



*The Opportunity*

■ Comprehensive Induction  
Training Manual



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# Comprehensive Induction Training Manual

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## Chapter 1: Introduction

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### 1.1 Foreign Exchange as a Financial Market

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Currency exchange is very desirable for both the company and individual traders who generate handsome returns on forex trading - a peerless and distinctive financial market which provides unprecedented opportunity to make above-average returns when compared to traditional financial instruments. Spot commodities such as spot gold and spot silver operate in an almost indistinguishable way to forex pair instruments and therefore, the material detailed in this induction training guide is applicable to both, although the focus here on out will be orientated towards spot foreign exchange products.

The following features make forex unique in comparison to all other sectors of the world financial system:

- Exceptionally high efficiency and particularly low costs relative to other financial markets;
- Accessibility to all traders promptly, in the major currencies;
- Sure-fire quantity and liquidity of the major currencies;
- Increased consideration for several currencies, around the clock;
- The facility to leverage funds and use of modern-day market makers to utilize the heftiest, 4 trillion a dollar a day market;
- Business hours which empower traders to deal after normal hours or during national holidays in their country, finding markets abroad open. (24 hours 5 and half days a week).

The goal of this extended induction training manual is to primarily introduce you to the basics of technical and fundamental aspects of foreign exchange in a hands-on way, and acts as a guide to the most preeminent answers on the classic questions as why are currencies being traded, who are the traders, what currencies do they trade, what makes rates move, what tools are used for the trade, how a currency's performance can be predicted and where the germane information may be attained from.

This training manual should however, be used in conjunction with the basic induction training manual, as they work hand in hand. Since the fundamental theory concepts and core trading concepts have been discussed and explained in the basic induction manual, there is no need to repeat them here, and it is assumed you have already gained an understanding of them. If not, please refer back to the basic introduction manual.

Albeit by no means is this orientation guidebook all-encompassing and conclusive. It is intended to give you a very basic, but wide-ranging outline of the key components that model the world of forex trading.

Becoming a successful trader necessitates extensive study, familiarity, knowledge of not only theory, but the trading platform and tools you will need to have full control over. Further to this you will need to be taught how to master trading self-control discipline. This induction manual is not intended to fulfil those requirements. In order to accomplish this, it's highly advisable, in actual fact necessary to invest in a real, professional course such as the one provided by the renowned University of Forex and Gold. Should you be interested, please contact [sales@ufgscholar.com](mailto:sales@ufgscholar.com) in order to order your copy.

Trading Spot Forex and Commodities at its core is about the effective control and supervision of two of the most primal and significant emotions; fear and greed.

The nature of trading being what it is, merely trading on a demonstration account will never be a true confirmation as to whether you have what it takes to make it big. Operating with real capital at stake in

the market has a tremendous effect on how a trader behaves and therefore, the only way to truly grow is to go live. It is therefore, essential to open a live trading account as early on in your trading career as possible in order to truly appreciate the markets. Any capital loss at inception needs to be factored in as part of the cost of doing business; what is vital is to persevere and ensure that one takes all the experience and knowledge used during this phase and continue trading and build your trading portfolio one step at a time.

The experience attained during that process however, can never be taken away, and you will need strength, belief and conviction to follow through because as with any profession, there is a ladder to climb and trying to cut corners will only result in failure and disappointment – a true ace has to pass through every level successfully, knowing full well that this requires time and effort.

## 1.2. Foreign Exchange in a Historical Perspective

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Currency trading has a lengthy past and can be traced back to the ancient Middle East and Middle Ages when foreign exchange started to shape up after the international merchant bankers invented bills of exchange, which were transferable third-party payments that permitted flexibility and growth in foreign exchange dealings.

The modern foreign exchange market characterized by the subsequent periods of increased unpredictability, and relative stability formed itself in the twentieth century.

By the mid-1930s London came to be the foremost centre for foreign exchange, and the British pound served as the currency to trade and to keep as a reserve currency. Because foreign exchange was traded on the telex machines, or cable, back then, the pound was given the nickname “cable”.

In 1930, the Bank for International Settlements was established in Basel, Switzerland, to supervise the financial efforts of the newly independent countries, which arose after the World War I, and to provide financial relief to countries going through temporary balance of payments difficulties.

After the World War II, where the British economy was wrecked, and the United States was the only country unscathed by war, U.S. dollar became the principal currency of the entire globe. Nowadays, currencies all over the world are commonly quoted against the U.S. dollar.

## 1.3. Main Stages of Recent Foreign Exchange Development

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The key phases of the further development of the Forex in modern times were:

- Signing of the Bretton Woods Accord;
- Constitution of the international monetary fund (IMF);
- Emergency of the free-floating foreign exchange markets;
- Formation of currency reserves;
- Constitution of the European Monetary Union and the European Monetary Cooperation Fund of the Euro as a currency.

The Bretton Woods Accord was signed in July 1944 by the United States, Great Britain, and France, which decided to make the currency market stable, predominantly by reason of governmental controls on currency values. In order to implement it, two key goals were emphasized to provide the pegging (backing of prices) of currencies and to establish the International Monetary Fund (IMF).

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In accordance to the Bretton Woods Accord, the major trading currencies were pegged to the U.S. dollar in the sense that they were permitted to fluctuate only 1% on either side of that rate. When a currency exceeded this range, marked by intervention points, the central bank responsible had to buy it or sell it, and thus bring it back into range. In turn, the U.S. dollar was pegged to gold at \$35 per ounce. Hence, the U.S. dollar became the world's reserve currency.

The purpose of IMF is to confer with one another to sustain a stable system of buying and selling the currencies, so that payments in foreign money can come about between countries smoothly and timely.

The IMF loans money to members who find it difficult to meet financial obligations to other members, on the condition that they assume economic reforms to wipe out these difficulties for their own good and the benefit of the entire membership. In total the main responsibilities of the IMF are:

- To encourage international cooperation by making available the means for members to consult and join forces on international monetary issues;
- To facilitate the development of international trade and thus aid high levels of employment and real income among member nations;
- To facilitate stability of exchange rates and organized exchange agreements, and [to] discourage competitive currency depreciation;
- To foster a multifaceted system of international payments, and to pursue the elimination of exchange restrictions that hinder the growth of world trade;
- To make financial means available to members, on a temporary basis and with adequate precautions, to enable them to correct payment imbalances without resorting to measures destructive to national and international prosperity.

To reach these goals the IMF uses such tools as Reserve tranche, which allows a member to draw on its own reserve asset quota at the time of payment, Credit tranche drawings and stand-by arrangements are the standard form of IMF loans, the compensatory financing facility extends monetary help to countries with provisional problems generated by reductions in export revenues, the buffer stock financing facility which is geared toward helping the stocking up on primary commodities in order to secure price stability in a specific commodity and the protracted facility designed to assist members with financial problems in amounts or for periods exceeding the scope of the other facilities.

Since 1978 free-floating of currencies were officially authorized by the International Monetary Fund. That is the currency may be traded by anybody, and its value is a function of the current supply and demand forces in the market, and there are no explicit intervention points that have to be considered.

Of course, the Federal Reserve Bank occasionally intervenes to change the value of the U.S. dollar, but no specific levels are ever imposed. Unsurprisingly, free-floating currencies are in the heaviest trading demand. Free-floating is not the sine qua non condition for trading. Liquidity is also a requisite condition.

Currency reserves for international transactions are tools for people and corporations to protect investments in times of economic or political turmoil. Right after the World War II the U.S. dollar became the reserve currency worldwide. Currently, there are other reserve currencies: the euro and the Japanese yen. The portfolio of reserve currencies may change depending on specific international conditions, for instance, it may include the Swiss franc.

The formation of the European Monetary Union was the outcome of a long and uninterrupted series of post-World War II efforts focused on creating closer economic cooperation among the capitalist European nations. The European Community (EC) commission's ceremoniously stated objectives were to improve the inter-European economic cooperation, create a regional area of fiscal stability, and function as "a pole of stability in world currency markets."

The first steps in this innovation were taken in 1950, when the European Payment Union was founded to facilitate the inter-European settlements of international trade transactions. The reason of the community was to promote inter-European trade in general, and to get rid of restrictions on the trade of coal and raw steel, in particular.

In 1957, the Treaty of Rome established the European Economic Community, with the same signatories as the European Coal and Steel Community. The stated goal of the European Economic Community was to abolish customs duties and any barriers against the transit of capital, services, and people among the member nations. The EC also started to raise common tariff barriers against outsiders.

The European Community consists of four executive and legislative bodies:

1. The European Commission is the executive body responsible for creating and observing the enforcement of the policies. It lacks an enforcement arm and resultantly; the commission must depend on individual governments to enforce the policies. There are 23 subdivisions, such as foreign affairs, competition policy, and agriculture. Each country selects its own representatives for four-year tenures. The commission is based in Brussels and comprises of 17 members.
2. The Council of Ministers makes the main policy decisions. It is composed of ministers from the 12 member nations. The presidency is held for six months by each of the members, in alphabetical order. The meetings are held in Brussels or in the capital of the nation holding the presidency.
3. The European Parliament reviews and adjusts legislative proposals and has the power to embrace or reject budget proposals. It consists of 518 elected members. It is based in Luxembourg, but the assemblies take place in Strasbourg or Brussels.
4. The European Court of Justice settles disagreements between the EC and the member nations. It consists of 13 members and is based in Luxembourg.

In 1963, the French-West German Treaty of Cooperation was signed. This pact was designed not only to end centuries of bellicose enmity, but also to settle the post-war reconciliation between two major foes. The threat required that West Germany would lead economically through the cold war, and France, the former diplomatic dynamo, would provide the political leadership. The premise of this treaty was obviously correct in an environment defined by a predictable long-term continuing cold war and a divided Germany. Later in this chapter, we discuss the implications for the modern era of this immensely expensive accord.

A conference of national leaders in 1969 set the objective of establishing a monetary union within the European Community. This goal was supposed to be realized by 1980, when a common currency was planned to be used in Europe. The reasons for the proposed common currency unit were to rouse inter-European trade and to link the individual member economies in order to contend successfully with the economies of the United States and Japan.

In 1978, the nine members of the European Community sanctioned a new course of action for stability—the European Monetary System. The new system was actively established in 1979. Seven countries were then full members—West Germany, France, the Netherlands, Belgium, Luxembourg, Denmark, and Ireland. Great Britain did not join in all the arrangements, and Italy adhered under special conditions. Greece joined in 1981, Spain and Portugal in 1986. Great Britain joined the Exchange Rate Mechanism in 1990.

The European Monetary Cooperation Fund was established to control the EMS' credit arrangements. In order to increase the receipt of the ECU, countries that hold more ECU deposits, or accept as loan repayment more than their share of ECU, receive interest on the excess ECU deposits, and vice versa. The interest rate is the weighted average of all the EMS members' discount rates.

In 1998, the Euro was announced as an all-European currency. Here are the official locking rates of the 11 participating European currencies in the euro (EUR). The rates were propositioned the EU Commission and approved by EU finance ministers on December 31, 1998, ahead of the launch of the euro at midnight, January 1, 1999.

The real starting date was Monday, January 4, 1999. The conversion rates are:

1 EUR = 40.3399 BEF    1 EUR = 1.95583 DEM  
1 EUR = 166.386 ESP    1 EUR = 6.55957 FRF  
1 EUR = 0.787564 IEP    1 EUR = 1936.27 ITL  
1 EUR = 40.3399 LUF    1 EUR = 2.20371 NLG  
1 EUR = 13.7603 ATS    1 EUR = 200.482 PTE  
1 EUR = 5.94573 FIM

The euro bills are supplied in values of 5, 10, 20, 50, 100, 200, and 500 euros. Coins are issued in values of 1 and 2 euros, and 50, 20, 10, 5, 2, and 1 cent.

## 1.4. Factors Caused Foreign Exchange Volume Growth

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Foreign exchange trading is basically conducted in a decentralized manner, with the exceptions of currency futures and options. Foreign exchange has undergone spectacular growth in volume ever since currencies were allowed to float freely against each other. While the daily turnover in 1977 was U.S. \$5 billion, it increased to U.S. \$600 billion in 1987, reached the U.S. \$1 trillion mark in September 1992, and at around \$1, 5 trillion by the year 2000. Today, around 2012/13 the daily volume is over \$4 trillion and still growing. It is well known now as being the biggest traded and speculated market in the world.

The key factors that influence on this spectacular growth in volume are indicated below.

For foreign exchange, currency volatility is a prime factor in the growth of volume. In fact, volatility is a sine qua (essential ingredient) for trading. The only instruments that may be profitable under conditions of low volatility are currency options.

### Business Internationalization

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In recent decades, the business world competition has intensified, causing a worldwide quest for more markets and cheaper raw materials and labour. The velocity of economic internationalization picked up even more in the 1990s, owing to the fall of Communism in Europe and to up-and-down economic and financial development in both Southeast Asia and South America. These changes have been progressive toward foreign exchange, since more transactional layers were added.

### Increasing of Traders Sophistication

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Advances in technology, computer software, and telecommunications and increased experience have increased the level of traders' sophistication. This boosted traders' confidence in their ability to both make profits and properly handle the exchange risks. Therefore, trading sophistication led toward volume upturn.

### Developments in Telecommunications

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The launch of automated dealing systems in the 1980s, of matching systems in the early 1990s, and of Internet trading in the late 1990s completely transformed the way foreign exchange was run. The dealing systems are on-line computer systems that connect banks on a one-to-one basis, while matching systems are electronic brokers. They are dependable and much faster, allowing traders to conduct more concurrent trades. They are also more secure, as traders are able to see the deals that they execute. The dealing systems had a significant role in expanding the foreign exchange business due to their reliability, speed, and safety.

## **Interest Rate Volatility**

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Economic internationalization had a significant bearing on interest rates as well. Economics became much more interconnected, and that magnified the need to change interest rates faster. Interest rates are generally changed in order to modify the growth in the economy, and interest rate differentials have a considerable impact on exchange rates.

## **Increasing of Corporate Interest**

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A victorious performance of a product or service overseas may be pulled down from the profit point of view by contrary foreign exchange conditions and vice versa. Proper handling of the foreign exchange may boost the overall International performance of a product or service. Excellent handling of foreign exchange generally adds substantially to the rate of return. Consequently, interest in foreign exchange has increased in the past decade. Many corporations are making use of currencies not only for hedging, but also get the most out of opportunities that exist solely in the currency markets.

## **Computer and Programming development**

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Computers play a major role at many stages of effecting foreign exchange. In addition to the dealing systems, matching systems concurrently connect all traders around the world, electronically replicating the brokers' market. The new office systems grant full accounting coverage, ticket writing, back office processing, and risk management implementation at a fraction of their previous fee. Cutting-edge software makes it possible to produce all types of charts, enhance them with sophisticated technical studies, and put them at traders' fingertips on a continuous basis at a rather regulated cost.

