

# **FOREX**

## **FOREIGN EXCHANGE MARKET**

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**How To Trade In The Forex Market**  
**Techniques & Strategies**  
**All What You Need To Get Started**

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***To Mom, Dad***

***Dear husband and kids***

***Thank you all for your encouragement and support.***

If you are new to the Forex market, you should look for a Forex trading book. Knowledge and practical information specific to the currency market are what you need.

The best traders are the most informed, beyond keeping a close eye on the trends of the markets.

There are many excellent trading books but this book is your perfect start to make your first moves. It gives you a closer look at the shifts and driving forces in the currency market, how can you learn to read them and exploit them to your benefit. This book will provide to all readers analytical tools on the trading system and methodologies.

The purpose of this book is to provide an overview of strategies that are being used in Forex market, and to discuss the steps and tools that are needed in order to use these strategies successfully.

This book gives you step-by-step approach to learn trading in general. It will expand your knowledge especially when you are exploring the world of Forex trading.

This book is including Forex essential, analyzing the Forex market, charts, technical trading techniques, common chart pattern; moving average, indicators, oscillators, trading cycles, trading strategy and carry trade.

Choosing to trade in Forex just because it has low entry barriers doesn't mean that it's a wise choice you must always trade what you understand<sup>1</sup>.

This book is your first step into Forex trading. It is a great reference tool for anyone wants to learn how to trade the Forex market. It includes detailed descriptions of technical and fundamental analysis techniques. It will show you not only Forex basics but also techniques and strategies that can work for the newbie traders.

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<sup>1</sup> Trading on margin carries a significant level of risk since leverage can magnify your profits as well as your losses. Thus, leveraged products may not suitable for you as you may lose all your invested capital. You should not risk more than you are prepared to lose. So please be patient get enough information and get your own strategy and apply it on a demo account for at least six month and don't hesitate to change your trading strategy and apply it to make sure that it is the most profitable and less risk strategy. It's your call don't blame anyone for you mistakes.

In this book, you will find enough data covers...

- Generic all-topics guide for beginners in Forex trading and some insights on their road o success.
- Basic facts and information and their application to the Forex trading.
- Explanation of the most popular chart patterns and technical indicators.
- An inception into understanding the Forex market and Forex trading.
- Introduction to the spot, forwards, swaps and options in Forex.
- Covers the basics Forex charting. Fundamental analysis, technical analysis and traders' psychology.

After reading this book you will understand the Forex market and Forex trading and you will be ready to apply real-world Forex trading strategies.

It gives you just the information needed to get started with Forex trading.

## **Economic introduction:**

The foreign exchange market (forex, FX, or currency market) is a global, worldwide-decentralized financial market for trading currencies. Financial centers around the world function as anchors of trading between a wide range of different types of buyers and sellers around the clock, with the exception of weekends. The foreign exchange market determines the relative values of different currencies.

The foreign exchange market assists international trade and investment by...

### 1. Enabling currency conversion:

For example, it permits a business in the United States to import goods from the European Union member states especially Euro zone members and pay Euros, even though its income is in United States dollars.

### 2. supports direct speculation:

- It also supports direct speculation in the value of currencies, and the carry trade.
- Speculation on the change in interest rates in two currencies.

In a typical foreign exchange transaction, a party purchases a quantity of one currency by paying a quantity of another currency. The modern foreign exchange market began forming during the 1970s after three decades of government restrictions on foreign exchange transactions (the Bretton Woods system of monetary management established the rules for commercial and financial relations among the world's major industrial states after World War II), when countries gradually switched to floating exchange rates from the previous exchange rate regime, which remained fixed as per the Bretton Woods system.

## **Bretton Woods system:**

The Bretton Woods system of monetary management established the rules for commercial and financial relations among the world's major industrial states in the mid 20th century. The Bretton Woods system was the first example of a fully negotiated monetary order intended to govern monetary relations among independent nation-states.

Preparing to rebuild the international economic system as World War II was still raging, 730 delegates from all 44 Allied nations gathered at the Mount Washington Hotel in Bretton Woods, New Hampshire, United States, for the United Nations Monetary and Financial Conference. The delegates deliberated upon and signed the Bretton Woods Agreements during the first three weeks of July 1944.

Setting up a system of rules, institutions, and procedures to regulate the international monetary system, the planners at Bretton Woods established the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (IBRD), which today is part of the World Bank Group. These organizations became operational in 1945 after a sufficient number of countries had ratified the agreement.

The chief features of the Bretton Woods system were an obligation for each country to adopt a monetary policy that maintained the exchange rate by tying its currency to the U.S. dollar and the ability of the IMF to bridge temporary imbalances of payments.

The Bretton Woods Conference took place in July 1944, but did not become operative until late December 1958, when all the European currencies became convertible. Under this system, the IMF and the IBRD were established. The IMF was developed as a permanent international body. The summary of agreements

states, "The nations should consult and agree on international monetary changes which affect each other. They should outlaw practices which are agreed to be harmful to world prosperity, and they should assist each other to overcome short-term exchange difficulties." The IBRD was created to speed up post-war reconstruction, to aid political stability, and to foster peace. This was to be fulfilled through the establishment of programs for reconstruction and development.

On August 15, 1971, the United States unilaterally terminated convertibility of the dollar to gold. As a result, "the Bretton Wood's system officially ended and the dollar became fully 'fiat currency,' backed by nothing but the promise of the federal government." This action, referred to as the Nixon shock, created the situation in which the United States dollar became the sole backing of currencies and a reserve currency for the member states. At the same time, many fixed currencies (such as GBP, for example), also became free floating.

The main terms of this agreement were:

1. Formation of the IMF and the IBRD (presently part of the World Bank).
2. Adjustably pegged foreign exchange market rate system: The exchange rates were fixed, with the provision of changing them if necessary.
3. Currencies were required to be convertible for trade related and other current account transactions. The governments, however, had the power to regulate ostentatious capital flows.
4. As it was possible that exchange rates thus established might not be favorable to a country's balance of payments position, the governments had the power to revise them by up to 10%.
5. All member countries were required to subscribe to the IMF's capital.

The foreign exchange market is unique because of...

- Its huge trading volume representing the largest asset class in the world leading to high liquidity.
- Its geographical dispersion.
- Its continuous operation: 24 hours a day except weekends, i.e. trading from 20:15 GMT on Sunday until 22:00 GMT Friday.
- The variety of factors that affect exchange rates.
- The low margins of relative profit compared with other markets of fixed income.
- The use of leverage to enhance profit and loss margins and with respect to account size.

As such, it has been referred to as the market closest to the ideal of perfect competition, notwithstanding currency intervention by central banks. According to the Bank for International Settlements, as of April 2010, average daily turnover in global foreign exchange markets is estimated at \$3.98 trillion, a growth of approximately 20% over the \$3.21 trillion daily volume as of April 2007. Some firms specializing on foreign exchange market had put the average daily turnover in excess of US\$4 trillion.

There are three main sessions:

- Tokyo session
- London session.
- New York session

Tokyo session:

(GBD/ JPY), (EUR/ JPY), (AUD/JPY)

- Main participants are experts and central banks.
- Strong moves in Asia, pacific (AUD/ USD) (NZD/ USD) as opposed (GBP/USD).

- Most pairs may stick within a range.
- Moves could set the tone for the rest of the day.

### London session: (European)

(EUR/USD), (GBP/USD), (USD/JPY), (EUR/ JPY), (GBP/JPY), (USD/CHF)

- Most volatile session and tends to die down in the middle of it because of waiting New York trading period.
- Most trends begin during it until the beginning of New York session.
- Lower pips because of high liquidity.
- Trends can sometimes reverse at the end of the session.

### New York session:

- Most economic reports released near the start of the session.
- European session closed, liquidity and volatility tends to die down during the afternoon.

Market	Sydney	Tokyo	Hong Kong	Moscow	Frankfurt	London	New York	Chicago	Los Angeles
Time Zone	AEST	JST	WST	EET	WET	UTC (GMT)	EST	CST	PST
Australian Open	09:00	07:00	06:00	01:00	23:00	22:00	17:00	16:00	14:00
Japan Economic News	10:50	08:50	07:50	02:50	00:50	23:50	18:50	17:50	15:50
Asian Open	11:00	09:00	08:00	03:00	01:00	00:00	19:00	18:00	16:00
Asian Market Close	14:00	12:00	11:00	06:00	04:00	03:00	22:00	21:00	19:00
European Open	18:00	16:00	15:00	10:00	08:00	07:00	02:00	01:00	23:00
European Economic News	18:45	16:45	15:45	10:45	08:45	07:45	02:45	01:45	23:45
London Open	19:00	17:00	16:00	11:00	09:00	08:00	03:00	02:00	00:00
U.K. Economic News	20:30	18:30	17:30	12:30	10:30	09:30	04:30	03:30	01:30
New York Open	00:00	22:00	21:00	16:00	14:00	13:00	08:00	07:00	05:00
U.S. Economic News	00:30	22:30	21:30	16:30	14:30	13:30	08:30	07:30	05:30
European Market Close	04:00	02:00	01:00	20:00	18:00	17:00	12:00	11:00	09:00
U.S. Market Close	08:00	06:00	05:00	00:00	22:00	21:00	16:00	15:00	13:00

	Most Active Time
	Yesterday (in comparison to other time periods)
	Tomorrow (in comparison to other time periods)

Most developed countries permit the trading of derivative products (like futures and options on futures) on their exchanges. All these developed countries already have fully convertible capital accounts. Some governments of emerging economies do not allow foreign exchange derivative products on their exchanges because they have capital controls. The use of derivatives is growing in many emerging economies. Countries such as Korea, South Africa, and India have established currency futures exchanges, despite having some capital controls.

Unlike a stock market, the foreign exchange market is divided into levels of access.

- At the top is the interbank market, which is made up of the largest commercial banks and securities dealers.

Within the interbank market, spreads, which are the difference between the bid and ask prices, are razor sharp and not known to players outside the inner circle. The difference between the bid and ask prices widens (for example from 0-1 pip to 1-2 pips for a currencies such as the EUR) as you go down the levels of access. This is due to volume. If a trader can guarantee large numbers of transactions for large amounts, they can demand a smaller difference between the bid and ask price, which is referred to as a better spread. The levels of access that make up the foreign exchange market are determined by the size of the "line" (the amount of money with which they are trading). The top-tier interbank market accounts for 53% of all transactions. From there, smaller banks, followed by large multi-national corporations (which need to hedge risk and pay employees in different countries), large hedge funds, and even some of the retail market makers.

- Central banks also participate in the foreign exchange market to align currencies to their economic needs.
- An important part of this market comes from the financial activities of companies seeking foreign exchange to pay for goods or services.

Commercial companies often trade fairly small amounts compared to those of banks or speculators, and their trades often have little short term impact on market rates. Nevertheless, trade flows are an important factor in the long-term direction of a currency's exchange rate. Some multinational companies can have an unpredictable impact when very large positions are covered due to exposures that are not widely known by other market participants.

The foreign exchange market is the most liquid financial market in the world. Traders include ...

1. Large banks.
2. Central banks.
3. Institutional investors.
4. Currency speculators.
5. Corporations.
6. Governments.
7. Other financial institutions.
8. Retail investors.

The average daily turnover in the global foreign exchange and related markets is continuously growing.

## **Central banks**

National central banks play an important role in the foreign exchange markets. They try to control the money supply, inflation, and/or interest rates and often have official or unofficial target rates for their currencies. They can use their often substantial for-

foreign exchange reserves to stabilize the market. Nevertheless, the effectiveness of central bank "stabilizing speculation" is doubtful because central banks do not go bankrupt if they make large losses, like other traders would, and there is no convincing evidence that they do make a profit trading.

Kind of price that the national banks have...

- Its ability to buy goods and services immediately.
- The reciprocal of the money cost of buying a bundle of goods and services.
- The cost of renting.

### **Investment management firms**

Investment management firms (who typically manage large accounts on behalf of customers such as pension funds and endowments) use the foreign exchange market to facilitate transactions in foreign securities. For example, an investment manager bearing an international equity portfolio needs to purchase and sell several pairs of foreign currencies to pay for foreign securities purchases.

Some investment management firms also have more speculative specialist currency overlay operations, which manage clients' currency exposures with the aim of generating profits as well as limiting risk. While the number of this type of specialist firms is quite small, many have a large value of assets under management), and hence can generate large trades.

The translator between different currencies is the exchange rate, the price of one country's money in units of another country's money. Foreign exchange is the act of trading different nations' moneys (the term foreign exchange also refers to holdings of foreign currencies). The money takes the same forms as money within a country.

## **Retail foreign exchange traders**

Individual Retail speculative traders constitute a growing segment of this market with the advent of retail foreign exchange platforms, both in size and importance. Currently, they participate indirectly through brokers or banks. Retail brokers, while largely controlled and regulated in the USA by the Commodity Futures Trading Commission and National Futures Association (NFA) have in the past been subjected to periodic Foreign exchange fraud.

To deal with the issue, in 2010 the NFA required its members that deal in the Forex markets to register as such (I.e., Forex CTA instead of a CTA). Those NFA members that would traditionally be subject to minimum net capital requirements, FCMs and IBs, are subject to greater minimum net capital requirements if they deal in Forex. A number of the foreign exchange brokers operate from the UK under Financial Services Authority regulations where foreign exchange trading using margin is part of the wider over-the-counter derivatives trading industry that includes Contract for differences and financial spread betting.

## **Non-bank foreign exchange companies**

Non-bank foreign exchange companies offer currency exchange and international payments to private individuals and companies. These are also known as foreign exchange brokers but are distinct in that they do not offer speculative trading but rather currency exchange with payments (i.e., there is usually a physical delivery of currency to a bank account).

## **Money transfer/remittance companies and bureau de change**

Money transfer companies/remittance companies perform high-volume low-value transfers generally by economic migrants back to their home country.

Bureau de change or currency transfer companies provide low value foreign exchange services for travelers. These are typically located at airports and stations or at tourist locations and allow physical notes to be exchanged from one currency to another. They access the foreign exchange markets via banks or non-bank foreign exchange companies.

There are two main types of retail FX brokers offering the opportunity for speculative currency trading:

- *Brokers*
- *Dealers or market makers.*

Brokers serve as an agent of the customer in the broader FX market, by seeking the best price in the market for a retail order and dealing on behalf of the retail customer. They charge a commission or mark-up in addition to the price obtained in the market.

Dealers or market makers, by contrast, typically act as principal in the transaction versus the retail customer, and quote a price they are willing to deal at.

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There is no unified or centrally cleared market for the majority of trades, and there is very little cross-border regulation. Due to the over-the-counter (OTC) nature of currency markets, there are rather a number of interconnected marketplaces, where different currencies instruments are traded. This implies that there is not a

*single* exchange rate but rather a number of different rates (prices), depending on what bank or market maker is trading, and where it is. In practice the rates are often very close, otherwise they could be exploited by arbitrageurs instantaneously.

The main trading center is London, but New York, Tokyo, Hong Kong and Singapore are all important centers as well. Banks throughout the world participate. Currency trading happens continuously throughout the day; as the Asian trading session ends, the European session begins, followed by the North American session and then back to the Asian session, excluding weekends.

An exchange rate is the price of one nation's money in terms of another nation's money. Exchange rates are one kind of price that national money has. Another is its ability to buy goods and services immediately. The second kind of price, the usual "value of the dollar", is just the reciprocal of the money cost of buying a bundle of goods and services. A third kind of price of money is the cost of just renting it, and having access to it, for a given period of time. This is (roughly) the rate of interest that borrowers pay for the use of money, and it is analogous to another rental prices such as the price of renting an apartment or a rental car.

There are actually two basic types of exchange rate depending on the timing of actual exchange of the moneys:

- **The spot exchange rate:** is for immediate delivery. It serves a clearing function, permitting payments to be made between entities who want to hold or use different currencies.
- **The forward exchange rate:** is for future delivery at a price that is agreed to now.

The exchange rate is determined by supply and demand, within any constraints imposed by the governmental choice of an exchange rate system or regime. Under a freely flexible or floating-exchange-rate system, market supply and demand set the equilibrium price (exchange rate) that clears the market. A floating exchange rate changes over time as supply and demand shift over time. Under a fixed-rate or pegged-rate system, officials buy and sell a currency so as to keep its exchange rate within an officially stipulated band.

When the currency's value lies at the bottom of its official band, officials must buy it by selling other currencies. When the currency's value presses against the top of its official price range, officials must sell it in exchange for other currencies.

A person holding a net asset position (a long position) or a net liability position (a short position) in a foreign currency is exposed to exchange rate risk. The value of the person's income or net worth will change if the exchange rate changes in a way that the person does not expect.

The fact that exchange rates can change over time leads people to two types of responses:

- **Hedging:** a position exposed to rate risk, here foreign currency or exchange rate risk, is the act of reducing or eliminating a net asset or net liability position in the foreign currency.

Hedge funds as speculators: About 70% to 90% of the foreign exchange transactions are speculative. In other words, the person or institution that bought or sold the currency has no plan to actually take delivery of the currency in the end; rather, they were solely speculating on the movement of that particular currency. Hedge funds have gained a reputation for aggressive currency

speculation since 1996. They control billions of dollars of equity and may borrow billions more, and thus may overwhelm intervention by central banks to support almost any currency, if the economic fundamentals are in the hedge funds' favor.

In financial jargon, hedging means avoiding both kinds of open position in foreign currency; both long positions (holding net assets in the foreign currency) and short position (owing more of the foreign currency than one holds).

- **Speculating:** is the act of taking a net asset position (long) or a net liability position (short) in some asset class, here a foreign currency.

Controversy about currency speculators and their effect on currency devaluations and national economies recurs regularly. Nevertheless, economists including Milton Friedman have argued that speculators ultimately are a stabilizing influence on the market and perform the important function of providing a market for hedgers and transferring risk from those people who don't wish to bear it, to those who do. Other economists such as Joseph Stiglitz consider this argument to be based more on politics and a free market philosophy than on economics.

Large hedge funds and other well capitalized "position traders" are the main professional speculators. According to some economists, individual traders could act as "noise traders" and have a more destabilizing role than larger and better informed actors.

Currency speculation is considered a highly suspect activity in many countries. While investment in traditional financial instruments like bonds or stocks often is considered to contribute positively to economic growth by providing capital, currency speculation does not; according to this view, it is simply gambling that often interferes with economic policy.

Gregory J. Millman reports on an opposing view, comparing speculators to "vigilantes" who simply help "enforce" international agreements and anticipate the effects of basic economic "laws" in order to profit. In this view, countries may develop unsustainable financial bubbles or otherwise mishandle their national economies, and foreign exchange speculators made the inevitable collapse happen sooner. A relatively quick collapse might even be preferable to continued economic mishandling, followed by an eventual, larger, collapse. Nonetheless, speculators' pressures on supply and demand should drive the forward exchange rate to equal the average expected value of the future spot exchange rate.

### **Foreign exchange fixing**

Foreign exchange fixing is the daily monetary exchange rate fixed by the national bank of each country. The idea is that central banks use the fixing time and exchange rate to evaluate behavior of their currency. Fixing exchange rates reflects the real value of equilibrium in the market. Banks, dealers and traders use fixing rates as a trend indicator.

The mere expectation or rumor of a central bank foreign exchange intervention might be enough to stabilize a currency, but aggressive intervention might be used several times each year in countries with a dirty float currency regime. Central banks do not always achieve their objectives. The combined resources of the market can easily overwhelm any central bank. Several scenarios of this nature were seen in the 1992–93 European Exchange Rate Mechanism collapse, and in more recent times in Southeast Asia. Fluctuations in exchange rates are usually caused by actual monetary flows as well as by expectations of changes in monetary flows caused by changes in gross domestic product (GDP) growth, inflation (purchasing power parity theory), interest rates (interest rate parity, Domestic Fisher effect, International Fisher

effect), budget and trade deficits or surpluses, large cross-border M&A deals and other macroeconomic conditions. Major news is released publicly, often on scheduled dates; so many people have access to the same news at the same time. However, the large banks have an important advantage; they can see their customers' order flow.

As the exchange rates fluctuate, we can know the difference in buying power of our money.

### **Determinants of exchange rates:**

The following theories explain the fluctuations in exchange rates in a floating exchange rate regime (In a fixed exchange rate regime, rates are decided by its government):

- International parity conditions:
  1. Relative Purchasing Power Parity (PPP):

PPP states that international competition tends to equalize the home and foreign prices of traded goods and services.

So that

$$p = r_s p_f$$

Or

$$r_s = P / p_f$$

Where the  $p_f$  are price levels in the countries and  $r_s$  is the exchange rate price of foreign currency.

PPP works tolerably well for longer periods of time, say five years to a decade or more. Over the long run, a country with a relatively high inflation rate tends to have a depreciating curren-

cy, and a country with a relatively low inflation rate tends to have an appreciating currency.

The monetary approach seeks to explain exchange rates by focusing on demands and supplies for national moneys since the foreign exchange market is where one currency is traded for another. The transactions demand for national money can be expressed as  $M^s = Kpy$ , a behavioral coefficient ( $k$ ) times the price level ( $P$ ) times the level of real domestic product ( $Y$ ).

The equilibrium  $M^s = Kpy$  matches this demand against the national money supply, which is regulated by the central bank's monetary policy. A similar equilibrium holds in any foreign country:  $M_f^s = Kpy$

Combining the basic monetary equilibriums with PPP yields an equation for predicting the exchange rate ( $r_s$ ), or the value of the currency of a foreign country:  $r_s = (M^s / M_f^s) * (Y_f / Y) * (K_f / K)$ . ignoring changes in the  $k$ s, we can use this equation to explain the exchange rate given data on money supplies and real incomes. The price of foreign currency ( $r_s$ ) is raised by:

- An increase in  $(M^s / M_f^s)$
- An increase in  $(Y_f / Y)$

Furthermore, the elasticity's of the impact of  $(M^s / M_f^s)$  and  $(Y_f / Y)$  on  $r_s$  should approximately equal 1.

Over long period of time, exchange rates tend to move toward values consist with such economic fundamentals as relative money supplies and real incomes (the monetary approach) or, similarly, relative price levels (PPP).

2. Domestic Fisher effect.
3. International Fisher effect.

Though to some extent the above theories provide logical explanation for the fluctuations in exchange rates, yet these theories falter as they are based on challengeable assumptions [e.g., free flow of goods, services and capital] which seldom hold true in the real world.

- Balance of payments model:

This model, however, focuses largely on tradable goods and services, ignoring the increasing role of global capital flows. It failed to provide any explanation for continuous appreciation of dollar during 1980s and most part of 1990s in face of soaring US current account deficit.

- Asset market model :

It views currencies as an important asset class for constructing investment portfolios. Assets prices are influenced mostly by people's willingness to hold the existing quantities of assets, which in turn depends on their expectations on the future worth of these assets. The asset market model of exchange rate determination states that “the exchange rate between two currencies represents the price that just balances the relative supplies of, and demand for, assets denominated in those currencies.”

None of the models developed so far succeed to explain exchange rates and volatility in the longer time frames. For shorter time frames (less than a few days) algorithms can be devised to predict prices. It is understood from the above models that many macroeconomic factors affect the exchange rates and in the end currency prices are a result of dual forces of demand and supply. The world's currency markets can be viewed as a huge melting pot: in a large and ever-changing mix of current events, supply and demand factors are constantly shifting, and the price of one currency in relation to another shifts accordingly. No other mar-

ket encompasses (and distills) as much of what is going on in the world at any given time as foreign exchange.

Supply and demand for any given currency, and thus its value, are not influenced by any single element, but rather by several. These elements generally fall into three categories:

Economic factors, political conditions and market psychology.

### **Economic factors:**

These include:

- (a) Economic conditions generally revealed through economic reports, and other economic indicators.
- (b) Economic policy, disseminated by government agencies and central banks.

Economic policy comprises government fiscal policy (budget/spending practices) and monetary policy (the means by which a government's central bank influences the supply and "cost" of money, which is reflected by the level of interest rates).

- Government budget deficits or surpluses:

The market usually reacts negatively to widening government budget deficits, and positively to narrowing budget deficits. The impact is reflected in the value of a country's currency.

- Balance of trade levels and trends:

The trade flow between countries illustrates the demand for goods and services, which in turn indicates demand for a country's currency to conduct trade. Surpluses and deficits in trade of goods and services reflect the competitiveness of a nation's econ-

omy. For example, trade deficits may have a negative impact on a nation's currency.

- Inflation levels and trends: Typically a currency will lose value if there is a high level of inflation in the country or if inflation levels are perceived to be rising. This is because inflation erodes purchasing power, thus demand, for that particular currency. However, a currency may sometimes strengthen when inflation rises because of expectations that the central bank will raise short-term interest rates to combat rising inflation.
- Economic growth and health: Reports such as GDP, employment levels, retail sales, capacity utilization and others, detail the levels of a country's economic growth and health. Generally, the more healthy and robust a country's economy, the better its currency will perform, and the more demand for it there will be.
- Productivity of an economy: Increasing productivity in an economy should positively influence the value of its currency. Its effects are more prominent if the increase is in the traded sector.

### **Political conditions:**

Internal, regional, and international political conditions and events can have a profound effect on currency markets.

All exchange rates are susceptible to political instability and anticipations about the new ruling party. Political upheaval and instability can have a negative impact on a nation's economy. For example, destabilization of coalition governments in Pakistan and Thailand can negatively affect the value of their currencies. Similarly, in a country experiencing financial difficulties, the rise of a political faction that is perceived to be fiscally responsible can have the opposite effect. Also, events in one country in a re-

gion may spur positive/negative interest in a neighboring country and, in the process, affect its currency.

### **Market psychology:**

Market psychology and trader perceptions influence the foreign exchange market in a variety of ways:

- **Flights to quality:** Unsettling international events can lead to a "flight to quality", a type of capital flight whereby investors move their assets to a perceived "safe haven". There will be a greater demand, thus a higher price, for currencies perceived as stronger over their relatively weaker counterparts. The U.S. dollar, Swiss franc and gold have been traditional safe havens during times of political or economic uncertainty.
- **Long-term trends:** Currency markets often move in visible long-term trends. Although currencies do not have an annual growing season like physical commodities, business cycles do make themselves felt. Cycle analysis looks at longer-term price trends that may rise from economic or political trends.
- **"Buy the rumor, sell the fact":** This market truism can apply to many currency situations. It is the tendency for the price of a currency to reflect the impact of a particular action before it occurs and, when the anticipated event comes to pass, react in exactly the opposite direction. This may also be referred to as a market being "oversold" or "overbought". To buy the rumor or sell the fact can also be an example of the cognitive bias known as anchoring, when investors focus too much on the relevance of outside events to currency prices.
- **Economic numbers:** While economic numbers can certainly reflect economic policy, some reports and numbers take

on a talisman-like effect: the number itself becomes important to market psychology and may have an immediate impact on short-term market moves. "What to watch" can change over time. In recent years, for example, money supply, employment, trade balance figures and inflation numbers have all taken turns in the spotlight.

- Technical trading considerations: As in other markets, the accumulated price movements in a currency pair such as EUR/USD can form apparent patterns that traders may attempt to use. Many traders study price charts in order to identify such patterns

### **Risk aversion:**

Risk aversion is a kind of trading behavior exhibited by the foreign exchange market when a potentially adverse event happens which may affect market conditions. This behavior is caused when risk adverse traders liquidate their positions in risky assets and shift the funds to less risky assets due to uncertainty.

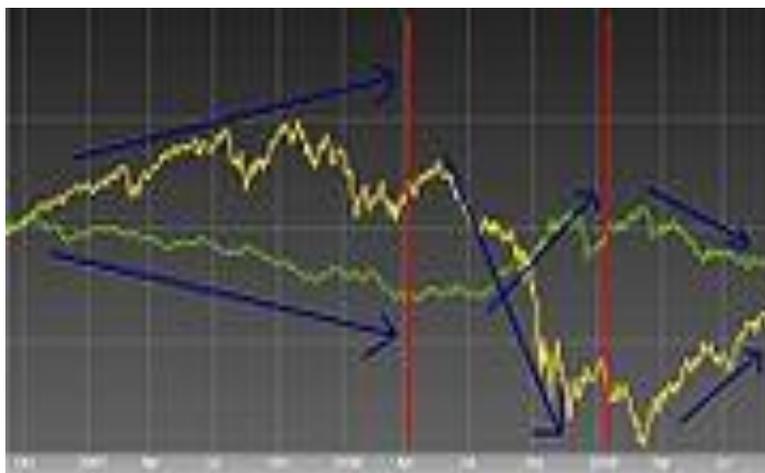


Fig.1 Chart showing MSCI World Index of Equities fell while the US Dollar Index rose.

