamental analysis differ greatly, but both can be useful forecast tools for the Forex trader. They have the same goal - to predict a price or movement. The technician studies the effect while the fundamentalist studies the cause of market movement. Many successful traders combine a mixture of both approaches for superior results.

Technical analysis

Technical analysis is a method of predicting price movements and future market trends by studying charts of past market action. Technical analysis is concerned with what has actually happened in the market, rather than what should happen and takes into account the price of instruments and the volume of trading, and creates charts from that data to use as the primary tool. One major advantage of technical analysis is that experienced analysts can follow many markets and market instruments simultaneously.

Technical analysis is built on three essential principles:

1. **Market action discounts everything!** This means that the actual price is a reflection of everything that is known to the market that could affect it, for example, supply and demand, political factors and market sentiment. However, the pure technical analyst is only concerned with price movements, not with the reasons for any changes.
2. **Prices move in trends** Technical analysis is used to identify patterns of market behavior that have long been recognized as significant. For many given patterns there is a high probability that they will produce the expected results. Also, there are recognized patterns that repeat themselves on a consistent basis.
3. **History repeats itself** Forex chart patterns have been recognized and categorized for over 100 years and the manner in which many patterns are repeated leads to the conclusion that human psychology changes little over time.

Forex charts are based on market action involving price. There are five categories in Forex technical analysis theory:

- **Indicators** (oscillators, e.g.: Relative Strength Index (RSI))
- **Number theory** (Fibonacci numbers, Gann numbers)
- **Waves** (Elliott wave theory)
- **Gaps** (high-low, open-closing)
- **Trends** (following moving average).

Some major technical analysis tools are described below:

Relative Strength Index (RSI):

The RSI measures the ratio of up-moves to down-moves and normalizes the calculation so that the index is expressed in a range of 0-100. If the RSI is 70 or greater, then the instrument is assumed to be

overbought (a situation in which prices have risen more than market expectations). An RSI of 30 or less is taken as a signal that the instrument may be oversold (a situation in which prices have fallen more than the market expectations).

Stochastic oscillator:

This is used to indicate overbought/oversold conditions on a scale of 0-100%. The indicator is based on the observation that in a strong up trend, period closing prices tend to concentrate in the higher part of the period's range. Conversely, as prices fall in a strong down trend, closing prices tend to be near to the extreme low of the period range. Stochastic calculations produce two lines, %K and %D that are used to indicate overbought/oversold areas of a chart. Divergence between the stochastic lines and the price action of the underlying instrument gives a powerful trading signal.

Moving Average Convergence Divergence (MACD):

This indicator involves plotting two momentum lines. The MACD line is the difference between two exponential moving averages and the signal or trigger line, which is an exponential moving average of the difference. If the MACD and trigger lines cross, then this is taken as a signal that a change in the trend is likely.

Number theory:

Fibonacci numbers: The Fibonacci number sequence (1,1,2,3,5,8,13,21,34...) is constructed by adding the first two numbers to arrive at the third. The ratio of any number to the next larger number is 62%, which is a popular Fibonacci retracement number. The inverse of 62%, which is 38%, is also used as a Fibonacci retracement number.

Gann numbers:

W.D. Gann was a stock and a commodity trader working in the '50s who reputedly made over \$50 million in the markets. He made his fortune using methods that he developed for trading instruments based on relationships between price movement and time, known as time/price equivalents. There is no easy explanation for Gann's methods, but in essence he used angles in charts to determine support and resistance areas and predict the times of future trend changes. He also used lines in charts to predict support and resistance areas.

Waves

Elliott wave theory: The Elliott wave theory is an approach to market analysis that is based on repetitive wave patterns and the Fibonacci number sequence. An ideal Elliott wave patterns shows a five-wave advance followed by a three-wave decline.

Gaps

Gaps are spaces left on the bar chart where no trading has taken place. An up gap is formed when the lowest price on a trading day is higher than the highest high of the previous day. A down gap is formed when the highest price of the day is lower than the lowest price of the prior day. An up gap is usually a sign of market strength, while a down gap is a sign of market weakness. A breakaway gap is a price gap that forms on the completion of an important price pattern. It usually signals the beginning of an

important price move. A runaway gap is a price gap that usually occurs around the mid-point of an important market trend. For that reason, it is also called a measuring gap. An exhaustion gap is a price gap that occurs at the end of an important trend and signals that the trend is ending.