## CHAPTER 2:

# Kinds of Major Currencies and Exchange Systems

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## 2.1. Major Currencies

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### The U.S. Dollar

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The United States dollar is the world's chief currency. All currencies are generally quoted in U.S. dollar terms. Under conditions of international economic and political conflict, the U.S. dollar is the main safe-haven currency which was proven exceptionally well during the Southeast Asian calamity of 1997-1998.

The U.S. dollar became the leading currency as the Second World War ended, and was at the core of the Bretton Woods Accord, as the other currencies were essentially pegged against it. The introduction of the euro in 1999 moderated the dollar's importance only somewhat.

The major currencies traded against the U.S. dollar are the Euro, Japanese yen, British pound, and Swiss franc.

### The Euro

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The euro was created to become the leading currency in trading by simply being quoted in American terms. Like the U.S. dollar, the euro has a strong international presence stemming from members of the European Monetary Union. The currency remains beset by unequal growth, high unemployment, and government resistance to structural changes. The pair was also weighed in 1999 and 2000 by out-flows from foreign investors, particularly Japanese, who were driven to liquidate their losing investments in euro-denominated assets. Furthermore, European money managers rebalanced their portfolios and lessened their euro exposure as their needs for hedging currency risk in Europe waned.

### The Japanese Yen

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The Japanese yen is the third most traded currency in the world; it has a much smaller international presence than the U.S. dollar or the euro. The yen is very liquid around the world, virtually around the clock. The natural demand to trade the yen focused mostly among the Japanese keiretsu, the economic and financial conglomerates.

The yen is much more sensitive to the fortunes of the Nikkei index, the Japanese stock market, and the real estate market. The attempt of the Bank of Japan to puncture the double bubble in these two markets had a negative effect on the Japanese yen, although the impact was fleeting.

### The British Pound

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Until the end of World War II, the pound was the currency of reference. Its nickname, cable, is taken from the telex machine, which was used to trade within its glory days. The currency is profoundly traded

against the euro and the U.S. dollar, but has a spotty presence against other currencies. The two-year stint with the Exchange Rate Mechanism, between 1990 and 1992, had a soothing effect on the British pound, as it generally had to follow the deutsche mark's vacillations, but the crisis conditions that triggered the pound's withdrawal from the ERM had a psychological effect on the currency.

Preceding the introduction of the euro, both the pound and the dollar benefited from any misgivings about the currency convergence. After the introduction of the euro, Bank of England is endeavouring to bring the high U.K. rates closer to the lower rates in the euro zone. The pound could join the euro in the early 2000s, provided that the U.K. referendum is positive.

## The Swiss Franc

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The Swiss franc is the only currency of a major European country that does not belong to the European Monetary Union or to the G-7 countries. Although the Swiss nation is relatively small, the Swiss franc is one of the four major currencies, closely approximating the strength and quality of the Swiss economy and finance. Switzerland has a very close economic relationship with Germany, and thus to the euro zone. Therefore, in terms of political insecurity in the East, the Swiss franc is favoured generally over the euro.

Characteristically, it is believed that the Swiss franc is a stable currency. In fact, from a foreign exchange point of view, the Swiss franc closely resembles the patterns of the euro, but lacks its liquidity. As the demand for it surpasses supply, the Swiss franc can be more unpredictable than the euro.

## 2.2. Kinds of Exchange Systems

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### Dealing Systems

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Dealing systems are on-line computers that link up the contributing banks around the world on a one-on-one basis. The performance of dealing systems is characterized by speed, reliability, and safety. Accessing a bank through a dealing system is much quicker than making a phone call. Dealing systems are uninterruptedly being improved in order to offer all-out support to the dealer's main function: trading. The software is very unswerving in picking up the big figure of the exchange rates and the standard value dates. In addition, it is tremendously precise and fast in getting in touch with other parties, switching among conversations, and accessing the database. The trader is in non-stop visual contact with the information exchanged on the monitor. It is easier to see than hear this information, especially when hopping between conversations.

Most banks use an arrangement of brokers and direct dealing systems. Both approaches reach the same banks, but not the same parties, because corporations, for instance, cannot deal in the brokers' market. Traders develop personal relationships with both brokers and traders in the markets, but select their trading medium based on price quality, not on personal feelings. The market share between dealing systems and brokers varies based on market conditions. Fast market conditions are advantageous to dealing systems, whereas regular market conditions are more favourable to brokers.

### Matching Systems

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Unlike dealing systems, on which trading is not nameless and is conducted on a one-on-one basis, matching systems are anonymous and individual traders deal against the rest of the market, similar to dealing in the brokers' market. However, different from the brokers' market, there are no individuals to bring the prices to the market, and liquidity may be limited at times. Matching systems are well-suited for

trading smaller amounts as well.

The dealing systems characteristics of hustle, trustworthiness, and security are reproduced in the matching systems. In addition, credit lines are automatically managed by the systems. Traders input the total credit line for each counter party. When the credit line has been reached, the system automatically refuses dealing with the particular party by presenting credit restrictions, or shows the trader only the price made by banks that have open lines of credit. As soon as the credit line is restored, the system allows the bank to deal again. In the inter-bank market, traders deal directly with dealing systems, matching systems, and brokers in a complementary fashion.

## Direct Dealing

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Direct dealing is based on trading interchange. A market maker—the bank or Broker making or quoting a price—expects the bank that is calling to counter with respect to making a price when called upon. Direct dealing provides more trading prudence, as compared to dealing in the brokers' market. Sometimes traders take advantage of this feat.

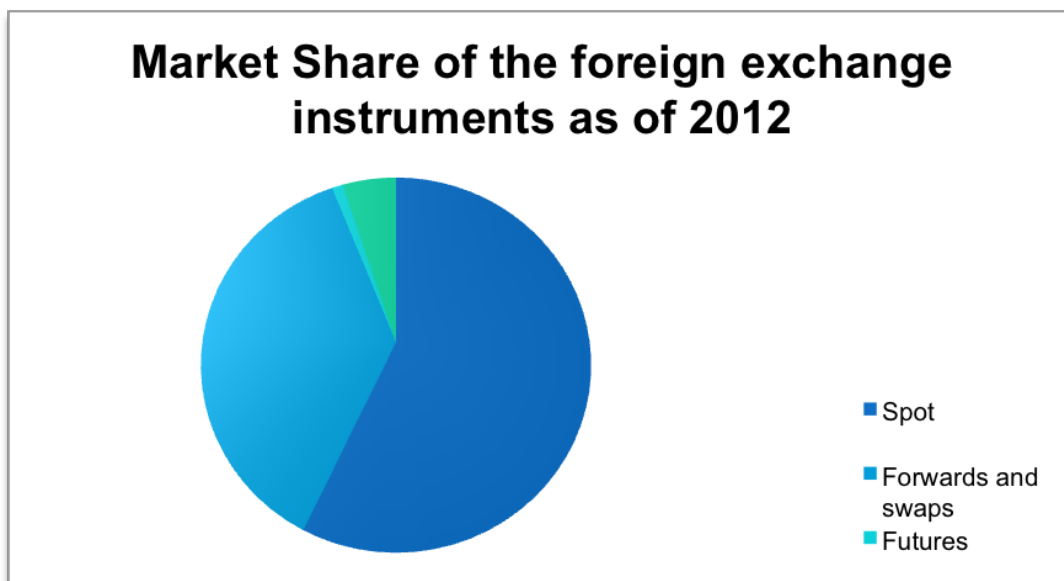
Direct dealing used to be conducted mostly telephonically. Dealing errors were problematic to prove and even more so to settle. In order to increase dealing safety, most banks intercepted the phone lines through which trading was conducted. This measure was effective in recording all the transaction details and aiding the dealers to assign the responsibility for errors justly.

# CHAPTER 3

## Kinds of Foreign Exchange Market

### 3.1. Spot Market

Currency spot trading is the most widespread foreign-currency instrument worldwide, making up 37% of the overall activity, as depicted in this pie chart.



The spot market is precisely where you would be trading in and contains the perfect elements to speculate, as it features high volatility and quick profits. A spot deal consists of a two-pronged contract whereby a party delivers a specified amount of given currency against receipt of a specified amount of another given currency from a counter party, based on an agreed exchange rate within two business days of the deal date. The exception is the Canadian dollar, in which the spot delivery is executed the next business day.

The name “spot” does not mean that the currency exchange transpires on the very day the business deal is completed. Currency transactions that call for same-day delivery are called cash transactions. The two-day spot delivery for currencies was established long before technological innovations in information processing.

This time period was imperative to check out all transactions’ details among counterparties. Although technologically viable, the contemporary markets did not deem it necessary to reduce the time to make payment. Human errors still occur and need to be resolved ahead of delivery. When currency deliveries are made to the wrong party, fines are levied.

In terms of volume, currencies all over the world are traded predominantly against the U.S. dollar, which is the universal currency of reference. The other major currencies are the euro, followed by the Japanese yen, the British pound, and the Swiss franc. Other currencies with substantial spot market shares are the Canadian dollar and the Australian dollar.

Also, a significant share of trading takes place in the currencies crosses, with non-dollar instruments, where foreign currencies are quoted against other foreign currencies, for instance, the euro against Japanese yen.

There are numerous reasons why currency spot trading is so attractive. Profits (or losses) are realized quickly in the spot market, attributable to market unpredictability. Moreover, since spot deals are settled in but two business days, the time exposure to credit risk is narrowed to some degree.

Turnover in the spot market has been swelling radically, thanks to the combination of inherent profitability and reduced credit risk. The spot market is characterized by high liquidity and branded extremely volatile. Volatility is the degree to which the price of currency fluctuates within a certain period of time. Free-floating currencies, such as the euro or Japanese yen, tend to be volatile against the U.S. dollar.

In an active global trading day (24 hours), the euro/dollar exchange rate may change its value 18,000 times. An exchange rate may “fly” 200 pips in a matter of seconds if the market gets wind of a significant event. On the contrary, however, the exchange rate may maintain stability for extended periods of time, even exceeding of an hour, when one market is just about finished trading and waiting for the next market to take over. This is a common occurrence toward the end of the New York trading day.

Since California failed in the late 1980s to provide the link between the New York and Tokyo markets, there is a technical trading gap between around 4:30pm and 6pm EDT. In the United States spot market, the majority of deals are executed between 8am and twelve noon, when the New York and European markets overlap. The activity plummets sharply in the afternoon, over 50% in fact, when New York loses the international trading support. Overnight trading is limited, as very few banks have overnight desks. Most banks send their overnight orders to branches or other banks that operate in the active time zones.



The major traders in the spot market are the commercial banks and the investment banks, followed by hedge funds and corporate customers and finally, a growing number of individual traders. In the inter-bank market, the majority of the deals are international, reflecting global exchange rate competition and cutting-edge telecommunication systems.

Nevertheless, corporate customers tend to focus their foreign exchange activity domestically, or to trade through foreign banks operating in the same time zone. Although the hedge funds' and corporate customers' business in foreign exchange has been rising, banks maintain their position as the chief trading force.

The bottom line is important in all financial markets, but in currency spot trading the antes always appear greater as a result of world-wide demand.

The profit and loss can be either realized or unrealized. The realized profit and loss is a sure amount of money netted when a position is closed. The unrealized profit and loss consists of an unsure amount of money that an outstanding position would approximately generate if it were closed at the current rate.

The unrealized profit and loss changes constantly in tandem with the exchange rate.

## 3.2. Futures Market

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Currency futures are specific types of forward outright deals, which occupy, in general, a small part of the forex market. Because they are derived from the spot price, they are derivative instruments.

They are specific with regard to the expiration date and the size of the trade amount. Where forward outright deals—those that mature past the spot delivery date—will normally mature on any valid date in the two countries whose currencies are being traded, standardized amounts of foreign currency futures mature only on the third Wednesday of March, June, September and/or December.

There is a row of characteristics of the currency futures market, which makes it attractive. It is open to all market participants, individuals included. This is different from the spot market, which is high on closed to individuals - except high net-worth individuals—because of the size of the currency amounts traded. It is a central market, just as efficient as the cash market, and while the cash market is quite decentralized, trading of futures takes place under one roof. It eliminates the credit risk because the Chicago Mercantile Exchange Clearinghouse acts as the buyer for every seller, and vice versa. In turn, the Clearinghouse minimizes its own exposure by requiring traders who maintain a non-profitable position to post margins equal in size to their losses.

Moreover, currency futures afford several benefits for traders because futures are special types of forward outright contracts, corporations can use them for hedging purposes. Although the futures and spot markets trade closely together, certain differences between the two occur, generating arbitraging opportunities. Gaps, volume, and open interest are significant technical analysis devices solely available in the futures market. Yet their significance extrapolates to the spot market as well.

Because of these benefits, currency futures trading volume has steadily attracted an extensive variety of players.

For traders outside the exchange, the prices are accessible from on-line monitors. The most popular pages are found on Bridge, Telerate, Reuters, and Bloomberg. Telerate presents the currency futures on composite pages, while Reuters and Bloomberg display currency futures on individual pages shows the convergence between the futures and spot prices.

## 3.3. Forward Market

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The forward currency market consists of two instruments: forward outright deals and swaps. A swap deal is unusual among the rest of the foreign exchange instruments in that it involves two deals, or legs. All the other transactions involve only one deal. In its original form, a swap deal is the combination of a spot deal and a forward outright deal.

This market generally includes only cash transactions. Hence, currency futures contracts, albeit a special breed of forward outright transactions, are isolated and analysed separately.

In the forward market, there is no standard regarding the settlement dates, which range from 3 days to 3 years. Volume in currency swaps longer than one year tends to be light but, technically, there is no impediment to making these deals. Any date past the spot date and within the above range may be a forward settlement, so long as it is a valid business day for both currencies. The forward markets are dispersed markets, with players around the world entering into a variety of deals, either on a one-on-one basis or through brokers. On the contrary, the currency futures market is a centralized market, in which all the deals are executed on trading floors provided by different exchanges.

While in the futures market only a handful of foreign currencies may be traded in multiples of consistent amounts, the forward markets are inclusive of any currencies in any amount. The forward price encompasses two significant parts: the spot exchange rate and the forward spread. The spot rate is the main building block. The forward price is derived from the spot price by modifying the spot price with the forward spread, so it follows that both forward outright and swap deals are derivative instruments. The forward spread is also known as the forward points or the forward pips. The forward spread is necessary for adjusting the spot rate for specific settlement dates different from the spot date. Consequently, the maturity date is another formative aspect of the forward price. Just as in the case of the spot market, the left side of the quote is the bid side, and the right side is the offer side.