In the context of the foreign exchange market, traders liquidate their positions in various currencies to take up positions in safe-haven currencies, such as the US Dollar. Sometimes, the choice of a safe haven currency is more of a choice based on prevailing sentiments rather than one of economic statistics. An example would be the Financial Crisis of 2008. The value of equities across the world fell while the US Dollar strengthened (see Fig.1). This happened despite the strong focus of the crisis in the USA.

Types of transactions...

- **Spot**

A spot transaction is a two-day delivery transaction (except in the case of trades between the US Dollar, Canadian Dollar, Turkish Lira, EURO and Russian Ruble, which settle the next business day), as opposed to the futures contracts, which are usually three months. This trade represents a “direct exchange” between two currencies, has the shortest time frame, involves cash rather than a contract; and interest is not included in the agreed-upon transaction.

- **Forward**

One way to deal with the foreign exchange risk is to engage in a forward transaction. In this transaction, money does not actually change hands until some agreed upon future date. A buyer and seller agree on an exchange rate for any date in the future, and the transaction occurs on that date, regardless of what the market rates are then. The duration of the trade can be one day, a few days, months or years. Usually the date is decided by both parties. Then the forward contract is negotiated and agreed upon by both parties.

A forward foreign exchange contract is an agreement to buy or sell a foreign currency for future delivery at a price (the forward exchange rate) set now.

### Swap

The most common type of forward transaction is the swap. In a swap, two parties exchange currencies for a certain length of time and agree to reverse the transaction at a later date. These are not standardized contracts and are not traded through an exchange. A deposit is often required in order to hold the position open until the transaction is completed.

### Future

Futures are standardized forward contracts and are usually traded on an exchange created for this purpose. The average contract length is roughly 3 months. Futures contracts are usually inclusive of any interest amounts.

- **Option**

A foreign exchange option (commonly shortened to just FX option) is a derivative where the owner has the right but not the obligation to exchange money denominated in one currency into another currency at a pre-agreed exchange rate on a specified date. The options market is the deepest, largest and most liquid market for options of any kind in the world.

### Carry Trade:

Whether you invest in stocks, bonds, commodities or currencies, it is likely that you have heard of the carry trade. This strategy has generated positive average returns since the 1980s, but only in the past decade has it become popular among individual inves-

tors and traders. For the better part of the last 10 years, the carry trade was a one way trade that headed north with no major retracements. However, in 2008, carry traders learned that gravity always regains control as the trade collapsed, erasing seven years worth of gains in three months.

Currency carry trade refers to the act of borrowing one currency that has a low interest rate in order to purchase another with a higher interest rate. A large difference in rates can be highly profitable for the trader, especially if high leverage is used. However, with all levered investments this is a double edged sword, and large exchange rate fluctuations can suddenly swing trades into huge losses.

The main thing to look for when looking to do a carry trade is finding a currency pair with a high interest spread and finding a pair that has been appreciating or is in an uptrend. With the moves by most central banks to lower interests toward zero in an attempt to stimulate their economies, overall interest in the carry trade has also decline. However, understanding the underlying fundamentals behind interest rates changes is one of the keys to implementing a carry trade and is needed for when the strategy moves back into favor. The next section will introduce you to the all-important concept of money management within your forex account

## General introduction:

"**Forex**" stands for **foreign exchange**; it's also known as FX. In a Forex trade, you buy one currency while simultaneously selling another.

Currencies trade in pairs, like the Euro-US Dollar (EUR/USD) or US Dollar / Japanese Yen (USD/JPY). Forex trading is used to speculate on the relative strength of one currency against another.

The foreign exchange market is an over-the-counter market, which means that it is a decentralized market with no central exchange. Much like exchange money overseas, in forex every transaction involves the purchase of one currency and the simultaneous sale of another.

Daily turnover in the world's currencies comes from two sources:

- **Foreign trade (5%)**. Companies buy and sell products in foreign countries, plus convert profits from foreign sales into domestic currency.
- **Speculation for profit (95%)**.

Forex currency pairs are grouped into three categories:

- The **Majors** are the largest, most traded and most liquid currency pairs.

Most traders focus on the biggest, most liquid currency pairs. "The Majors" include US Dollar, Japanese Yen, Euro, British Pound, Swiss Franc, Canadian Dollar and Australian Dollar. In fact, more than 85% of daily Forex trading happens in the major currency pairs.

- The **Minors** are the commodity currencies e.g. AUD/USD and the Scandinavian currencies.
- The **Crosses** are currency pairs that do not include the US Dollar.

With average daily turnover of US\$3.2 trillion, Forex is the most traded market in the world. A true 24-hour market from Sunday 10 PM GMT to Friday 10 PM GMT, Forex trading begins in Sydney, and moves around the globe as the business day begins, first to Tokyo, London, and New York.

Unlike other financial markets, there is no centralized market place for forex. Instead, currencies simply trade over-the-counter in whatever major market is open at that time. This unique opportunity gives forex traders the chance to trade 24 hours a day, 5 days a week. Investors can respond immediately to currency fluctuations, whenever they occur - day or night. The world's most traded market – 24 hours a day.

- Constant trading opportunity as the world's currencies fluctuate in value against each other
- Trading around the clock from 10pm Sunday to 10pm Friday (GMT)
- Tight spreads reflecting real time market liquidity - check our live prices
- Flexible leverage up to 200:1.

People want to trade money for various reasons. Some are engaged in trading goods and services and are making or receiving payments for these products. Some are engaged in international flows of financial assets.

Forex traders attempt to take advantage of fluctuations of currencies by buying or selling individual currencies to speculate on future value of one currency relative to another.

### **Steps how to trade:**

1. See how the currency price changed different times at the day.
2. Get a sense of how the forex market reacts to new information.
3. Access all the resources and tools available to help you trade in the market including charts, news, research and more.

### **Leverage & Margin - Trading on Margin:**

Leverage trading, or trading on margin, means you aren't required to put up the full value of the position. As a result, you can open a significantly larger position that you would be able to if you needed to fund your trade in full. Trading on leverage increases your potential for profit, but also increases your risks.

Forex trading offers leverage up to 200:1; this means that for every £1 in your account, you can trade £200 worth of a position.

There are no margin calls in Forex trading. You need to maintain sufficient funds on your account to keep your positions open, and you will not be able to open larger positions than can be supported by your account balance. If your account falls below the required level to maintain your position(s), we will automatically close out all positions to ensure that you can't lose more money than you have in your account.

## **More leverage means more opportunity - and more risk**

### **Forex Quotes:**

Reading a foreign exchange quote is simple if you remember two things:

1. The first currency listed is the base currency
2. The value of the base currency is always 1.

The US dollar is usually considered the base currency for quotes. When the base currency is USD, think of the quote as telling you what a US dollar is worth in that other currency.

When USD is the base currency and the quote goes up, that means USD has strengthened in value and the other currency has weakened. In other words, a rising quote means that the US dollar can buy more of the other currency than before.

There are three exceptions when the US Dollar is not the base currency of a pair - these exceptions are the British pound (GBP), the Australian dollar (AUD) and the Euro (EUR). For these pairs, the quote is based on the other currency, and a rising quote means that the other currency is strengthening, and the US dollar is weakening.

- Euro (EURO/USD)
- Yen (USD / JPY)
- Cable or Sterling (GBP / USD)
- Swissy ( USD / CHF)
- Aussie ( AUD / USD)
- Loonie ( USD / CAD)

- Kiwi ( NZD / USD)

Just like other markets, Forex quotes consist of two sides, the **bid** and the **ask**:

- The **BID** is the price at which you can **SELL** base currency.
- The **ASK** is the price at which you can **BUY** base currency.

The spread is the difference between the **BID** and the **ASK**, and represents the cost of trading. In Forex, spreads are tighter than many other markets, making it cost effective to trade on relatively small price movements.

Spread will vary based on the liquidity of the currency pair:

- The tighter the spread, the more liquid the currency pair.
- The wider the spread, the less liquid the currency pair.

### **What's a pip?**

Forex prices are generally very liquid, and are usually quoted in very small increments called pips, or "percentage in point". A pip refers to the fourth decimal point out, or 1/100th of 1% (0.0001). **For Japanese yen**, pips refer to the second decimal point. This is the only exception among the major currencies.

Example:

EUR/USD moves from 1.5755 to 1.5745 that is a decrease of 10 pips (-10 pips).

EUR/JPY moves from 157.40 to 157.80 that is an increase of 40 pips (+40 pips).

The value of a pip varies from currency to currency based on the relative value of the two currencies in the pair.

EUR/USD 1.5745 (1 pip= \$ 1 per 10.000 traded), for example if you bought 100.000 EUR you'll earn \$ 10 for every pip increasing.

### **Calculating Profit and Loss:**

It is useful to understand how this calculation is made to understand your profit and loss potential on each trade. To illustrate a Forex trade, consider the following two examples.

Let's say that the current bid/ask for EUR/USD is 1.4616/19, meaning you can buy 1 euro for 1.4619 or sell 1 euro for 1.4616.

Suppose you decide that the Euro is undervalued against the US dollar. To execute this strategy, you would buy Euros (simultaneously selling dollars), and then wait for the exchange rate to rise.

So you make the trade: to buy 100,000 Euros you pay 146,190 dollars ( $100,000 \times 1.4619$ ). Remember, at 1% margin, your initial margin deposit would be approximately \$1,461 for this trade.

As you expected, Euro strengthens to 1.4623/26. Now, to realize your profits, you sell 100,000 Euros at the current rate of 1.4623, and receive \$146,230

You bought 100k Euros at 1.4619, paying \$146,190.

Then you sold 100k Euros at 1.4623, receiving \$146,230.

That's a difference of 4 pips, or in dollar terms ( $\$146,190 - 146,230 = \$40$ ).

**Total profit = US \$40.**

Now in the example, let's say that we once again buy EUR/USD when trading at 1.4616/19. You buy 100,000 Euros you pay 146,190 dollars ( $100,000 \times 1.4619$ ).

However, Euro weakens to 1.4611/14. Now, to minimize your losses to sell 100,000 Euros at 1.4611 and receive \$146,110.

You bought 100k Euros at 1.4619, paying \$146,190.

You sold 100k Euros at 1.4611, receiving \$146,110.

That's a difference of 8 pips, or in dollar terms ( $\$146,190 - \$146,110 = \$80$ )

**Total loss = US \$80.**

If you have a USD trading account your p& L will always be expressed in USD, even you are not trading a currency pair that not

includes USD, the same goes for trading accounts funded with other currencies.

### **Risk management:**

Risk management is arguably the most important aspect of currency trading; attempting to limit losses is just as important as maximizing profits.

1. The most basic rule in risk management is to set stop loss orders as soon as you enter a new position and stick with them. By setting associate stop loss and limit orders as soon as entering a position help protecting profits as well as limits potential losses.

- Limit orders above your position is price target for getting out of a position with a profit.
- Stop loss order below the market price limits your losses if the price moves against you.

With stop orders already in place, you'll be ready to capture gains or limit losses which ever the price moves.

2. We can evaluate every trade with a simple question: how much am I willing to risk to make this amount.

Many traders use a risk-to-reward ratio of 2:1 or 3:1. That is they will only risk 20 pips on a trade, if they can make 40-60 pips on profit. Other traders put a loss limit on each of their trades.

Over time sticking to a risk-to-reward ratio can help you to maximize your gains and minimize your losses.

Example:

If you're risking \$10,000 per trade using a risk-to-reward ratio of 2:1 your target profit should be no less than double your risk that is \$2000.

3. Patience and preparation: if markets are not following a clear trend or you only find trades with poor risk-to-reward ratios there is no need to jump into a position.
  - i. Wait for a clear opportunity.
  - ii. Manage your risks.
  - iii. Take your gains according to your plan.
  - iv. Analyze your past trades winners and losers to learn what is working for you and what is not.

Over time patience and preparation are the most traders' best assets.

We should focus on one or two currency pairs to start. The most popular currency pairs like EUR/USD, USD/JPY because there is much information available.

### **Types of orders:**

- **Single:** A single Stop Loss or Limit order, with your choice of End of Day or Good' Till Cancelled (GTC) expiry.
- **Market Order:** An order to buy or sell at the current market price.
- **Limit Order:** An order type with restrictions on the maximum price to be paid or the minimum price to be received. For example, if a trader is long USD/CHF at 1.4627, a Limit Order would be entered to sell dollars above that price at 1.4800.
- **Stop Loss Order:** An order type that automatically liquidates an open position at a specific price. It is primarily used to minimize exposure to losses if the market moves against an investor's position. For example, if a trader is long USD at 1.4627, a Stop Loss order could remain at 1.4549, in case the dollar depreciates below 1.4549.

- **One Cancels the Other (OCO):** An order that cancels if another contingent order is executed.

For example, if a trader is long USD/CHF at 1.4627, a typical OCO order would be a stop loss at 1.4562 and a limit (take profit) at 1.4700.

If one part of the order is filled, the other is automatically cancelled.

- **If Then:** A two-legged order whereby the second single order is placed only upon execution of the first single order.
- **If Then / OCO:** A two-legged order whereby the OCO order is placed only upon execution of the first single order.
- **Trailing Stop:** A single Stop Loss order that automatically 'trails' the price of the product and offers the potential for greater gains while still guarding against price declines.

For example, a Sell AUD/USD Stop Loss order is placed when the live rate is .7427 and the Trailing Points are set to 30.

The sell Stop Loss order will be filled if AUD/USD bid reaches .7397 (live rate - 30 Pips).

If AUD/USD moves in your favor, e.g. to .7457, the Stop Loss order automatically adjusts to .7427 - always 30 Pips from the live rate.

### **Choose the Expiry:**

Choose one of the following:

- **End of day (EOD):** Order will expire at 17:00 ET (the end of the current trading day).
- **Good Till' Canceled (GTC):** Order will remain active until executed or manually cancelled.

There's a tendency to pigeonhole traders into two distinct schools:

- Fundamental analysis.
- Technical analysis.

In fact, most smart traders favor a blended approach versus being a purist of either type. Fundamentalists need to keep an eye on signals derived from price charts, while few technicians can afford to completely ignore impending economic data, critical political decisions or pressing societal issues that influence price action.

The economy is the most important fundamental indicator of Forex trading. However, economic analysis for Forex trading is very different than with other trading, like the stock market. With stocks, you can simply look at the values of the company's assets and the flow of funds. With Forex trading, you must look at all the numerous factors which influence a local and global economy. Here are the core economic factors which must be analyzed for Forex trading.

## **Fundamental analysis**

Fundamental analysis studies the core underlying elements that influence the price of a particular entity, like a stock or currency. It attempts to predict price action and trends by analyzing economic indicators, government policy, societal and other factors within a business cycle framework.

If you think of the markets as a big clock, fundamentals are the gears and springs that move the hands around the face. Anyone can tell you what time it is now, but the fundamentalist knows

about the inner workings that move the clock's hands towards times (or prices) in the future.

Fundamental analysis is very effective at forecasting economic conditions, but not necessarily exact market prices. Studying GDP forecasts or employment reports can give you a fairly clear picture of an economy's health and the forces at work behind it. But you still need a method to translate that into specific trade entry and exit points.

The bridge between fundamental data and a specific trading strategy usually comes from a trader model. These models use current and historical empirical data to estimate future prices and translate those into specific trades.

Forecasting models are both art and science, with so many different approaches that traders can get overloaded. It can be tough to decide when you know enough to pull the trigger on a trade with confidence. Many traders switch to technical analysis at this point to test their hunches and see when price patterns suggest an entry.

The fundamentals include everything that makes a country and its currency tick. From interest rates and central bank policy to natural disasters, the fundamentals are a dynamic mix of distinct plans, erratic behaviors and unforeseen events. That said, not every development will move a country's currency. Try to start by identifying the most influential contributors to this mix versus following every fundamental out there.

The Forex market is driven by a number of fundamentals, including interest rates and the prices of commodities such as gold and oil.

- **Rising interest rates strengthen that country's currency**

A common way to think about interest rates is how much it's going to cost to borrow money, whether how much we pay for our mortgages or how much we earn on our bond and money market investments. Interest rate policy is a key driver of currency prices and is a popular trading strategy for new currency traders.

Fundamentally, if a country raises its interest rates, its currency prices will strengthen because the higher interest rates attract more foreign investors. This leads to a stronger currency because of the increased investment. However, raises in interest rate can also cause the currency to go down because it may reduce the purchase power of the country's residents.

Thus, interest rates must be weighed against the purchase power of the country.

For example, higher rates in the Euro zone may prompt U.S. investors to sell U.S. dollars and buy bonds in Euros. Similarly, if interest rates increase in Switzerland, those investors may decide to sell their Euro-bonds and move into bonds in Swiss francs (CHF), driving Euros down and Swiss francs up.

- **When gold goes up, the USD goes down (and vice versa)**

Historically, gold is a "safe haven", a country-neutral investment and an alternative to the world's other reserve currency, the U.S. dollar. That means gold prices have an inverse relationship to the USD, offering several ways for currency traders to take advantage of that relationship.

For example, if gold breaks an important price level, you'd expect gold to move higher. With this in mind, you might sell dollars and buy Euros, for example, as a proxy for higher gold prices.

- **Rising gold prices help major gold producers**

Australia is the world's third largest exporter of gold, and Canada is the third largest producer worldwide. These two major currencies tend to strengthen as gold prices rise. You might consider going long these currencies when gold is increasing in value, or trade your GBP or JPY for these currencies when gold is on the rise.

- **Oil-dependent countries weaken as oil prices rise**

Just as airlines and other oil-dependent industries are hurt by rising oil prices, so are the currencies of oil-dependent countries like the U.S. or Japan, both of which are massively dependent on foreign oil.

If you believe oil prices will continue to rise, you can consider buying commodity-based economies like Australia or Canada or selling oil-dependent currencies. (USD or JPY)

### **Economic Indicators: a currency's vital signs:**

Economic indicators are snippets of financial and economic data published regularly by governmental agencies and the private sector. These statistics help market observers monitor the economy's pulse - so it's no surprise that they're religiously followed by almost everyone in the financial markets.

With so many people poised to react to the same information, economic indicators have tremendous potential to generate volume and to move prices. It might seem like you need an advanced economics degree to parse all this data accurately - but in fact traders need only keep a few simple guidelines in mind to making trading decisions based on this data.

Traders can measure the economic health of a given country (and its currency) through its economic indicators - but, just like a doctor monitoring a patient's vital signs, not all stats count equally. Here's a primer of the key economic indicators that often impact currency traders.

Economic indicators divide into leading and lagging indicators:

- **Leading indicators** are economic factors that change **BEFORE** the economy starts to follow a particular trend. They're used to **predict** changes in the economy.
- **Lagging indicators** are economic factors that change **AFTER** the economy has already begun to follow a particular trend. They're used to **confirm** changes in the economy.

## Major Economic Indicators

### ○ **Gross Domestic Product (GDP)**

The sum of all goods and services produced either by domestic or foreign companies. GDP indicates the pace at which a country's economy is growing (or shrinking) and is considered the broadest indicator of economic output and growth.

It reflects the standard of living and it is the main indicator of how healthy a country is financially.

- **Industrial Production**

It is a leading indicator of economic health. Production reacts quickly to ups and downs in the business cycle and is correlated with consumer conditions such as employment levels and earnings.

A chain-weighted measure of the change in the production of the nation's factories, mines and utilities, industrial production also measures the country's industrial capacity and how fully it's being used (**capacity utilization**). The manufacturing sector accounts for one-quarter of the major currencies' economies, so it's critical to watch the health of factories and whether their capacity is being maximized.

- **Purchasing Managers Index (PMI)**

The National Association of Purchasing Managers (NAPM), now called the Institute for Supply Management, releases a monthly composite index of national manufacturing conditions. The index includes data on new orders, production, supplier delivery times, backlogs, inventories, prices, employment, export and import orders. It is divided into manufacturing and non-manufacturing sub-indices. (below 50 indicates decrease)

- **Producer Price Index (PPI)**

Measures average changes in selling prices received by domestic producers in the manufacturing, mining, agriculture, and electric utility industries. The PPI most often used for economic analysis

are those for finished goods, intermediate goods, and crude goods.

It is a leading indicator of consumer inflation. When manufacturers charge more for goods, the higher costs are usually passed on to the consumer.

- **The retail sales reports**

The retail sales reports of a country (or region) can give us insight about the resident's spending powers. These reports will tell you the total amount spent in retail stores throughout that country. High sales are an indicator of a strong economy which will likely have a surging currency.

- **Consumer Price Index (CPI)**

Measures the average price level paid by urban consumers (80% of the population in major currency countries) for a fixed basket of goods and services. It reports price changes in over 200 categories. The CPI also includes various user fees and taxes directly associated with the prices of specific goods and services.

Consumer prices account for a majority of overall inflation. Inflation is important to currency valuation because rising prices lead the central bank to raise interest rates out of respect for their inflation containment mandate

- **Durable Goods**

Durable Goods Orders measures new orders placed with domestic manufacturers for immediate and future delivery of factory hard goods. A durable good is a product that lasts over three

years, during which its services are extended. Companies and consumers sometimes put off purchases of durable goods during tough economic times - so this figure is a useful measure of certain kinds of customer demand.

- **Employment Cost Index (ECI)**

Payroll employment is a measure of the number of jobs at larger companies in more than 500 industries in all 50 U.S. states and 255 metropolitan areas. ECI counts the number of paid employees working part-time or full-time in the nation's business and government establishments.

- **Unemployment Rate**

A nation's unemployment rate is highly indicative of its economic health. A high unemployment rate is also likely to affect the retail sales reports as well.

- **Housing Starts**

It measures the number of residential units on which construction is begun each month. A "start" refers to excavation of the foundation of a residential home. Housing is usually one of the first sectors to react to interest rate changes. Significant reaction of start/permits to changing interest rates signals interest rates are nearing trough or peak. To analyze, focus on the percentage change in levels from the previous month. Report is released around the middle of the following month.

While these economic aspects can help predict Forex trading, traders must always be aware of the larger picture. The economy of a nation can quickly change based on other fundamental as-

pects, such as a natural disaster or changes to government policies. But just looking at fundamental policies is also unwise because nations typically follow trends. For example, a tsunami in a country could cause its economy to falter for some time but, over the long run, the technical analysis may be correct in that the nation's currency will stabilize.

### ❖ **Mark your economic calendars**

Know exactly when each economic indicator will be released. You can find these calendars at the [New York Federal Reserve Bank's](#) site. Watching the economic calendar not only helps you consider trades around these events, it helps explain otherwise unanticipated price actions during those periods. Consider this scenario: it's Monday morning and the USD has been in a tailspin for 3 weeks, with many traders' short USD positions as a result. On Friday, however, U.S. employment data is scheduled to be released. If that report looks promising, traders may start unwinding their short positions before Friday, leading to a short-term rally in USD through the week.

### ❖ **What does this data mean for the economy?**

You need not understand every nuance of each data release, but you should try to grasp key, large-scale relationships between reports and what they measure in the economy. For example, you should know which indicators measure the economy's growth (gross domestic product, or GDP) versus those that measure inflation (PPI, CPI) or employment strength (non-farm payrolls).

### ❖ **Not all economic indicators can move markets**

The market often pays more attention to certain indicators under certain conditions - and that focus can change over time. For ex-

ample, if prices (inflation) are not a crucial issue for a given country, but its economic growth is problematic, traders may pay less attention to inflation data and focus on employment data or GDP reports.

### ❖ **Watch for the unexpected**

Often the data itself may not be as important as whether or not it falls within market expectations. If a given report differs widely and unexpectedly from what economists and market pundits were anticipating, market volatility and potential trading opportunities may result.

At the same time, be careful of pulling the trigger too quickly when an indicator falls outside expectations. Each new economic indicator release contains revisions to previously released data.

### ❖ **Don't get caught up in details**

While your macroeconomics professor may appreciate all the nuances of an economic report, traders need to filter data judiciously for their own purposes: making intelligent trading decisions.

For example, many new traders watch the headline of the employment report, assuming that new jobs are key to economic growth. That may be true generally, but in trading terms **non-farm payrolls** is the figure traders watch most closely and therefore has the biggest impact on markets.

Similarly, PPI measures changes in producer prices generally - but traders tend to watch PPI excluding food and energy as a market driver. Food and energy data tend to be much too volatile and subject to revisions to provide an accurate reading on producer price changes.

## ❖ **There are two sides to every trade**

Hopefully this has helped you realize the importance of watching economic indicators - and knowing which data are most likely to move markets and impact currency traders.

Just remember that no trader's knowledge can be complete all the time. You might have a great handle on economic data published in the U.S. - but there are times when data published in Europe or Australia might have surprising impact on your currency market. Doing your homework before trading any currency will help you stay on guard.

### **Technical analysis**

Technical analysis attempts to forecast future price movements by examining past market data. Most traders use technical analysis to get a "big picture" on an investment's price history. Even fundamental traders will glance at a chart to see if they're buying at a fair price, selling at a cyclical top or entering a choppy, sideways market.

Technical analysts make a few key assumptions:

- All market fundamentals are reflected in price data. Moods, differing opinions, and other market fundamentals need not be studied.
- History repeats itself in regular, fairly predictable patterns. These patterns, generated by price movements, are called signals.

A technical analyst's goal is to uncover a current market's signals by examining past market signals.

- Prices move in trends. Technical analysts believe price fluctuations are not random and unpredictable. Once an up, down or sideways trend has been established, it usually will continue for a period.

Technical analysis can add discipline and minimize emotion in your trading plan. It can be hard to screen out fundamental impressions and stick with your entry and exit points as planned, but, technical analysis helps you see your trading plan more objectively and dispassionately.

### **Price chart types**

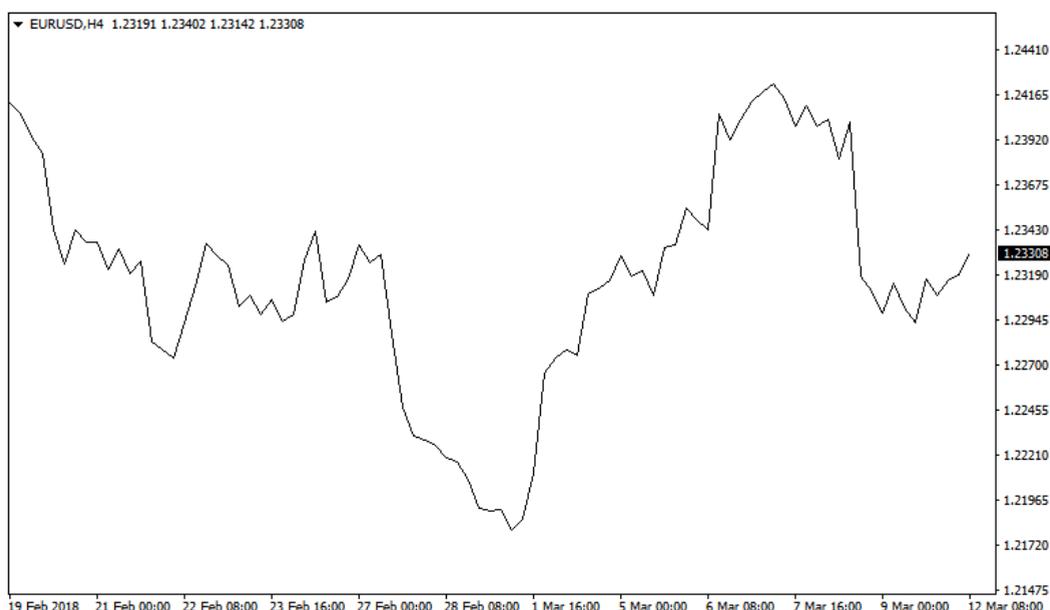
Price charts are graphs that track the changing values of assets in real time. A graphical interface that presents price, volume and technical analysis indicators through a variety of visual interfaces such as line which is also referred to as open-high-low-close (OHLC) - bar, line, candlestick charts, points and figure charts, prosticks, bar and modal, and modal line.

The chart data is presented as a time series and users typically have the ability to view historical data with varying interval (sampling) periods. Interval periods range from seconds through to months; short term traders tend to use frequent interval periods, such as 1 minute i.e. the price data is updated every 1 minute, whereas longer term traders tend to use daily, weekly or monthly interval periods when trying to identify price and technical analysis trends. Some charting packages enable users to draw support and resistance trend line or for example Fibonacci retracements to help establish trending patterns.

## 1. Line charts:

A currency line chart is a line that connects different closing prices. These connected prices show the price trend of a particular currency over a specific time frame. As it simply connects the closing price with a line, just glance at the line chart and you get a feel of the market.

Below is an example of a line chart. Take note that a line chart clearly and simply shows the direction of the trend.



The base of the chart gives the timeline. The right-hand side of the chart shows the currency values that generally run from a little below to a little above the lowest and highest prices reached during the time period specified.

For example, in the EUR/USD chart shown above you can see how the US dollar and Euro have moved against one another during the period for which the chart is plotted. Similarly a forex

chart can be created for any single currency pair like the EUR/USD, USD/JPY and so on plotted over a period of time.