Trends

A trend refers to the direction of prices. Rising peaks and troughs constitute an up trend; falling peaks and troughs constitute a downtrend that determines the steepness of the current trend. The breaking of a trend line usually signals a trend reversal. Horizontal peaks and troughs characterize a trading range.

Moving averages are used to smooth price information in order to confirm trends and support and resistance levels. They are also useful in deciding on a trading strategy, particularly in futures trading or a market with a strong up or down trend.

The most common technical tools:

Coppock Curve is an investment tool used in technical analysis for predicting bear market lows.

DMI (Directional Movement Indicator) is a popular technical indicator used to determine whether or not a currency pair is trending.

Unlike the fundamental analyst, the technical analyst is not much concerned with any of the "bigger picture" factors affecting the market, but concentrates on the activity of that instrument's market.

Fundamental analysis

Fundamental analysis is a method of forecasting the future price movements of a financial instrument based on economic, political, environmental and other relevant factors and statistics that will affect the basic supply and demand of whatever underlies the financial instrument. In practice, many market players use technical analysis in conjunction with fundamental analysis to determine their trading strategy. One major advantage of technical analysis is that experienced analysts can follow many markets and market instruments, whereas the fundamental analyst needs to know a particular market intimately. Fundamental analysis focuses on what ought to happen in a market. Factors involved in price analysis: Supply and demand, seasonal cycles, weather and government policy.

The fundamentalist studies the cause of market movement, while the technician studies the effect. Fundamental analysis is a macro or strategic assessment of where a currency should be trading based on any criteria but the movement of the currency's price itself. These criteria often include the economic condition of the country that the currency represents, monetary policy, and other "fundamental" elements.

Many profitable trades are made moments prior to or shortly after major economic announcements.

Taken from: <https://classic.easy-forex.com/us/Forex.forecast.aspx>

Chartism

Types of Forex Charts

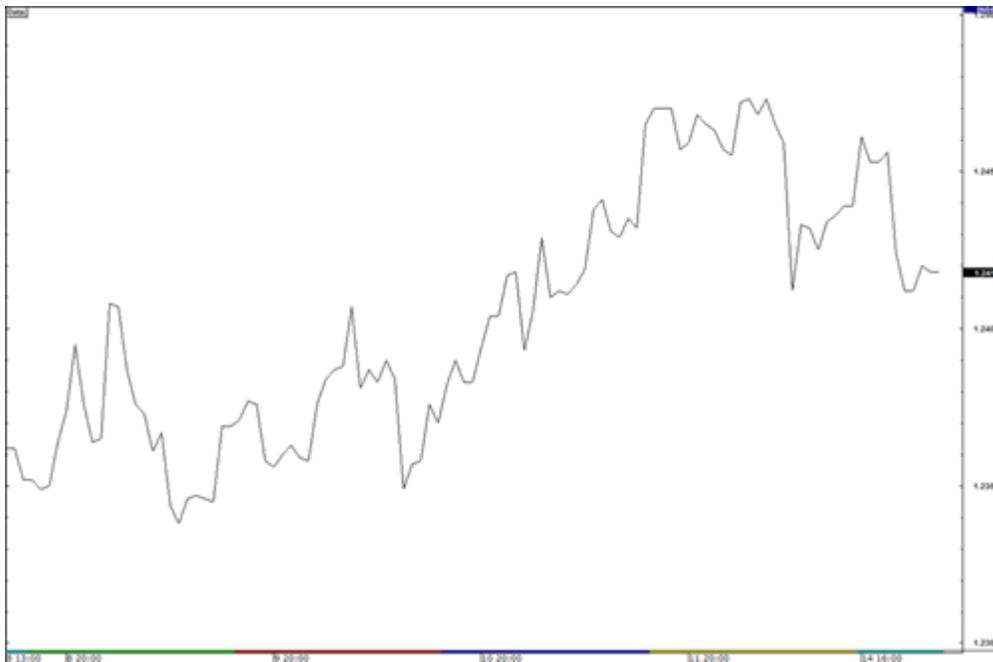
Let's take a look at the three most popular types of charts:

1. Line chart
2. Bar chart
3. Candlestick chart

Line Charts

A simple line chart draws a line from one closing price to the next closing price. When strung together with a line, we can see the general price movement of a currency pair over a period of time.