## 3.4. Currency Options

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A currency option is an agreement between a buyer and a seller that gives the buyer the right, but not the compulsion, to trade a specific amount of currency at a prearranged price and within a predetermined period of time, regardless of the market price of the currency; and gives the seller, or writer, the obligation to deliver the currency under the predetermined terms, if and when the buyer wants to exercise the option.

Currency options are distinctive trading instruments, equally fit for speculation and hedging. Options allow for a comprehensive customization of each individual strategy, a quality of vital importance for the sophisticated investor. More factors affect the option price relative to the prices of other foreign currency instruments. Unlike spot or forwards, both high and low volatility may generate a profit in the options market. For some, options are a cheaper vehicle for currency trading. For others, options mean added security and exact stop-loss order execution.

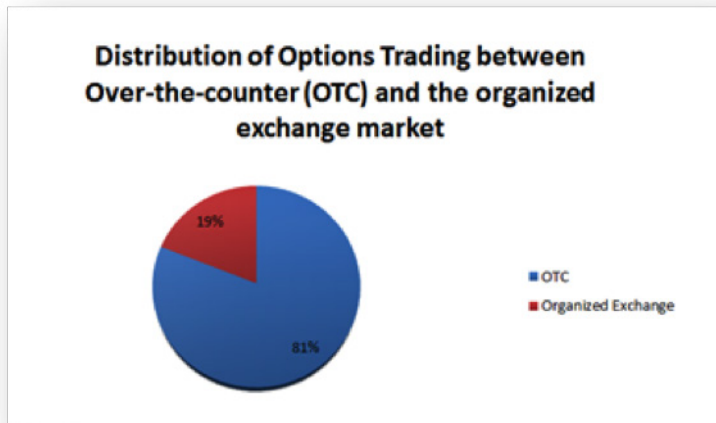
The biggest options trading centre is the United States, followed by the United Kingdom and Japan. Options prices are based on, or derived from, the cash instruments. Therefore, an option is a derivative instrument. Options are usually mentioned vis-a-vis insurance and hedging strategies. Often, however, traders have misconceptions regarding both the difficulty and simplicity of using options. There are also misconceptions regarding the capabilities of options.

In the currency markets, options are available on either cash or futures. It follows, then, that they are traded either over-the-counter (OTC) or on the centralized futures markets.

The majority of currency options, around 81 percent, are traded over-the-counter. The over-the-counter market is similar to the spot or swap market.

Corporations may call banks, and banks will trade with each other either directly or in the brokers' market. This type of dealing allows for maximum flexibility: any amount, any currency, any odd expiration date, any time. The currency amounts may be even or odd. The amounts may be quoted in either U.S. dollars or foreign currencies.

Any currency may be traded as an option, not only the ones available as futures contracts. Therefore, traders may quote on any exotic currency, as required, including any cross currencies.



The expiration date may be quoted anywhere from several hours to several years, although the bulk of dates are concentrated around the even dates—one week, one month, two months, and so on. The cash market never closes, so options may be traded literally around the clock.

Trading an option on currency futures will entitle the buyer to the right, but not the obligation, to take physical possession of the currency future. Unlike the currency futures, buying currency options does not require an initiation margin. The option premium, or price, paid by the buyer to the seller, or writer, reflects the buyer's total risk.

However, upon taking physical possession of the currency future by exercising the option, a trader will have to deposit a margin.

Seven major factors have an impact on the option price:

1. Price of the currency
2. Strike (exercise) price.
3. Volatility of the currency.
4. Expiration date.
5. Interest rate differential.
6. Call or put.
7. American or European option style.

Now that we have gained a basic perspective of the various type of markets traded within foreign exchange, just bear in mind that we are ultimately going to be trading the spot foreign exchange markets, as well as spot Gold and Silver.

The concepts that we are about to introduce, in the form of Technical and Fundamental analysis can be transposed to any of the above markets and more. The reason for this is that they are universal in 'language' and learning how to read charts as well as fundamental movements are universally applicable.

The key difference is that with the spot forex market, the exceptionally high volume and volatility make it the star of all markets allowing unbeatable profit potential, extremely low cost of transacting and smooth trading and analysis being an OTC market with a 24 hour constant cycle.

## CHAPTER 4

### Technical Analysis

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#### 4.1. The Ground rules of Technical Analysis

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Technical analysis is appointed to analyse market movement (the movement of prices, volumes and open interests) using the information obtained for a past time. Mainly, it is the chart study of past behaviour of currency's prices in order to forecast their future performance. It is one of the most significant tools available for the forecasting of financial markets. Such analysis has been an increasingly utilized forecasting tool over the last two centuries.

The main strength of technical analysis is the flexibility with regard to the underlying instrument, regarding the markets and regarding the time frame. A trader who deals several currencies but specializes in one may easily apply the same technical expertise to trading another currency. A trader who specializes in spot trading can make a smooth transition to dealing currency futures by using chart studies, because the same technical principles apply over and over again, regardless of the market. Finally, different players have different trading styles, objectives, and time frames.

Technical analysis is easy to compute what is important while the technical services are becoming increasingly sophisticated and reasonably priced.

Prior to this historic open market intervention, technical analysis provided ample selling signals.

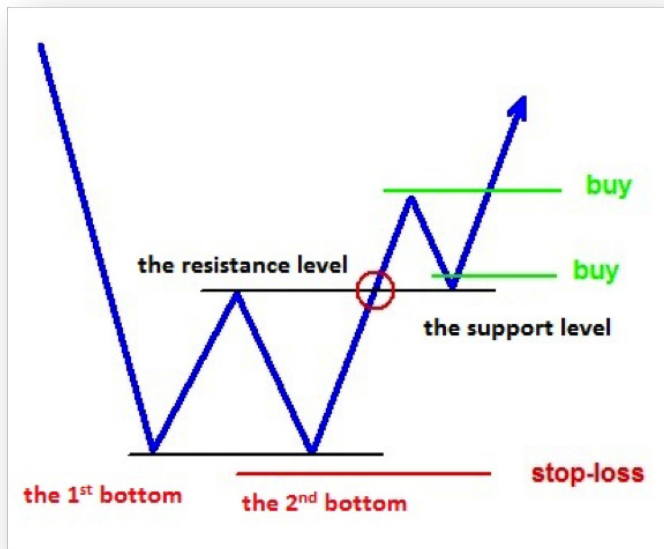
#### Price

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The Fundamental Principles of Technical Analysis are based on the Dow Theory with the following main thesis:

- 1 The price is a comprehensive reflection of all the market forces. At any given time, all market information and forces are reflected in the currency prices.
- 2 Price movements are historically repetitive.
- 3 Price movements are trend followers.
4. The market has three trends: primary, secondary, and minor. The primary trend has three phases: accumulation, run-up/run-down, and distribution. In the accumulation phase, the shrewdest traders enter new positions. In the run-up/run-down phase, the majority of the market finally "sees" the move and jumps on the bandwagon. Finally, in the distribution phase, the keenest traders take their profits and close their positions while the general trading interest slows down in an overshooting market. The secondary trend is a correction to the primary trend and may retrace one-third, one-half or two-thirds from the primary trend.
5. Volume must confirm the trend.
6. Trends exist until their reversals are confirmed. This illustration below shows example of reversals in a bearish currency market. The buying signals occur as prices break a significant resistance when the currency exceeds the previous highs.

## A reverse bearish currency

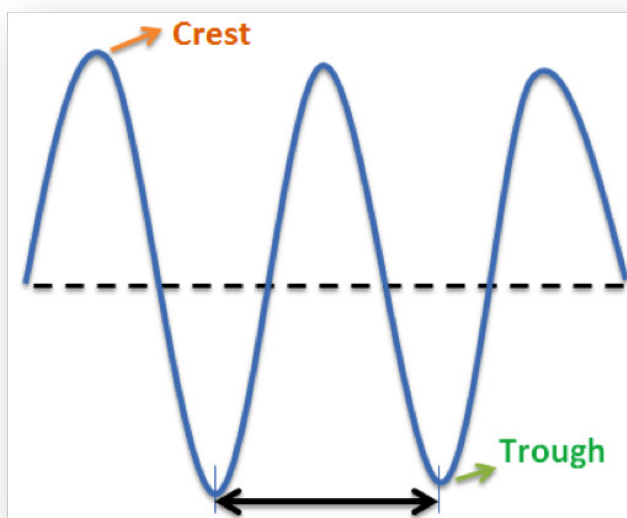


Cycles of currency price change are the propensity for events to repeat themselves at roughly the same time and are an important ground to justify the Dow Theory.

Cycle identification is a powerful tool that can be used in both the long and the short term. The longer the term, the more significance a cycle has. The illustration below shows a series of three cycles. The top of the cycle (C) is called the crest, and the bottom (T) is known as the trough. Analysts measure cycles from trough to trough.

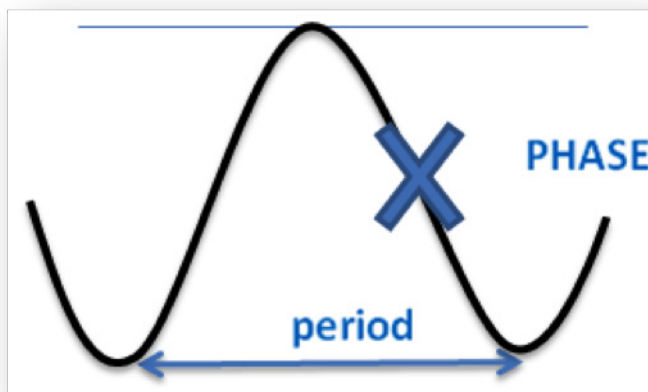
Cycles are gauged in terms of amplitude, period, and phase. The amplitude shows the height of the cycle; the period shows the length of the cycle; the phase shows the location of a wave trough.

## The structure of cycles



## The two gauging measures of a cycle; period and phase

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## Volume and Open Interest

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Volume consists of the total amount of currency traded within a period of time, usually one day. For example, by year 2012, the total foreign currency daily trading volume was \$4 trillion. But traders are naturally more interested in the volume of specific instruments for specific trading periods, because large trading volume suggests that there is interest and liquidity in a certain market, and low volume warns the trader to veer away from that market.

The risks of a low-volume market are usually very difficult to quantify or hedge. In addition, certain chart formations require heavy trading volume for successful development. An example is the head-and-shoulder formation. Therefore, despite its obvious importance, volume is not easy to quantify in all foreign exchange markets.

One method to estimate volume is to extrapolate the figures from the futures market. Another is “feeling” the size of volume based on the number of calls on the dealing systems or phones, and the “noise” from the brokers’ market.

Open interest is the total exposure, or outstanding position, in a certain instrument. The same problems that affect volume are also present here. As it was already mentioned, figures for volume and open interest are available for currency futures. If you have access to printed or electronic charts on futures, you will be able to see these numbers plotted at the bottom of the futures charts.

Volume and open interest figures are available from different sources, although one day late such as the newswires (Bridge Information Systems, Reuters, Bloomberg), newspapers (the Wall Street Journal, the Journal of Commerce), Weekly printed charts (Commodity Perspective, Commodity Trend Service).

## 4.2. Types of charts



### Candlestick Chart

The candlestick chart is closely related to the bar chart. It also consists of four major prices: high, low, open, and close. In addition to the common readings, the candlestick chart has a set of particular interpretations. It is also easier to view and hence the most popular type of chart to analyze on:



The opening and closing prices form the body of the candlestick. To indicate that the opening was lower than the closing, the body of the bar is left blank. In its original form, the body was colored red. Current standard electronic displays allow you to keep it blank or select a color of your choice. If the currency closes below its opening, the body is filled. In its original form, the body was colored black, but the electronic displays allow you to keep it filled or to select a color of your choice.

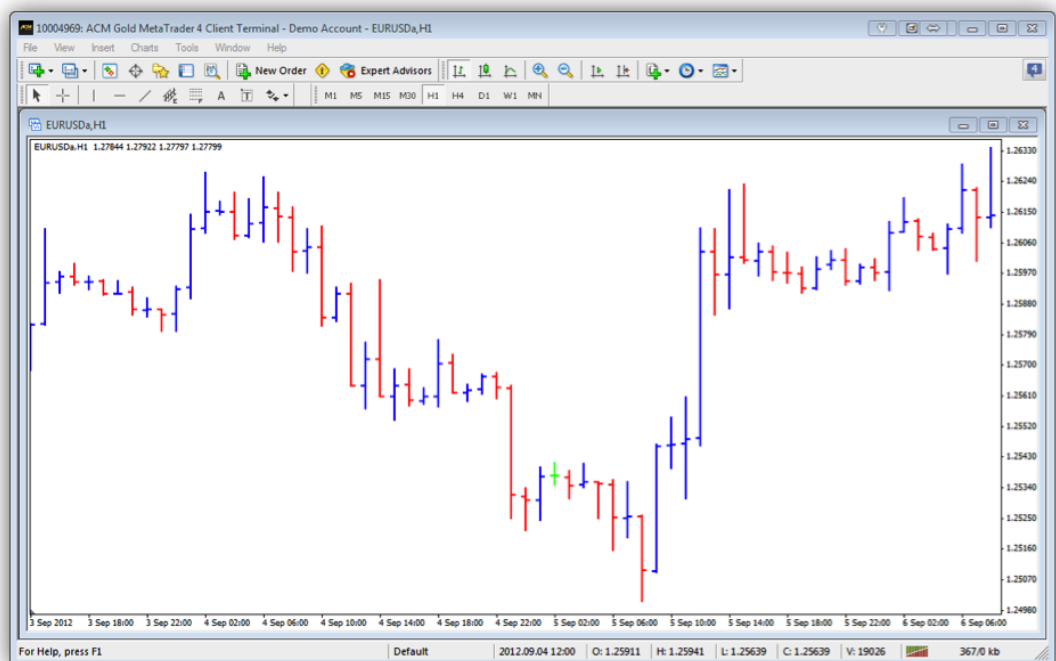
Just as with a bar chart, the candlestick chart is unable to trace every price movement during a day's activity.

## Bar Chart

Although not as popular as the candle chart, it can still prove useful. It consists of four significant points:

- The high and the low prices, which are united by a vertical bar;
- The opening price, which is marked with a little horizontal line to the left of the bar;
- The closing price, which is marked with a little horizontal line to the right of the bar.