Before you read the chart first select the time frame for the chart as for example a short time scale can help you discern minor trends while a long time scale can help you to see long term trends. When doing forex trading it is best to refer to the charts as published in the trader's platform.

But the problem with line charts is as for example if the market were to move abruptly/dramatically all the line chart shows is the close, which means you could miss out on vital information that is crucial to either making or losing money as a trader. In other words line charts only measure the overall direction of long-term trends (by measuring closing price for a series of periods), and hence are of limited use.

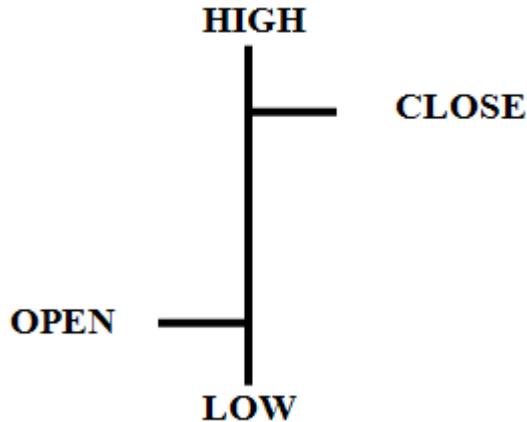
## **2. Bar charts**

It is the most common type of chart showing price action. Each bar represents a period of time - a "period" as short as 1 minute or as long as several years. Over time, bar charts show distinct price patterns.

It displays daily closing price over a specified time period. It shows open, low, high and close price over a specified time period. One vertical line -- or bar--represents the trading range for each trading period (i.e., a day, a week, a month, etc.).

Bar charts are also referred to as "OHLC" charts which is a type of chart typically used to illustrate movements in the price of a financial instrument over time. Each vertical line on the chart shows the price range (the highest and lowest prices) over one unit of time, e.g. one day or one hour. Tick marks project from each side of the line indicating the opening price (e.g. for a daily bar chart this would be the starting price for that day) on the left, and the closing price for that time period on the right. The bars

may be shown in different hues depending on whether prices rose or fell in that period.



- **OPEN:** The horizontal line on the left stands for the opening price of the currency
- **HIGH:** The top point of the vertical line shows the highest price of the currency during that time period
- **LOW:** The bottom point of the vertical line shows the lowest price of the currency during that time period
- **CLOSE:** The horizontal line on the right shows the closing price of the currency.

Essentially a bar chart conveys four key pieces of information for any given time frame. They are the opening price during that time frame; the closing price; the high price; and the low price. As bar charts can be used for all time frames, it could summarize price activity, say over the past minute, hour, day or over the past month. Looking at the chart for example you can figure out when exactly the markets moved quickly.



Bar chart for the currency pair EUR/USD.

Read bar charts from the left side to the right side. The bottom of this vertical bar indicates the lowest traded price for that time period, while the top of the bar indicates the highest traded price. Therefore the individual vertical bars in the chart above by itself indicate the currency pair's trading range as a whole. The horizontal tick on the left side of the bar is the opening price, and the right-side horizontal tick is the closing price for that time period.

In effect they offer more data about the price changes that happen during the bar, not just one point in time as in line charts.

### 3. Candlestick Charts

A candlestick chart is a style of bar-chart used primarily to describe price movements of a security, derivative, or currency over

time. It is a combination of a line-chart and a bar-chart, in that each bar represents the range of price movement over a given time interval. It is most often used in technical analysis of equity and currency price patterns. They appear superficially similar to error bars<sup>1</sup>, but are unrelated.

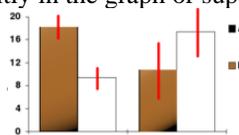
Instead of a simple bar, each candlestick shows the high, low, opening and closing price for that period of time it represents. Candlestick patterns provide greater visual detail as they develop.

Candlestick bars indicate the high-to-low range with a vertical line as in any bar chart. But in candlestick charts, the larger block in the middle indicates the currency price range between the opening and closing prices.

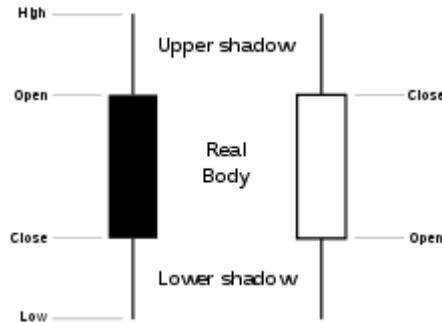
Like bar charts, candlesticks show price movements over time but differ from these in the representation of the bar. Candlesticks have colored "bodies" which represent the range between the opening and closing price for that particular time period. The color represents either the downward or upward movement of price. White bars are "up" days, meaning the closing price is higher than the opening price. Black bars are "down" days, meaning the closing price is lower than the opening price.

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<sup>1</sup> Error bars are a graphical representation of the variability of data and are used on graphs to indicate the error, or uncertainty in a reported measurement. They give a general idea of how accurate a measurement is, or conversely, how far from the reported value the true (error free) value might be. Error bars often indicate one standard deviation of uncertainty, but may also indicate the standard error. These quantities are not the same and so the measure selected should be stated explicitly in the graph or supporting text.



A bar chart with confidence intervals (shown as red lines)



The basic candlestick

Candlesticks are usually composed of the body (black or white), and an upper and a lower shadow (wick): the area between the open and the close is called the real body, price excursions above and below the real body are called shadows. The wick illustrates the highest and lowest traded prices of a security during the time interval represented. The body illustrates the opening and closing trades. If the security closed higher than it opened, the body is white or unfilled, with the opening price at the bottom of the body and the closing price at the top. If the security closed lower than it opened, the body is black, with the opening price at the top and the closing price at the bottom. A candlestick need not have either a body or a wick.

To better highlight price movements, modern candlestick charts (especially those displayed digitally) often replace the black or white of the candlestick body with colors such as red (for a lower closing) and blue or green (for a higher closing).

Traders can use them to track emerging trends in the forex market. On their own, each candlestick provides easy to understand a visual representation of price action; view the information patterns they help traders to predict price movements in the market. Knowing how to identify candlestick formations can help to find potential buy sell trading opportunities.

## EUR/USD candlestick chart.



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. The look of the daily candlestick depends on the link between the day's open, high, low and close prices. For example, if the upper shadow of the red candlestick is short it indicates that the open that day was closer to the high of the day.

In the final analysis candlestick charts serve as a visual aid, and the information you get from them is no different from what you would get from an OHLC bar chart.

The Japanese candlestick chart is another way of displaying market price data, with the opening and closing prices defining a rectangle within the range for each time unit. Both charts show exactly the same data, i.e. the opening, high, low, and closing prices

during a particular time frame. Some traders find the candlestick chart easier to read.

Candlestick formations can be divided into two categories:

1. Continuation candlestick pattern:

It help traders to identify when the market make continue or maintain in already established trend.

2. Reversal candlestick pattern:

It indicates a possible change in recently established trend. While they may not guarantee a complete reversal in the trend, they do highlight a temporary equilibrium between buyers and sellers.

The doji:

It is one of the most significant of the candlestick reversal pattern.

The Doji candlestick has no real body and it occurs when the closing is the same as the opening price. This candlestick signals that the bulls and bears are at a temporary equilibrium in that particular time period. It significant because it represent indecision and uncertainty that will eventually resolved with a new earlier established trend.

The most effective doji candlestick occurs after extended trend in either direction. It alerts the trader to a temporary pause in trend and possibly even all in reversal.

There are various types of doji on its own, but it is considered neutral. However used in conjunction with other candlestick patterns, and technical analysis tools, doji can be one of the most powerful predictors of future price movements.

## 4. Point & Figure Charts

Point and figure is a charting technique used in technical analysis, used to attempt to predict financial market prices. Point and figure charting is unique in that it does not plot price against time as all other techniques do. Instead it plots price against changes in direction by plotting a column of Xs as the price rises and a column of Os as the price falls.

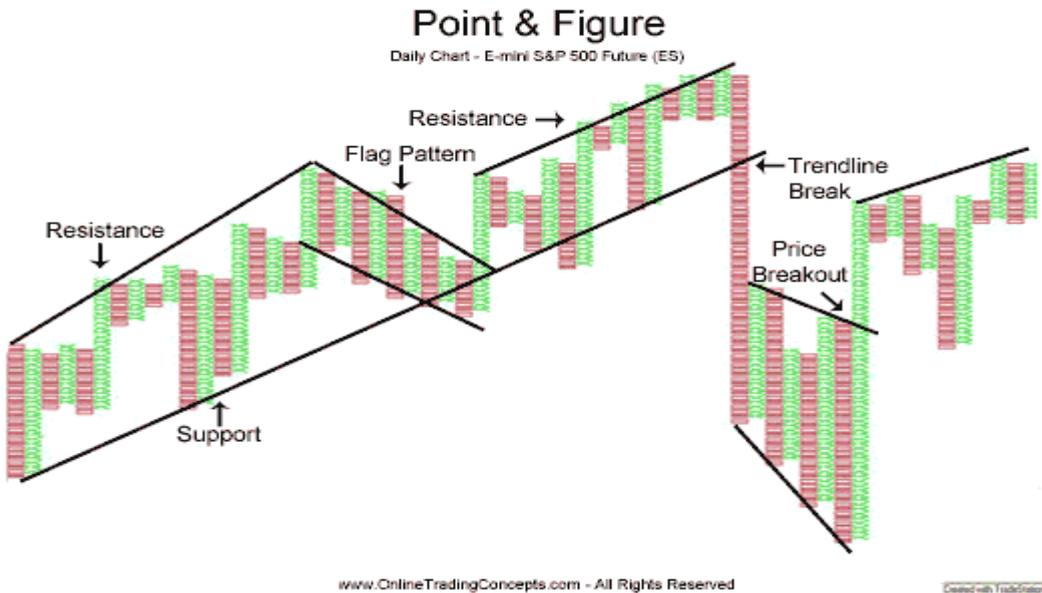
Point & figure patterns resemble bar chart patterns, except Xs and Os are used to mark changes in price direction. Point & figure charts make no use of time scale to associate a certain day with a certain price action.

Point & Figure Charting **reduces the importance of time** on a chart and instead **focuses on price movements**. Point & Figure charts are made up of X's and O's, X's being new highs and O's being new lows. There are two inputs to a Point & Figure chart:

1. **Box Size:** The size of movement required to add an "X" or an "O". For example, a stock at a price of \$20 may have a box size of \$1. This means that an increase from \$20.01 to a high of \$21.34 means another "X" is added. If the high price only increased to \$20.99, then another "X" is not added because the stock didn't close another box size (\$1) more.
2. **Reversal Amount:** The size of reversal before another column is added to a Point & Figure chart. To illustrate, if the reversal amount is \$3, then the \$20 stock would have to fall down to \$17 before a new column (in this example of O's) would be started.

One of the main uses for Point & Figure charts, and the one emphasized in this section, is that Point & Figure charts make it easier for traders to see classic chart patterns. In the chart below of

the E-mini S&P 500 Future, the Point & Figure chart emphasized support and resistance lines as well as areas of price breakouts:



Again, the Point & Figure chart makes it easy for traders to see the double bottom pattern below in the chart of the E-mini S&P 500 Futures contract:

### **5. Prosticks:**

It is a candlestick chart which also includes modal point information. Modal Point is the heaviest traded price of the day.

### **6. Bar and Modal:**

It is a bar chart which also includes modal point information.

### **7. Modal Line:**

It is a line chart which also includes modal point information.

## Triangle chart pattern:

The triangle charts are one of the most common charts pattern used in forex trading, and typically formed when buyers and sellers reach a temporary equilibrium following a significant price trend. Support and resistance levels meet as need as a group can affect for a price change to create a triangle.

Triangle patterns are:

- Ascending triangle:

The ascending triangle is formed when the market makes higher lows and the same level highs. These patterns are normally seen in an uptrend and viewed as a continuation pattern as buying demand gain more and more control, running up to the top resistance line of the pattern. While you normally will see this pattern form in an uptrend, if you do see it in a downtrend it should be paid attention to as it can act as a powerful reversal signal.

It can be easily identify by the flat top and upward sloping bottom. The resistance level is horizontal above and the support is in upward trend.

An ascending triangle suggests a **bullish pattern** as buyers are able to maintain high prices again and again while sellers have not able to maintain lower priced as the low is keep moving up.

Traders often respond to ascending triangle by taking a long position in currency pair above the resistance once the market is broken through (buy) and anticipating that the prices will keep moving higher.

The chart below offers an example of an ascending triangle.



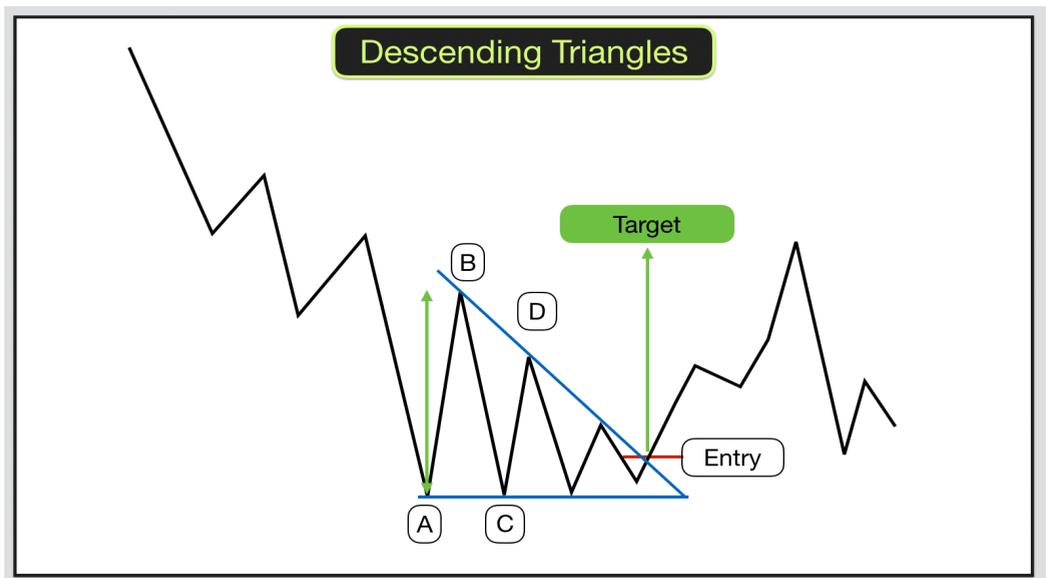
- Descending triangle:

It is the exact opposite of ascending triangle. The support level is horizontal representing the level at which the price cannot breakout of the resistance is made up of a strain of lower prices identifying downward trend.

The descending triangle is formed when the market makes lower highs and the same level lows. These patterns are normally seen in a downtrend and viewed as a continuation pattern as the bears gain more and more control running down to the bottom support line of the pattern. While you normally will see this pattern form in a downtrend, if you do see it in an uptrend it should be paid attention to as it can act as a powerful reversal signal.

Descending triangles are an indication of a **bearish pattern**<sup>2</sup>. Traders may try to take advantage of ascending triangle by taking on a short position below the support once the market is broken through (sell) and anticipating that the price will keep moving lower.

The image below illustrates.



<sup>2</sup> Market sentiment is the general prevailing attitude of investors as to anticipated price development in a market. This attitude is the accumulation of a variety of fundamental and technical factors, including price history, economic reports, seasonal factors, and national and world events. For example, if investors expect upward price movement in the currency market, the sentiment is said to be **bullish**. On the contrary, if the market sentiment is **bearish**, most investors expect downward price movement.

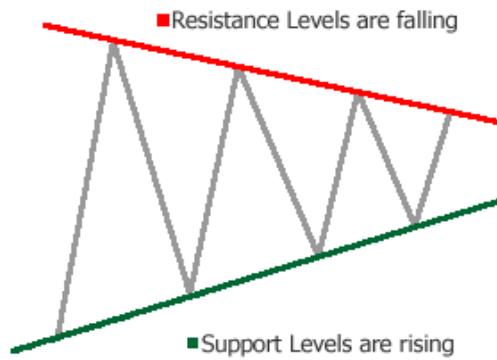


- The symmetrical triangle

The symmetrical triangle is formed when the market makes lower highs and higher lows and is commonly associated with directionless markets as the contraction of the market range indicates that neither the bulls nor the bears are in control. If this pattern forms in an uptrend then it is considered a continuation pattern if the market breaks out to the upside and a reversal pattern if the market breaks to the downside. Similarly if the pattern forms in a downtrend it is considered a continuation pattern if the market breaks out to the downside and a reversal pattern if the market breaks to the upside.

The image below illustrates.

### Symmetrical Triangle (Continuation)



## Technical Indicator Types:

### 1. Trend

Trend indicators smooth price data out, so that a persistent up, down or sideways trend can be easily seen.

#### Moving Averages:

One of the most widely used indicators, moving averages help traders verify existing trends, identify emerging trends, and view overextended trends about to reverse. As the name suggests, these are lines overlaid on a chart that "average out" short-term price fluctuations, so you can see the long-term price trend.

- A simple moving average (**SMA**): weighs each price point over the specified period equally. The trader defines whether the high, low, or close is used, and these price points are added together and averaged, forming a line.

Simple, in other words, arithmetical moving average is calculated by summing up the prices of instrument closure over a certain number of single periods (for instance, 12 hours). This value is then divided by the number of such periods.

$$\text{SMA} = \text{SUM}(\text{CLOSE}, \text{N}) / \text{N}$$

Where: N — is the number of calculation periods.

The average price of a given time period, (5 min., 10 min., daily, etc.). where each of the chosen periods carries the same weight for the average. Example: Day 1 close, USD/JPY 124.00 Day 2 close, 126.00 Day 3 close 125.00. The 4 day SMA is 125.00.

- A weighted moving average: gives more emphasis to the latest data. It smoothes out a price curve, while making the average more responsive to recent price changes.

The first value of this smoothed moving average is calculated as the simple moving average (SMA):

$$\begin{aligned} \text{SUM1} &= \text{SUM}(\text{CLOSE}, N) \\ \text{SMMA1} &= \text{SUM1}/N \end{aligned}$$

The second and succeeding moving averages are calculated according to this formula:

$$\begin{aligned} \text{PREVSUM} &= \text{SMMA}(i - 1) * N \\ \text{SMMA}(i) &= (\text{PREVSUM} - \text{SMMA}(i - 1) + \\ &\text{CLOSE}(i)) / N \end{aligned}$$

Where:

SUM1 — is the total sum of closing prices for N periods

PREVSUM — smoothed sum of previous bar.

SMMA1 — is the smoothed moving average of the first bar.

SMMA(i) — is the smoothed moving average of the current bar (except for the first one).

CLOSE(i) — is the current closing price.

N — is the smoothing period.

The formula can be simplified as a result of arithmetic manipulations:

$$\text{SMMA}(i) = (\text{SMMA}(i - 1) * (N - 1) + \text{CLOSE}(i)) / N$$

- An exponential moving average (**EMA**): weighs more recent price data in a different way. An exponential moving average multiplies a percentage of the most recent price by the previous period's average price.

Exponentially smoothed moving average is calculated by adding the moving average of a certain share of the current closing price

to the previous value. With exponentially smoothed moving averages, the latest prices are of more value. P-percent exponential moving average will look like:

$$\text{EMA} = (\text{CLOSE}(i) * P) + (\text{EMA}(i - 1) * (100 - P))$$

Where:

CLOSE(i) — the price of the current period closure.

EMA(i-1) — Exponentially Moving Average of the previous period closure.

P — the percentage of using the price value.

Here, the averages are calculated with the recent data contributing more to the overall average. For example: In a 10 day moving average, the last 5-10 days have more value than the first 5, as they provide stronger and earlier trend direction.

The most common way to interpreting the price moving average is to compare its dynamics to the price action.

When the instrument price rises above its moving average, a buy signal appears, if the price falls below its moving average, what we have is a sell signal.

This trading system, which is based on the moving average, is not designed to provide entrance into the market right in its lowest point, and its exit right on the peak.

It allows acting according to the following trend: to buy soon after the prices reach the bottom, and to sell soon after the prices have reached their peak.



Moving averages may also be applied to indicators. That is where the interpretation of indicator moving averages is similar to the interpretation of price moving averages:

if the indicator rises above its moving average, that means that the ascending indicator movement is likely to continue: if the indicator falls below its moving average, this means that it is likely to continue going downward.

**Finding the best moving averages and period for your pair:**

It can take a while to find the best combination of moving average and period length for your currency pair. The right combination will make the trend you're looking for clearly visible, as it develops. Finding that optimal fit is called curve fitting.

Usually traders start by comparing a few timeframes for their moving averages over a historical chart. Then you can compare how well and how early each timeframe signaled changes in the price data as they developed, then adjust accordingly.

When you've found a moving average that works well for your currency pair, you can consider this as a line of support for long positions or resistance for short positions.

If prices cross this line, that often signals a currency is reversing course. Here's an example:

Longer-term moving averages define a trend, but shorter-term moving averages can signal its shift faster.

That's why many traders watch moving averages with different time frames at once.

If a short-term moving average crosses your longer-term moving average, it can signal your trend is ending - and time to pare back your position.

## **Moving Average Envelopes Oscillator:**

Moving Average Envelopes consist of a moving average plus and minus a certain user defined percentage deviation.

Moving Average Envelopes serve as an **indicator of overbought or oversold conditions**, visual representations of price trend, and an **indicator of price breakouts**.

The inputs of the Moving Average Envelopes indicator are shared below:

1. **Moving Average:** A simple moving average of both the highs and the lows. (generally 20-period, but varies among technical analysts; also, a person could use only the close when calculating the moving average, rather than two)
2. **Upper Band:** The moving average of the highs plus a user defined percentage increase (usually between 1 & 10%).
3. **Lower Band:** The moving average of the lows minus a user defined percentage (again, usually between 1 & 10%).

A chart of the Nasdaq 100 ETF (QQQQ) shows a 20-day moving average with both a 1% and 2% percentage bands:

## Moving Average Envelopes



### Trend lines:

From a trader's perspective, a trend is a predictable price response at levels of support or resistance that change over time. Trend lines mark these levels, with support acting as the "floor" and resistance as the "ceiling". When prices break through either of these levels that signals a trend for that movement to continue. It's easy to draw perfect trend lines on historical charts - but harder to be right when the trend is still developing. Still trend lines help focus your attention on finding support and resistance levels, the first step to identifying a new trend.

Start by drawing trend lines<sup>3</sup> over longer timeframes (daily or weekly charts) and then carry them forward into shorter

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<sup>3</sup> We need 3 points to draw strong one

timeframes (hourly or 4-hourly). That way you'll highlight the most important support and resistance levels first and not lose the major trend development by chasing a short-term, minor one.

A trend line is formed when you can draw a diagonal line between two or more price pivot points. They are commonly used to judge entry and exit investment timing when trading securities. It can also be referred to a Dutch line as it was first used in Holland.

A trend line is a bounding line for the price movement of a currency. A support trend line is formed when a currency price decreases and then rebounds at a pivot point that aligns with at least two previous support pivot points. Similarly a resistance trend line is formed when a currency price increases and then rebounds at a pivot point that aligns with at least two previous resistance pivot points.



Trend lines on a price chart.

Trend lines are a simple and widely used technical analysis approach to judging entry and exit investment timing. To establish a trend line historical data, typically presented in the format of a chart such as the above price chart, is required. Historically, trend lines have been drawn by hand on paper charts, but it is now more common to use charting software that enables trend lines to be drawn on computer based charts. There are some charting software that will automatically generate trend lines, however most traders prefer to draw their own trend lines.

When establishing trend lines it is important to choose a chart based on a price interval period that aligns with your trading strategy. Short term traders tend to use charts based on interval periods, such as 1 minute (i.e. the price of the security is plotted on the chart every 1 minute), with longer term traders using price charts based on hourly, daily, weekly and monthly interval periods. However, time periods can also be viewed in terms of years.

Trend lines are typically used with price charts; however they can also be used with a range of technical analysis charts such as MACD and RSI. Trend lines can be used to identify positive and negative trending charts, whereby a positive trending chart forms an up sloping line when the support and the resistance pivots points are aligned, and a negative trending chart forms a down sloping line when the support and resistance pivot points are aligned.

Trend lines are used in many ways by traders....

- If a currency price is moving between support and resistance trend lines, then a basic investment strategy commonly used by traders, is to buy a currency at support and sell at resistance, then short at resistance and cover the short at support.

The logic behind this, is that when the price returns to an existing principal trend line it may be an opportunity to open new positions in the direction of the trend, in the belief that the trend line will hold and the trend will continue further.

- A second way is that when price action breaks through the principal trend line of an existing trend, it is evidence that the trend may be going to fail, and a trader may consider trading in the opposite direction to the existing trend, or exiting positions in the direction of the trend.

- **Support/Resistance**

Support and resistance describes the price levels where markets repeatedly rise or fall and then reverse. This phenomenon is attributed to basic supply and demand.

It is arguably one most widely used form of technical support and resistance are price levels that traders use to help them predict future movements in the market. Support and resistance levels are revealed based on prior price action and can identify by drawing trend lines.

- A support level is a price level where the price tends to find support as it is going down. This means the price is more likely to "bounce" off this level rather than break through it. However, once the price has passed this level, by an amount exceeding some noise, it is likely to continue dropping until it finds another support level.

Support levels often referred to as the floor are found at the bottom and either downtrend or price range. Support represents the lowest level to which the price likely to move down in the future.

- A resistance level is the opposite of a support level. It is where the price tends to find resistance as it is going up.

This means the price is more likely to "bounce" off this level rather than break through it. However, once the price has passed this level, by an amount exceeding some noise, it is likely that it will continue rising until it finds another resistance level.

Resistance levels are the top end of either uptrend or price range. Resistance indicates the upper level towards which the price may move in the future. Resistance levels are often referred to as the ceiling.<sup>4</sup>

If a currency price is moving between support and resistance levels, then a basic investment strategy commonly used by traders, is to buy a currency at support and sell at resistance, then short at resistance and cover the short at support as per the following example:



<sup>4</sup> When the trend line touched by a support or resistance. It's a strong trend line

There is no exact science to determine a significant support or resistance levels, but there are markers we can look for to help to determine the significant support or resistance levels...

- Frequency and duration are the key factors in determining the significance of a level.

The more frequencies support and resistance levels are tested, the more significant the levels becomes. The side that gets hit the most often is also the market breaks out from.

- The longer the time frames of a chart, the more significant the price level.

Traders will often base their analysis on longer term charts, then go down to shorter term charts to find ideal entry and exit points. Support and resistance levels will eventually be broken<sup>5</sup>, and when that happens it provides potential trading opportunities in the market. While price levels help traders identify market trends, technical indicators help judge a trend's strength and sustainability.

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<sup>5</sup> Breakout is when prices pass through and stay through an area of support or resistance. On the technical analysis chart a *break out* occurs when price of a stock or commodity exits an area pattern

- **Pivot point**

Pivot point is a price level of significance in technical analysis of a financial market that is used by traders as a predictive indicator and denote levels of technical significance. When used in conjunction with other technical indicators such as support and resistance or Fibonacci, pivot points can be an effective trading tool.

A pivot point is calculated as an average of significant prices (high, low, and close) from the performance of a market in the prior trading period. If the market in the following period trades above the pivot point it is usually evaluated as a bullish sentiment, whereas trading below the pivot point is seen as bearish.

It is customary to calculate additional levels of support and resistance, below and above the pivot point, respectively, by subtracting or adding price differentials calculated from previous trading ranges of the market.

Showing sets of first and second levels of resistance (green) and support (red). The pivot point levels are highlighted in yellow. Trading below the pivot point, particularly at the beginning of a trading period sets a bearish market sentiment and often results in further price decline, while trading above it, bullish price action may continue for some time.

A pivot point and the associated support and resistance levels are often turning points for the direction of price movement in a market. In an up-trending market, the pivot point and the resistance levels may represent a ceiling level in price above which the uptrend is no longer sustainable and a reversal may occur. In a declining market, a pivot point and the support levels may represent a low price level of stability or a resistance to further decline.

Pivot points are used by traders as a predictive indicator and denote levels of technical significance. When used in conjunction with other technical indicators such as support and resistance or Fibonacci, pivot points can be an effective trading tool.

Pivot points are calculated using the high, low and close prices of a previous day, week or month. Three different levels of support and resistance are calculated above and below the pivot point. The three levels of resistance are referred to as R1, R2, and R3 while the three levels of support are referred to as S1, S2, and S3.

- When the current price is trading **above** the daily pivot point, this serves as an indication to initiate long positions.
- Conversely, when the current price is trading **below** the daily pivot point, this serves as an indication to initiate short positions.

The support and resistance levels are used primarily as trade exits. For example, if the market price breaks above the pivot point, R1 and R2 may be used as trade targets. Should the market move to R3, traders may consider exiting the long position and even reversing the position if other technical indicators show a strong reversal trend.