Here is an example of a line chart for EUR/USD:



Bar Charts

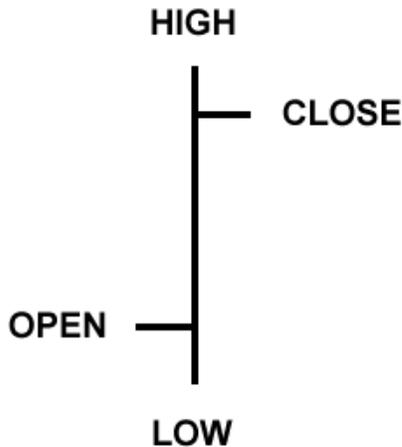
A **bar chart** also shows closing prices, while simultaneously showing opening prices, as well as the highs and lows. The bottom of the vertical bar indicates the lowest traded price for that time period, while the top of the bar indicates the highest price paid. So, the vertical bar indicates the currency pair's trading range as a whole. The horizontal hash on the left side of the bar is the opening price, and the right-side horizontal hash is the closing price.

Here is an example of a bar chart for EUR/USD:



NOTE: Throughout our lessons, you will see the word “bar” in reference to a single piece of data on a chart. A bar is simply one segment of time, whether it is one day, one week, or one hour. When you see the word ‘bar’ going forward, be sure to understand what time frame it is referencing.

Bar charts are also called “OHLC” charts, because they indicate the **O**pen, the **H**igh, the **L**ow, and the **C**lose for that particular currency. Here’s an example of a price bar:



- Open:** The little horizontal line on the left is the opening price
- High:** The top of the vertical line defines the highest price of the time period
- Low:** The bottom of the vertical line defines the lowest price of the time period
- Close:** The little horizontal line on the right is the closing price

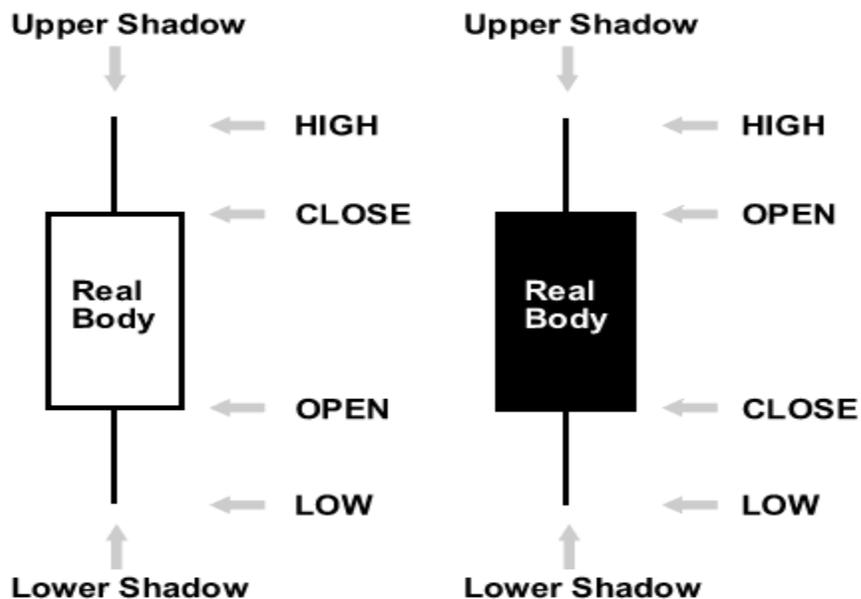
Candlestick Charts

[Candlestick charts](#) show the same information as a bar chart, but in a prettier, graphic format.

Candlestick bars still indicate the high-to-low range with a vertical line. However, in candlestick charting, the larger block in the middle indicates the range between the opening and closing

prices. Traditionally, if the block in the middle is filled or colored in, then the currency closed lower than it opened.

In the following example, the 'filled color' is black. For our 'filled' blocks, the top of the block is the opening price, and the bottom of the block is the closing price. If the closing price is higher than the opening price, then the block in the middle will be "white" or hollow or unfilled.