This is an example of a bar chart:

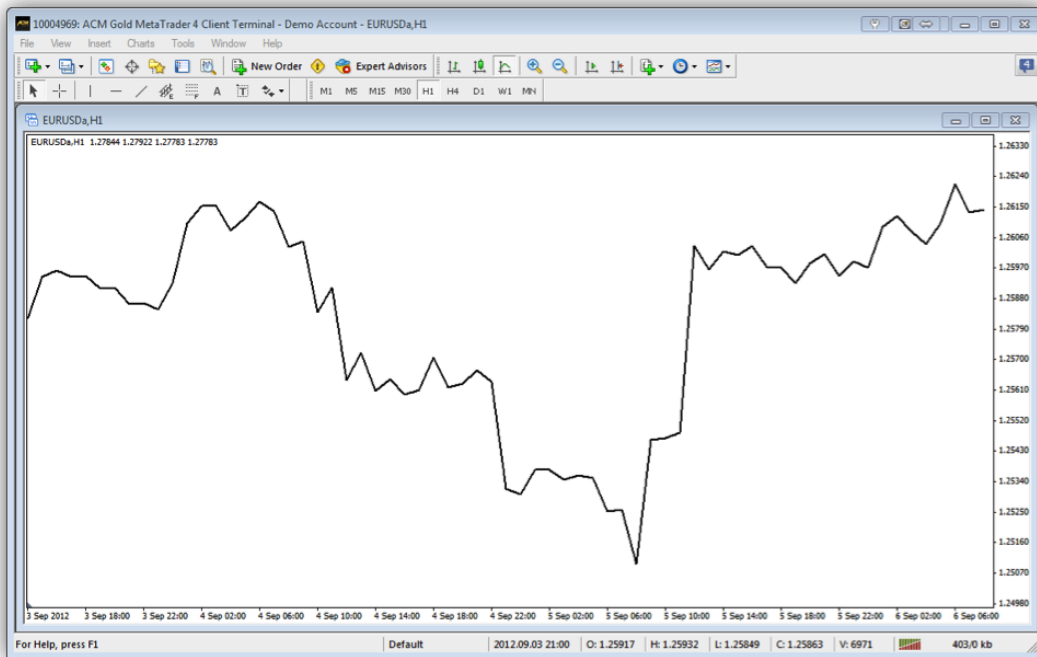


The opening price is not always important for analysis.

An advantage of this chart is that, unlike line charts, the bar chart is able to plot price gaps that are formed in the currency futures market. Although the currency futures market trades around the clock, physically it is open for only about a third of the trading day. (Chicago IMM is open for business 7:20 am to 2 pm CDT.) Therefore, price gaps may occur between two days' price ranges. Incidentally, the bar chart is the chart of choice among currency futures traders.

## Line Chart

The line chart is the original type of chart. In order to plot it, a line connects single prices for a selected time period. The most popular line chart is the daily chart. Although any point in the day can be plotted, most traders focus on the closing price, which they perceive as the most important. But an immediate problem with the line chart is the fact that it is impossible to see the price activity for the balance of the day. The image below is an example of the line chart.



Line charts are considered for technical analysis because due to the sophistication of current charting services, daily price activity does not need to be lost.

Daily line charts are useful when looking for the big picture or the major trend because, without line charts, intraday activity would become an unimportant detail. When plotted over a long stretch of time, such as several years, a line chart is easier to visualize. Also, technical analysis goes well beyond chart formation; in order to execute certain models and techniques, line charts are better suited than any of the other charts.

However, the line chart is a continuous chart, and this is a disadvantage because price gaps cannot be charted on a continuous chart.

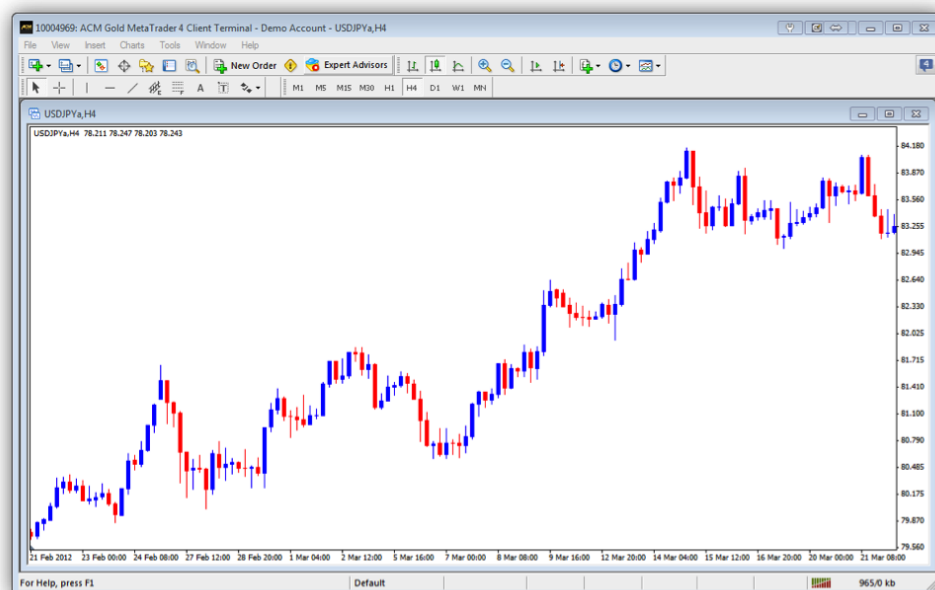
## 4.3. Trends, Support and Resistance

### Kinds of Trends

The trend shows a pending direction of the market movement.

A trend may be:

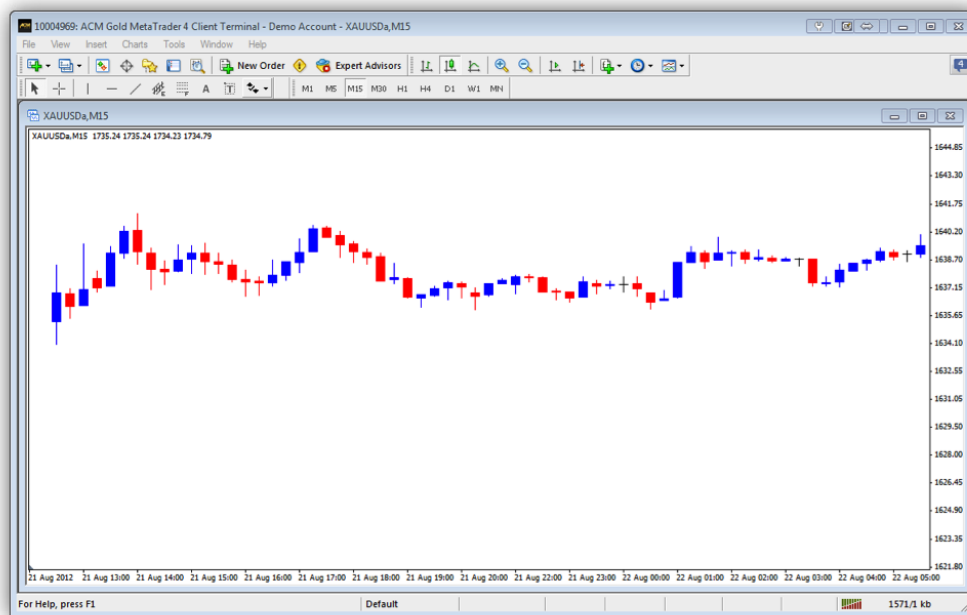
#### 1 UPWARD



#### 2 DOWNWARD



### 3 SIDEWAYS, ALSO KNOWN AS A “FLAT MARKET” OR “TRENDLESS”



Because the markets do not move in a straight line in any direction, but rather in zigzags, it is the direction of these peaks and troughs that creates the market trend. In addition to direction, trends are also classified by time frame: major or long-term trends, secondary or medium-term trends, and near-term or short-term trends. The Dow Theory suggests a one-year length for a major trend. Currently, for a major trend, the market expects a time span of over one year. Secondary trends should last for a matter of months, and short-term trends for a matter of weeks.

## Percentage Retracement

Foreign currencies, like all the other financial instruments, do not move straight up or down, even in the healthiest of trends. Traders watch several percentage retracements, in search of price objectives.

There are three typical percentage retracements:

1. Charles Dow developed the traditional percentage retracements which are 1/3, 1/2, and 2/3; or 33 percent, 50 percent, and 66 percent. A retracement past 66 percent is considered to be a trend failure.
2. The Fibonacci ratios. These ratios are 0.382, 0.50, and 0.618, or approximately 38 percent, 50 percent, and 62 percent.
3. The Gann percentages attach importance to the one-eighth break-downs.

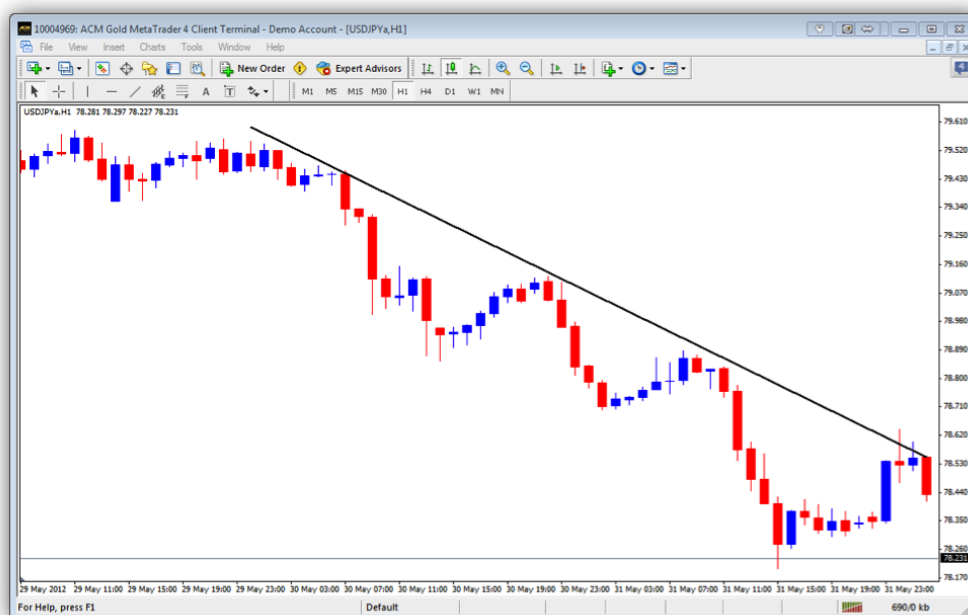
## The Trendline

A trendline is the natural development in tracking a trend. It simply consists of a straight line connecting the significant highs (peaks) or the significant lows (troughs.) Following in the tracks of the trend directions, the trendlines may be classified as:

### RISING TRENDLINES:



### DECLINING TRENDLINES:



To draw a trend line only two points are necessary and the third one is the contact point confirmation. The currency maintains its general direction and velocity. A trend line exists until it is broken as a result of a significant move of the price up or down. Hence, even after confirmation, the breakout is still likely to be followed by a period of consolidation. It is relatively rare for a trend line to suddenly reverse its direction. If a consolidation period does indeed occur, the longer it lasts, the steeper the following rally will be. Breakouts from uptrend lines tend to test the strength of the former support line, now turned into a resistance line.

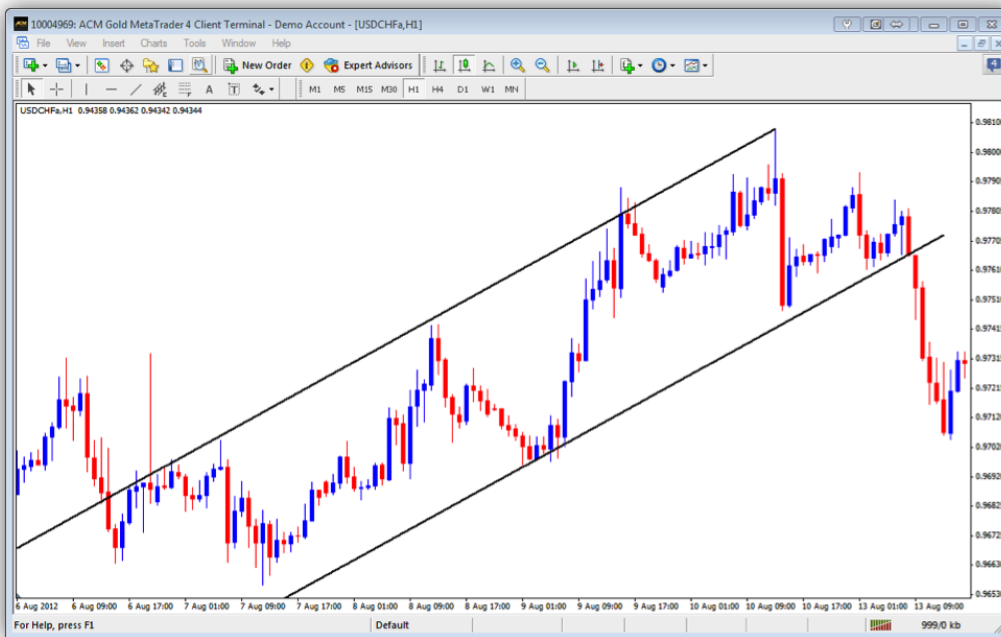
A price filter of 3% serves usually to test the validity of the breakout.

The trendline and a line drawn along the opposite edge of the trend pattern about to be parallel to the trendline form the trade channel. Then the both lines are known as the channel lines.

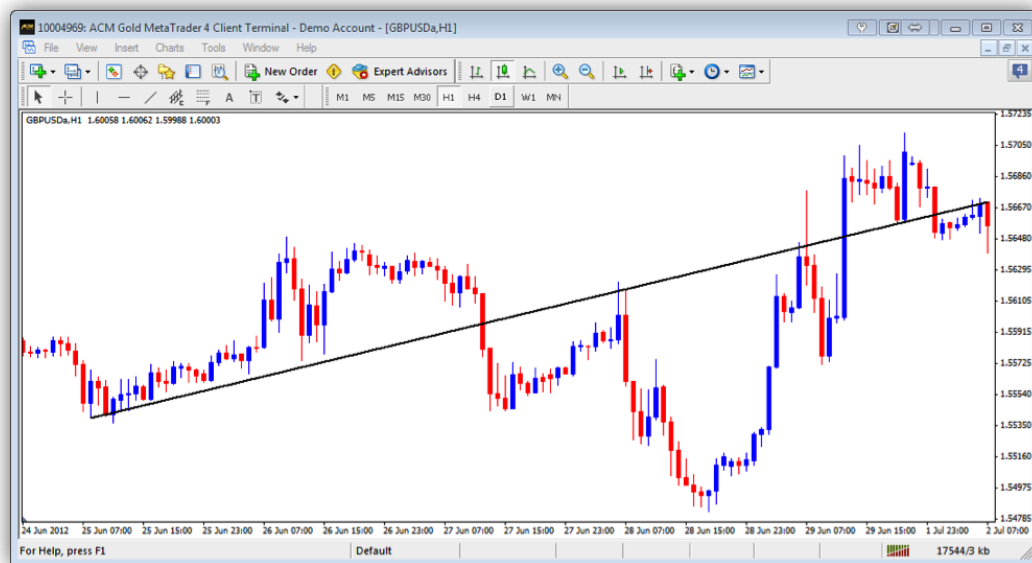
## Lines of Support and Resistance

The upper and bottom borders of a trade channel form lines of support and resistance. The peaks represent the price levels at which the selling pressure exceeds the buying pressure are known as resistance levels. The troughs, on the other hand, represent the levels at which the selling pressure succumbs to the buying pressure. They are called support levels. The longer the prices bounce off the support and resistance levels, the more significant the trend becomes. Trading volume is also very important, especially at the critical support and resistance levels. As the currency bounces off these levels under heavy volume, the trend's significance increases. The importance of support and resistance levels goes beyond their original functions. If these levels are convincingly penetrated, they tend to turn into just the opposite. A firm support level, once it is penetrated on heavy volume, will likely turn into a strong resistance level. Conversely, a strong resistance turns into a firm support after being penetrated.