A 15-minute chart of the mini-Dow futures contract and the corresponding floor trader pivots are shown below:

# Floor Trader Pivots

5 Min Chart - mini-Dow Future (YM)



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We calculate Pivot points on daily basis using daily charts and then use those Pivot levels on 15 minute charts - our main charts - where we will look for entries, stops and exits.

We use 15 minute time frame because it allows catching the best entry and exit opportunities. With hourly charts, for example, when the signal is there it is quite often already too late to react / enter.

We know we have to calculate Pivot points every single day, so that each morning we start with new fresh daily Pivot points, calculated from midnight to midnight EST.

## Calculation

Several methods exist for calculating the pivot point (P) of a market. Most commonly, it is the arithmetic average of the high

(H), low (L), and closing (C) prices of the market in the prior trading period:

$$P = (H + L + C) / 3.$$

Sometimes, the average also includes the previous period's or the current period's opening price (O):

$$P = (O + H + L + C) / 4.$$

In other cases, traders like to emphasize the closing price,  $P = (H + L + C + C) / 4$ , or the current periods opening price,  $P = (H + L + O + O) / 4$ .

### **Support and resistance levels**

Price support and resistance levels are key trading tools in any market. Their roles may be interchangeable, depending on whether the price level is approached in an up-trending or a down-trending market. These price levels may be derived from many market assumptions and conventions.

In pivot point analysis, several levels, usually three, are commonly recognized below and above the pivot point. These are calculated from the range of price movement in the previous trading period, added to the pivot point for resistances and subtracted from it for support levels.

The first and most significant level of support ( $S_1$ ) and resistance ( $R_1$ ) is obtained by recognition of the upper and the lower halves of the prior trading range, defined by the trading above the pivot point ( $H - P$ ), and below it ( $P - L$ ). The first resistance on the upside of the market is given by the lower width of prior trading added to the pivot point price and the first support on the down-

side is the width of the upper part of the prior trading range below the pivot point.

- $R_1 = P + (P - L) = 2 \times P - L$
- $S_1 = P - (H - P) = 2 \times P - H$

Thus, these levels may simply be calculated by subtracting the previous low ( $L$ ) and high ( $H$ ) price, respectively, from twice the pivot point value: The second set of resistance ( $R_2$ ) and support ( $S_2$ ) levels are above and below, respectively, the first set. They are simply determined from the full width of the prior trading range ( $H - L$ ), added to and subtracted from the pivot point, respectively:

- $R_2 = P + (H - L)$
- $S_2 = P - (H - L)$

Commonly a third set is also calculated; again representing another higher resistance level ( $R_3$ ) and a yet lower support level ( $S_3$ ). The method of the second set is continued by doubling the range added and subtracted from the pivot point:

- $R_3 = H + 2 \times (P - L)$
- $S_3 = L - 2 \times (H - P)$

This concept is sometimes, albeit rarely, extended to a fourth set in which the tripled value of the trading range is used in the calculation.

Qualitatively, the second and higher support and resistance levels are always located symmetrically around the pivot point, whereas this is not the case for the first levels, unless the pivot point happens to divide the prior trading range exactly in half.

## Trading tool

The pivot point itself represents a level of highest resistance or support, depending on the overall market condition. If the market is directionless (*undecided*), prices will often fluctuate greatly around this level until a price breakout develops. Trading above or below the pivot point indicates the overall market sentiment.

It is a leading indicator providing advanced signaling of potentially new market highs or lows within a given time frame.

The support and resistance levels calculated from the pivot point and the previous market width may be used as exit points of trades, but are rarely used as entry signals. For example, if the market is up-trending and breaks through the pivot point, the first resistance level is often a good target to close a position, as the probability of resistance and reversal increases greatly.

Many traders recognize the half-way levels between any of these levels as additional, but weaker resistance or support areas. The half-way (*middle*) point between the pivot point and  $R_1$  is designated  $M+$ , between  $R_1$  and  $R_2$  is  $M++$ , and below the pivot point the middle points are labeled as  $M-$  and  $M--$ .

- **Fibonacci Studies**

### Fibonacci Retracements

It is a very popular form of technical analysis used by Forex traders. Fibonacci retracement levels are a sequence of numbers discovered by the noted mathematician Leonardo da Pisa in the 12th century. These numbers describe cycles found throughout nature; technical analysts use them to find pullbacks in the currency market.

Fibonacci is a major topic of conversation in the trading community and deserve every technical trader's attention especially in a trade market. When used in conjunction with other technical analysis tools such as support and resistance and candlestick, Fibonacci retracement can be a very effective tool to help identify trade entry and exit points; can help identify potential profit targets in a developing trend.

When any market is in a trend there are available starts and stops. Traders use it to help them to predict possible price target that trending market might be retraced to before continue the original direction.

After a significant price move, up or down, prices often "retrace" most or the entire original move. As prices retrace, support and resistance levels often occur at or near the Fibonacci Retracement levels. For currencies, that means retracements usually happen at 23.6%, 38.2%, 50%, or 61.8% of the previous move.

## Fibonacci ratios:

Fibonacci ratios are mathematical relationships, expressed as ratios, derived from the Fibonacci sequence. The key Fibonacci ratios are 0%, 23.6%, 38.2%, and 100%.

$$F_{100\%} = \left( \frac{1 + \sqrt{5}}{2} \right)^0 = 1$$

The key Fibonacci ratio of 0.618 is derived by dividing any number in the sequence by the number that immediately follows it. *For example: 8/13 is approximately 0.6154, and 55/89 is approximately 0.6180.*

$$F_{61.8\%} = \left( \frac{1 + \sqrt{5}}{2} \right)^{-1} \approx 0.618034$$

The 0.382 ratio is found by dividing any number in the sequence by the number that is found two places to the right. *For example: 34/89 is approximately 0.3820.*

$$F_{38.2\%} = \left( \frac{1 + \sqrt{5}}{2} \right)^{-2} \approx 0.381966$$

The 0.236 ratio is found by dividing any number in the sequence by the number that is three places to the right. *For example: 55/233 is approximately 0.2361.*

$$F_{23.6\%} = \left( \frac{1 + \sqrt{5}}{2} \right)^{-3} \approx 0.236068$$

The 0 ratio is :

$$F_{0\%} = \left( \frac{1 + \sqrt{5}}{2} \right)^{-\infty} = 0$$

### Other ratios

The 0.764 ratio is the result of subtracting 0.236 from the number 1.

$$F_{76.4\%} = 1 - \left( \frac{1 + \sqrt{5}}{2} \right)^{-3} \approx 0.763932$$

The 0.786 ratio is :

$$F_{78.6\%} = \left( \frac{1 + \sqrt{5}}{2} \right)^{-\frac{1}{2}} \approx 0.786151$$

The 0.500 ratio is derived from dividing the number 1 (second number in the sequence) by the number 2 (third number in the sequence).

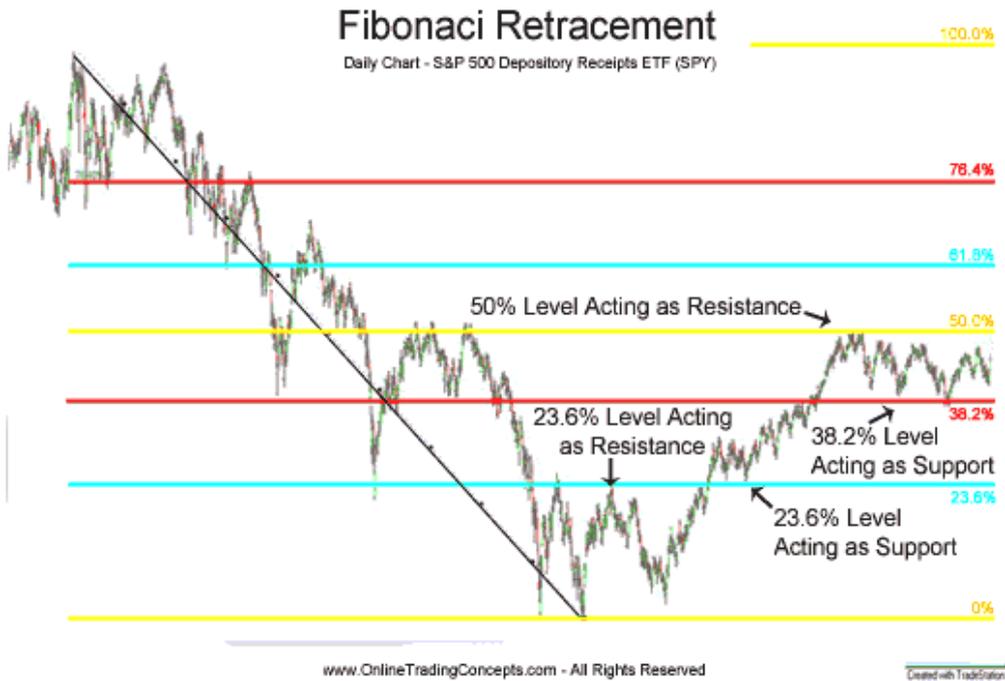
$$F_{50\%} = \frac{1}{2} = 0.500000$$

Fibonacci Retracements are displayed by selecting two extreme points, for example, a trough and opposing peak. A series of three horizontal lines are drawn intersecting the trend line at the Fibonacci levels of 38.2%, 50%, 61.8%, after a significant price move (either up or down), prices will often retrace a portion (if not all) of the original move. As prices retrace, support and resistance levels often occur at or near the Fibonacci Retracement levels.

For the examples of this section, the S&P 500 Depository Receipts (SPY) will be used based on the logic that the S&P 500 is a broad measure of human nature, thus the Fibonacci sequence should apply very well. Nevertheless, the Fibonacci sequence is applied to individual stocks, commodities, and forex currency pairs quite regularly. The chart above shows the 38.2% retracement acting as support for prices.

Note that a trendline was drawn from a significant low (beginning of trend) to a significant high (end of trend); the trading software calculated the retracement levels.

The chart below of the SPY's shows that Fibonacci Retracements can be used to retrace downtrend moves as well:



Notice after the bottom in the S&P 500, that price rallied to the 23.6% retracement level and then was promptly rejected downwards. After breaking resistance a few months later, the 23.6% retracement became support .

Price rallied up to the 50% retracement level, where it ran up against resistance. Price continued to fluctuate between the 38.2% retracement level (acting as support) and the 50% retracement level (acting as resistance). There are many other Fibonacci tools available to stock, Forex, or futures traders

### Fibonacci Projection:

Fibonacci Projection calculation needs a total of 3 points. The first two points are used to calculate the distance of the first move, while the third point is the starting position of the projection. The purpose of Fibonacci Projections is to estimate where the current move may end (Some of the lines may not be visible because they will be off the scale).

- **Parabolic SAR**

Parabolic SAR Technical Indicator was developed for analyzing the trending markets. The indicator is constructed on the price chart. This indicator is similar to the Moving Average Technical Indicator with the only difference that Parabolic SAR moves with higher acceleration and may change its position in terms of the price.

The indicator is below the prices on the bull market (Up Trend), when it's bearish (Down Trend), it is above the prices.

If the price crosses Parabolic SAR lines, the indicator turns, and its further values are situated on the other side of the price. When such an indicator turn does take place, the maximum or the minimum price for the previous period would serve as the starting point. When the indicator makes a turn, it gives a signal of the trend end (correction stage or flat), or of its turn.

The Parabolic SAR is a useful indicator for providing exit points. Long positions should be closed when the price sinks below the SAR line, short positions should be closed when the price rises above the SAR line.

It is often the case that the indicator serves as a trailing stop line. If the long position is open (i.e., the price is above the SAR line), the Parabolic SAR line will go up, regardless of what direction the prices take.

The length of the SAR line movement depends on the scale of the price movement.



### Calculation:

$$\text{SAR}(i) = \text{SAR}(i-1) + \text{ACCELERATION} * (\text{EPRICE}(i-1) - \text{SAR}(i-1))$$

Where:

SAR(i-1) — is the value of the indicator on the previous bar.

ACCELERATION — is the acceleration factor;

EPRICE(i-1) — is the highest (lowest) price for the previous period (EPRICE=HIGH for long positions EPRICE=LOW for short positions).

The indicator value increases if the price of the current bar is higher than previous bullish and vice versa.

The acceleration factor (ACCELERATION) will double at the same time, which would cause Parabolic SAR and the price to come together. In other words, the faster the price grows or sinks, the faster the indicator approaches the price.

- **Ichimoku Kinko Hyo Oscillator (ICH):**

The full name of Ichimoku analysis reveals its relative simplicity and utility. Ichimoku Kinko Hyo translates into “one glance equilibrium chart” and is also frequently translated as “one glance cloud chart,” referring to the singular feature of Ichimoku charts, the cloud. At its most basic level, Ichimoku is a moving average-based trend identification system, so traders inclined toward moving averages should find it readily Comprehensible. Ichimoku is also primarily a longer-term, strategic trade identifier and is best used with daily and weekly inputs, as opposed to intraday periods. But Ichimoku is more powerful than typical moving average systems, as it factors in time as a critical complement to price action, implicitly recognizing that trends have both a time and price component.

#### Guide to using Ichimoku Clouds

The **Ichimoku Cloud** is a form of technical analysis that was developed by a Tokyo newspaper writer in the 1960’s. The benefits of Ichimoku is that the cloud patterns (more on that later) give you an instant idea on trend and direction in the markets. It uses moving averages to define support and resistance zones, identifies trend and direction and also helps to gauge momentum of price action.

Ichimoku Kinko Hyo Technical Indicator is predefined to characterize the market Trend, Support and Resistance Levels, and to generate signals of buying and selling. This indicator works best at weekly and daily charts.

What makes Ichimoku so useful for traders is that it not only uses the cloud to define support and resistance but it also uses the Kijun, Tenkan and Chikou lines that are very similar to moving

averages and can help to provide bullish or bearish forward indicators.

Sometimes beginners can ignore the cloud, but this is a mistake. Although Ichimoku analysis may look complex, once you grasp the basic concepts associated with using the indicator it is relatively simple to use.

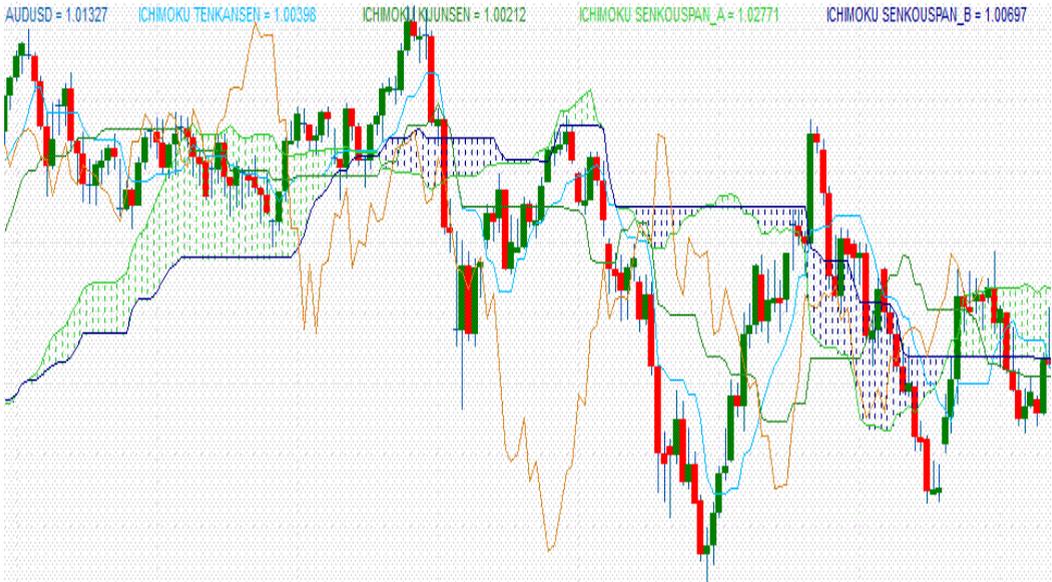
## **Learning the Cloud**

Initially, start off by learning the names associated with the indicator:

- Senkou Span A:  $(\text{tankan} + \text{Kijun})/2$ , pushed 26 periods ahead and top of cloud.
- Senkou Span B:  $(\text{highest high} + \text{lowest low})/2$ , for the previous 52 periods, pushed 26 periods ahead and base of cloud.
- Tenkan line: 9 period EMA
- Kijun line: 26 period EMA
- Chikou line: Today's closing price plotted 26 periods behind.

The top and the base of the cloud act as support and resistance, but the cloud itself also determines trend: above the cloud is considered a bullish signal, below the cloud is bearish and within the cloud there is no prevailing trend.

## *Ichimoku Cloud*



*Source: FOREX Trader PRO*

The tankan and Kijun lines are also useful support and resistance levels and they can be used to determine bullish or bearish signals and their associated strengths.

### **Bullish Signals using Ichimoku analysis:**

#### **Strong**

- Price action is above the cloud
- Tenkan crosses above the kijun line and it must occur above the cloud
- Chikou is also above the cloud

## Medium

- Price action is still above the cloud
- Tenkan crosses above the kijun but this time it occurs in the cloud
- Chikou is above the cloud

## Weak

- If price action is below the cloud and if none of the above occurs then the signal could be weak, for example, if the tenkan crosses below the kijun when it is above the cloud even if the chikou line is above the cloud it suggests the bullish trend may be weakening.

Example: strong bullish signal



Source: FOREXTrader PRO

## **Bearish Signals using Ichimoku analysis:**

### **Strong**

- Price action is below the cloud
- Tenkan crosses below the kijun line and it occurs below the cloud
- Chikou is below the cloud

### **Medium**

- Price action is below the cloud
- Tenkan crosses below the kijun and it occurs in the cloud
- Chikou is below the cloud

### **Weak**

- If none of the above occurs then the signal could be weak, for example: tenkan crosses over kijun from above and it occurs below the cloud and the chikou is below the cloud, but price action is above the cloud.

*Example: strong bearish signal*



*Source: FOREX Trader PRO*

## 2. Strength

Strength indicators describe the intensity of market opinion on a certain price by examining the market positions taken by various market participants. Open interest or Volume are the basic ingredients of strength indicators.

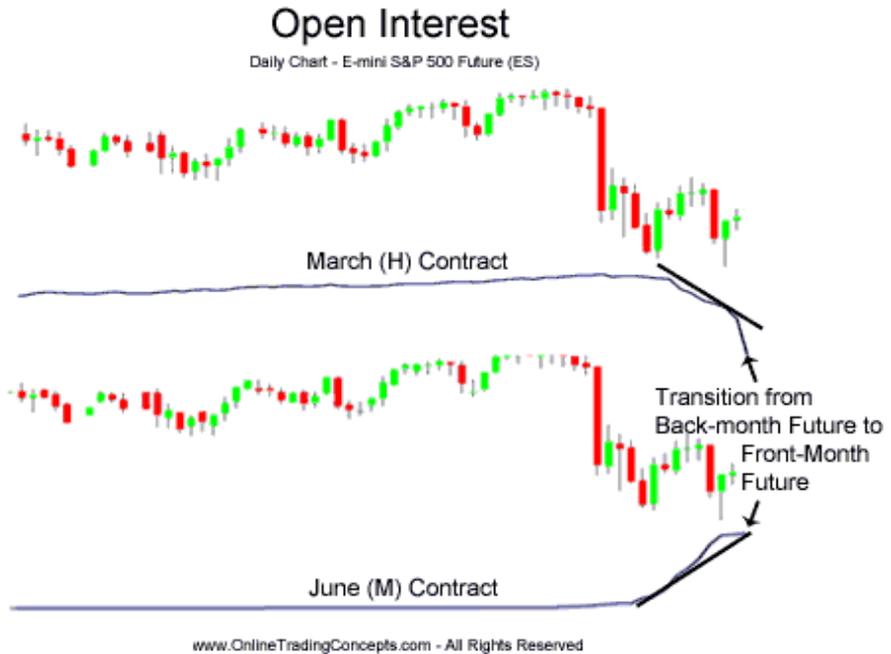
### Open Interest (OI):

Open Interest (OI) is the number of contracts outstanding in the marketplace. Open Interest only applies to futures and option contracts.

**Changes in open interest either confirm price action or acts as a warning of a potentially weakening trend.**

A hypothetical situation is given next to help grasp the concept of Open Interest:

- A new futures contract expiration month is opened for trading. Currently, no one has bought or sold a futures contract.
- A trader (Trader #1) buys a futures contract, but in order for this to happen, someone has to sell that trader the future. Therefore, for every buyer there is an equal and opposite seller (Trader #2). When this transaction occurs, the open interest is increased from zero to one. There is now *one* contract outstanding in the marketplace.
- Trader #3 decides to sell a future and subsequently another trader (Trader #4) has to buy that futures contract; therefore, open interest is now at *two*.



- Trader #1 goes to the marketplace and sells his/her futures contract. Trader #3 decides to buy back his/her short future. After the transaction takes place, Trader #1 no longer owns a futures contract. Similarly, Trader #3 no longer owns a futures contract. Effectively, the marketplace has one less futures contract outstanding. The open interest went down to *one*.

Generally open interest increases over the life of the futures contract (note: futures contracts expire, same with options). When futures contract months or quarters transition from one month or quarter to the next month or quarter, the future closest to expiration (called the "front month") decreases in open interest and the next futures contract (called the "back month") increases. This is shown with the chart of the E-mini S&P 500 Futures contract above.

The chart above of the E-mini S&P 500 Futures contract shows both the March S&P 500 future and the June S&P 500 future as the futures near March expiration. Note how the March and June

futures contract open interest rises steadily over time; this is normal over the life of a futures contract.

Also note the dramatic decrease in the open interest of the March S&P future as the contract is nearing expiration. In contrast, note the dramatic increase of the June S&P futures contract as futures traders "roll over" their futures positions to the next futures expiration contract (June).

Learning about Open Interest is important, but using it to help futures or options trading is better.

Interpreting Open Interest:

Open Interest is a helpful tool in analyzing the strength of a price move. There are four main interpretations of Open Interest:

- If **price increases** and **Open Interest increases**, then their is **strength** behind the price move higher.
- If **price decreases** and **Open Interest increases**, then their is **strength** behind the price move lower.
- If **price increases** and **Open Interest decreases**, then their is **weakness** behind the price move higher.
- If **price decreases** and **Open Interest decreases**, then their is **weakness** behind the price move lower.

The chart below of the Dow Jones Industrial Average mini-Dow futures contract illustrates two examples of price increases with corresponding increases in open interest:



In the chart above of the mini-Dow future, there is a strong increase in price with an equally bullish strong increase in open interest.

Notice that after the first sharp run up, open interest decreased during the price retracement. There was not much strength behind the price decrease.

The second strong bullish green candle occurred with a sharp increase in open interest, a strong bullish signal that price increases will probably occur in the future.

Analyzing Open Interest is a helpful tool in an options or futures trader's toolbox for determining the strengths and weaknesses of price trends.

## Volume:

Volume is one of the most important technical analysis tools to learn and understand how to apply to price movements. Volume increases every time a buyer and seller transact their currency or futures contract.

Volume has two major premises:

1. When prices rise or fall, an increase in volume is strong confirmation that the rise or fall in price is real and that the price movement had strength.
2. When prices rise or fall and there is a decrease in volume, then this is interpreted as being a weak price move, because the price move had very little strength and interest from traders.

The chart below of Gold futures shows a strong trend being confirmed by a strong increase in volume:



The chart above of Gold shows that when prices began making new highs, volume increased. As the price of Gold increased, more and more buyers (buying pressure) jumped on board.

Likewise, if prices are heading downward and are making new lows and volume increases, the sellers are becoming more and more interested as price falls (increased selling pressure).

### **Importance of Volume when Analyzing Price Movements:**

The following is an extreme illustration of the importance of volume:

- A buyer places a market buy order after hours for 10 shares of stock. The transaction occurs one dollar above the closing price. Therefore, the one dollar price move had 10 shares worth of interest from a buyer.
- A buyer places a buy order for 100,000 shares of stock. This transaction takes place at a price that is one dollar above the current price.

Which example is more bullish? They both increase the last transaction price by one dollar. If a trader didn't use volume, he/she would think that the move was identical from a price chart perspective. Of course, the second example is more bullish because the one dollar more the buyer of the 100,000 shares is willing to pay is significant (the buyer is bullish and is taking a large bet to prove it); whereas, in the second example, 10 shares is insignificant.

Increases or decreases in price along with increased volume isn't always confirming of trend

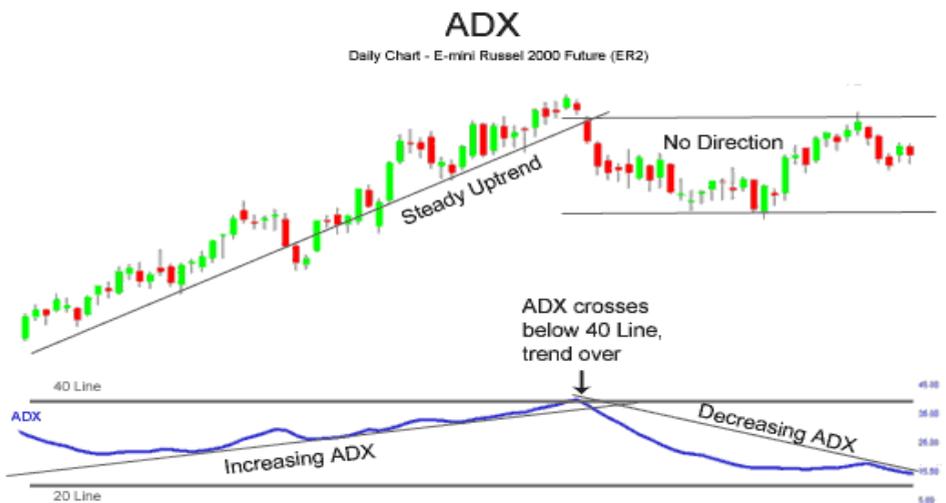
## Average Directional Index (ADX) :

It is an indicator of trend strength in a series of prices of a financial instrument developed by J. Welles Wilder. ADX has become a widely used indicator for technical analysts, and is provided as a standard in collections of indicators offered by various trading platforms.

The Average Directional Movement Index (ADX) technical analysis indicator describes when a market is trending or not trending. When combined with the DMI+ plus and DMI- minus the ADX can generate buy and sell signals. The ADX minimizes the guesswork in spotting trends and helps confirm trend line analysis.

However, the **main purpose of the ADX is to determine whether a stock, future, or currency pair is trending or is in a trading range.**

Determining which mode a market is in is helpful because it can guide a trader to which other technical analysis indicators to use. The chart of the E-mini Russell 2000 Index Futures contract below shows an excellent example of the ADX in action:



ADX Shows Trend Strength. The first concept to remember is that the direction that the ADX moves doesn't depend upon the direction of the underlying currency. All the ADX shows is the trend strength.

1. Strong upward trend of currency = Increasing ADX
2. Strong downward trend = Increasing ADX

As can be referenced from the chart of the E-mini Russell 2000 Index Futures contract above, when the e-mini future was rising in a strong upward trend, the ADX indicator was rising. When the e-mini futures contract moved into a non-directional consolidation phase, the ADX decreased.

### **ADX is a Great Complement to Other Technical Indicators:**

The ADX is so popular because determining whether a stock, commodity, or currency market is trending or not trending can help a trader avoid the pitfalls of some indicators.

### **Moving Averages:**

Moving averages and their variants are effective during trending markets; however, during consolidation periods when prices go up and down, but in no direction, moving average indicators have a tendency to give numerous false buy and sell signals that add up to trading losses.

During trending markets, use moving averages, trend lines, and other trend following technical indicators.

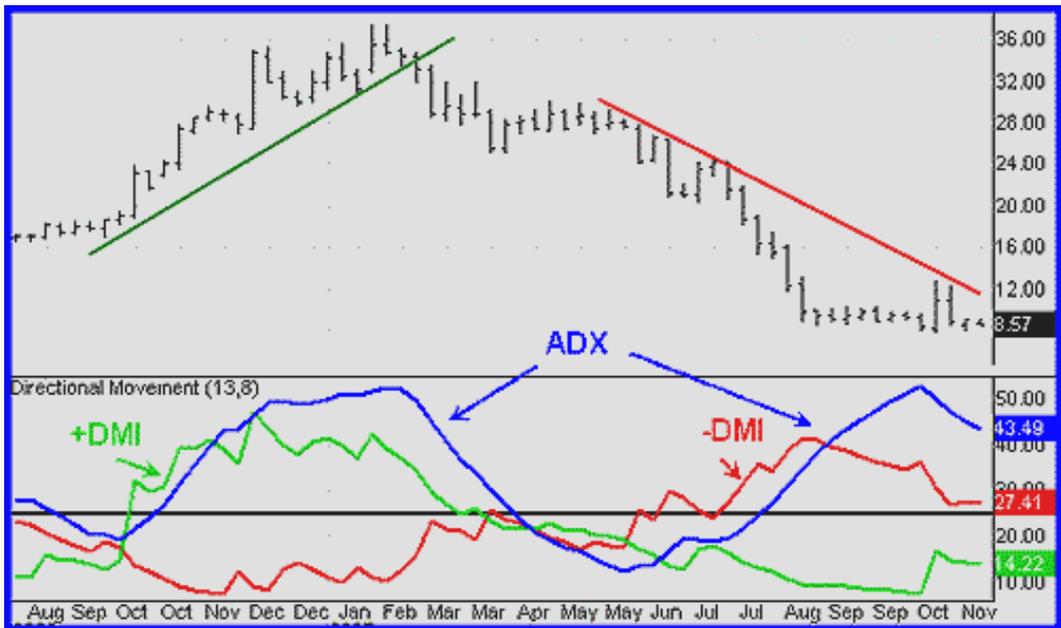
### **Oscillators**

Oscillators are extremely effective in non-trending markets. Buying low and selling high is accomplished quite readily with oscillators.