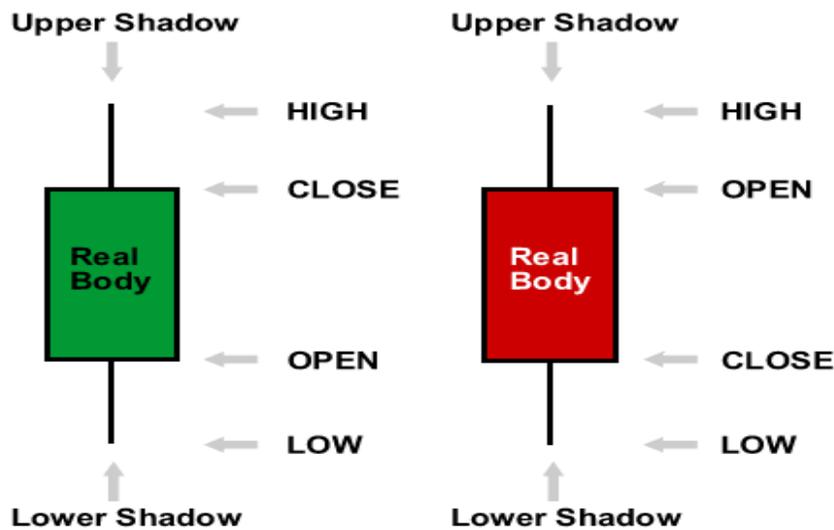


We don't like to use the traditional black and white candlesticks. We feel it's easier to look at a chart that's colored. A color television is much better than a black and white television, so why not in candlestick charts?

We simply substituted green instead of white, and red instead of black. This means that if the price closed higher than it opened, the candlestick would be green. If the price closed lower than it opened, the candlestick would be red. In our later lessons, you will see how using green and red candles will allow you to "see" things on the charts much faster, such as uptrend/downtrends and possible reversal points.

For now, just remember that we use red and green candlesticks instead of black and white and we will be using these colors from now on.

Check out these candlesticks...



Here is an example of a candlestick chart for EUR/USD. Isn't it pretty?



The purpose of candlestick charting is strictly to serve as a visual aid, since the exact same information appears on an OHLC bar chart. The advantages of candlestick charting are:

- Candlesticks are easy to interpret, and are a good place for a beginner to start figuring out chart analysis.
- Candlesticks are easy to use. Your eyes adapt almost immediately to the information in the bar notation.
- Candlesticks and candlestick patterns have cool names such as the shooting star, which helps you to remember what the pattern means.
- Candlesticks are good at identifying marketing turning points – reversals from an uptrend to a downtrend or a downtrend to an uptrend. You will learn more about this later.

Price Smoothing

A moving average is simply a way to smooth out price action over time. By “moving average”, we mean that you are taking the average closing price of a currency for the last ‘X’ number of periods.



Like every [indicator](#), a moving average indicator is used to help us forecast future prices. By looking at the slope of the moving average, you can make general predictions as to where the price will go.

As we said, moving averages smooth out price action. There are different types of moving averages, and each of them has their own level of “smoothness”. Generally, the smoother the moving average, the slower it is to react to the price movement. The choppier the moving average, the quicker it is to react to the price movement.

Simple Moving Average (SMA)

A simple moving average is the simplest type of [moving average](#). Basically, a simple moving average is calculated by adding up the last “X” period’s closing prices and then dividing that number by X.

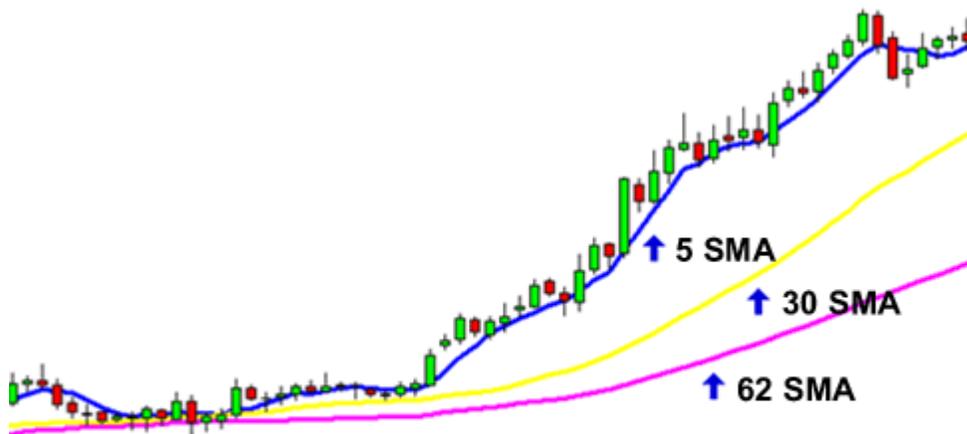
If you plotted a 5 period simple moving average on a 1 hour chart, you would add up the closing prices for the last 5 hours, and then divide that number by 5. Voila! You have your simple moving average.