Below is an example of a trade channel.



And this is an example of the support turned into resistance:



## 4.4. Trend Reversal Patterns

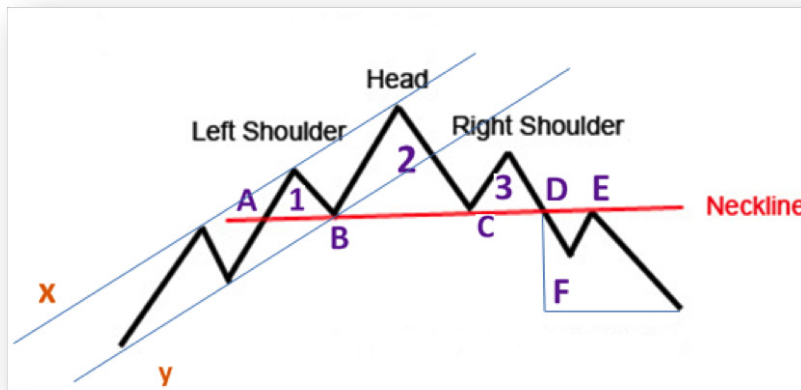
Chart formations are generally sorted on the basis of their significance to the current trend of the underlying currency. Formations signalling the end of the trend are known as reversal patterns. Conversely, chart formations that confirm that the underlying currency trend is intact are called continuation patterns.

The most significant trend reversal patterns are:

1. Head-and-shoulders and inverse head-and-shoulders.
2. Double tops and double bottoms.
3. Triple tops and triple bottoms.

### Head-And-Shoulders

The head-and-shoulder's pattern is one of the most reliable and well-known chart formations. It consists of three consecutive rallies. The first and third rallies—the shoulders—have about the same height, and the middle one—the head—is the highest. All three rallies are based on the same support line (or on the resistance line in the case of the reversed head-and-shoulder's formation), known as the neckline.



Prior to point A, the neckline was a resistance line. Once the resistance line was broken, it turned into a significant support line. The price bounced off it twice, at points B and C. The neckline was eventually broken in point D, under heavy volume, and the trend reversal was confirmed. As the significant support line was broken, a retracement could be expected to retest the neckline (E), now a resistance line again. If the resistance line held, the price was expected to eventually decline to around level F, which was the price target of the head-and-shoulder's formation. The target was approximately equal in amplitude to the distance between the top of the head and the neckline. The price target was measured from point D, where the neckline was broken. (See the dotted lines).

## Signals Generated by the Head-and-shoulders Pattern

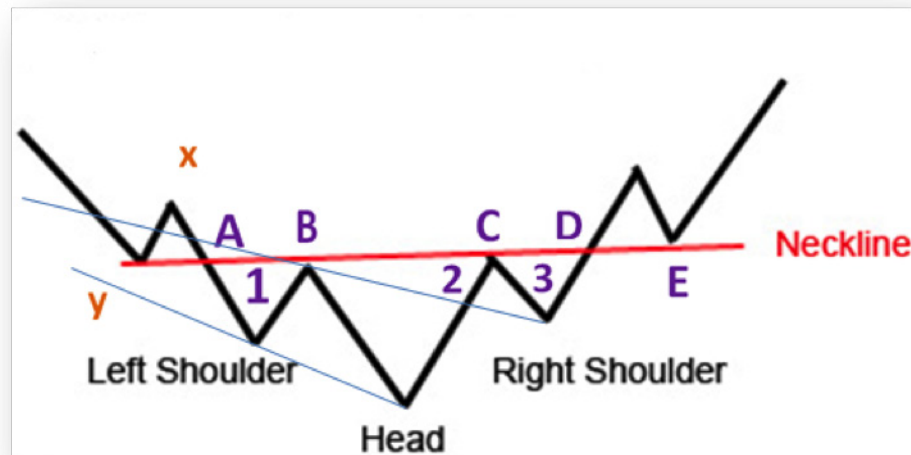
The head-and-shoulder's formation provides excellent information:

1. The support line. This is based on points B and C.
2. The resistance line. After giving in at point D, the market may retest the neckline at point E.
3. The price direction. If the neckline holds the buying pressure at point E, then the formation provides information regarding the price direction: diametrically opposed to the direction of the head-and-shoulders (bearish).
4. The price target. This is provided by the confirmation of the formation (by breaking through the neckline under heavy trading volume).

One of the main requirements of the successful development of this formation is that the breakout through the neckline occurs under heavy market volume. A breakout on light volume is a strong warning that it is a false breakout and will trigger a sharp backlash in the currency price. The time frame for this chart formation's evolution is anywhere from several weeks to several months. The intraday chart formations are not reliable. The longer the formation time is, the more significance should be attached to this pattern. The target is unlikely to be reached in a very short time frame. Whereas there is no immediate suggestion regarding the length of target reaching time, common sense would link it to the duration of development of the chart pattern.

It is reasonable to emphasize the importance of measuring the target from the point where the neckline was broken. There is a tendency among new technicians to measure the target price not only from under the neckline but also from the middle of the formation. This may happen as they measure the height of the head. Most head-and-shoulder's formations, of course, look different from that in this picture below. Prices fluctuate enough to forego any possibility of a clean-looking chart line. Also, the neckline is seldom a perfectly horizontal line.

## Inverse Head and Shoulder Pattern



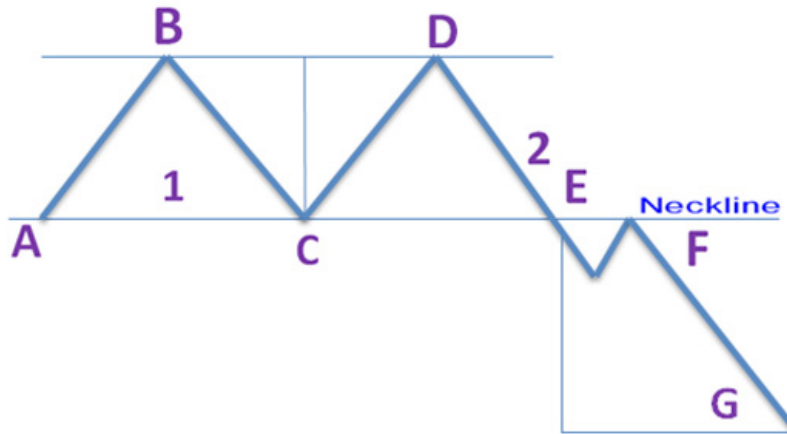
The inverse head-and-shoulder's formation is a mirror image of the previous pattern. Therefore, you can apply the same characteristics, potential problems, signals, and trader's point of view from the preceding presentation. The underlying currency broke out of the downtrend ranged by the  $xx'-yy'$  channel. The currency retested the previous resistance line (the rally number 3), now turned into a support line. Among the three consecutive rallies, the shoulders (1 and 3) have approximately the same height, and the head is the lowest. Prior to point A, the neckline was a support line. Once this line was broken, it turned into a significant resistance line. The price bounced off the neckline twice, at points B and C. The neckline was eventually broken at point D, under heavy volume. As the significant resistance line was broken, a retracement could be expected to retest the neckline (E), now a support line again. If it held, the price was expected to eventually rise to around level F, which is the price target of the head-and-shoulder's formation.

The price objective is approximately equal in amplitude to the distance between the top of the head and the neckline, and is measured from the breakout point D.

## Double Top

Another very reliable and common trend reversal chart formation is the double top. As the name clearly and succinctly describes, this pattern consists of two tops (peaks) of approximately equal heights. A parallel line is drawn against a resistance line that connects the two tops. We should think of this line as identical to the head-and-shoulders' neckline. As a resistance line, it is broken at point A. It turns into a strong support for price level at C, but eventually fails at point E. The support line turns into a strong resistance line, which holds the market backlash at point F. The price objective is at level G, which is the average height of the double top formation, measured from point E.

## A typical double-top Formation



## Signals Provided by the Double Top Formation

The double top formation provides information on:

1. The support line, set between points A and E.
2. The resistance line, set between points B and D.
3. The price direction. If the neckline holds the buying pressure at point F, then the formation provides information regarding the price direction: diametrically opposed to the direction of the peaks (bearish).
4. The price target, provided by the confirmation of the formation (by breaking through the neckline under heavy trading volume).

Exactly, as in the case of the head-and-shoulders pattern, a vital requirement for the successful completion of the double-top formation is that the breakout through the neckline occurs under heavy market volume. Again, please remember that gauging volume in traditional ways is only possible in the currency futures market. Therefore, the trader must estimate the size of the cash market volume by extrapolating from the currency futures' volume and the trading "noise".

A breakout on light volume is a strong case for a false breakout, which would trigger a sharp backlash in the currency price. The time frame for this chart formation's evolution is anywhere from several weeks to several months. The intraday chart formations are less reliable. There is a strong correlation between the length of time to develop the pattern and the significance of the formation.

The target is unlikely to be reached in a very short time frame. There is no direct suggestion regarding the length of target reaching time; but foreign exchange common sense links it to the duration of development.

It is important to measure the target from the point where the neckline was broken. Avoid the trap of measuring the target price from the middle of the formation under the neckline. This may happen as you measure the average height of the formation.

## Rounded Top and Bottom Formations

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The rounded top and bottom, also known as saucers consist of a very slow and gradual change in the direction of the market. These patterns reflect the indecision of the market at the end of a trend. The trading activity is slow. It is impossible to know when the formation is indeed completed, and not for a lack of trying. Like any other consolidation pattern, the longer it takes to complete, the higher the likelihood of a sharp price move in the new direction.

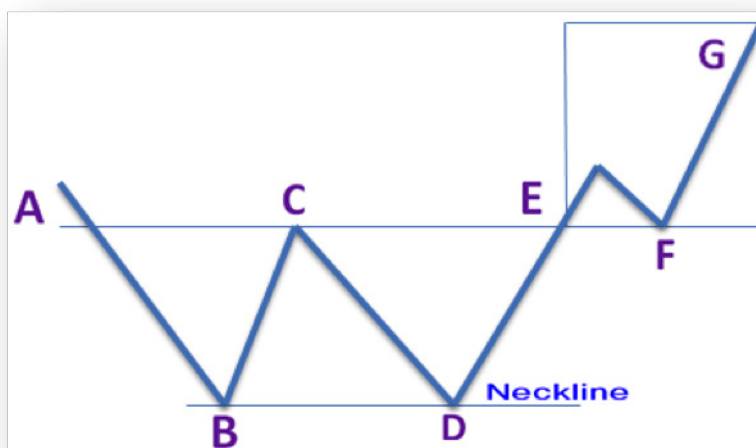
## Double Bottom

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The double bottom formation is a mirror image of the previous pattern. Therefore, one may apply the same characteristics, potential problems, signals, and trader's point of view from the preceding presentation.

### A typical double-bottom Formation

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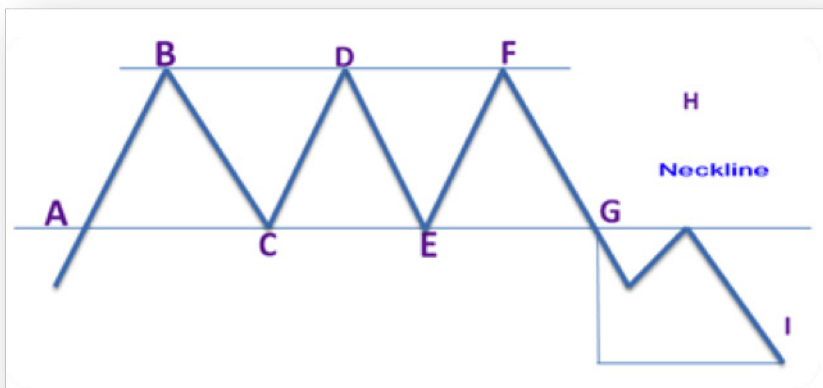
The bottoms have about the same amplitude. A parallel line (the neckline) is drawn against the line connecting the two bottoms (B and D.) As a support line, it is broken at point A. It turns into a strong resistance for price level at C, but eventually fails at point E. The resistance line turns into a strong support line, which holds the market backlash at point F. The price objective is at level G, which is the average height of the bottoms, measured from point E. (See the dotted lines).

## Triple Top and Triple Bottom

The triple top is a hybrid of the head-and-shoulders and double-top trend reversal formations. Conversely, the triple bottom is a hybrid of the inverse head-and-shoulders and double-bottom formations. Consequently, they have the same characteristics, potential problems, signals, and trader's point of view as the double top or double bottom, respectively.

As shown in the illustration below, in a typical triple-top formation, the tops have about the same height. A parallel line (the neckline) is drawn against the line connecting the three tops (B, D, and F.) As a resistance line, the neckline is broken at point A. It turns into a strong support for price levels at C and E, but eventually fails at point G. The support line turns into a strong resistance line, which holds the market backlash at point H. The price objective is at level I, which is the average height of the three tops formation, as measured from point D (see the dotted lines).

### A typical triple-top Formation



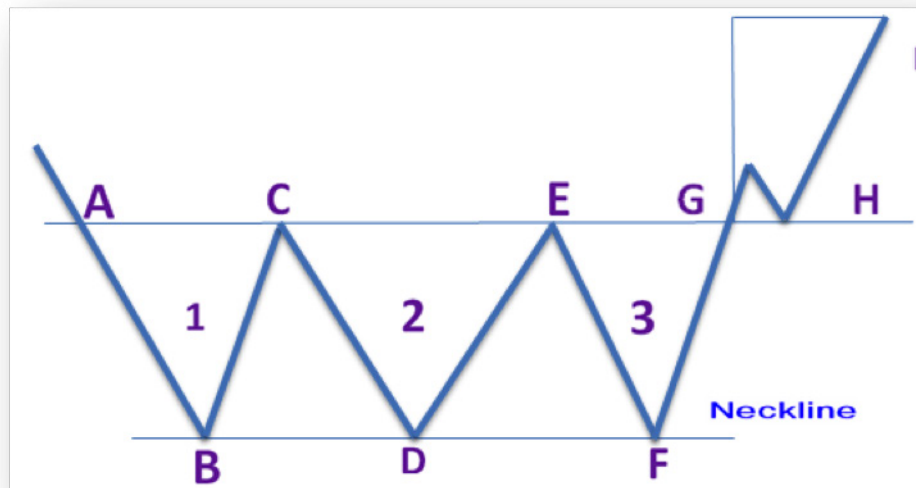
As a double top, the formation fails at point E. The price moves up steeply toward point F. The resistance line is holding once more, and the price drops sharply again toward point G. At this level, the market pressure is able to penetrate the support line. After a possible retest of the neckline, the prices drop further, to eventually reach the price objective.