Unfortunately, during trending markets, oscillators perform quite poorly, often selling short during a bull market run or buying during a bear market downtrend, adding up to large losses. For periods of non-trending, use oscillators like Stochastic Fast & Slow, RSI, or Williams %R and other range-bound indicators like Bollinger Bands or Moving Average Envelopes.

The ADX does not indicate trend direction, only trend strength. It is a lagging indicator; that is, a trend must have established itself before the ADX will generate a signal that a trend is underway.

Generally, ADX readings below 20 indicate trend weakness, and readings above 40 indicate trend strength. An extremely strong trend is indicated by readings above 50.



Source: TDAmeritrade Strategy Desk



## Directional Movement:

Part of the ADX indicator, the Directional Movement Index (DMI) consists of two lines, the **DMI plus line (DMI+)** and the **DMI minus line (DMI-)**, which generate buy and sell signals. Plus Directional Movement (+DM) and Minus Directional Movement (-DM) form the backbone of the Average Directional Index (ADX).

Wilder determined directional movement by comparing the difference between two consecutive lows with the difference between the highs.

- Directional movement is positive (plus) when the current high minus the prior high is greater than the prior low minus the current low. This so-called Plus Directional Movement (+DM) then equals the current high minus the

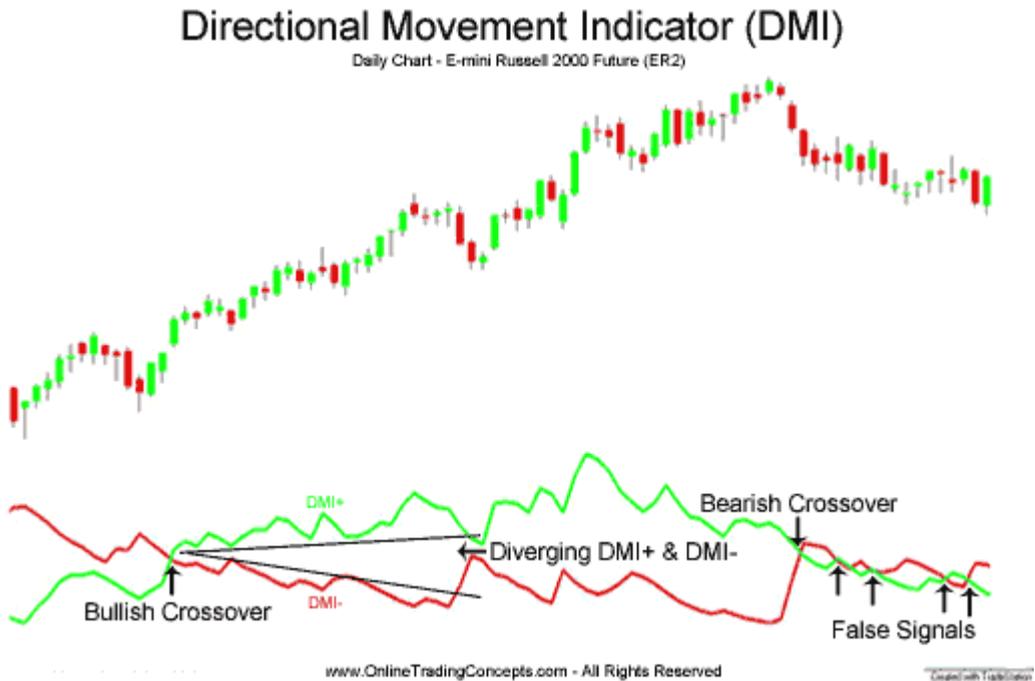
prior high, provided it is positive. A negative value would simply be entered as zero.

- Directional movement is negative (minus) when the prior low minus the current low is greater than the current high minus the prior high. This so-called Minus Directional Movement (-DM) equals the prior low minus the current low, provided it is positive. A negative value would simply be entered as zero.

The chart above shows four calculation examples for directional movement. The first pairing shows a big positive difference between the highs for a strong Plus Directional Movement (+DM). The second pairing shows an outside day with Minus Directional Movement (-DM) getting the edge. The third pairing shows a big difference between the lows for a strong Minus Directional Movement (-DM). The final pairing shows an inside day, which amounts to no directional movement (zero). Both Plus Directional Movement (+DM) and Minus Directional Movement (-DM) are negative and cancel out each other. Negative values revert to zero. All inside days will have zero directional movement.

Wilder recommends following the "extreme point rule" to confirm the signals. Note the extreme point for that period in the direction of the crossover (the high if DMI+ crosses up over DMI-; the low if DMI- crosses up over DMI+). Only if that extreme point is breached in the subsequent period is a trade signal confirmed.

The chart below of the E-mini Russell 2000 Future shows an example of the DMI:



**DMI Bullish Crossover Buy Signal:**

When the DMI+ crosses above the DMI-.

**DMI Bearish Crossover Sell Signal:**

When the DMI- crosses below the DMI+.

Note: The **DMI crossovers can generate many false signals**, other indicators should be used for confirmation of the DMI crossovers.

The Average Directional Movement Index (ADX) is an important addition to the DMI+ and DMI- indicators. In fact, the ADX is calculated using both DMI lines

### Calculation:

The ADX is a combination of two other indicators developed by Wilder, the positive directional indicator (abbreviated +DI) and negative directional indicator (-DI). The ADX combines them and smooth the result with an exponential moving average.

To calculate +DI and -DI, one needs price data consisting of high, low, and closing prices each period (typically each day). One first calculates the directional movement (+DM and -DM):

$$\begin{aligned}\text{Up Move} &= \text{today's high} - \text{yesterday's high} \\ \text{Down Move} &= \text{yesterday's low} - \text{today's low}\end{aligned}$$

If Up Move > Down Move and Up Move > 0, then +DM = Up Move, else +DM = 0

If Down Move > Up Move and Down Move > 0, then -DM = Down Move, else -DM = 0

After selecting the number of periods (Wilder used 14 days originally), +DI and -DI are:

- +DI = 100 times exponential moving average of +DM divided by average true range
- -DI = 100 times exponential moving average of -DM divided by average true range

The exponential moving average is calculated over the number of periods selected, and the average true range is an exponential average of the true ranges. Then:

$$\text{ADX} = 100 \text{ times the exponential moving average of the absolute value of } (+DI - -DI) \text{ divided by } (+DI + -DI)$$

Variations of this calculation typically involve using different types of moving averages, such as a weighted moving average or an adaptive moving average.

### **Quantifying Trend Strength:**

ADX values help traders to identify the strongest and most profitable trends to trade. The values are also important for distinguishing between trending and non-trending conditions.

Many traders will use ADX readings above 25 to suggest that the trend's strength is strong enough for trend trading strategies. Conversely, when ADX is below 25, many will avoid trend trading strategies. Low ADX is usually a sign of accumulation or distribution. When ADX is below 25 for more than 30 bars, price enters range conditions and price patterns are often easier to identify. Price then moves up and down between resistance and support to find selling and buying interest, respectively. From low ADX conditions, price will eventually break out into a trend.

Below, we see the E-mini Russell 2000 Futures contract, but here the e-mini future is in a downtrend, a strong downtrend. Note that the ADX is rising even though the price of the e-mini future is falling.

# ADX

Daily Chart - E-mini Russel 2000 Future (ER2)



## Interpreting the ADX

- **Below 20:** Non-trending market.
- **Crosses above 20:** Signal that a trend might be emerging; consider initiating buy or sell short in direction of prevailing stock, future, or currency price movement.
- **Between 20 & 40:** If ADX is increasing between 20 and 40, then it is further confirmation of emerging trend. Long (buy) or short (sell) in the direction of the current market direction.

Avoid using oscillator technical indicators and use trend following indicators like moving averages.

- **Above 40:** Very strong trend.
- **Crosses above 50:** Extremely strong trend.
- **Crosses above 70:** "Power Trend"; very rare occurrence

## **Strategic Use of ADX:**

Price is the single most important signal on a chart. Read price first, and then read ADX in the context of what price is doing. When any indicator is used, it should add something that price alone cannot easily tell us.

For example, the best trends rise out of periods of price range consolidation. Breakouts from a range occur when there is a disagreement between the buyers and sellers on price, which tips the balance of supply and demand. Whether it is more supply than demand, or more demand than supply, it is the difference that creates price momentum.

Breakouts are not hard to spot, but they often fail to progress or end up being a trap. But ADX tells you when breakouts are valid by showing when ADX is strong enough for price to trend after the breakout. When ADX rises from below 25 to above 25, price is strong enough to continue in the direction of the breakout.

Conversely, it is often hard to see when price moves from trend to range conditions. ADX shows when the trend has weakened and is entering a period of range consolidation. Range conditions exist when ADX drops from above 25 to below 25.

In a range, the trend is sideways and there is general price agreement between the buyers and sellers. ADX will meander sideways under 25 until the balance of supply and demand changes again

ADX gives great strategy signals when combined with price. First, use ADX to determine whether prices are trending or non-trending, and then choose the appropriate trading strategy for the condition.

In trending conditions, entries are made on pullbacks and taken in the direction of the trend. In range conditions, trend trading

strategies are not appropriate. However, trades can be made on reversals at support (long) and resistance (short).

### **Conclusion: Finding Friendly Trends:**

The best profits come from trading the strongest trends and avoiding range conditions.

ADX not only identifies trending conditions, it helps the trader find the strongest trends to trade. The ability to quantify trend strength is a major edge for traders.

ADX also identifies range conditions, so a trader won't get stuck trying to trend trade in sideways price action. In addition, it shows when price has broken out of a range with sufficient strength to use trend trading strategies. ADX also alerts the trader to changes in trend momentum, so risk management can be addressed. If you want the trend to be your friend, you'd better not let ADX become a stranger.

Many traders use the parabolic indicator along with the ADX to identify a trend's end. The parabolic indicator follows the price action but accelerates its own rate of increase over time and in response to the trend. The parabolic continually closes in on the price, and only a steadily accelerating price rise (the essence of a trend) will prevent the price from falling below the parabolic, signaling an end to the trend.

### **ADX Quick Summary:**

➤ **Trading with ADX indicator involves the following signals:**

- ADX staying below 20 level — there is no trend or the trend is weak.

- ADX moving above 20 level — trend is strong.
- ADX passing 40 level — trend is extreme
- ADX value rising — trend is going stronger
- ADX falling — trend is weakening.
- +DI stays on top of -DI — uptrend is in place.
- -DI stays on top of +DI — downtrend is in place.
- Two DI cross — trend is changing.

➤ **Trading with ADX looks as follows:**

- If ADX traded below 20 - there is no trend or the trend is weak, thus non-trend-following strategies should be used, otherwise losses may occur as a result of false signals and whip-saws taking place. An example of non-trend-following method is channel trading.
- If ADX is traded above 20 but below 40, it is time to apply trend following methods. An example would be: Forex trading Moving averages or trading with Parabolic SAR indicator.
- When ADX reaches 40 level, it suggests an overbought/oversold (depending on the trend) situation on the market and it is time to protect some profits of at least move Stop loss order to a break even.
- When ADX passes 40 level, it is a good time to begin collecting profits gradually scaling out of the trades on rallies and sell-offs and protecting remaining positions with trailing stops.
- ADX +/- DI lines are used for spotting entry signals. All +/- DI crossovers are disregarded while ADX remains below 20. Once ADX peaks above 20 a buy signal occur when +DI

(green) crosses upwards and above -DI (red) A sell signal will be the opposite: +DI would cross -DI downwards. If after a newly created signal another opposite crossover happens within a short period of time, the original signal should be disregarded and position protected soon or closed.

- ADX indicator is never traded alone, but rather in combination with other indicators and tools. ADX indicator most of the time gives much later signals comparing to faster reacting moving averages crossover or Stochastic, for example, however reliability of ADX indicator is much higher than for other indicators in traders' toolkit, which makes it a valuable tool for many Forex traders
- And just one more idea to test out: When ADX rises above 20 for the first time and then goes flat for some time, there is believed to be a new trend being born and the reason for ADX being currently flat is because market reacts to this new trend formation by making first initial correction. During this correction it is a good time to initiate new orders.

### **Volatility (VOLA):**

Volatility" refers to the magnitude of day-to-day price fluctuations, whatever their directional trend. Changes in volatility tend to anticipate changes in prices. Measures the overall volatility of a given market, time period

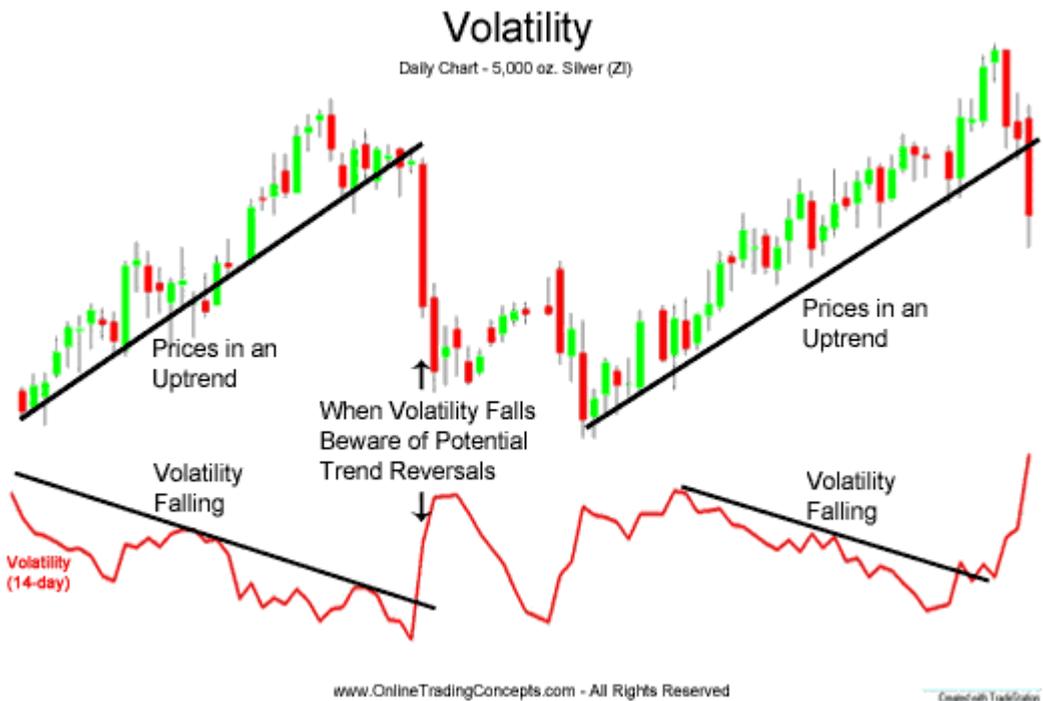
Volatility Measures the overall volatility of a given market or time period.

The Volatility technical indicator is helpful in seeing potential market reversals. This Volatility indicator based on the true range of price is based on the premise:

- **Strong trends upward** are marked by **decreases in volatility**.

- **Strong trends downward** show a general **increase in volatility**.
- **Reversals** in trend usually occur when **volatility increases**.

The chart below of the 5,000 ounce Silver futures contract illustrates the first point, that strong trends usually have low volatility:



as the price in silver future was increasing, the volatility was steadily decreasing. The change in trend was characterized by increased volatility.

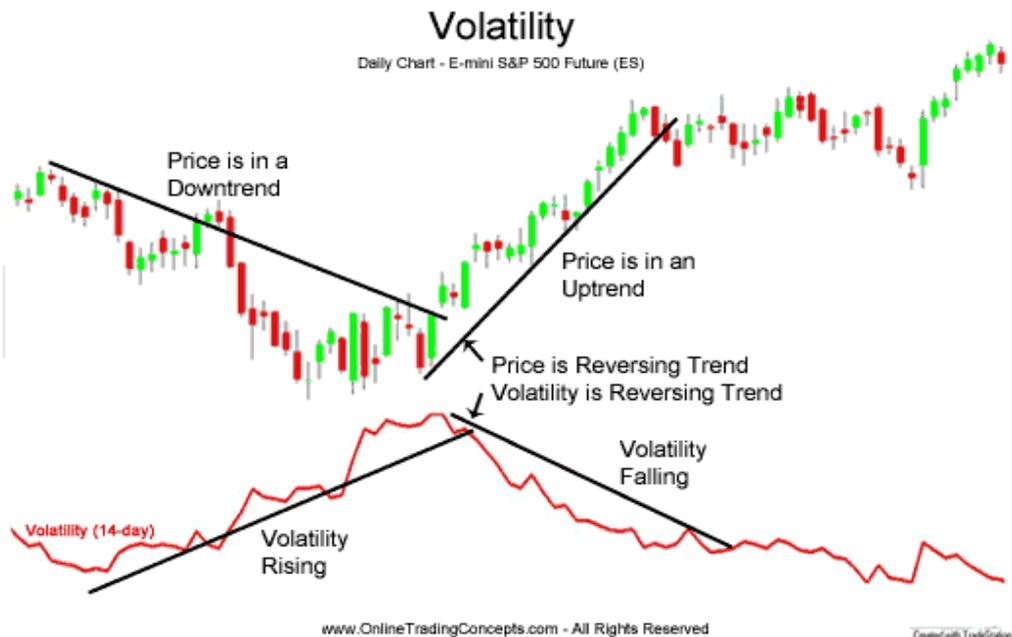
## Bottom Reversal:

When prices bottom, they are usually accompanied by increased volatility.

An increase in the volatility indicator after a recent decline, could signal that the price is bottoming. Exiting or reducing the size of short positions might be a good strategy. Other indicators would be used to determine when to enter a long position.

Due to the general inverse relationship of volatility and price, the volatility indicator can prove helpful in determining strong and potential price bottoms.

The chart below of the S&P 500 Emini Futures contract shows an example of how bottoms are usually marked by increases in volatility:



## **Standard Deviation**

Standard Deviation — value of the market volatility measurement. This indicator describes the range of price fluctuations relative to Simple Moving Average.

So, if the value of this indicator is high, the market is volatile, and prices of bars are rather spread relative to the moving average. If the indicator value is low, the market can be described as having a low volatility, and prices of bars are rather close to the moving average.

Normally, this indicator is used as a constituent of other indicators. Thus, when calculating Bollinger Bands, the user will have to add the symbol standard deviation value to its Moving Average.

### **Calculation:**

$$\text{StdDev} = \text{SQRT} (\text{SUM} (\text{CLOSE} - \text{SMA} (\text{CLOSE}, \text{N}), \text{N})^2) / \text{N}$$

Where:

SQRT — square root;

SUM (... , N) — sum within N periods;

SMA (... , N) — Simple Moving Average having the period of N;

N — calculation period.

## **Commodity Channel Index (CCI):**

Commodity Channel Index Technical Indicator (CCI) measures the deviation of the commodity price from its average statistical price. High values of the index point out that the price is unusually high being compared with the average one, and low values show that the price is too low. In spite of its name, the Commodity Channel Index can be applied for any financial instrument, and not only for the wares.

There are two basic techniques of using Commodity Channel Index:

### **Finding the divergence:**

A divergence appears when a price reaches a new maximum. The Commodity Channel Index cannot grow above the previous maximums. This classical divergence is normally followed by the price correction.

### **As an indicator of overbuying/overselling**

Commodity Channel Index usually varies in the range of  $\pm 100$ . Values above +100 inform about overbuying state (and about a probability of correcting decay), and the values below 100 inform about the overselling state (and about a probability of correcting increase).



## Calculation:

1. To find a Typical Price. You need to add the HIGH, the LOW, and the CLOSE prices of each bar and then divide the result by 3.

$$TP = (HIGH + LOW + CLOSE) / 3$$

2. To calculate the n-period Simple Moving Average of typical prices.  $SMA(TP, N) = \text{SUM}[TP, N] / N$

3. To subtract the received  $SMA(TP, N)$  from Typical Prices.  $D = TP - SMA(TP, N)$

4. To calculate the n-period Simple Moving Average of absolute D values.  $SMA(D, N) = \text{SUM}[D, N] / N$

5. To multiply the received  $SMA(D, N)$  by 0,015.  $M = SMA(D, N) * 0,015$

6. To divide M by D  $CCI = M / D$

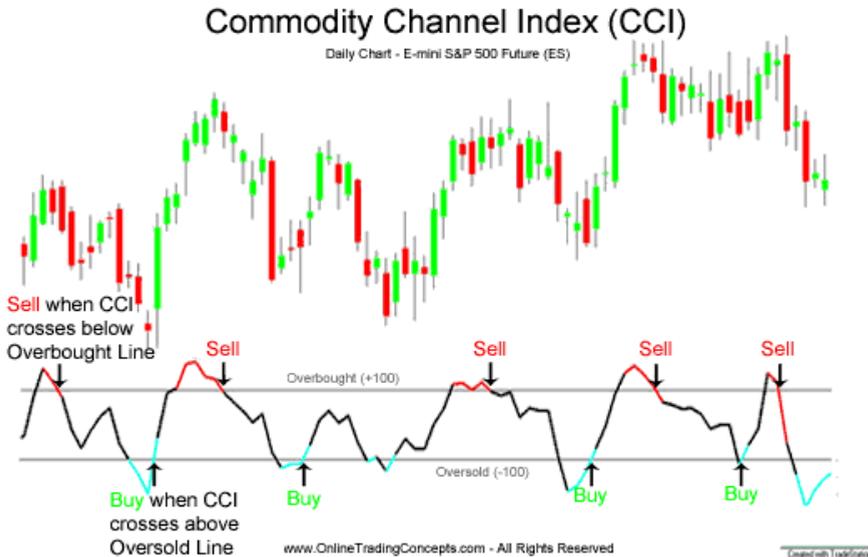
Where: SMA — Simple Moving Average;

N — number of periods, used for calculation.

The Commodity Channel Index (CCI) is a very popular indicator that gives easy to use **buy and sell signals**; the CCI also is used to **identify overbought and oversold areas** of price action.

The CCI is calculated so that roughly 75% of price movement should be between +100 (overbought) and -100 (oversold).

An example of how to use the CCI for buy and sell signals is given below in the chart of the E-mini S&P 500 Futures contract:



### Commodity Channel Index Buy Signal

1. Commodity Channel Index (CCI) is **below oversold line (-100)**.
2. CCI then **crosses above the oversold line**.

### Commodity Channel Index Sell Signal

1. Commodity Channel Index (CCI) is **above overbought line (+100)**.
2. CCI then **crosses below the overbought line**.

The Commodity Channel Index (CCI) is an ever popular technical analysis tool signaling overbought and oversold conditions that lead to easily interpreted buy and sell signals

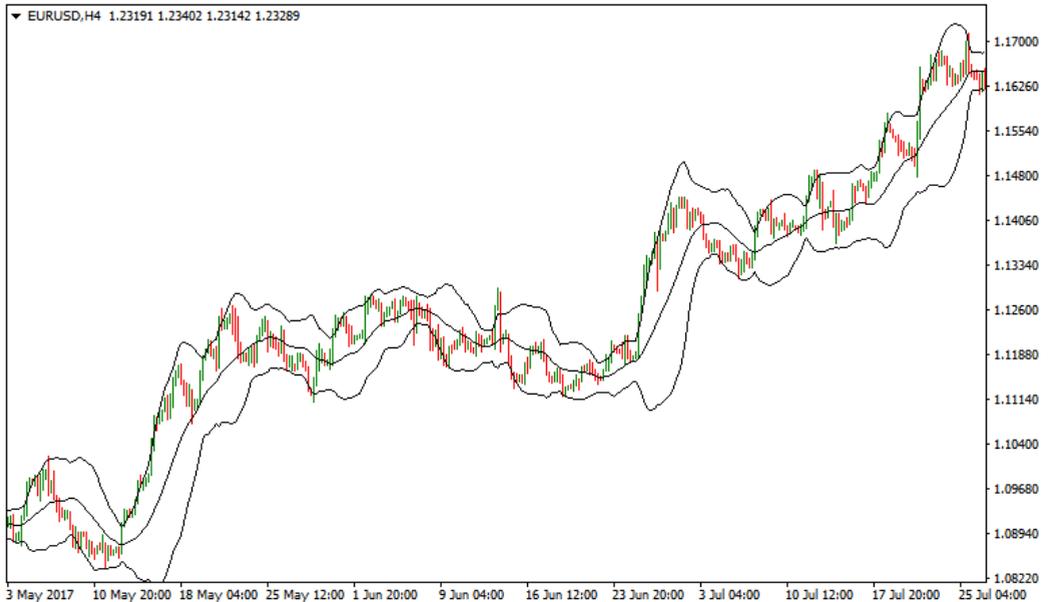
## Bollinger Bands (BB) or(BOLL):

Bollinger Bands are volatility curves used to identify extreme highs or lows in price. Bollinger Bands establish "bands" around a currency's moving average, using a set number of standard deviations around the moving average. When the markets become more volatile, the bands widen and they contract during less volatile periods.

Bollinger Bands Bollinger Bands often indicate that prices tend to stay within the upper and lower bands. A distinctive characteristic of Bollinger Bands is that the spacing between the bands varies upon the price volatility. During periods of extreme price changes (i.e., high volatility), the bands widen to become more forgiving. During periods of stagnant pricing (i.e., low volatility), the bands narrow to contain prices. The bands are plotted two standard deviations above and below a simple moving average. They indicate a "sell" when above the moving average and a "buy" when below it.

The bands are used in conjunction with other analyses, including RSI, MACD, CC and Rate of Change.

Touching a high or low band doesn't necessarily mean an immediate trend reversal. Bollinger Bands adjust dynamically as volatility changes, so touching the band just means prices are extremely volatile. Use Bollinger Bands with other indicators to determine the trend's strength.



The following traits are particular to the Bollinger Band:

- Abrupt changes in prices tend to happen after the band has contracted due to decrease of volatility.
- If prices break through the upper band, a continuation of the current trend is to be expected.
- If the pikes and hollows outside the band are followed by pikes and hollows inside the band, a reverse of trend may occur.
- The price movement that has started from one of the band's lines usually reaches the opposite one. The last observation is useful for forecasting price guideposts.

### **Calculation:**

Bollinger bands are formed by three lines. The middle line (ML) is a usual Moving Average.

$$ML = \text{SUM} [\text{CLOSE}, N]/N$$

The top line, TL, is the same as the middle line a certain number of standard deviations (D) higher than the ML.

$$TL = ML + (D * StdDev)$$

The bottom line (BL) is the middle line shifted down by the same number of standard deviations.

$$BL = ML - (D * StdDev)$$

Where: N — is the number of periods used in calculation; SMA — Simple Moving Average; StdDev = Standard Deviation.

$$StdDev = \sqrt{\frac{\sum[(CLOSE - SMA(CLOSE, N))^2, N]}{N}}$$

It is recommended to use 20-period Simple Moving Average as the middle line, and plot top and bottom lines two standard deviations away from it.

### Keltner Channels:

It is a volatility-based 'envelope' indicator that measures price movement in relation to the upper and lower moving-average band.

Keltner channel is a technical analysis indicator showing a central moving average line plus channel lines at a distance above and below. The indicator is named after Chester W. Keltner (1909-1998) who described it in his 1960 book *How To Make Money in Commodities*. But this name was applied only by those who heard about it from him, Keltner called it the Ten-Day Moving Average Trading Rule and indeed made no claim to any originality for the idea.

**A chart of gold futures illustrates a Keltner Channel with a 20-day moving average and an average true range multiplier of 1.5:**

# Keltner Channel

Daily Chart - 100 oz. Gold (ZG)



In Keltner's description the centre line is a 10-day simple moving average of *typical price*, where typical price each day is the average of high, low and close,

$$\text{typical price} = \frac{\text{high} + \text{low} + \text{close}}{3}$$

The lines above and below are drawn a distance from that centre line, a distance which is the simple moving average of the past 10 days' trading ranges (i.e. range high to low on each day).