If you were to plot a 5 period simple moving average on a 10 minute chart, you would add up the closing prices of the last **50** minutes and then divide that number by 5.

If you were to plot a 5 period simple moving average on a 30 minute chart, you would add up the closing prices of the last **150** minutes and then divide that number by 5.

Most charting packages will do all the calculations for you. The reason we just bored you (yawn!) with how to calculate a simple moving average is because it is important that you understand **how** the moving averages are calculated. If you understand how each moving average is calculated, you can make your own decision as to which type is better for you.

Just like any indicator out there, moving averages operate with a delay. Because you are taking the **averages** of the price, you are really only seeing a “forecast” of the future price and not a concrete view of the future. Disclaimer: Moving averages will not turn you into Ms. Cleo the psychic!



Here is an example of how moving averages smooth out the price action.

On the previous chart, you can see 3 different SMAs. As you can see, the longer the SMA period is, the more it lags behind the price. Notice how the 62 SMA is farther away from the current price than the 30 and 5 SMA. This is because with the 62 SMA, you are adding up the closing prices of the last **62** periods and dividing it by 62. The higher the number period you use, the slower it is to react to the price movement.

The SMA's in this chart show you the overall sentiment of the market at this point in time. Instead of just looking at the current price of the market, the moving averages give us a broader view, and we can now make a general prediction of its future price.

Exponential Moving Average (EMA)

Although the [simple moving average](#) is a great tool, there is one major flaw associated with it. Simple moving averages are very susceptible to spikes. Let me show you an example of what I mean:

Let's say we plot a 5 period SMA on the daily chart of the EUR/USD and the closing prices for the last 5 days are as follows:

Day 1: 1.2345
Day 2: 1.2350
Day 3: 1.2360
Day 4: 1.2365
Day 5: 1.2370

The simple moving average would be calculated as
 $(1.2345+1.2350+1.2360+1.2365+1.2370)/5= 1.2358$

Simple enough right?

Well what if Day 2's price was 1.2300? The result of the simple moving average would be a lot lower and it would give you the notion that the price was actually going down, when in reality, Day 2 could have just been a one time event (maybe interest rates decreasing).

The point I'm trying to make is that sometimes the simple moving average might be *too* simple. If only there was a way that you could filter out these spikes so that you wouldn't get the wrong idea. Hmmmm...I wonder....Wait a minute.....Yep, there is a way!

It's called the Exponential Moving Average!

Exponential moving averages (EMA) give more weight to the most recent periods. In our example above, the EMA would put more weight on Days 3-5, which means that the spike on Day 2 would be of lesser value and wouldn't affect the moving average as much. What this does is it puts more emphasis on what traders are doing NOW.



When trading, it is far more important to see what traders are doing now rather than what they did last week or last month.

Which is better: Simple or Exponential?

First, let's start with an [exponential moving average](#). When you want a moving average that will respond to the price action rather quickly, then a short period EMA is the best way to go. These can help you catch trends very early, which will result in higher profit. In fact, the earlier you catch a trend, the longer you can ride it and rake in those profits!

The downside to the choppy moving average is that you might get faked out. Because the [moving average](#) responds so quickly to the price, you might think a trend is forming when in actuality; it could just be a price spike.

With a [simple moving average](#), the opposite is true. When you want a moving average that is smoother and slower to respond to price action, then a longer period SMA is the best way to go.

Although it is slow to respond to the price action, it will save you from many fake outs. The downside is that it might delay you too long, and you might miss out on a good trade.