### The opposite is true for the triple bottom

As shown in Figure 5.19., in a triple-bottom formation, the bottoms have about the same amplitude. A parallel line (the neckline) is drawn against the line connecting the three bottoms (B, D, and F.) As a support line, the neckline is broken at point A. It turns into a strong resistance for price levels at C and E, but eventually fails at point G. The resistance line turns into a strong support line, which holds the market backlash at point H. The price objective is at level I, which is the average length of the triple-bottom formation, as measured from point D (see the dotted lines).

## A typical triple-bottom Formation

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## Diamond Formation

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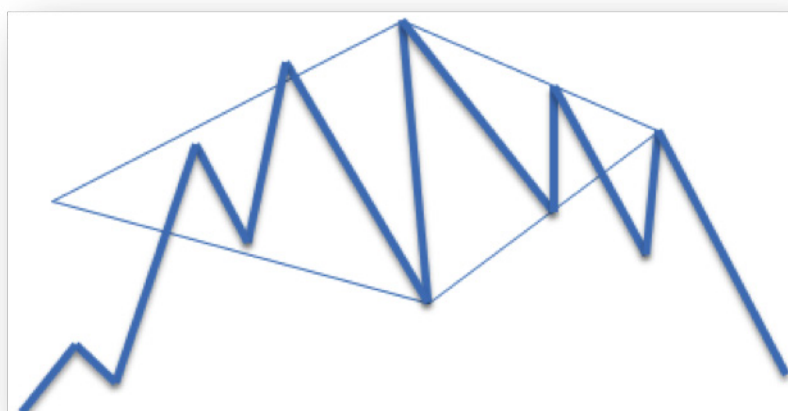
The diamond formation tends to occur at the top of the trend. The price activity may be outlined by a shape resembling a diamond.

The increase and decrease in trading volume closely mimic the combination of divergent and convergent support and resistance lines. Upon breakout, volume picks up substantially. The price target is the height of the diamond, measured from the breakout point.

The head-and-shoulders, the double top and bottom and the triple top and bottom, due to their significance in trend reversals, are generally known as major reversal patterns.

## A scheme of a diamond reversal formation

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## 4.5. Trend Continuation Patterns

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Technical analysis provides charts that reinforce the current trends. These chart formations are known as continuation patterns. They consist of fairly short consolidation periods. The breakouts occur in the same direction as the original trend.

The most important continuation patterns are:

1. Wedges
2. Triangles
3. Rectangles
4. Flags
5. Pennants

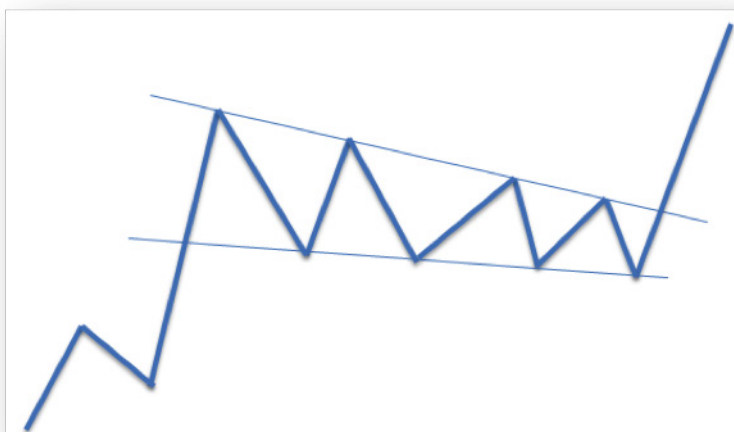
### Wedge Formation

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The wedge formation is a close relative of the triangle and the pennant formations. It resembles both the shape and the development time of the triangles, but it really looks and behaves like a pennant without a pole. The wedge is markedly sloped, and the breakout occurs in the direction opposite to its slope, but similar to the direction of the original trend. The signal we receive from the wedge formation is direction only. There is no reliable price objective. Depending on the trend direction, there are two types of wedges: falling and rising.

#### A falling wedge

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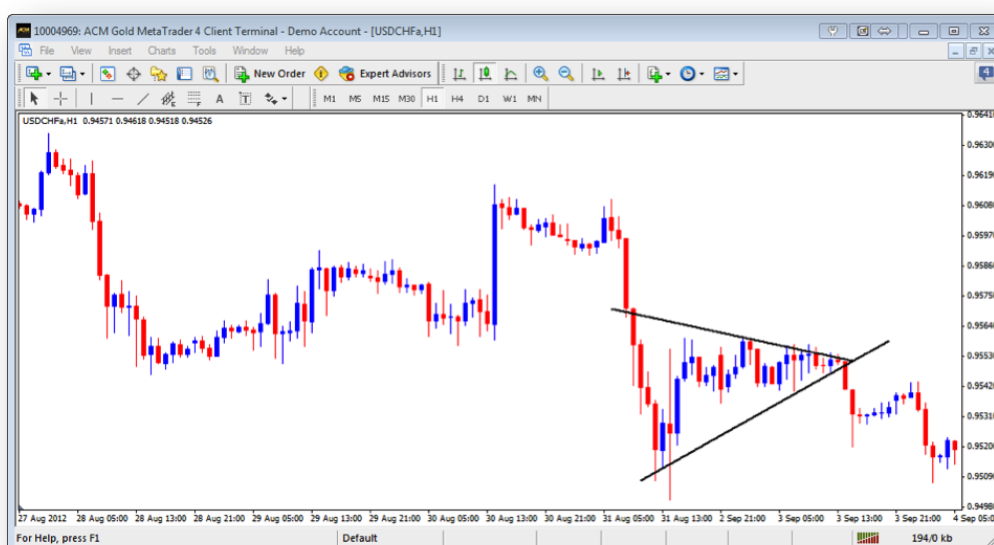


## Triangle Formation

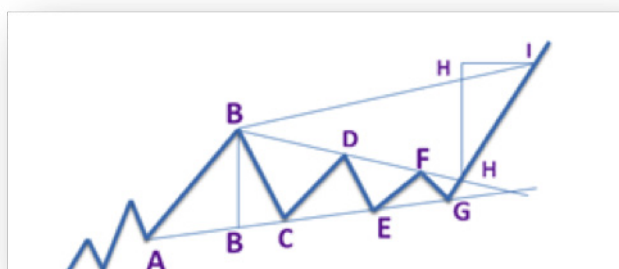
Triangles can be visualized as pennants with no poles. There are four types of triangles: symmetrical, ascending, descending, and expanding (broadening).

A symmetrical triangle consists of two symmetrically converging support and resistance lines, defined by at least four significant points. This can be seen in the diagram below. The two symmetrically converging lines suggest that there is a balance between supply and demand in the foreign exchange market. Consequently, a break may occur on either side. In the case of a bullish symmetrical triangle, the breakout will occur in the same direction, qualifying the formation as a continuation pattern.

**THIS IS A MARKET EXAMPLE OF A BEARISH TRIANGLE.**



## A Bullish symmetrical Triangle



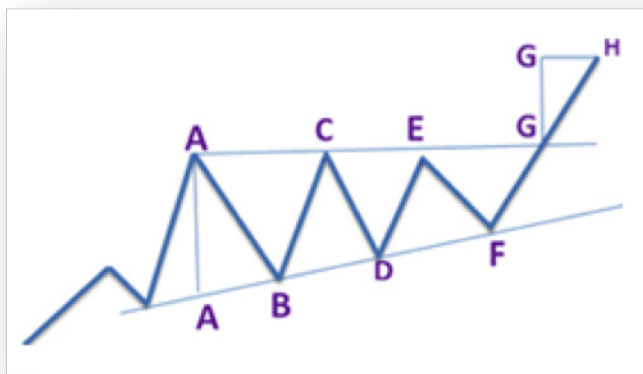
As depicted in the above diagram, the converging lines are symmetrical. The declining line is defined by points B, D, and F. The rising support line is defined by points A, C, E, and G. The price target is either (1) equal to the width of the base of the triangle  $BB'$ , measured from the breakout point H ( $HH'$ ); or (2) at the intersection of line BI (which is a parallel line to the rising line AG) with the price line.

Trading volume will visibly decrease toward the end of the triangle, suggesting the ambivalence of the market. The breakout is accompanied by a rise in volume.

The ascending triangle consists of flat resistance line and a rising support line, as depicted below. The formation suggests that demand is stronger than supply. The breakout should occur on the upside, and it consists of the width of the base of the triangle as measured from the breakout point. The resistance line defined by points A, C, and E are flat. The converging bottom line, defined by point's B, D, and F, is sloped upward. The price objective is the width of the base of the triangle (AA') measured above the resistance line from the breakout point G (GG'.)

Trading volume is decreasing steadily toward the tip of the triangle, but increases rapidly on the breakout.

## A typical ascending Triangle



The descending triangle is simply a mirror image of the ascending triangle. It consists of a flat support line and a downward-sloping resistance line. This pattern suggests that supply is larger than demand. The currency is expected to break on the downside. The descending triangle also provides a price objective. This objective is calculated by measuring the width of the triangle base and then transposing it to the breakpoint. As shown in the picture below, the support line, defined by points A, C, E, and G, is flat. The converging top line, defined by point's B, D, F, and H, is sloped downward. The price objective is the width of the base of the triangle (AA'), measured above the support line from the breakout point I (IF.)

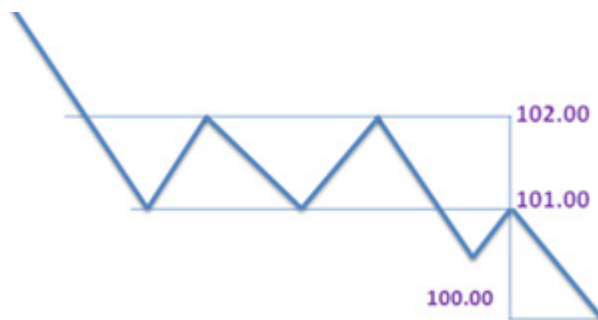
Trading volume is decreasing steadily toward the tip of the triangle, but increases rapidly on the breakout.

The expanding (broadening) triangle consists of a horizontal mirror image of a triangle, where the tip of the triangle is next to the original trend, rather than its base. Volume also follows the horizontal mirror image switch and increases steadily as the chart formation develops. The bottom support line, defined by point's B, D, and F, and the top line, defined by points A, C, and E, are divergent. The price objective should be the width, GG', of the base of the triangle, measured from the breakout point G.



## A typical Bearish Rectangle

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## Flag formation

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The flag formation provides signals for direction and price objective. This formation represents a brief consolidation period within a solid and steep upward or downward trend. The consolidation itself is bordered by a support line and a resistance line, which are parallel to each other or very mildly converging, making it look like a flag (parallelogram) and tend to be sloped in the opposite direction from the slope of the original trend, or is simply flat. The previous sharp trend resembles a flagpole.

If the original trend is going down, the formation is called a bearish flag. As the illustration below shows, the original trend is sharply down. The flagpole is measured between points A and B. The consolidation period occurs between the support line B to E and the resistance line C to D. When the price penetrates the support line at point E, the trend resumes its fall, with the price objective F, measured from E. The price target is of about equal amplitude with the flagpole's length (A to B), measured from the breakout point through the support line (B to E.)

## Pennant Formation

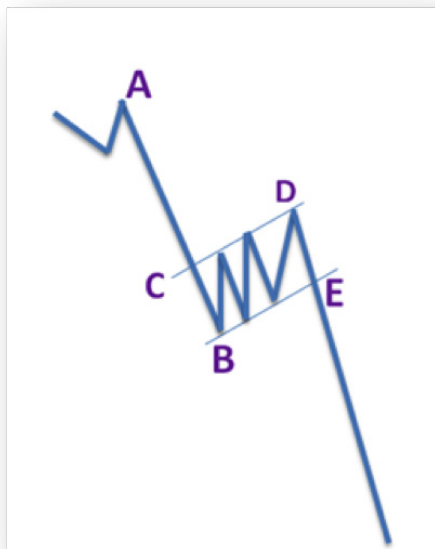
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The pennants are closely related to the flags. The same principles apply. The sole difference is that the consolidation area better resembles a pennant as the support and resistance lines converge. If the original trend is bullish, then the chart pattern is a bullish pennant. In the illustration below, the pennant pole is A to B.

The pennant-shaped consolidation is framed by C, B, and D. When the market breaks through the resistance line B to D, the price objective is E. The amplitude of the target price is D to E, and it is equal to the pennant pole A to B. The price target measurement starts from the breakout point.

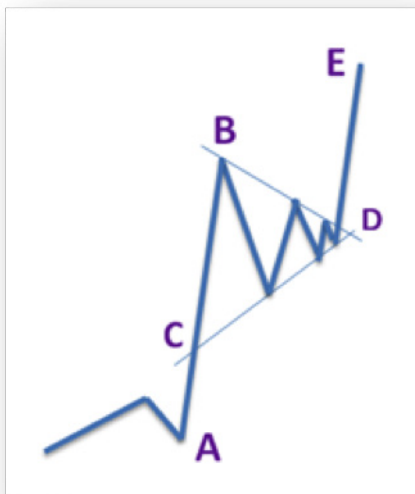
## A Bear Flag Formation

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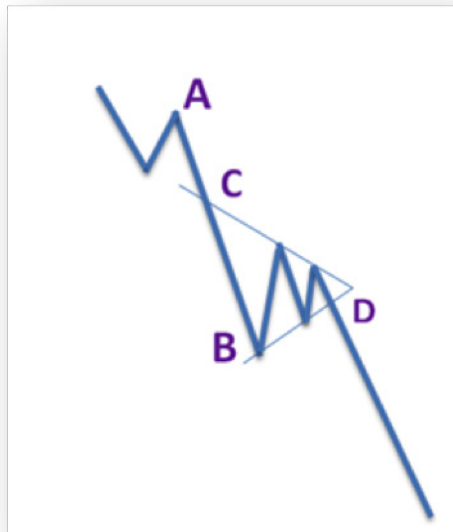
## Bullish Pennant

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If the original trend is going down, then the formation is a bearish pennant. In the following diagram, the pennant pole is A to B. The pennant-shaped consolidation is framed by C, B and D. When the market breaks through the support line B to D, the objective price is E. The amplitude of the target price is D to E, and it is equal to the pennant pole A to B. The price target measurement starts from the breakout point.