The trading strategy is to regard a close above the upper line as a strong bullish signal, or a close below the lower line as strong bearish sentiment, and buy or sell with the trend accordingly, but perhaps with other indicators to confirm.

The origin of this idea is uncertain. Keltner was a Chicago grain trader and perhaps it was common knowledge among traders of

the day. Or in the 1930s as a young man Keltner worked for Ralph Ainsworth (1884-1965) back tested trading systems submitted when Ainsworth offered a substantial prize for a winning strategy, so it could have been among those. But ideas of channels with fixed-widths go back to the earliest days of charting, so perhaps applying some averaging is not an enormous leap in any case.

There are numerous, sometimes contradictory, ways to interpret the Keltner Channel. The first method is price breakouts outside of the Keltner Channel.

### **Keltner Channel Buy Signal**

When price closes above the upper band, buy.

### **Keltner Channel Sell Signal**

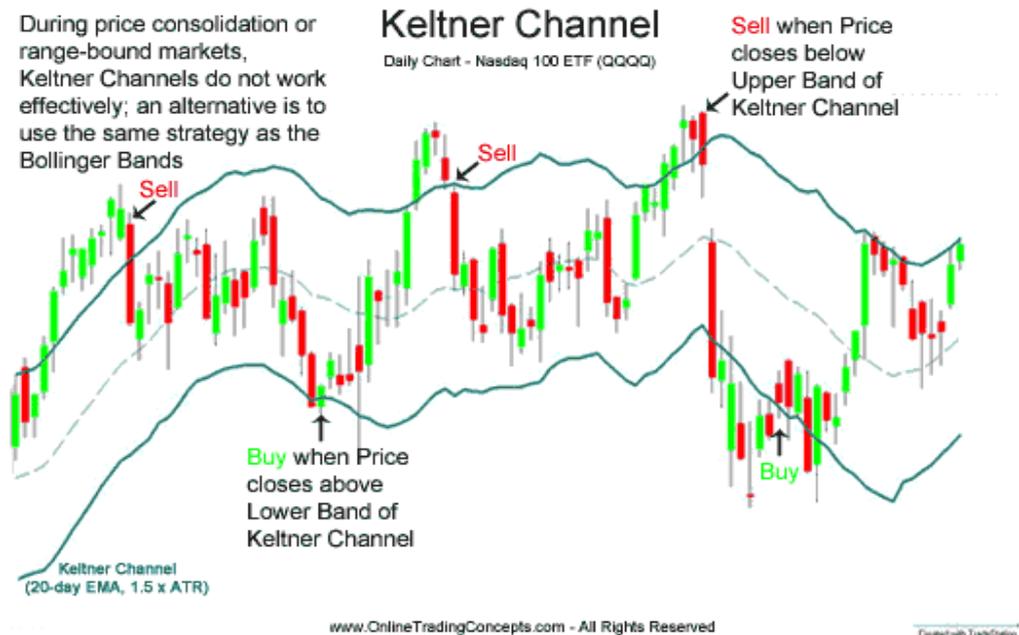
When price closes below the lower band, sell.

Keltner Channels are sometimes interpreted the opposite way. Keltner Channel overbought and over sold:

The Keltner Channel breakout methodology works great during the transition from range-bound, trendless markets to uptrends or downtrends.

However, during those actual trendless market periods, buying breakouts can be costly. During trendless periods, using the Keltner Channel as an overbought/oversold indicator can prove profitable.

**The chart below of the Nasdaq 100 ETF (QQQQ) shows an example of a trendless market:**



### **Keltner Channel Oversold Buy Signal**

When there is a price breakout below the lower Keltner Channel band, wait until the price closes back inside the Keltner Channel. By waiting for a close back inside the Keltner Channel, a trader usually can avoid getting caught in a true Keltner Channel downside breakout.

### **Keltner Channel Overbought Sell Signal**

With a price breakout above the upper Keltner Channel band, it may be advisable to wait until the price closes back inside the Keltner Channel. When a trader waits for a close back inside the Keltner Channel, that trader can usually avoid large losses by not getting caught in a true Keltner Channel breakout to the upside.

When combined with other technical analysis indicators, Keltner Channels can be a helpful tool in a trader's arsenal.

## **Average True Range (ATR)**

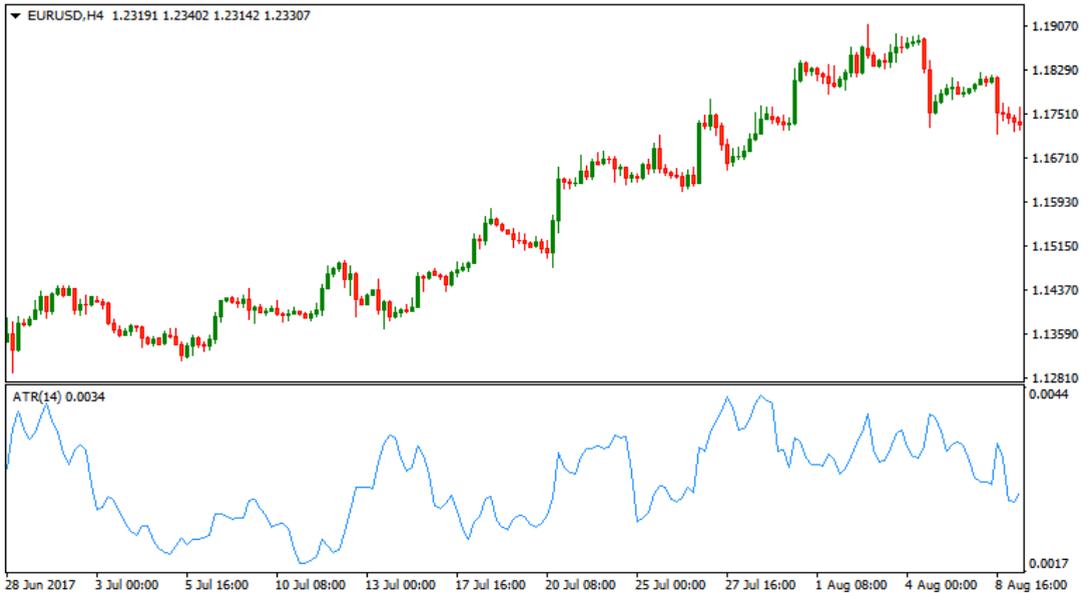
Average True Range (ATR) is a market volatility index developed and described by W. Wilder in his book "New concepts of the technical trading systems".

True Range is the greatest among three following volumes:

- The difference between the top and the bottom of the current bar;
- The difference between the close of the previous bar and the top of the current bar;
- The difference between the close of the previous bar and the low of the current bar.

Average True Range (ATR) is the moving average of the true range values.

Average True Range can often reach a high value at the bottom of the market after a sheer fall in prices occasioned by panic selling. Low values of the indicator are typical for the periods of sideways movement of long duration which happen at the top of the market and during consolidation. Average True Range can be interpreted according to the same principles as other volatility indicators.



## The Average True Range (ATR)

### **Calculation:**

True Range is the greatest of the following three values:

- Difference between the current maximum and minimum (high and low);
- Difference between the previous closing price and the current maximum;
- Difference between the previous closing price and the current minimum.

The indicator of Average True Range is a moving average of values of the true range.

Average True Range (ATR) oscillator analysis basics:

- The greater the oscillator value, the greater the possibility for trend reversal.
- The smaller the value the weaker the trend.

### **Stoller Average Range Channels (STARC):**

STARC bands are comprised of three lines. The center line is a short-term simple moving average (SMA). The upper line is the same SMA plus the value of the average true range (ATR) for that product. The lower line is calculated as the ATR subtracted from the same SMA value of that product. The ATR value is usually multiplied by two before being added or subtracted from the upper and lower bands. The interpretation and calculation of these bands are similar to Bollinger Bands.

### **3. Cycle**

Cycle indicators indicate repeating market patterns from recurrent events such as seasons or elections. Cycle indicators determine the timing of a particular market pattern. (Example: Elliott Waves)

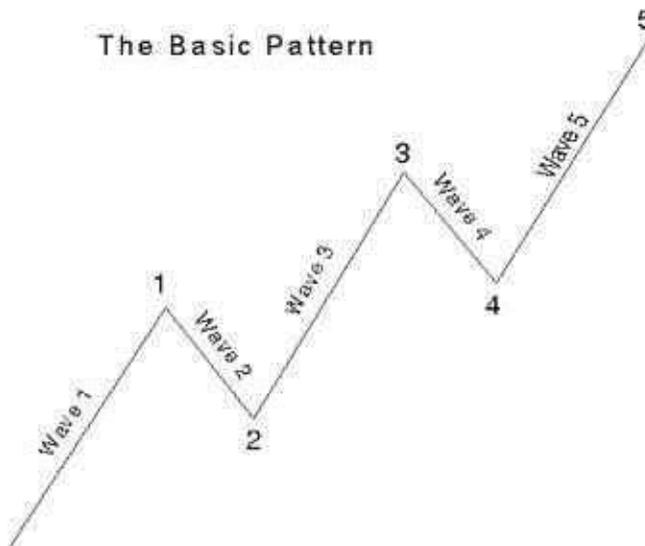
#### **Elliott Waves:**

The Wave Principle is Ralph Nelson Elliott's discovery that social, or crowd, behavior trends and reverses in recognizable patterns. Elliott discovered that the ever-changing path of stock market prices reveals a structural design that in turn reflects a basic harmony found in nature.

From this discovery, he developed a rational system of market analysis. Elliott isolated 13 patterns of movement, or “waves,” that recur in market price data and are repetitive in form but not necessarily repetitive in time or amplitude. He named, defined and illustrated the patterns. These patterns are Elliott waves.

These Elliott waves link together to form larger versions of those same patterns. They, in turn, link to form identical patterns of the next larger size, and so on. The result is the illustration you see below:

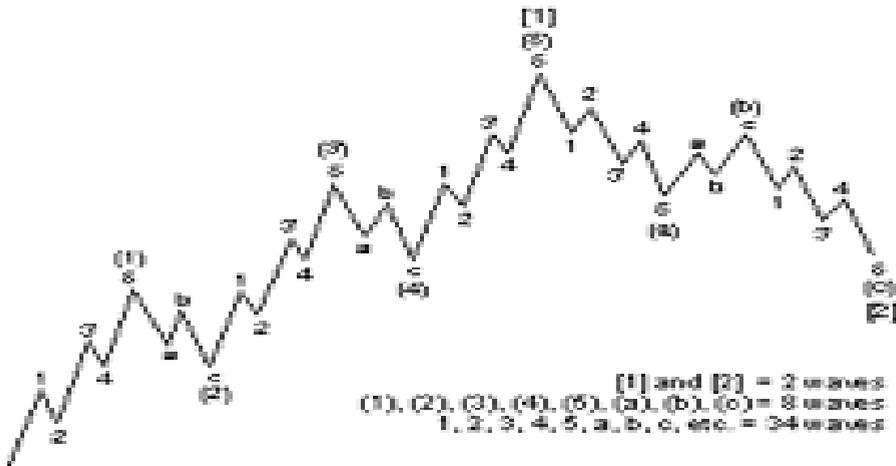
In markets, progress ultimately takes the form of five Elliott waves of a specific structure. As you can see below in the most basic Elliott wave structure, waves (1), (3) and (5) actually affect the directional movement. Waves (2) and (4) are countertrend interruptions.



The two interruptions are a requisite for overall directional movement to occur. And though there are several variations of Elliott waves, all of them fit into the basic structure you see above. The Forex market is always somewhere in the basic five-wave pattern at the largest degree of trend. Because the five-wave pattern is the overriding form of market progress, all other patterns are subsumed by it.

Elliott’s pattern consists of “impulsive waves” and “corrective waves.” An *impulsive wave* is composed of *five subwaves*. It moves in the *same* direction as the trend of the next larger size. A *corrective wave* is divided into *three subwaves*. It moves *against* the trend of the next larger size.

As the figure below shows, these basic patterns build to form five and three-wave structures of increasingly larger size (larger “degree,” as Elliott said).



In the above illustration, waves 1, 2, 3, 4 and 5 together complete a larger impulsive sequence, labeled wave (1). The impulsive structure of wave (1) tells us that the movement at the next larger degree of trend is also upward. It also warns us to expect a three-wave correction — in this case, a downtrend.

That correction, wave (2), is followed by waves (3), (4) and (5) to complete an impulsive sequence of the next larger degree, la-

beled as wave 1. At that point, again, a three-wave correction of the same degree occurs, labeled as wave 2.

So, in applying the Elliott Wave Principle, our first task is to look at charts of market action and identify any completed five-wave and three-wave structures. Only then can we interpret where the market is and where it's likely to go.

But while applying the Elliott Wave Principle to any chart, we must keep in mind an important point. The Elliott Wave Principle does not provide *certainty* about any one market outcome. Instead, it gives you an objective means of determining the *probability* of a future direction for the market. At any time, two or more valid wave interpretations usually exist. So, it's important for any investor or trader to carefully assess the probability of each interpretation.

View the Elliott Wave Principle as your road map to the market and your investment idea as a trip. We start the trip with a specific plan in mind, but conditions along the way may force us to alter our course. "Alternate counts" are simply side roads that sometimes end up being the best path.

Elliott's highly specific rules keep the number of valid interpretations (or "alternate counts") to a minimum. The analyst usually considers as "preferred" the one that satisfies the largest number of guidelines. The top "alternate" is the one that satisfies the next largest number of guidelines, and so on. Alternates are an essential part of using the Elliott Wave Principle.

Another key to applying the Elliott Wave Principle is Fibonacci ratios. Few investors realize that Fibonacci analysis of the mar-

kets was pioneered by R.N. Elliott. The use of Fibonacci ratios requires a valid Elliott wave interpretation as a starting point. Elliott had two chief insights concerning Fibonacci relationships within waves.

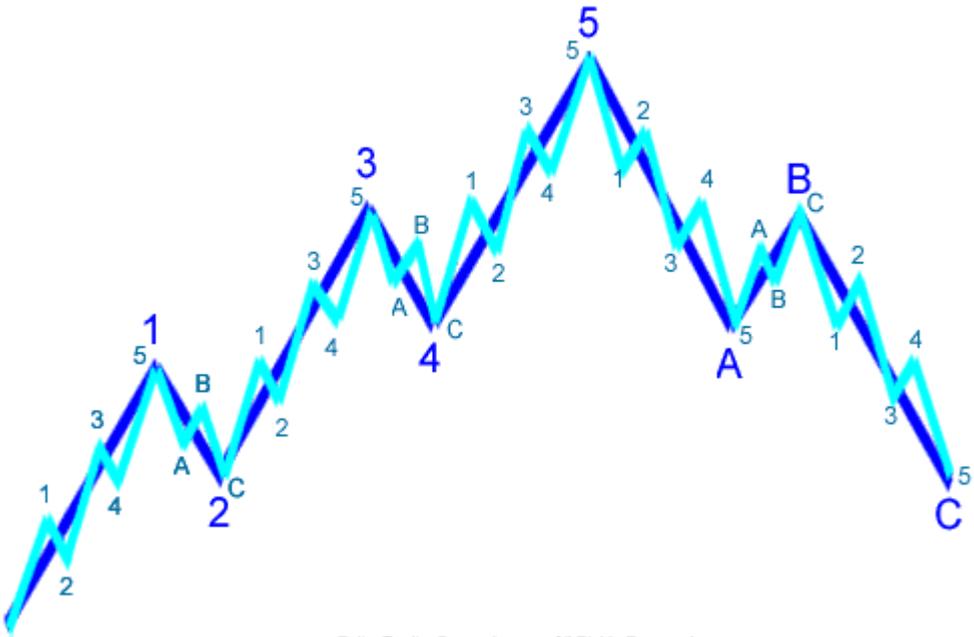
First, corrective waves tend to retrace prior impulse waves of the same degree in Fibonacci proportion — common wave relationships include 38%, 50% and 62%.

Second, impulse waves of the same degree within a larger impulse sequence tend to relate to one another in Fibonacci proportion.

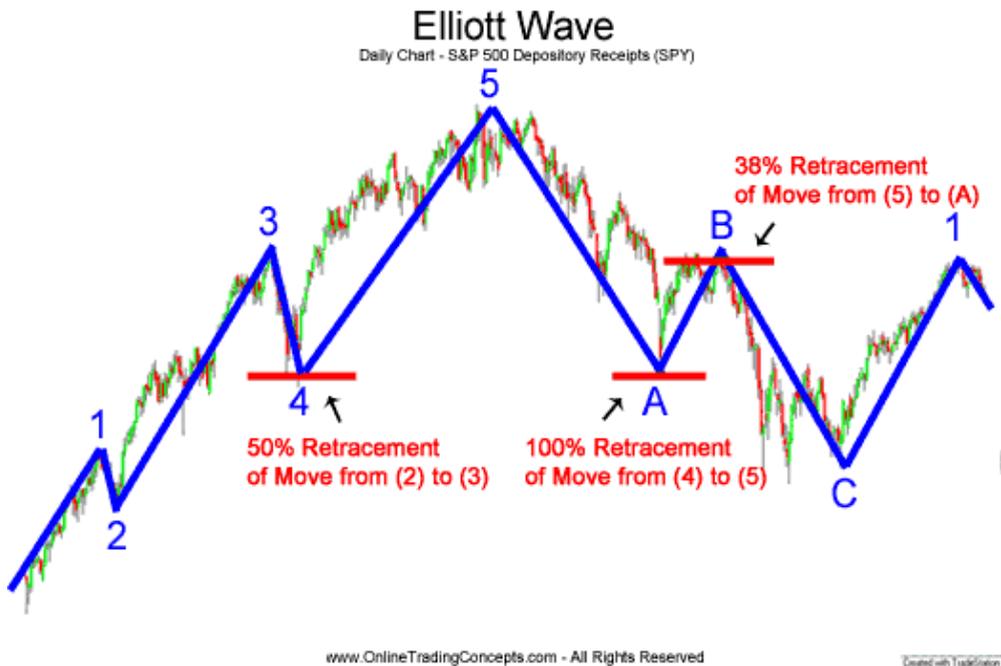
Wave interpretation rules and Fibonacci relationships together are powerful tools for establishing investment strategies and reducing risk exposure. Applying the Elliott Wave Principle aids investors in deciding where to get in, where to get out and at what point to give up on a strategy. Thus, the Elliott Wave Principle lets you identify the highest probability direction for the market.

Elliott Wave theory states that **prices move in waves**. These **waves occur in a repeating pattern** of a (1) move up, (2) then a partial retracement down, (3) another move up, (4) a retracement, (5) then finally a last move up. Then, there is a (A) full retracement, followed by a (B) partial retracement upward, then (C) a full move downward. This repeats on a macro and micro time frame. A visual illustration of the basic pattern of the Elliott Wave is given below. A real life example of Elliott Wave in action is given further down:

## Elliott Wave



Elliott Wave is based on **crowd psychology of booms and busts, rallies and retracements**. Traders often use fibonacci numbers to anticipate where a retracement is likely to end and thus the place where they should place their trade. The chart below illustrates the Elliott Wave pattern applied to crowd psychology (i.e. S&P 500) and Fibonacci Retracements:



## Trading the Elliott Wave

In the example above of the S&P 500 ETF, if the Elliott Wave theorist recognizes that he/she just completed a the leg from (2) to (3) and the market is beginning to retrace, the trader might put a buy order at the 38% Fibonacci retracement. In the example above, that trade would have failed and the trader would have been stopped out of their long position. The trader then might consider putting an order in at the 50% retracement. In the example above, that would have been an extremely profitable trade, making up for the previous loss and more.

Next, realizing that the latest trend was the (4) to (5) up move, the Elliot Wave theorist would next expect a downward move to (A). This retracement is larger than the previous (1) to (2) retracement and (3) to (4) retracement. A reasonable guess as to where the retracement (5) to (A) will end is the 0.618, the golden Fibonacci ratio.

Selecting the 61% retracement would have proved profitable for a little while, assuming the trader didn't have extremely tight stop losses in place, but the retracement turned out to be a head fake. Subsequently, the next often used Fibonacci retracement is 100%. This trade would have been very profitable, given the S&P 500 retraced almost perfectly at 100% of the move from (4) to (5).

A likely profit target to exit at least part of the trade initiated at point (A) is the 38% Fibonacci level. This also happened to be the turning point for the next leg down from (B) to (C).

## **Momentum (MTM):**

It designed to measure the rate of price change, not the actual price level. It consists of the net difference between the current closing price and the oldest closing price from a pre-determined period.

Momentum indicators determine the strength or weakness of a trend as it progresses over time. Momentum is highest when a trend starts and lowest when the trend changes.

When price and momentum diverge, it suggests weakness. If price extremes occur with weak momentum, it signals an end of movement in that direction. If momentum is trending strongly and prices are flat, it signals a potential change in price direction.

## **Momentum Oscillator:**

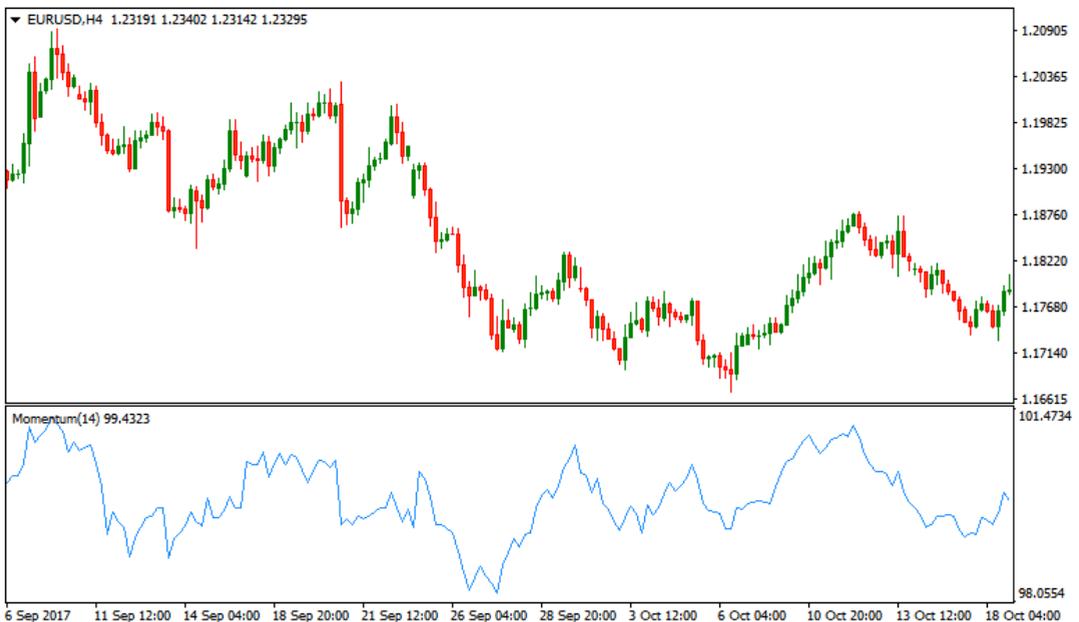
The Momentum Technical Oscillator measures the amount that a currency's price has changed over a given time span.

There are basically two ways to use the Momentum indicator:

- The Momentum indicator can be used as a trend-following oscillator similar to the Moving Average Convergence/Divergence (MACD). Buy when the indicator bottoms and turns up and sell when the indicator peaks and turns down. You may want to plot a short-term moving average of the indicator to determine when it is bottoming or peaking. If the Momentum indicator reaches extremely high or low values (relative to its historical values), you should assume a continuation of the current trend. For example, if the Momentum indicator reaches extremely high values and then turns down, you should assume prices will probably go still higher. In either case, only trade after prices confirm the signal gener-

ated by the indicator (for example, if prices peak and turn down, wait for prices to begin to fall before selling).

- You can also use the Momentum indicator as a leading indicator. This method assumes that market tops are typically identified by a rapid price increase (when everyone expects prices to go higher) and that market bottoms typically end with rapid price declines (when everyone wants to get out). This is often the case, but it is also a broad generalization.



As a market peaks, the Momentum indicator will climb sharply and then fall off — diverging from the continued upward or sideways movement of the price. Similarly, at a market bottom, Momentum will drop sharply and then begin to climb well ahead of prices. Both of these situations result in divergences between the indicator and prices.

### **Calculation:**

Momentum is calculated as a ratio of today's price to the price several (N) periods ago.

$$\text{MOMENTUM} = \text{CLOSE}(i) / \text{CLOSE}(i-N) * 100$$

Where:

CLOSE (i) — is the closing price of the current bar;

CLOSE (i-N) — is the closing bar price N periods ago.

### **Stochastic Oscillator (STOC):**

Stochastic studies are based on the premise that as prices rise, closing prices tend to be near the high value. Conversely, as prices fall, closing prices are near the low for the period.

The Stochastic Oscillator Technical Indicator compares where a currency's price closed relative to its price range over a given time period.

Stochastic studies are made of two lines, %D and %K, that move between a scale of 0 and 100. The %D line is the moving average over a specified period of time of the %K line. The %K line measures where the closing price is compared to the price range for a given number of periods.

There are several ways to interpret a Stochastic Oscillator. Three popular methods include:

- Buy when the Oscillator (either %K or %D) falls below a specific level (for example, 20) and then rises above that level. Sell when the Oscillator rises above a specific level (for example, 80) and then falls below that level.
- Buy when the %K line rises above the %D line and sell when the %K line falls below the %D line.

- Look for divergences. For instance: where prices are making a series of new highs and the Stochastic Oscillator is failing to surpass its previous highs.



### **Calculation:**

The Stochastic Oscillator has four variables:

- %K periods. This is the number of time periods used in the stochastic calculation.
- %K Slowing Periods. This value controls the internal smoothing of %K. A value of 1 is considered a fast stochastic; a value of 3 is considered a slow stochastic.
- %D periods. This is the number of time periods used when calculating a moving average of %K.
- %D method. The method (i.e., Exponential, Simple, Smoothed, or Weighted) that is used to calculate %D.

The formula for %K is:

$$\%K = \frac{(\text{CLOSE} - \text{LOW}(\%K))}{(\text{HIGH}(\%K) - \text{LOW}(\%K))} * 100$$

Where:

CLOSE — is today's closing price;

LOW(%K) — is the lowest low in %K periods;

HIGH(%K) — is the highest high in %K periods.

The %D moving average is calculated according to the formula:

$$\%D = \text{SMA}(\%K, N)$$

Where:

N — is the smoothing period;

SMA — is the Simple Moving Average.

Quick summary:

**Trading with Stochastic indicator involves the following signals:**

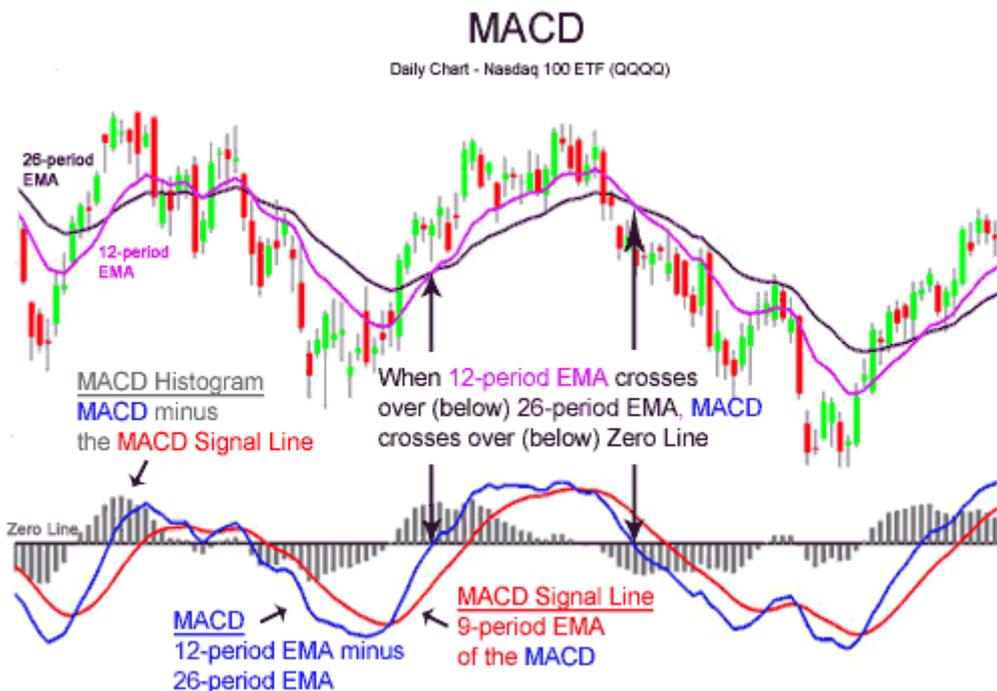
- Stochastic lines cross — indicates trend change.
- Stochastic readings above 80 level — currency pair is overbought.
- Stochastic staying above 80 level — uptrend is running strong.
- Stochastic exiting 80 level downwards — expect a correction down or beginning of a downtrend.
- Readings below 20 level — currency pair is oversold.
- Staying below 20 — downtrend is running strong.
- Exiting upwards above 20 — expect an upward correction or a beginning of an uptrend.