	SMA	EMA
Pros:	Displays a smooth chart, which eliminates most fakeouts.	Quick moving, and is good at showing recent price swings.
Cons:	Slow moving, which may cause a lag in buying and selling signals.	More prone to cause fakeouts and give errant signals.

So which one is better? It's really up to you to decide. Many traders plot several different moving averages to give them both sides of the story. They might use a longer period simple moving average to find out what the overall trend is, and then use a shorter period exponential moving average to find a good time to enter a trade.

Common Chart Indicators

Bollinger Bands

Bollinger bands are used to measure a market's volatility. Basically, this little tool tells us whether the market is quiet or whether the market is LOUD! When the market is quiet, the bands contract; and when the market is LOUD, the bands expand. Notice on the chart below that when the price was quiet, the bands were close together, but when the price moved up, the bands spread apart.



That's all there is to it. Yes, we could go on and bore you by going into the history of the Bollinger band, how it is calculated, the mathematical formulas behind it, and so on and so forth, but we really didn't feel like typing it all out.

The Bollinger Bounce

One thing you should know about Bollinger Bands is that price tends to return to the middle of the bands. That is the whole idea behind the Bollinger bounce (smart, huh?). If this is the case, then by looking at the chart below, can you tell us where the price might go next?



If you said down, then you are correct! As you can see, the price settled back down towards the middle area of the bands.



That's all there is to it. What you just saw was a classic Bollinger bounce. The reason these bounces occur is because Bollinger Bands act like mini [support and resistance levels](#). The longer the time frame you are in, the stronger these bands are. Many traders have developed systems that thrive on these bounces, and this strategy is best used when the market is ranging and there is no clear trend.

MACD

MACD is an acronym for **M**oving **A**verage **C**onvergence **D**ivergence. This tool is used to identify [moving averages](#) that are indicating a new trend, whether it's bullish or bearish. After all, our #1 priority in trading is being able to find a trend, because that is where the most money is made.



With an MACD chart, you will usually see three numbers that are used for its settings.

- The first is the number of periods that is used to calculate the faster moving average.
- The second is the number of periods that are used in the slower moving average.
- And the third is the number of bars that is used to calculate the moving average of the difference between the faster and slower moving averages.

For example, if you were to see “12,26,9” as the MACD parameters (which is usually the default setting for most charting packages), this is how you would interpret it:

- The 12 represents the previous 12 bars of the faster moving average.
- The 26 represents the previous 26 bars of the slower moving average.
- The 9 represents the previous 9 bars of the difference between the two moving averages. This is plotted by vertical lines called a histogram (The blue lines in the chart above).

There is a common misconception when it comes to the lines of the MACD. The two lines that are drawn are NOT moving averages of the price. Instead, they are the moving averages of the DIFFERENCE between two moving averages.

In our example above, the faster moving average is the moving average of the difference between the 12 and 26 period moving averages. The slower moving average plots the average of the previous MACD line. Once again, from our example above, this would be a 9 period moving average.

This means that we are taking the average of the last 9 periods of the faster MACD line, and plotting it as our “slower” moving average. What this does is it smoothes out the original line even more, which gives us a more accurate line.

The histogram simply plots the difference between the fast and slow moving average. If you look at our original chart, you can see that as the two moving averages separate, the histogram gets bigger. This is called divergence, because the faster moving average is “diverging” or moving away from the slower moving average.

As the moving averages get closer to each other, the histogram gets smaller. This is called convergence because the faster moving average is “converging” or getting closer to the slower moving average. And that, my friend, is how you get the name, **Moving Average Convergence Divergence!** Whew, we need to crack our knuckles after that one!

MACD Crossover

Because there are two moving averages with different “speeds”, the faster one will obviously be quicker to react to price movement than the slower one. When a new trend occurs, the fast line will react first and eventually cross the slower line. When this “crossover” occurs, and the fast line starts to “diverge” or move away from the slower line, it often indicates that a new trend has formed.

From the chart above, you can see that the fast line crossed under the slow line and correctly identified a new downtrend. Notice that when the lines crossed, the histogram temporarily disappears. This is because the difference between the lines at the time of the cross is 0. As the downtrend begins and the fast line diverges away from the slow line, the histogram gets bigger, which is good indication of a strong trend.