## Bearish Pennant



## 4.6. Gaps

An opening outside the previous day's or other period's range generates a price gap.

Price gaps, as plotted on bar charts, are very common in the currency futures market. Although currency futures may be traded around the clock, their markets are open for only about a third of the trading day. For instance, the largest currency futures market in the world, the Chicago IMM, is open for business 7:20 am to 2:00 pm CDT. Since the cash market continues to trade around the clock, price gaps may occur between two days' price ranges in the futures market.

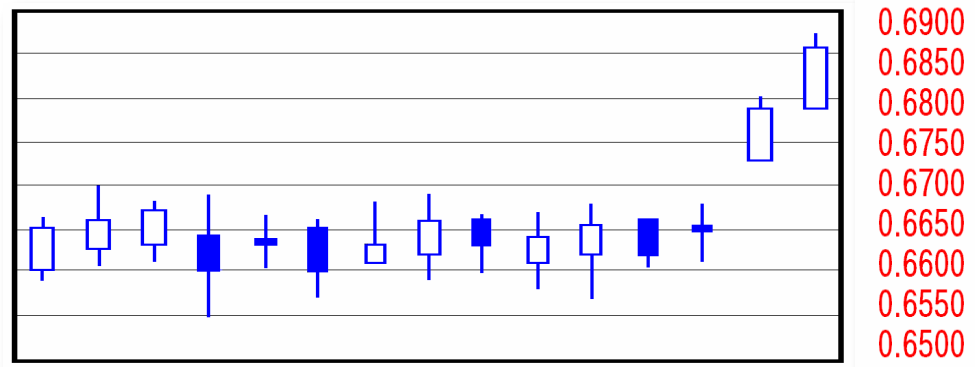
There are four types of gaps: common, breakaway, runaway, and exhaustion.

### Breakaway Gaps

Breakaway gaps occur at the beginning of a new trend, usually at the end of long consolidation periods. They may also appear after the completion of some chart formations that tend to act as short-term consolidations. Breakaway gaps signify a brisk change in trading sentiment, and they occur on increasingly heavy trading. Traders are understandably frustrated by consolidations, which are rarely profitable. Therefore, a breakout from the slow lane is embraced with optimism by the profit-hungry traders. The price takes a secondary place to participation. As always, naysayers follow the initial breakout. Sooner rather than later, the pessimists have no choice but to join the new move, thus creating more volume.

Breakaway gaps are not likely to be filled during the breakout and for the duration of the subsequent move. In time, they may be filled during a new move on the opposite side.

## A TYPICAL BREAKAWAY GAP



Signals for Breakaway Gaps:

1. A breakaway gap provides the price direction.
2. There is no price objective.
3. Increasing demand for a currency ensures a solid move on good volume in the foreseeable future.

## Exhaustion Gaps

Exhaustion gaps may occur at the top or bottom of a formation when trends change direction in an atypically quick manner. There is no consolidation next to the broken trend line: The trend reversal is very sharp through a bullish move, looks a lot like a measurement gap. So traders buy the currency and stay long overnight on that assumption. The following day the market opens below the previous low, generating a second gap. If the second gap is filled or does not even occur, the trading signal remains the same. Traders do not have to get caught badly in this exhaustion gap. A sudden trend reversal is unlikely to occur in an information void. Some sort of identifiable event triggers the move—maybe a government fall or a massive and well-timed central bank intervention. Therefore, traders should at least be warned.

## Runaway Gaps

From a technical point of view, runaway, or measurement, gaps are special gaps that occur within solid trends. They are known as measurement gaps because they tend to occur about midway through the life of a trend. Thus, if you measure the total range of the previous trend and extrapolate it from the measurement gap, you can identify the end of the trend and your price objective. Since the velocity of the move should be similar on both sides of the gap, you also have a time frame for the duration of the trend.

## Trading Signals for Runaway Gaps

1. The runaway, or measurement, gap provides the direction of the market. As a continuation pattern, this type of gap confirms the health and the velocity of the trend.
2. Volume is good because traders like trends, and confirmed trends attract more optimism and capital.

- This is the only type of gap that also provides a price objective and a time frame. These characteristics are also useful for developing hedging strategies.

## Common Gaps

Common gaps have the least technical significance of all the types of gaps. They do not indicate a trend start, continuation, reversal, or even a general direction of the currency other than in the very short term. Common gaps tend to occur in relatively quiet periods or in illiquid markets. When price gaps occur in illiquid markets, such as distant currency futures expiration dates, they must be completely ignored. The entries for distant expiration dates in currency futures are made only on a closing basis, and they do not reflect any trading activity.

Never trade in an illiquid market because getting out of it is very difficult and expensive. When gaps occur within regular trading ranges, the word on the street has been that, "Gaps must be filled." Common gaps are short term. When currency futures open higher than yesterday's high, they are quickly sold, targeting the level of the previous day's high.

## 4.7. Mathematical Trading Methods (Indicators)

The mathematical trading methods provide a more objective view of price activity. In addition, these methods tend to provide signals prior to their occurrence on the currency charts. The tools of the mathematical methods are moving averages and oscillators.

### Moving Averages

A moving average is an average of a predetermined number of prices over a number of days, divided by the number of entries. The higher the number of days in the average, the smoother the line is. A moving average makes it easier to visualize currency activity without daily statistical noise. It is a common tool in technical analysis and is used either by itself or as an oscillator.

As one can see from this image below, a moving average has a smoother line than the underlying currency. The daily closing price is commonly included in the moving averages. The average may also be based on the midrange level or on a daily average of the high, low, and closing prices.

An example of three simple moving averages consisting of periods: 10 (read), 20 (green) and 100 (purple)



It is important to observe that the moving average is a follower rather than a leader. Its signals occur after the new movement has started, not before.

There are three types of moving averages:

1. The simple moving average or arithmetic mean.
2. The linearly weighted moving average.
3. The exponentially smoothed moving average.

As described, the simple moving average or arithmetic mean is the average of a predetermined number of prices over a number of days, divided by the number of entries.

Traders have the option of a few various methods of calculating moving averages – the most common being exponentially. This type of average assigns more weight to the more recent closings. This is achieved by multiplying the last day's price by one, and each closer day by an increasing consecutive number. In our previous example, the fourth day's price is multiplied by 1, the third by 2, the second by 3, and the last one by 4; then the fourth day's price is deducted. The new sum is divided by 9, which is the sum of its multipliers.

A 20-period simple moving average (green) as opposed to a 20-period weighted moving average (red)



## Trading Signals of Moving Averages

Single moving averages are frequently used as price and time filters. As a price filter, a short-term moving average has to be cleared by the currency closing price, the entire daily range, or a certain percentage (chosen at the discretion of the trader).

The envelope model serves as a price filter. It consists of a short-term (perhaps 5-day) closing price based moving average to which a small percentage (2% is suggested for foreign currencies) are added and subtracted.

The two winding parallel lines above and below the moving average will create a band bordering most price fluctuations. When the upper band is penetrated, a selling signal occurs. When the lower band is penetrated, a buying signal occurs. Because the signals generated by the envelope model are very

short-term, and they occur many times against the ongoing direction of the market, speed of execution is paramount. The high-low band is set up the same way, except that the moving average is based on the high and low prices. As a time filter, a short number of days may be used to avoid any false signals.

An envelope model defines the edges of the band. A close above the upper band sends a buying signal and one below the lower band gives a selling signal.

Usually traders choose a number of averages to use with a currency. A suggested number is three, as more signals may be available. It may be helpful to use intervals that better encompass short-term, medium-term, and long-term periods, to arrive at a more complex set of signals. Some of the more popular periods are 4, 9, and 18 days; 5, 20, and 100 days; and 7, 21, and 200 days. Unless you focus on a specific combination of moving averages (for instance, 4, 9, and 18 days), the exact number of days for each of the averages is less important, as long as they are spaced far enough apart from each other to avoid insignificant signals.

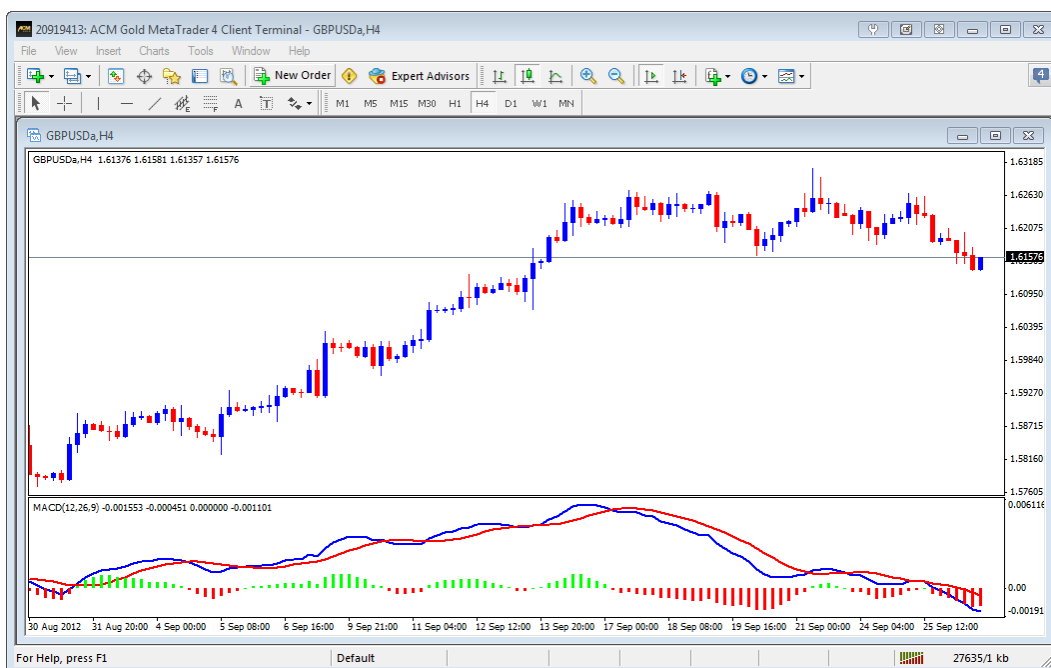
A buying signal on a two-moving average combination occurs when the shorter term of two consecutive averages intersects the longer one upward. A selling signal occurs when the reverse happens, and the longer of two consecutive averages intersects the shorter one downward.

## Moving Average Convergence-Divergence (MACD)

The moving average convergence-divergence (MACD) oscillator, developed by Gerald Appel, is built on exponentially smoothed moving averages. The MACD consists of two exponential moving averages that are plotted against the zero line. The zero line represents the times the values of the two moving averages are identical.

In addition to the signals generated by the averages' intersection with the zero line and by divergence, additional signals occur as the shorter average line intersects the longer average line. The buying signal is displayed by an upward crossover, and the selling signal by a downward crossover.

An example of MACD



## Stochastics

Stochastics generate trading signals before they appear in the price itself. Its concept is based on observations that, as the market gets high, the closing prices tend to approach the daily highs; whereas in a bottoming market, the closing prices tend to draw near the daily lows.

The oscillator consists of two lines called %K and %D. Visualize %K as the plotted instrument, and %D as its moving average.

The formulas for calculating the stochastics are:

$$\%K = [(CCL - L9) / (H9 - L9)] * 100, \text{ where}$$

CCL = current closing price

L9 - the lowest low of the past 9 days

H9 - the highest high of the past 9 days

And

$$\%D = (H3 / L3) * 100, \text{ where}$$

H3 = the three-day sum of (CCL - L9)

L3 = the three-day sum of (H9 - L9)

The resulting lines are plotted on a 1 to 100 scale, with overbought and oversold warning signals at 70 percent and 30 percent, respectively. The buying (bullish reversal) signals occur under 10 percent, and conversely, the selling (bearish reversal) signals come into play above 90 percent after the currency turns. In addition to these signals, the oscillator-currency price divergence generates significant signals.

An example of the stochastic:



The intersection of the %D and %K lines generate further trading signals. There are two types of intersections between the %D and %K lines:

1. The left crossing, when the %K line crosses prior to the peak of the %D line.
2. The right crossing, when the %K line occurs after the peak of the %D line.

## The Relative Strength Index (RSI)

The relative strength index is a popular oscillator devised by Welles Wilder. The RSI measures the relative changes between the higher and lower closing prices.

An example of the RSI oscillator



The formula for calculating the RSI is:

$RSI = 100 - [100 / (1 + RS)]$ , where

RS - (average of X days up closes/average of X days down closes);

X - Predetermined number of days, The original number of days, as used by its author, was 14 days. Currently, a 9-day period is more popular.

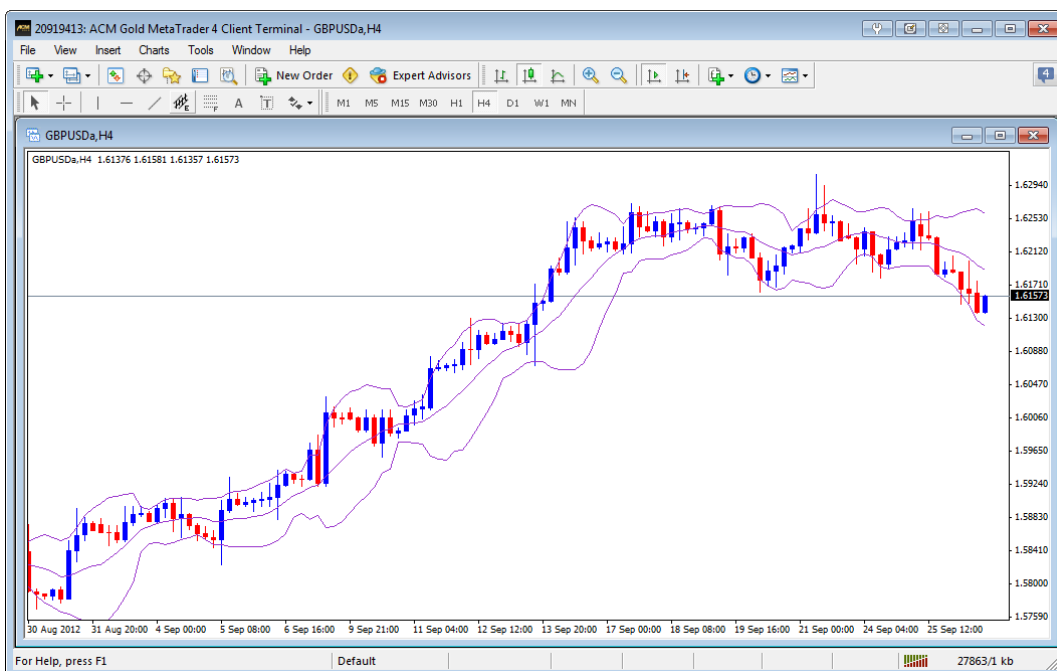
The RSI is plotted on a 0 to 100 scale. The 70 and 30 values are used as warning signals, whereas values above 85 indicate an overbought condition (selling signal) and values under 15 indicate an oversold condition (buying signal.) Wilder identified the RSI's forte as its divergence versus the underlying price.