Stochastic studies, or oscillators, help monitor a trend's sustainability and signal reversals in prices. %K is the "fast", more sensitive indicator, while %D is "slow" and takes more time to turn.

Stochastic studies aren't useful in choppy, sideways markets. In these conditions %K and %D lines might cross too frequently to signal anything.

## Moving Average Convergence/Divergence Oscillator -MACD:

It consists of two exponential moving averages that are plotted against the zero line. The zero line represents the times when the values of the two moving averages are identical. The MACD is calculated by subtracting a 26-day moving average of a currency's price from a 12-day moving average of its price. The result is an indicator that oscillates above and below zero. When the MACD is above zero, it means the 12-day moving average is higher than the 26-day moving average. This is bullish as it shows that current expectations (i.e., the 12-day moving average) are more bullish than previous expectations (i.e., the 26-day average). This implies a bullish, or upward, shift. When the MACD falls below zero, it means that the 12-day moving average is less than the 26-day moving average, indicating a bearish shift.



## MACD 12,26,9

The graph above shows a stock with a MACD indicator underneath it. The indicator shows a blue line, a red line, and a histogram or bar chart which calculates the difference between the two lines. Values are calculated from the price of the stock in the main part of the graph.

For the example above this means:

- MACD line (blue line): difference between the 12 and 26 days EMAs
- signal (red line): 9 day EMA of the blue line
- histogram (bar graph): difference between the blue and red lines

Mathematically:

- $MACD = EMA[stockPrices,12] - EMA[stockPrices,26]$
- $signal = EMA[MACD,9]$
- $histogram = MACD - signal$

The period for the moving averages on which an MACD is based can vary, but the most commonly used parameters involve a faster EMA of 12 days, a slower EMA of 26 days, and the signal line as a 9 day EMA of the difference between the two. It is written in the form, MACD (faster, slower, and signal) or in this case, MACD (12, 26, 9).

Exponential moving averages highlight recent changes in a currency's price. By comparing EMAs of different lengths, the MACD line gauges changes in the trend of a currency. By then comparing differences in the change of that line to an average, an analyst can identify subtle shifts in the strength and direction of a currency's trend.

Traders recognize three meaningful signals generated by the MACD indicator.

When:

- The MACD line crosses the signal line .
- The MACD line crosses zero.
- There is a divergence between the MACD line and the price of the currency or between the histogram and the price of the currency.

Graphically this corresponds to:

- The blue line crossing the red line.
- The blue line crossing the x-axis (the straight black line in the middle of the indicator).
- Higher highs (lower lows) on the price graph but not on the blue line or higher highs (lower lows) on the price graph but not on the bar graph.

And mathematically:

- $MACD - signal = 0$
- $EMA[fast,12] - EMA[slow,26] = 0$
- $Sign(\text{relative price extremum}_{final} - \text{relative price extremum}_{initial}) \neq Sign(\text{relative MACD extremum}_{final} - \text{MACD extremum}_{initial})$

### **Signal–line crossover**

Signal–line crossovers are the primary cues provided by the MACD. The standard interpretation is to buy when the MACD line crosses up through the signal line, or sell when it crosses down through the signal line.

The upwards move is called a bullish crossover and the downwards move a bearish crossover. Respectively, they indicate that the trend in the currency is about to accelerate in the direction of the crossover.

The histogram shows when a crossing occurs. Since the histogram is the difference between the MACD line and the signal line, when they cross there is no difference between them.

The histogram can also help in visualizing when the two lines are approaching a crossover. Though it may show a difference, the changing size of the difference can indicate the acceleration of a trend. A narrowing histogram suggests a crossover may be approaching, and a widening histogram suggests that an ongoing trend is likely to get even stronger.

While it is theoretically possible for a trend to increase indefinitely, under normal circumstances, even currencies moving drastically will eventually slow down, lest they go up to infinity or down to nothing.

### **Zero crossover**

A crossing of the MACD line through zero happens when there is no difference between the fast and slow EMAs. A move from positive to negative is bearish and from negative to positive, bullish. Zero crossovers provide evidence of a change in the direction of a trend but less confirmation of its momentum than a signal line crossover.

### **Divergence**

The third cue, divergence, refers to a discrepancy between the MACD line and the graph of the currency price. Positive divergence between the MACD and price arises when price hits a new

low, but the MACD doesn't. This is interpreted as bullish, suggesting the downtrend may be nearly over. Negative divergence is when the stock price hits a new high but the MACD does not. This is interpreted as bearish, suggesting that recent price increases will not continue.

Divergence may also occur between the currency price and the histogram. If new high price levels are not confirmed by new high histogram levels, it is considered bearish; alternatively, if new low price levels are not confirmed by new low histogram levels, it is considered bullish.

Longer and sharper divergences—distinct peaks or troughs—are regarded as more significant than small, shallow patterns.

## **Timing**

The MACD is only as useful as the context in which it is applied. An analyst might apply the MACD to a weekly scale before looking at a daily scale, in order to avoid making short term trades against the direction of the intermediate trend. Analysts will also vary the parameters of the MACD to track trends of varying duration. One popular short-term set-up, for example, is the (5, 35, 5).

## **False signals**

Like any indicator, the MACD can generate false signals. A false positive, for example, would be a bullish crossover followed by a sudden decline in a currency. A false negative would be a situation where there was no bullish crossover, yet the currency accelerated suddenly upwards.

A prudent strategy would be to apply a filter to signal line crossovers to ensure that they will hold. An example of a price filter

would be to buy if the MACD line breaks above the signal line and then remains above it for three days. As with any filtering strategy, this reduces the probability of false signals but increases the frequency of missed profit.

Analysts use a variety of approaches to filter out false signals and confirm true ones.

### **Relative Strength Index Oscillator (RSI):**

Relative Strength Index (RSI-EMA): The RSI is a price-following oscillator that ranges between 0 and 100. A popular method of analyzing the RSI is to look for a divergence in which the currency price reaches a new high, but the RSI fails to surpass its previous high. This divergence indicates an impending reversal. When the RSI then turns down and falls below its most recent trough, it is said to have completed a "failure swing." The failure swing confirms the impending reversal.

Like stochastic, RSI measures momentum of price movements on a scale of 0 to 100. Always confirm RSI signals with other indicators. RSI can remain at lofty or sunken levels for a long time, without prices reversing course. All that means is that a market is quite strong or weak - and likely to stay so for a while.

Adjust your RSI to the right timeframe for you. A short-term RSI will be very sensitive and give out many signals, not all of them sustainable; a longer-term RSI will be less choppy. Try to match your RSI timeframe to your own trading style: short-term for day traders, longer-term for position traders.

Divergences between prices and RSI may suggest a trend reversal. Of course, make sure you confirm your signals before acting.



Example of RSI Indicator Divergence

## Calculation

For each trading period an upward change  $U$  or downward change  $D$  is calculated. Up periods are characterized by the close being higher than the previous close:

$$U = \text{close}_{\text{now}} - \text{close}_{\text{previous}}$$

$$D = 0$$

Conversely, a down period is characterized by the close being lower than the previous period's (note that  $D$  is nonetheless a positive number),

$$U = 0$$

$$D = \text{close}_{\text{previous}} - \text{close}_{\text{now}}$$

If the last close is the same as the previous, both  $U$  and  $D$  are zero. The average  $U$  and  $D$  are calculated using an  $n$ -period exponential moving average (EMA) in the AIQ version (but with an

equal-weighted moving average in Wilder's original version).<sup>[3]</sup> The ratio of these averages is the *relative strength* or *relative strength factor*:

$$RS = \frac{EMA(U, n)}{EMA(D, n)}$$

If the average of  $D$  values is zero, then the RSI value is defined as 100.

The relative strength factor is then converted to a relative strength index between 0 and 100:

$$RSI = 100 - \frac{100}{1 + RS}$$

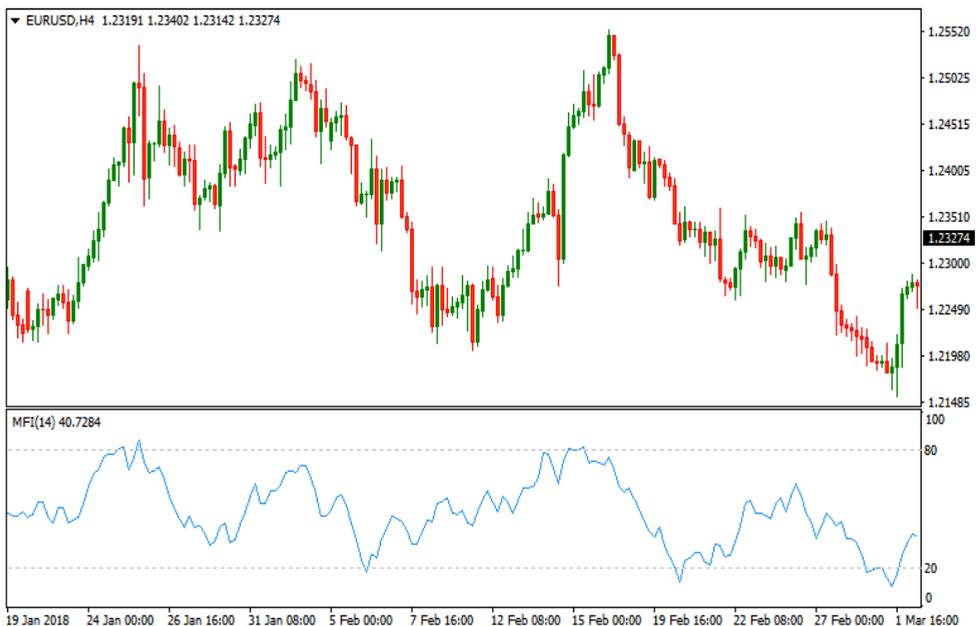
The exponential moving averages should be appropriately initialized with a simple average using the first  $n$  values in the price series

## Money Flow Index:

Money Flow Index (MFI) is the technical indicator, which indicates the rate at which money is invested into a symbol and then withdrawn from it. Construction and interpretation of the indicator is similar to Relative Strength Index with the only difference that volume is important to MFI.

When analyzing the money flow index one needs to take into consideration the following points:

- Divergences between the indicator and price movement. If prices grow while MFI falls (or vice versa), there is a great probability of a price turn;
- Money Flow Index value, which is over 80 or under 20, signals correspondingly of a potential peak or bottom of the market.



## **Calculation:**

The calculation of Money Flow Index includes several stages. At first one defines the typical price (TP) of the period in question.

$$TP = (\text{HIGH} + \text{LOW} + \text{CLOSE})/3$$

Then one calculates the amount of the Money Flow (MF):

$$MF = TP * \text{VOLUME}$$

If today's typical price is larger than yesterday's TP, then the money flow is considered positive. If today's typical price is lower than that of yesterday, the money flow is considered negative.

A positive money flow is a sum of positive money flows for a selected period of time. A negative money flow is the sum of negative money flows for a selected period of time.

Then one calculates the money ratio (MR) by dividing the positive money flow by the negative money flow:

$$MR = \text{Positive Money Flow (PMF)} / \text{Negative Money Flow (NMF)}$$

And finally, one calculates the money flow index using the money ratio:

$$MFI = 100 - (100 / (1 + MR))$$

## **Williams' percent range Oscillator ( %R):**

Williams' %R, or just %R, is a technical analysis oscillator showing the current closing price in relation to the high and low of the past N days (for a given N). It was developed by a publisher and promoter of trading materials, Larry Williams. Its purpose is to tell whether a stock or commodity market is trading near the high or the low, or somewhere in between, of its recent trading range.

A momentum indicator that measures overbought/oversold levels. The interpretation of Williams' %R is very similar to that of the Stochastic Oscillator, except that %R is plotted upside-down and the Stochastic Oscillator has internal smoothing. Readings in the range of 80 to 100% indicate oversold, while readings in the 0 to 20% range suggest overbought.

To show the indicator in this upside down fashion, the user places a minus symbol before the Williams Percent Range values (for example -30%). The user should ignore the minus symbol when conducting the analysis.

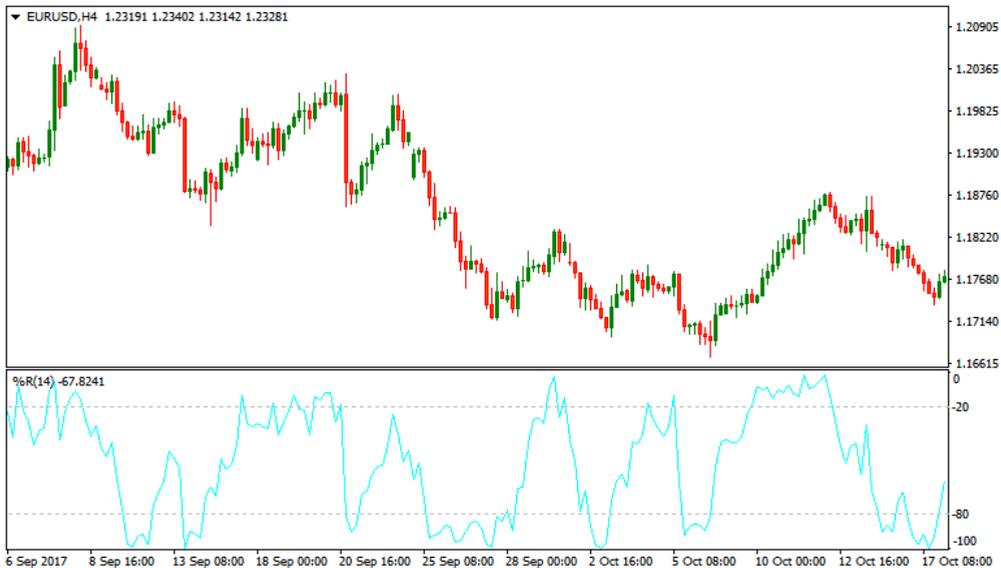
Indicator values ranging between 80 and 100% indicate that the market is oversold. Indicator values ranging between 0 and 20% indicate that the market is overbought.

As with all overbought/oversold indicators, it is best to wait for the currency's price to change direction before placing your trades. For example, if an overbought/oversold indicator is showing an overbought condition, it is wise to wait for the currency's price to turn down before selling the currency.

An interesting phenomenon of the Williams Percent Range indicator is its uncanny ability to anticipate a reversal in the underlying currency's price. The indicator almost always forms a peak and turns down a few days before the security's price peaks and

turns down. Likewise, Williams Percent Range usually creates a trough and turns up a few days before the currency's price turns up.

$$\%R = \frac{close_{today} - high_{Ndays}}{high_{Ndays} - low_{Ndays}} \times 100$$



The oscillator is on a negative scale, from -100 (lowest) up to 0 (highest), considered unusual since it is the obverse of the more common 0 to 100 scale found in many Technical Analysis oscillators. Although sometimes altered (by simply adding 100), this scale needn't cause any confusion. A value of -100 is the close today at the lowest low of the past N days, and 0 is a close today at the highest high of the past N days.

**Calculation:**

Below is the formula of the %R indicator calculation, which is very similar to the Stochastic Oscillator formula:

$$\%R = (HIGH(i-n) - CLOSE) / (HIGH(i-n) - LOW(i-n)) * 100$$

Where:

CLOSE — is today's closing price;

HIGH (i-n) — is the highest high over a number (n) of previous periods;

LOW (i-n) — is the lowest low over a number (n) of previous periods.

### **Buy-/Sell-Signaling:**

Williams used a 10 trading day period and considered values below -80 as oversold and above -20 as overbought. But they were not to be traded directly, instead his rule to buy an oversold was

- %R reaches -100%.
- Five trading days pass since -100% was last reached
- %R rises above -95% or -85%.

Or conversely to sell an overbought condition

- %R reaches 0%.
- Five trading days pass since 0% was last reached
- %R falls below -5% or -15%.

The timeframe can be changed for either more sensitive or smoother results. The more sensitive you make it, though, the more false signals you will get.

### **Notes:**

Due to the equivalence

$$\frac{(\text{Close}_{\text{today}} - \text{low}_{N \text{ days}}) - (\text{close}_{\text{today}} - \text{high}_{N \text{ days}})}{- \text{low}_{N \text{ days}}} = \text{high}_{N \text{ days}}$$

The %R indicator is arithmetically exactly equivalent to the %K stochastic oscillator, mirrored at the 0%-line, when using the same time interval.

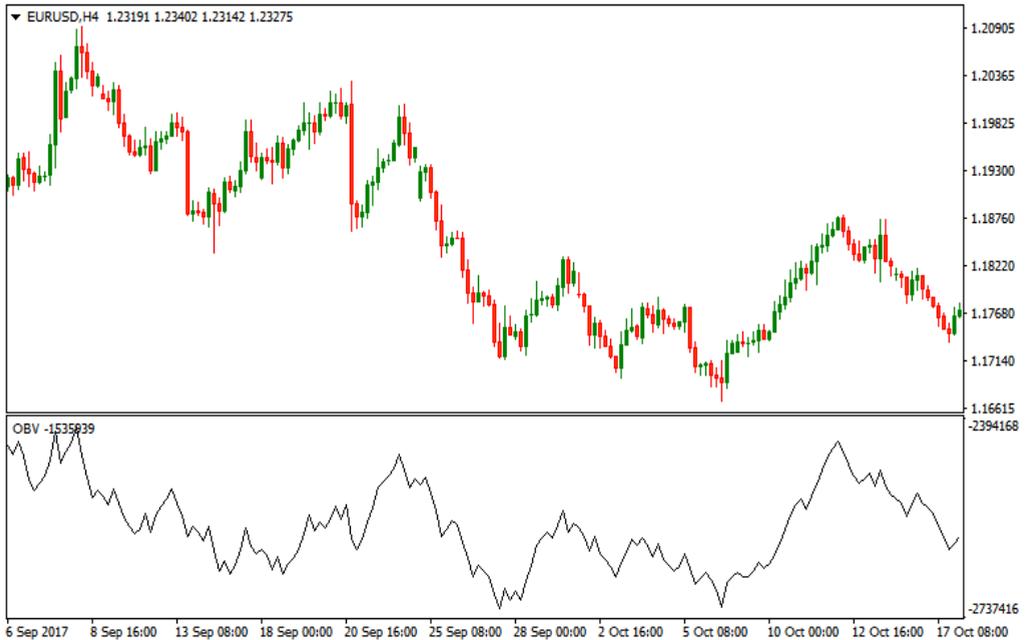
## **On Balance Volume:**

The On Balance Volume Technical Indicator (OBV) is a momentum technical indicator that relates volume to price change. The indicator was created by Joseph Granville. When the symbol closes higher than the previous close, all of the day's volume is considered up-volume. When the symbol closes lower than the previous close, all of the day's volume is considered down-volume.

The basic assumption, regarding On Balance Volume analysis, is that OBV changes precede price changes. The theory is that smart money can be seen flowing into the symbol by a rising OBV.

When the public moves into the currency, both the symbol and the "On Balance Volume" will surge ahead.

If the currency's price movement precedes OBV movement, a "non-confirmation" has occurred. Non-confirmations can occur at bull market tops (when the symbol rises without, or before, the OBV) or at bear market bottoms (when the symbol falls without, or before, the On Balance Volume Technical Indicator).



The OBV is in a rising trend when each new peak is higher than the previous peak and each new channel is higher than the previous trough. Likewise, the On Balance Volume is in a falling trend when each successive peak is lower than the previous peak and each successive trough is lower than the previous trough.

When the OBV is moving sideways and is not making successive highs and lows, this is called a “doubtful” trend. Once a trend is established, it remains in force until it is broken. There are two ways in which the On Balance Volume trend can be broken.

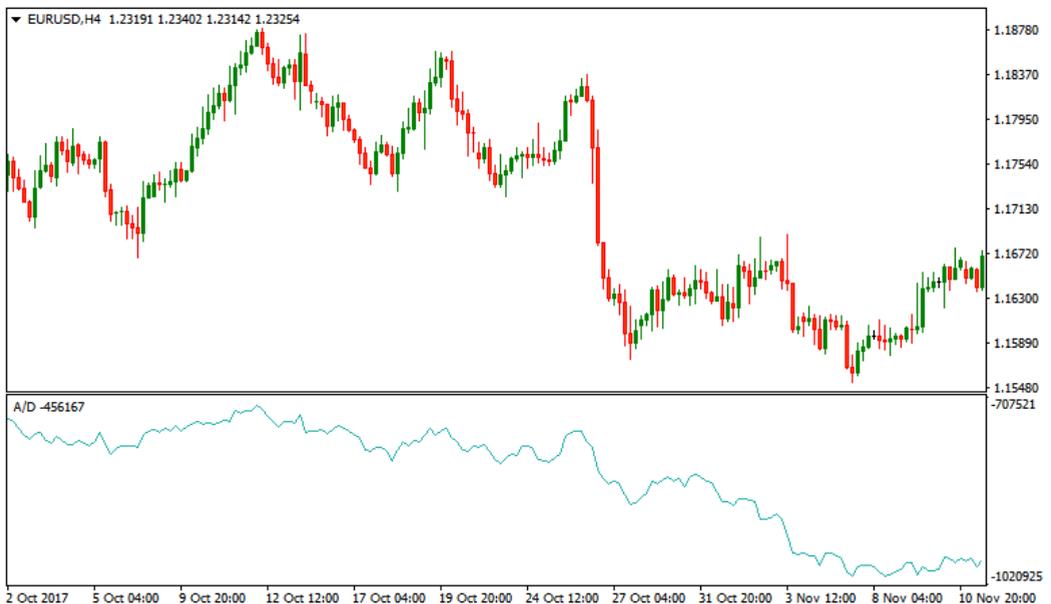
- The first occurs when the trend changes from a rising trend to a falling trend or from a falling trend to a rising trend.
- The second way the OBV trend can be broken is if the trend changes to a doubtful trend and remains doubtful for more than three days.

Thus, if the symbol changes from a rising trend to a doubtful trend and remains doubtful for only two days before changing back to a rising trend, the On Balance Volume is considered to have always been in a rising trend.

When the OBV changes to a rising or falling trend, a "breakout" has occurred.

## Accumulation/Distribution (A/D):

Accumulation/Distribution Technical Indicator is determined by the changes in price and volume. The volume acts as a weighting coefficient at the change of price — the higher the coefficient (the volume) is, the greater the contribution of the price change (for this period of time) will be in the value of the indicator. This indicator is a variant of the more commonly used indicator On Balance Volume. They are both used to confirm price changes by means of measuring the respective volume of sales.



When the Accumulation/Distribution indicator grows, it means accumulation (buying) of a particular currency, as the overwhelming share of the sales volume is related to an upward trend of prices. When the indicator drops, it means distribution (selling) of the currency, as most of sales take place during the downward price movement.

Divergences between the Accumulation/Distribution indicator and the price of the symbol indicate the upcoming change of prices. As a rule, in case of such divergences, the price tendency moves in the direction in which the indicator moves. Thus, if the indicator is growing, and the price of the symbol is dropping, a turnaround of price should be expected.

### **Calculation:**

A certain share of the daily volume is added to or subtracted from the current accumulated value of the indicator. The nearer the closing price to the maximum price of the day is, the higher the added share will be. The nearer the closing price to the minimum price of the day is, the greater the subtracted share will be. If the closing price is exactly in between the maximum and minimum of the day, the indicator value remains unchanged.

$$A/D = \text{SUM} [((\text{CLOSE} - \text{MINIMUM}) - (\text{MAXIMUM} - \text{CLOSE})) * \text{VOLUME} / (\text{MAXIMUM} - \text{MINIMUM}), N]$$

Where: N — the quantity of periods used in the calculation

## **Using Technical Indicators:**

Price charts help traders identify trade-able market trends - while **technical indicators** help them judge a trend's strength and sustainability.

You've probably heard the expression "the trend is your friend" - but what does it mean? If your trend takes a sudden counter-move and your trailing stop activates at a loss, it's natural to ask yourself: how can you be sure the next trend will be more friendly?

- **Using Indicators to Identify Trends**

Using technical indicators in combination can help ensure a potential trend has staying power - a good habit for all kinds of technical trading, but especially in Forex. Currencies tend to move in trends naturally due to long-term macroeconomic factors and short-term international capital flows. All of this makes it that much harder to see a trade-able trend that will last.

- **Confirm the trend is real**

If an indicator suggests a reversal, confirm the shift before you act. That might mean waiting for another period to confirm the same indicator's signal, or checking out another indicator. Patience will help you read the signals accurately and respond accordingly.

## **Trading short-term**

The methods above can be used for short-term decision making, even in markets that are trading sideways - a "trend less" market.

However, if you're trading short-term, don't ignore the big picture entirely. There's no point in trying to ride a short-term trend that is counter to the larger trend

### **Short-Term Currency Trends: Cashing in on Short-Term Currency Trends**

Most of the time, markets don't show a clear trend - they bounce back and forth between support and resistance levels. This sideways movement is called a **trading range**.

Below is a strategy that can help you identify entry points on short-term trends, while protecting your profits with trailing stops. The strategy uses two charts with different time periods (10-minute and hourly), along with two technical indicators: a 200-bar moving average and a 14-bar slow stochastic study.

#### **Step 1: Identify a trend**

Compare the moving averages on both charts. A trend may be developing when price is consistently above or below the moving averages on both charts.

#### **Step 2: Pinpoint entry**

Once you've identified a trend, look for the following two conditions at the same time on the 10-minute chart:

- 1.** Price is no more than 20 pips above (to buy) or 20 pips below (to sell) the moving average.

2. The "fast" stochastic (%K) crosses above the "slow" stochastic (%D) below 20 (to buy), or crosses below the "slow" stochastic above 80 (to sell).

### **Step 3: Ride the trend**

Set a trailing stop after the trade entry.

On a **LONG** position, the stop order should be 10 pips **BELOW** the 200-period moving average on the 10-minute chart. You'll **RAISE** the stop as the trade goes in your favor.

On a **SHORT** position, place the stop 10 pips **ABOVE** the moving average. You'll **LOWER** the stop as the trade goes in your favor.

### **An example: EUR/USD, June 2002**

#### **Step 1: Compare the hourly and 10-minute EUR/USD charts.**

On the hourly chart, price is almost exclusively above the 200-hour moving average, indicating a persistent uptrend.

On the 10-minute chart, price moves (and remains above) the moving average in the last third of the chart.

#### **Step 2: Pinpoint the entry zone**

When the market is within 20 pips of the moving average on the 10-minute chart, and the stochastic lines cross. As indicated in the chart, conditions are right around 8pm on June 27.

Buy EUR/USD at .9883  
Protective t-stop set at .9858 (10 pips below MA)

Sell EUR/USD at .9992

Protective t-stop has moved up to .9967

Profit = 109 pips, or US \$1090

+ Remember that contingent orders such as trailing stops may not necessarily limit your losses.

### **Technical Approach to Currency "Personalities"**

Every currency pair has qualities unique to it. Find out what those qualities are.

Much has been written about the suitability of technical analysis for trading in the currency markets. While this is undoubtedly true, it can leave traders, particularly those new to the currency markets, with the impression that all technical tools are equally applicable to all major currency pairs. Perhaps most dangerous from the standpoint of profitability, it can also seduce traders into searching for the proverbial silver bullet: that magic technical tool or study that works for all currency pairs, all the time. However, anyone who has traded Forex for any length of time will recognize that, for example, dollar/Yen (USD/JPY) and dollar/Swiss (USD/CHF) trade in distinctly different fashions.

Why, then, should a one-size-fits-all technical approach be expected to produce steady trading results? Instead, traders are more likely to experience improved results if they recognize the differences between the major currency pairs and employ different technical strategies to them. We will explore some of the differences between the major currency pairs and suggest technical approaches that are best suited to each pair's behavioral tendencies.

## **The Biggie**

By far the most actively traded currency pair is euro/dollar (EUR/USD), accounting for 28 percent of daily global volume in the most recent Bank for International Settlements (BIS) survey of currency market activity. EUR/USD receives further interest from volume generated by the Euro-crosses (e.g. euro/British pound (EUR/GBP), EUR/CHF and EUR/JPY), and this interest tends to be contrary to the underlying U.S. dollar direction. For example, in a U.S. dollar-negative environment, the Euro will have an underlying bid stemming from overall U.S. dollar selling. However, less liquid dollar pairs (e.g. USD/CHF) will be sold through the more liquid Euro crosses, in this case resulting in EUR/CHF selling, which introduces a Euro offer into the EUR/USD market.