There is one drawback to MACD. Naturally, moving averages tend to lag behind price. After all, it's just an



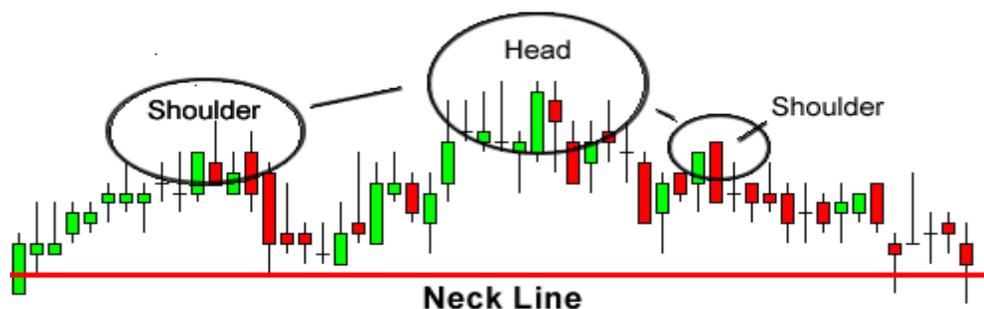
average of historical prices. Since the MACD represents moving averages of **other** moving averages and is smoothed out by another moving average, you can imagine that there is quite a bit of lag. However, it is still one of the most favored tools by many traders.

Common Patterns

Head and Shoulders Pattern

A head and shoulders pattern is also a [trend reversal](#) formation. It is formed by a peak (shoulder), followed by a higher peak (head), and then another lower peak (shoulder). A “neckline” is drawn by connecting the lowest points of the two troughs. The slope of this line can either be up or down. In my experience, when the slope is down, it produces a more reliable signal.

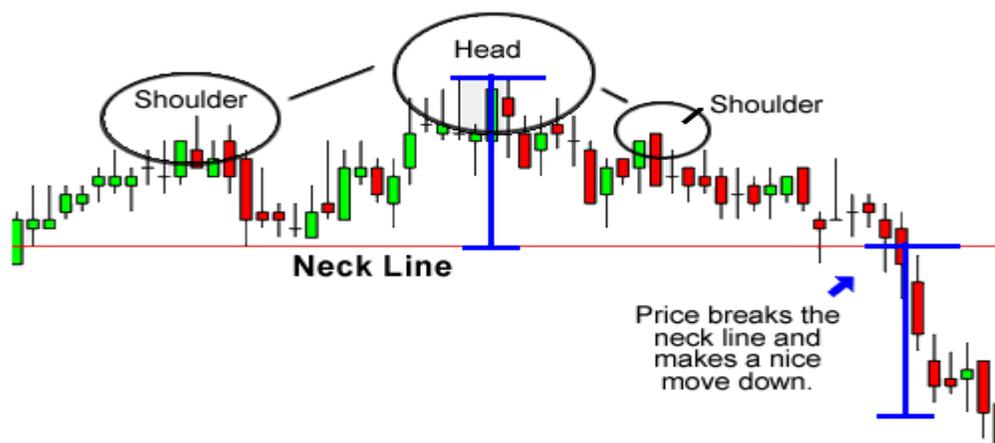
Head and Shoulders



In this example, we can visibly see the head and shoulders pattern. The head is the 2nd peak and is the highest point in the pattern. The two shoulders also form peaks but do not exceed the height of the head.

With this formation, we look to make an entry order below the neckline. We can also calculate a target by measuring the high point of the head to the neckline. This distance is approximately how far the price will move after it breaks the neckline.

Head and Shoulders



You can see that once the price goes below the neckline it makes a move that is about the size of the distance between the head and the neckline.

Ascending Triangles

This type of formation occurs when there is a resistance level and a slope of higher lows. What happens during this time is that there is a certain level that the buyers cannot seem to exceed. However, they are gradually starting to push the price up as evident by the higher lows.



In the chart above, you can see that the buyers are starting to gain strength because they are making higher lows. They keep putting pressure on that resistance level and as a result, a breakout is bound to happen. Now the question is, "Which direction will it go? - Will the buyers be able to break that level or will the resistance be too strong?"

Many charting books will tell you that in most cases, the buyers will win this battle and the price will break out past the resistance. However, it has been my experience that this is not always the case. Sometimes the resistance level is too strong, and there is simply not enough buying power to push it through.

Most of the time the price will in fact go up. The point we are trying to make is that we do not care which direction the price goes, but we want to be ready for a movement in EITHER direction. In this case, we would set an entry order above the resistance line and below the slope of the higher lows.

Ascending Triangle



In this scenario, the buyers won the battle and the price proceeded to skyrocket!

Elliott Wave Theory

Back in the old school days during the 1920-30s, there was this mad genius named Ralph Nelson Elliott. Elliott discovered that [stock markets](#), thought to behave in a somewhat chaotic manner, actually, did not.

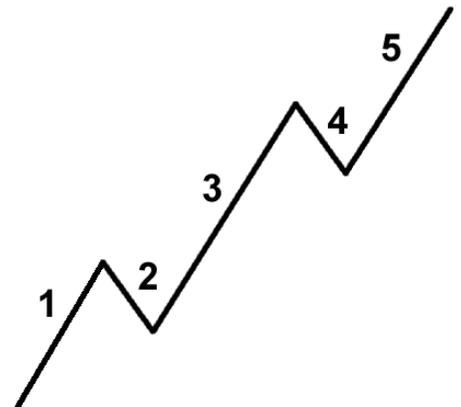
They traded in repetitive cycles, which he pointed out were the emotions of investors and traders caused by outside influences (ahem, CNBC) or the predominant psychology of the masses at the time.

Elliott explained that the upward and downward swings of the mass psychology always showed up in the same repetitive patterns, which were then divided into patterns he called "waves". He needed to claim this observation and so he came up with a super original name: The Elliott Wave Theory.

The 5 - 3 Wave Patterns

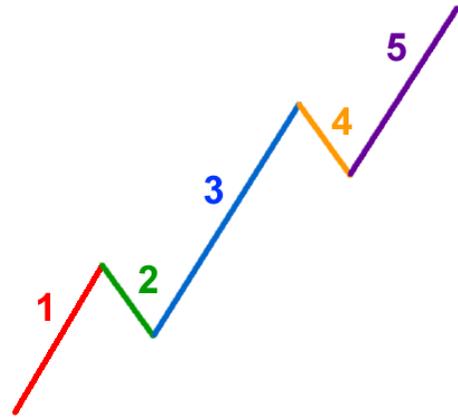
Mr. Elliott showed that a trending market moves in what he calls a 5-3 wave pattern. The first 5-wave pattern is called **impulse waves** and the last 3-wave pattern is called **corrective waves**.

Let's first take a look at the 5-wave impulse pattern. It's easier if you see it as a picture:



That still looks kind of confusing. Let's splash some color on this bad boy.

Here is a short description of what happens during each wave. I am going to use stocks for my example since stocks is what Mr. Elliott used but it really doesn't matter what it is. It can easily be currencies, bonds, gold, oil, or Tickle Me Elmo dolls. The important thing is the Elliott Wave Theory can also be applied to the foreign exchange market.



Wave 1

The stock makes its initial move upwards. This is usually caused by a relatively small number of people that all of the sudden (for a variety of reasons real or imagined) feel that the price of the stock is cheap so it's a perfect time to buy. This causes the price to rise.

Wave 2

At this point enough people who were in the original wave consider the stock overvalued and take profits. This causes the stock to go down. However, the stock will not make it to its previous lows before the stock is considered a bargain again.

Wave 3

This is usually the longest and strongest wave. The stock has caught the attention of the mass public. More people find out about the stock and want to buy it. This causes the stock's price to go higher and higher. This wave usually exceeds the high created at the end of wave 1.

Wave 4

People take profits because the stock is considered expensive again. This wave tends to be weak because there are usually more people that are still bullish on the stock and are waiting to "buy on the dips".

Wave 5

This is the point that most people get on the stock, and is most driven by hysteria. You usually start seeing the CEO of the company on the front page of major magazines as the Person of the Year. People start coming up with ridiculous reasons to buy the stock and try to choke you when you disagree with them. This is when the stock becomes the most overpriced. Contrarians start shorting the stock which starts the ABC pattern.

Source: <http://www.babypips.com/school/>