This two-way interest tends to slow Euro movements relative to other major dollar pairs and makes it an attractive market for short-term traders, who can exploit "backing and filling." On the other hand, this depth of liquidity also means EUR/USD tends to experience prolonged, seemingly inconclusive tests of technical levels, whether generated by trend line analysis or Fibonacci/Elliott wave calculations. This suggests breakout traders need to allow for a greater margin of error: 20-30 pips. (A pip is the smallest increment in which a foreign currency can trade with respect to identifying breaks of technical levels.) Another way to gauge whether EUR/USD is breaking out is to look to the less liquid USD/CHF and GBP/USD. If these pairs have broken equivalent technical levels, for example recent daily highs, then EUR/USD is likely to do the same after a lag. If "Swissy" and "Cable" (popular name for British pound) are stalling at those levels, then EUR/USD will likely fail as well.

- **Customize Your Settings**

In terms of technical studies, the overwhelming depth of EUR/USD suggests that momentum oscillators are well-suited to trading the euro, but traders should consider adjusting the studies' parameters (increase time periods) to account for the relatively plodding, back-and-fill movements of EUR/USD. In this sense, reliance on very short-term indicators (less than 30 minutes) exposes traders to an increased likelihood of "whipsaw" movements. Moving average convergence divergence (MACD) as a momentum study is well-suited to EUR/USD, particularly because it utilizes exponential moving averages (greater weight to more recent prices, less to old prices) in conjunction with a third moving average, resulting in fewer false crossovers. Short-term (hourly) momentum divergences routinely occur in EUR/USD, but they need to be confirmed by breaks of price levels identified through trend line analysis to suggest an actionable trade. When larger moves are underway, traders are also likely to find the directional movement indicator (DMI) system useful for confirming whether a trend is in place, in which case momentum readings should be discounted, and might choose to rely on DI+/DI- crossovers for additional trade entry signals.

The next most actively traded currency pair is USD/JPY, which accounted for 17 percent of daily global volume in the 2004 BIS survey of currency market turnover. USD/JPY has traditionally been the most politically sensitive currency pair, with successive U.S. governments using the exchange rate as a lever in trade negotiations with Japan. While China has recently replaced Japan as the Asian market evoking U.S. trade tensions, USD/JPY still acts as a regional currency proxy for China and other less-liquid, highly regulated Asian currencies. In this sense, USD/JPY is frequently prone to extended trending periods as trade or regional political themes (e.g. Yuan revaluation) play out.

For day-to-day trading, however, the most significant feature of USD/JPY is the heavy influence exerted by Japanese institutional investors and asset managers. Due to a culture of intra-Japanese collegiality, including extensive position and strategy information-sharing, Japanese asset managers frequently act in the same direction on the yen in the currency market. In concrete terms, this frequently manifests itself in clusters of orders at similar price or technical levels, which then reinforce those levels as points of support or resistance. Once these levels are breached, similar clusters of stop loss orders are frequently just behind, which in turn fuel the breakout. Also, as the Japanese investment community moves en masse into a particular trade, they tend to drive the market away from themselves for periods of time, all the while adjusting their orders to the new price levels, for instance raising limit buy orders as the price rises.

An alternate tactic frequently employed by Japanese asset managers is to stagger orders to take advantage of any short-term reversals in the direction of the larger trend. For example, if USD/JPY is at 115.00 and trending higher, USD/JPY buying orders would be placed at arbitrary price points, such as 114.75, 114.50, 114.25 and 114.00, to take advantage of any pullback in the broader trend. This also helps explain why USD/JPY frequently encounters support or resistance at numerically round levels, even though there may be no other corresponding technical significance.

- **Take A Look at Trend lines**

Turning to the technical side of USD/JPY, the foregoing discussion suggests trend line analysis as perhaps the most significant technical tool for trading USD/JPY. Because of the clustering of Japanese institutional orders around technical or price levels, USD/JPY tends to experience fewer false breaks of trend lines. For example, large-scale selling interest at technical resistance will need to be absorbed if the technical level is to be broken.

This is likely to happen only if a larger market move is unfolding, and this suggests any break will be sustained. This makes USD/JPY attractive for breakout traders who employ stop-loss entry orders on breaks of trend line support or resistance. Short-term trend lines, such as hourly or 15 minutes, can be used effectively, but traders need to operate on a similarly short-term basis; daily closing levels hold the most meaning in USD/JPY. In terms of chart analysis, Japanese institutional asset managers rely heavily on candlestick charts (which depend heavily on daily close levels) and traders would be well-advised to learn to recognize major candlestick patterns, such as Doji, hanging man, tweezer tops/bottoms and the like. When it comes to significant trend reversals or pauses, daily close (10 p.m. GMT), candlesticks can be highly reliable leading indicators.

The yen discussion above also highlighted the factors behind the propensity of USD/JPY to trend over the medium-term (multi-week). This facet suggests traders should look to trend following tools such as moving averages (21- and 55-day periods are heavily used), DMI, and Parabolic SAR. (This refers to J. Welles Wilder Jr.'s Parabolic System. SAR stands for stop and reverse.) Momentum oscillators such as the relative strength index (RSI), MACD or stochastic should generally be avoided, especially intraday, due to the trending and institutional nature driving USD/JPY. While a momentum indicator may reverse course, typically suggesting a potential trade, price action often fails to reverse enough to make the trade worthwhile due to underlying institutional interest. Instead of reversing along with momentum, USD/JPY price action will frequently settle into a sideways range, allowing momentum studies to continue to unwind, until the underlying trend resumes. Finally, Ichimoku analysis (roughly translated as one-glance cloud chart) is another largely Japanese-specific trend identification system that highlights trends and major reversals.

- **A Look At Some Illiquid Currencies**

Having looked at the two most heavily traded currency pairs, let's now examine two of the least liquid major currency pairs, USD/CHF and GBP/USD, which pose special challenges to technically oriented traders. The so-called Swissy holds a place among the major currency pairs due to Switzerland's unique status as a global investment haven; estimates are that nearly one-third of the world's private assets are held in Switzerland. The Swiss franc has also acted historically as a so-called "safe-haven" currency alternative to the U.S. dollar in times of geo-political uncertainty, but this dimension has largely faded since the end of the Cold War. Today, USD/CHF trades mostly based on overall U.S. dollar sentiment, as opposed to Swiss-based economic fundamentals. The Swiss National Bank (SNB) is primarily concerned with the franc's value relative to the euro, since the vast majority of Swiss trade is with the European Union, and Swiss fundamental developments are primarily reflected in the EUR/CHF cross rate.

Liquidity in USD/CHF is never very good, and this makes it a favorite "whipping horse" for hedge funds and other speculative interests looking to maximize the bang for their buck. The lower liquidity and higher volatility of Swissy also makes it a significant leading indicator for major U.S. dollar movements. Swissy will also lead the way in shorter-term movements, but the overall volatility and general jitteriness of USD/CHF price action makes false breaks of technical levels common. These false breaks are frequently stop-loss driven and it is not unusual for prices to trade 15-25 points through a support/resistance level before reversing after the stop losses have been triggered. In strong directional moves, USD/CHF price action tends toward extreme one-way traffic, with minimal backing and filling in comparison to EUR/USD.

Cable (GBP/USD), or sterling, also suffers from relatively poor liquidity and this is in part due to its higher pip value (U.S. dollars) and the relatively Euro-centric basis of U.K. trade. Sterling shares many of the same trading characteristics of Swissy outlined just above, but Cable will also react sharply to U.K. fundamental data as well as to U.S. news. Sterling's price action will also display extreme one-way tendencies during larger moves, as traders caught on the wrong side chase the illiquid market to the extremes.

- **Focus On Risk Management**

The volatility and illiquidity of Swissy and sterling suggests traders need to use a more proactive overall approach to trading these pairs, particularly concerning risk management (i.e. position size in relation to stop levels). With regard to technical tools, the tendency for both pairs to make short-term false breaks of chart levels suggests breakout traders need to be particularly disciplined concerning stop entry levels and should consider a greater margin of error on the order of 30-35 points. In this sense, trend line analysis of periods less than an hour tends to generate more noise than tradable break points, so a focus on longer time periods (four hours-daily) is likely to be more successful in identifying meaningful breaks. By the same token, once a breakout occurs, surpassing the margin of error, the ensuing one-way price action favors traders who are quick on the trigger, and this suggests employing resting stop-loss entry orders to reduce slippage. For those positioned with a move, trailing stops with an acceleration factor, such as parabolic SAR, are well suited to riding out directional volatility until a price reversal signals an exit. Of course, placing contingent orders may not necessarily limit your losses.

The volatility inherent in Cable and Swissy makes the use of short-term (hourly and shorter) momentum oscillators problematic, due to both false crossovers and divergences between price/momentum that frequently occur in these time frames. Longer-period oscillators (four hours and more) are best used to highlight potential reversals or divergent price action, but volatility discourages initiating trades based on these alone. Instead, momentum signals need to be confirmed by other indicators, such as breaks of trend lines, Fibonacci retracements or parabolic levels, before a trade is initiated.

- **Try A Larger Retracement**

With regard to Fibonacci retracement levels, the greater volatility of Cable and Swissy frequently sees them exceed 61.8-percent retracements, only to stall later at the 76.4-percent level, by which time most short-term Elliott wave followers have been stopped out. Short-term spike reversals of greater than 30 points also serve as a reliable way to identify when a directional surge, especially intraday, is completed, and these can be used as both profit taking and counter-trend trading signals. For counter-trend, corrective trades based on spike reversals, stops should be placed slightly beyond the extreme of the spike low/high. A final technical study that is well suited to the explosiveness of Swissy and sterling is the Williams %R, an overbought/oversold momentum indicator, which frequently acts as a leading indicator of price reversals. The overbought/oversold bands should be adjusted to -10/-90 to fit the higher volatility of Cable and Swissy. As with all overbought/oversold studies, however, price action needs to reverse course first before trades are initiated.

- **It's Not One Size Fits All**

Traders who seek to apply technical trading approaches to the currency market should be aware of the differences in the trading characteristics of the major currency pairs. Just because the euro and the pound are both traded against the dollar does not mean they will trade identically to each other. A more thorough understanding of the various market traits of currencies suggests that certain technical tools are better suited to some currency pairs than others. A currency-specific approach to applying technical analysis is more likely to produce successful results than a one-size-fits-all application across all currency pairs.

## **Forex Trader's Glossary:**

It is a glossary of Forex jargon, nicknames, slang, terms and origins of expressions used in forex trading.

**10 Yr** - US 10 year Note

**30 Yr** - US 30 year Bond

### **A**

**Aggressive** - Traders and/or price action are acting with conviction

**Analyst** - A financial professional who has expertise in evaluating investments and puts together buy, sell and hold recommendations

**Asian Session** - 5:00 PM EST - 2:00 AM EST

**Asian Central Banks** - Refers to the central banks or monetary authorities of Asian countries. These institutions have been increasingly active in major currencies as they manage growing pools of foreign currency reserves arising from trade surpluses. Their market interest can be substantial and influence currency direction in the short-term.

**Aussie** - Also, "Oz" or "Ozzie", refers to the AUD/USD pair

### **B**

**Barrier Level** - A certain price of great importance included in the structure of a Barrier Option that calls for series of events to occur if achieved.

**Barrier Option** - Any number of different option structures (such as knock-in, knock-out, no touch, double- no-touch-DNT) that attaches great importance to a specific price trading. In a no-touch barrier, a large defined payout is awarded to the buyer of the option by the seller if the strike price is not 'touched' before expiry. This creates an incentive for the option seller to drive prices through the strike level and creates an incentive for the option buyer to defend the strike level.

**Bearish** - Negative for price direction; favoring a declining market. For example "We are bearish EURUSD". This means we think the Euro will weaken against the dollar.

**Bears** - Traders who expect prices to decline and may be holding short positions

**Bernanke** - US Federal Reserve Chairman Ben Bernanke.

**Bid** - The price at which a buyer will pay. A bid is left side of a 2- way price, or opposite the "Offer". On-line traders can sell at the bid price. A 'bid' market refers to an overall buying bias, or an accumulation of bids.

**Big figure** - refers to the first 3 digits of a currency quote, such as 117 USD/JPY or 1.26 in EUR/USD. If the price moves by 1.5 big figures, it has moved 150 pips.

**BIS** - Bank for International Settlements located in Basel, Switzerland is the central bank for central banks. The BIS frequently acts as the market intermediary between national central banks and the market. The BIS has become increasingly active as central banks have increased their currency reserve management. When the BIS is reported to be buying or selling at a level, it is usually for a central bank and thus the amounts can be large. The BIS is used to avoid markets mistaking the interest for official intervention.

**Black Box** - The term used for systematic, model-based or technical traders

**Blow off** - The upside equivalent of capitulation. When shorts throw in the towel and cover any remaining short positions.

**BOC** - Bank of Canada, the central bank of Canada.

**BOE** - Bank of England, the central bank of the UK.

**BOJ** - Bank of Japan, the central bank of Japan

**Bps** - Basis Points are 1/100 of a percent, or 0.01% If the Fed hiked rates 25 bps, they increased the overnight lending rate 0.25%

**Buck**- Market slang for 1 million units of a dollar based currency pair or for the US dollar in general.

**Bullish** - Favoring a strengthening market and higher prices. For example "We are bullish EURUSD". This means we think the Euro will strengthen against the dollar.

**Bulls** - Traders who expect prices to rise and who may be holding long positions.

**Buy Dips** - Look to buy 20-30 pip pullbacks in the course of an intra-day trend.

## C

**CAD** - The Canadian dollar, also known as Loonie or Funds.

**Cable** - The GBP/USD pair, also called Sterling. So called because the rate was originally transmitted via a transatlantic cable

beginning in the mid 1800's when the GBP was the currency of international trade.

**Capitulation** - A point at the end of an extreme trend when traders who are holding losing positions just throw in the towel to exit those positions. This usually signals that the expected reversal is just around the corner.

**Carry Trade** - A trade strategy that captures the difference in the interest rates earned from being long a currency that pays a relatively high interest rate, and short another currency that pays a lower interest rate. "Unwinding The Carry Trade" - refers to any prolonged movement of a currency pair in the direction opposite of that taken by those who positioned to benefit from the interest rate differential. Example: NZDJPY has been a famous carry trade for some time. NZD is the high yielder and JPY is the low yielder. Traders looking to take advantage of this interest rate differential would buy NZD and sell JPY, or be long NZD /JPY. So if NZD /JPY is trending up, traders are piling into the carry trade. When NZD /JPY begins to downtrend for an extended period time, most likely due to a change in interest rates, the carry trade is said to be unwinding.

**CB's** - abbreviation referring to central banks

**Choppy** - Short-lived price moves with limited follow through. Not conducive to aggressive trading.

**Commodity Currencies** - Currencies from economies whose exports are heavily based in natural resources and refers to Canada, New Zealand, and Australia.

**Components** - The dollar pairs that make up the crosses (i.e. EURUSD + USDJPY are the components of EURJPY). Selling the cross through the components refers to selling the dollar pairs in alternating fashion to create a cross position.

**Consolidation** - A period of range-bound activity after an extended price move.

**Convergence of M.A.'s** - A technical observation that describes moving averages of different periods moving towards each other. This generally forecasts a price consolidation.

**Corporates** - refers to corporations in the market for hedging or financial management purposes. Corporates are not always as price sensitive as speculative funds and their interest can be very long-term in nature, making corporate interest less valuable to short-term trading.

**Crater** - the market is ready to sell-off hard.

**Crown Currencies** - Refers to Cad, Aussie, Sterling, and Kiwi.

**Cross** (i.e. Yen cross) - A pair of currencies that does not include the US Dollar.

**CTA's** - refers to commodity trade advisers, speculative traders that can resemble hedge funds and are active short-term traders; frequently refers to the Chicago-based or futures-based traders.

## D

**Deal** - An FX term that denotes a trade done at the current market price. It is a live trade as opposed to an order.

**Defend a level** - Action taken by a trader, or group of traders, to prevent a certain price or price zone from trading because they likely hold a vested interest to do so, such as a barrier option.

**Devaluation** - when a pegged currency is allowed to weaken or depreciate based on official actions; the opposite of a revaluation.

**Divergence** - In technical analysis, a situation where price and momentum move in opposite directions, such as prices rising while momentum is falling. Divergence is considered either positive (bullish) or negative (bearish), both of which are signals of major shifts in the direction of the price. Positive/bullish divergence occurs when the price of a security makes a new low while the momentum indicator starts to climb upward. Negative/bearish divergence happens when the price of the security makes a new high, but the indicator fails to do the same and instead moves lower. Divergences frequently occur in extended price moves and frequently resolve with the price reversing direction to follow the momentum indicator.

**Divergence of M.A.'s** - A technical observation that describes moving averages of different periods moving away from each other. This generally forecasts a price trend.

**Downtrend** - Price action consisting of lower-lows, and lower-highs.

**Dove** - dovish-refers to data or a policy view that suggests easier monetary policy or lower interest rates. The opposite of hawkish.

**DJIA or Dow** - Abbreviation for the Dow Jones Industrial Average.

## E

**ECB** - European Central Bank, the central bank for the 12 countries using the Euro.

**English, Bill (William)** - the Finance Minister of New Zealand; also deputy prime minister.

**EST/EDT** - Eastern Standard Time/Eastern Daylight time. The time zone of New York City.

**European Session** - 2:00 AM EST - 12:00 PM EST

**Expiry** - The precise date and time when an option will expire. The two most common option expiries are 1000 NY time (NY cut) and 1500 Tokyo time (Tokyo cut) and these time periods frequently see an increase in activity as option hedges are unwound in the spot market.

**Exporters** - Corporations who sell goods internationally, which in turn makes them sellers of foreign currency and buyers of their domestic currency. Frequently refers to major Japanese corporations such as Sony and Toyota, who will be natural sellers of USD/JPY, exchanging dollars received from commercial sales abroad.

**Extended** - A market that is thought to have traveled too far, too fast.

## **F**

**Fed** - The Federal Reserve Bank, the central bank of the United States, or the FOMC (Federal Open Market Committee), the policy setting committee of the Federal Reserve

**Fed Officials** - refers to members of the Board of Governors of the Federal Reserve or regional Federal Reserve Bank Presidents.

**Figure / The Figure** - Refers to the price quotation of '00' in a price such as 00-03 (1.2600-03) and would be read as 'figure-three'. If someone sells at 1.2600, traders would say 'the figure was given' or 'the figure was hit.'

**Fin Min** - abbreviation for Finance Minister

**Fix** - One of the approximately 5 times during the FX day when a large amount of currency must be bought or sold to fill a commercial customers' orders. Typically these times are associated with market volatility. The regular **fixes** are (all times NY)

- **5:00 AM** - Frankfurt
- **6:00 AM** - London
- **10:00 AM** - WMHCO (World Market House Company)
- **11:00 AM** - WMHCO (World Market House Company)- **more important**
- **8:20 AM** - IMM
- **8:15 AM** - ECB

**Flat or flat reading**- Economic data readings matching the previous period's levels; unchanged.

**Follow through** - Fresh buying or selling interest after a directional break of a particular price level. The lack of follow through usually indicates a directional move will not be sustained and may reverse.

**FOMC** - Federal Open Market Committee, the policy setting committee of the US Federal Reserve. 2018 committee members are:

- Jerome H. Powell, board of Governors chairman.
- William C. Dudley, New York, vice chairman.
- Thomas I. Barkin, Richmond.
- Raphael W. Bostic, Atlanta.
- Lael Brainard, Board of Governors.
- Loretta J. Mester, Cleveland.
- Randal K. Quarles, Board of Governors.
- John C. Williams, San Francisco.

**FOMC minutes** - Written record of FOMC policy setting meetings are released 3 weeks following a meeting. The minutes pro-

vide more insight into the FOMC's deliberations and can generate significant market reactions.

**Funds** - refers to hedge fund types active in the market, also used as another term for USD/CAD pair.

## G

**G7** - Group of 7 Nations - United States, Japan, Germany, United Kingdom, France, Italy, and Canada.

**G8** - Group of 8 - G7 including Russia.

**Gap** - A quick market move that finds price skipping over several levels without any trades occurring. Gaps usually follow economic data or news announcements.

**Geithner, Timothy** - Secretary of the US Treasury, which has responsibility for the US dollar in currency markets.

**Given** - Refers to a bid being hit or selling interest.

**Giving it up** - A technical level succumbs to a hard-fought battle.

**GMT** - Greenwich Mean Time - The most commonly referred to time zone in the FOREX markets. GMT does not change during the year, as opposed to daylight savings/summer time.

**Gold ('s Relationship)** - Commonly accepted that gold moves in the opposite direction of the US dollar. There is a long-term correlation coefficient of about -0.75, but shorter-term correlations are less reliable.

**Greg Ipp** - Economics reporter for the Wall Street Journal

**Greenback** - Nickname for the US dollar

**Gunning, Gunned** - refers to traders pushing to trigger known stops or technical levels in the market.

## H

**Handle** - Every 100 pips in the FX market starting with 000.

**Hawk - Hawkish** - A country's monetary policy-makers are referred to as "hawkish" when they believe that higher interest rates are needed, usually to combat inflation or restrain rapid economic growth, or both.

**Hildebrand** - Philipp Hildebrand, Member of the policy-setting Directorate of the Swiss National Bank (SNB)

**"Hit the bid"** - To sell at the current market bid.

## I

**Illiquid** - Little volume being traded in the market that often creates choppy market conditions.

**IMM** - International Monetary Market-the Chicago-based currency futures market, part of the Chicago Mercantile Exchange.

**IMM Futures** - A traditional futures contract based on major currencies against the US dollar traded in the pits of the Chicago Mercantile Exchange.

**+IMM Session** - 8:00 AM EST - 3:00 PM EST

**INDU** - Abbreviation for the Dow Jones Industrial Average.

## J

**Jenkins, Paul** - Paul Jenkins, Senior Deputy Governor of the Bank of Canada.

**Juncker** - Jean Claude Juncker, the Prime minister and Finance minister of Luxembourg, currently the head of the EU's group of finance ministers, ECOFIN.

## K

**Keep the powder dry** - To limit your trades due to inclement trading conditions; either choppy or extremely narrow markets, where it may be better to stay on the sidelines until an opportunity is more clear.

**Kiwi** - Nickname for NZD/USD

**Knock Ins** - Option strategy that requires the underlying product to trade at a certain price before a previously bought option becomes active. Knock-ins are used to reduce premium costs of the underlying option and can trigger hedging activities once an option is activated.

**Knock Outs** - Option that nullifies a previously bought option if the underlying product trades a certain level. When a knock-out level is traded, the underlying option ceases to exist and any hedging may have to be unwound.

## L

**Level** - A price zone, or particular price that is significant technically or based on reported orders/option interest.

**Leveraged Names** - Short-term traders, referring largely to the hedge fund community.

**LIBOR** - The London Inter-Bank Offered Rate. Banks use LIBOR as a base rate for international lending.

**Limits** - An order that seeks to buy at lower levels than the current market or sell at higher levels than the current market. An

order with restrictions on the maximum price to be paid or the minimum price to be received. As an example, if the current price of USD/YEN is 117.00/05, then a limit order to buy USD would be at a price below the current market, e.g. 116.50.

**Longs** - Traders who have bought a particular pair

**Loonie** - Nickname for USD/CAD

**London Session** - 3:00 AM EST - 12:00 AM EST

**L/T** - long term, usually refer to daily or several days.

## M

**Macro** - The longest term trader who bases trade decisions on fundamental analysis. A trade holding period can last anywhere from around 6 months to multiple years.

**Medley Report** - refers to Medley Global Advisors, a market consultancy that maintains close contacts with central bank and government officials around the world. Their reports can frequently move the currency market as they purport to have inside information from policy makers. The accuracy of the reports has fluctuated over time, but the market still pays attention to them in the short-run.

**Models** - Synonymous with black box. Systems that automatically buy and sell based on technical analysis or other quantitative algorithms.

**MoM** - Abbreviation for month over month, the change in a data series relative to the prior month's level.

**Momentum** - Any of a series of technical studies (e.g. RSI, MACD, Stochastics, Momentum) that assess the rate of change in prices.

**Momentum Players** - Traders who align themselves with an intra-day trend that attempt to grab 50-100 pips.

**M/T** - medium term

## N

**New York Session** - 8:00 AM EST - 5:00 PM EST

**No touch** - An option that pays a fixed amount to the holder if the market never touches the predetermined Barrier Level.

## O

**Offered** - If a market is said to be trading "offered", it means a pair is attracting heavy selling interest, or offers.

**"On top"** - Attempting to sell at the current market order price.

**One touch** - An option that pays a fixed amount to the holder if the market touches the predetermined Barrier Level.

**Order** - An order to execute a trade at a specified rate. It is the opposite of a deal.

## P

**Paid** - Refers to the offer side of the market dealing.

**Pair** - The Forex quoting convention of matching one currency against the other.

**Paneled** - A very heavy round of selling.

**Parabolic** - A market that moves a great distance in a very short period of time, frequently moving in an accelerating fashion that

resembles one half of a parabola. Parabolic moves can be either up or down.

**Patient** - Waiting for certain levels, or news events to hit the market before entering a position.

**Pound** - Nickname for the GBP/USD

**Profit** - taking-After a price increase, traders who earlier went long (bought) begin selling to 'take their profit'.

**Pullback** - The tendency of a trending market to retrace a portion of the gains before continuing in the same direction.

## R

**Range** - The opposite of a trend. No net change in price, or equal highs and equal lows.

**RBA** -Reserve Bank of Australia, the central bank of Australia.

**RBNZ** - Reserve Bank of New Zealand, the central bank of New Zealand

**Real Money** - Traders of significant size including pension funds, asset managers, insurance companies, etc. They are viewed as indicators of major long-term interest market interest, as opposed to shorter-term, intraday speculators.

**Resistance** - A price that might act as a ceiling. The opposite of support.

**Revaluation** - When a pegged currency is allowed to strengthen or rise as a result of official actions; the opposite of a devaluation.

## S

**Shorts** - Traders who have sold, or shorted, a currency pair, or those who are bearish on the market.

**Short-covering** - After a decline, traders who earlier went short begin buying back.

**Short squeeze** - When traders are heavily positioned on the short side and a market catalyst causes them to cover (buy) in a hurry causing a sharp price increase.

**Sidelines, sit on hands** - Traders are encouraged to stay out of the markets due to directionless, choppy, unclear market conditions.

**Slippery** - simply a term used when the market feels like it is ready for a quick move in any direction

**Sloppy** - Choppy trading conditions that lack any meaningful trend, and or follow through.

**SOTD** - Our Todd Gordon's technical report "Strategy of the Day"

**Sovereign names** - refers to Central Banks active in the spot market

**Strikes** - The specific spot price that is the basis for a currency option contract. Option A 1.2500 strike call option holder can buy the previously agreed upon number of EURUSD if the spot price is above 1.2500

**Support** - A price that might act as a floor

**Swissy** - The nickname for USD/CHF

**SNB** - Swiss National Bank, the central bank of Switzerland

**S/T** - Short term

**Sterling** - Nickname for GBP/USD

**Stops** - refers to 'stop-loss' orders. Order type whereby an open position is closed at a specific price. Often used to minimize exposure to losses if the market moves against an investor's position. As an example, if an investor is long USD/JPY at 119.50, they might wish to put in a stop loss order at 119.20, which would limit losses should the dollar move lower.

**Stop loss hunting** - When a market seems to be reaching for a certain level that is believed heavy with stops. If stops are triggered, then the price will often jump through the level as a flood of stop loss orders are triggered.

**Stops building** - refers to stop loss orders building up; the accumulation of stop loss orders to buy above the market in an up-move, or to sell below the market in a down move..

## T

**Technicals** - Short for technical analysis, the process by which past price patterns are studied for clues as to the direction of future price movements.

**Technicians, or "Techs"** - Traders who base their trading decisions on Technical Analysis.

**Thin** - Illiquid - slippery - Choppy; A light volume market that produces erratic trading conditions.

**Tokyo Session** - 7:00 PM EST - 4:00 AM EST

**Trading Bid** - A pair is acting strong and/or moving higher; bids keep entering the market and pushing prices up.

**Trading Heavy** - a market that feels like it wants to move lower, usually associated with an offered market that will not rally despite buying attempts.

**Trading Offered** - A pair is acting weak and/or moving lower, and offers to sell keep coming into the market.

**Trend** - The opposite of a range. Price movement that produces a net change in value. An uptrend is identified by higher-highs and higher-lows. A downtrend is identified by lower-highs and lower-lows.

**Trichet** - Jean Claude Trichet; the president of the European Central Bank (ECB).

**T/P** - Take profit. Refers to a limit orders that look to sell above the level that was bought, or buy back below the level that was sold.

## U

**Ugly** - Describing unforgiving conditions that can be violent and quick.

## V

**Volatility** - Referring to active markets that often presents trading opportunities.

## W

**WSJ** - Wall Street Journal

## Y

**Yard-** A billion units

**YoY** - Abbreviation for year over year

**Yuan** - The Chinese currency that has been a source of contention between the US and China. Flexible - China's recent economic policy to allow the Yuan to appreciate against the USD.

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