## Bollinger Bands

The Bollinger bands relate a moving average with the instrument's volatility. The bands were designed to measure whether prices are high or low on a relative basis via volatility. The two are plotted two standard deviations above and below a 20-day simple moving average.

The bands look a lot like an expanding and contracting envelope model. When the band contracts drastically, the signal is that volatility is low and thus likely to expand in the near future. An additional signal is a succession of two top formations, one outside the band followed by one inside. If it occurs above the band, it is a selling signal. When it occurs below the band, it is a buying signal.

.A market example of Bollinger bands



# CHAPTER 5

## Fundamental Analysis

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Two types of analysis are used for the market movements' forecasting: fundamental, and technical (the chart study of past behavior of commodity prices). The fundamental one focuses on the theoretical models of exchange rate determination and on the major economic factors and their likelihood of affecting the foreign exchange rates.

### 5.1. Economic Fundamentals

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#### Theories of Exchange Rate Determination

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Fundamentals may be classified into economic factors, financial factors, political factors, and crises. Economic factors differ from the other three factors in terms of the certainty of their release. The dates and times of economic data release are known well in advance, at least among the industrialized nations. Below are given briefly several known theories of exchange rate determination.

#### Purchasing Power Parity

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Purchasing power parity states that the price of a good in one country should equal the price of the same good in another country, exchanged at the current rate—the law of one price. There are two versions of the purchasing power parity theory: the absolute version and the relative version. Under the absolute version, the exchange rate simply equals the ratio of the two countries' general price levels, which is the weighted average of all goods produced in a country. However, this version works only if it is possible to compare the two countries, which produce or consume the same goods. Moreover, the absolute version assumes that transportation costs and trade barriers are insignificant. In reality, transportation costs are significant and dissimilar around the world.

Trade barriers are still alive and well, sometimes obvious and sometimes hidden, and they influence costs and goods distribution.

Finally, this version disregards the importance of brand names. For example, cars are chosen not only based on the best price for the same type of car, but also on the basis of the name (“you are what you drive”).

#### The PPP Relative Version

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Under the relative version, the percentage change in the exchange rate from a given base period must equal the difference between the percentage change in the domestic price level and the percentage change in the foreign price level. The relative version of the PPP is also not free of problems: it is difficult or arbitrary to define the base period; trade restrictions remain a real and thorny issue, just as with the absolute version, different price index weighting and the inclusion of different products in the indexes make the comparison difficult and in the long term, countries' internal price ratios may change, causing the exchange rate to move away from the relative PPP.

In conclusion, the spot exchange rate moves independently of relative domestic and foreign prices. In the

short run, the exchange rate is influenced by financial and not by commodity market conditions.

## Theory of Elasticities

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The theory of elasticities holds that the exchange rate is simply the price of foreign exchange that maintains the balance of payments in equilibrium. For instance, if the imports of country A are strong, then the trade balance is weak. Consequently, the exchange rate rises, leading to the growth of country A's exports, and triggers in turn a rise in its domestic income, along with a decrease in its foreign income. Whereas a rise in the domestic income (in country A) will trigger an increase in the domestic consumption of both domestic and foreign goods and, therefore, more demand for foreign currencies, a decrease in the foreign income (in country B) will trigger a decrease in the domestic consumption of both country B's domestic and foreign goods, and therefore, less demand for its own currency.

The elasticities approach is not problem-free because in the short term, the exchange rate is more inelastic than it is in the long-term and the additional exchange rate variables arise continuously, changing the rules of the game.

## Modern Monetary Theories on Short-Term Exchange Rate Volatility

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The modern monetary theories on short-term exchange rate volatility take into consideration the short-term capital markets' roll and the long-term impact of the commodity markets on foreign exchange. These theories hold that the divergence between the exchange rate and the purchasing power parities due to the supply and demand for financial assets and the international capability.

One of the modern monetary theories states that exchange rate volatility is triggered by a one-time domestic money supply increase, because this is assumed to raise expectations of higher future monetary growth.

The purchasing power parity theory is extended to include the capital markets. If, in both countries whose currencies are exchanged, the demand for money is determined by the level of domestic income and domestic interest rates, then a higher-income increases demand for transaction's balances while a higher interest rate increases the opportunity cost of holding money, reducing the demand for money.

Under a second approach, the exchange rate adjusts instantaneously to maintain continuous interest rate parity, but only in the long run to maintain PPP.

Volatility occurs because the commodity markets adjust more slowly than the financial markets. This version is known as the dynamic monetary approach.

## The Portfolio-Balance Approach

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The portfolio-balance approach holds that currency demand is triggered by the demand for financial assets, rather than the demand for the currency per se.

## Synthesis of Traditional and Modern Monetary Views

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In order to better suit the previous theories to the realities of the market, some of the more stringent conditions were adjusted into a synthesis of the traditional and modern monetary theories.

A short-term capital outflow induced by a monetary shock creates a payments imbalance that requires

an exchange rate change to maintain balance of payments equilibrium. Speculative forces, commodity market's disturbances, and the existence of short-term capital mobility trigger the exchange rate volatility. The degree of change in the exchange rate is a function of consumers' elasticity of demand.

Because the financial markets adjust faster than the commodity's markets, the exchange rate tends to be affected in the short term by capital market changes, and in the long term, by commodity's changes.

## 5.2. Economic Indicators

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Economic indicators occur in a steady stream, at certain times, and a little more often than changes in interest rates, governments, or natural activity such as earthquakes etc. Economic data is generally (except of the Gross Domestic Product and the Employment Cost Index, which are released quarterly) released on a monthly basis.

All economic indicators are released in pairs. The first number reflects the latest period. The second number is the revised figure for the month prior to the latest period. For instance, in July, economic data is released for the month of June, the latest period. In addition, the release includes the revision of the same economic indicator figure for the month of May. The reason for the revision is that the department in charge of the economic statistics compilation is in a better position to gather more information in a month's time. This feature is important for traders. If the figure for an economic indicator is better than expected by 0.4 percent for the past month, but the previous month's number is revised lower by 0.4 percent, then traders are likely to ignore the overall release of that specific economic data.

Economic indicators are released at different times. In the United States, economic data is generally released at 8:30 and 10 am ET. It is important to remember that the most significant data for foreign exchange is released at 8:30 am ET. In order to allow time for last-minute adjustments, the United States currency futures markets open at 8:20 am ET.

Information on upcoming economic indicators is published in all leading newspapers, such as the Wall Street Journal, the Financial Times, and the New York Times; and business magazines, such as Business Week. More often than not, traders use the monitor sources—Bridge Information Systems, Reuters, or Bloomberg—to gather information both from news publications and from the sources' own up-to-date information.

### The Gross National Product (GNP)

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The Gross National Product measures the economic performance of the whole economy.

This indicator consists, at macro scale, of the sum of consumption spending, investment spending, government spending, and net trade. The Gross national product refers to the sum of all goods and services produced by United States residents, either in the United States or abroad.

### The Gross Domestic Product (GDP)

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The Gross Domestic Product (GDP) refers to the sum of all goods and services produced in the United States, either by domestic or foreign companies. The differences between the two are nominal in the case of the economy of the United States. GDP figures are more popular outside the United States. In order to make it easier to compare the performances of different economies, the United States also releases GDP figures.

## Consumption Spending

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Consumption is made possible by personal income and discretionary income. The decision by consumers to spend or to save is psychological in nature. Consumer confidence is also measured as an important indicator of the propensity of consumers who have discretionary income to switch from saving to buying.

## Investment Spending

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Investment—or gross private domestic spending - consists of fixed investment and inventories.

## Government Spending

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Government spending is very influential in terms of both sheer size and its impact on other economic indicators, due to special expenditures. For instance, United States military expenditures had a significant role in total U.S. employment until 1990. The defense cuts that occurred at the time increased unemployment figures in the short run.

## Net Trade

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Net trade is another major component of the GNP. Worldwide internationalization and the economic and political developments since 1980 have had a sharp impact on the United States' ability to compete overseas.

The U.S. trade deficit of the past decades has slowed down the overall GNP. GNP can be approached in two ways: flow of product and flow of cost.

## Industrial Production

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Industrial production consists of the total output of a nation's plants, utilities, and mines. From a fundamental point of view, it is an important economic indicator that reflects the strength of the economy, and by extrapolation, the strength of a specific currency. Therefore, foreign exchange traders use this economic indicator as a potential trading signal.

## Capacity Utilization

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Capacity utilization consists of total industrial output divided by total production capability. The term refers to the maximum level of output a plant can generate under normal business conditions. In general, capacity utilization is not a major economic indicator for the foreign exchange market.

However, there are instances when its economic implications are useful for fundamental analysis. A "normal" figure for a steady economy is 81.5 percent. If the figure reads 85 percent or more, the data suggests that the industrial production is overheating, that the economy is close to full capacity. High capacity utilization rates precede inflation, and expectation in the foreign exchange market is that the central bank will raise interest rates in order to avoid or fight inflation.

## Factory Orders

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Factory orders refer to the total of durable and nondurable goods orders. Nondurable goods consists of food, clothing, light industrial products, and products designed for the maintenance of durable goods. Durable goods orders are discussed separately. The factory orders indicator has limited significance for foreign exchange traders.

## Durable Goods Orders

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Durable goods orders consist of products with a life span of more than three years. Examples of durable goods are autos, appliances, furniture, jewelry, and toys. They are divided into four major categories: primary metals, machinery, electrical machinery, and transportation.

In order to eliminate the volatility pertinent to large military orders, the indicator includes a breakdown of the orders between defense and non- defense.

This data is fairly important to foreign exchange markets because it gives a good indication of consumer confidence. Because durable goods cost more than nondurables, a high number in this indicator shows consumers' propensity to spend. Therefore, a good figure is generally bullish for the domestic currency.

## Business Inventories

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Business inventories consist of items produced and held for future sale. The compilation of this information is facile and holds little surprise for the market. Moreover, financial management and computerization help control business inventories in unprecedented ways. Therefore, the importance of this indicator for foreign exchange traders is limited.

## Construction Indicators

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Construction indicators constitute significant economic indicators that are included in the calculation of the GDP of the United States. Moreover, housing has traditionally been the engine that pulled the U.S. economy out of recessions after World War II. These indicators are classified into three major categories:

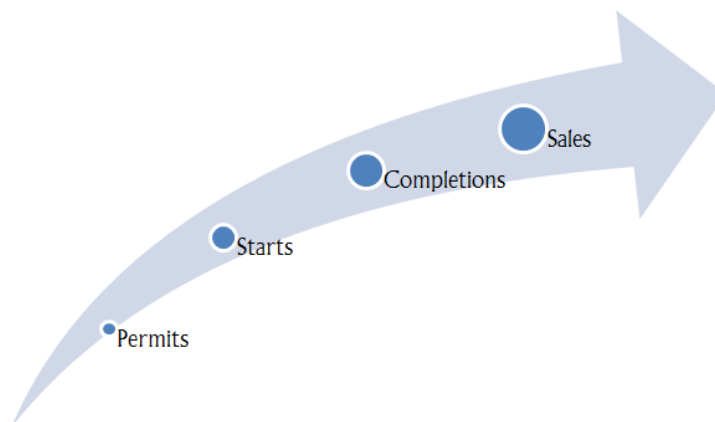
1. Housing starts and permits;
2. New and existing one-family home sales and
3. Construction spending.

Private housing is monitored closely at all the major stages.

Private housing is classified based on the number of units (one, two, three, four, five, or more); region (Northeast, West, Midwest, and South); and inside or outside metropolitan statistical areas.

## Diagram of construction of private housing

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Construction indicators are cyclical and very sensitive to the level of interest rates (and consequently, mortgage rates) and the level of disposable income. Low interest rates alone may not be able to generate a high demand for housing, though. As the situation in the early 1990s demonstrated, despite historically low mortgage rates in the United States, housing increased only marginally, as a result of the lack of job security in a weak economy.

Housing starts between one and a half and two million units reflect a strong economy, whereas a figure of approximately one million units suggests that the economy is in recession.

## Inflation Indicators

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The rate of inflation is the widespread rise in prices. Therefore, gauging inflation is a vital macroeconomic task. Traders watch the development of inflation closely, because the method of choice for fighting inflation is raising the interest rates, and higher interest rates tend to support the local currency. Moreover, the inflation rate is used to 'deflate' nominal interest rates and the GNP or GDP to their real values in order to achieve a more accurate measure of the data.

The values of the real interest rates or real GNP and GDP are of the utmost importance to the money managers and traders of international financial instruments, allowing them to accurately compare opportunities worldwide.

To measure inflation, traders use following economic tools:

- Producer Price Index (PPI);
- Consumer Price Index (CPI);
- GNP Deflator;
- GDP Deflator;
- Employment Cost Index (ECI);
- Commodity Research Bureau's Index (CRB Index);
- Journal of Commerce Industrial Price Index (JoC).

The first four are strictly economic indicators; they are released at specific intervals. The commodity

indexes provide information on inflation quickly and continuously.

Other economic data that measure inflation are unemployment, consumer prices, and capacity utilization.

## **Producer Price Index (PPI)**

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Producer price index is compiled from most sectors of the economy, such as manufacturing, mining, and agriculture. The sample used to calculate the index contains about 3400 commodities. The weights used for the calculation of the index for some of the most important groups are: food – 24 percent; fuel - 7 percent; autos - 7 percent; and clothing - 6 percent. Unlike the CPI, the PPI does not include imported goods, services, or taxes.

## **Consumer Price Index (CPI)**

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Consumer price index reflects the average change in retail prices for a fixed market basket of goods and services. The CPI data is compiled from a sample of prices for food, shelter, clothing, fuel, transportation, and medical services that people purchase on a daily basis. The weights attached for the calculation of the index to the most important groups are: housing – 38 percent; food - 19 percent; fuel - 8 percent; and autos - 7 percent.

The two indexes, PPI and CPI, are instrumental in helping trader's measure inflationary activity; although the Federal Reserve takes the position that the indexes overstate the strength of inflation.

## **Gross National Product Implicit Deflator**

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Gross national product implicit deflator is calculated by dividing the current dollar GNP figure by the constant dollar GNP figure.

## **Gross Domestic Product Implicit**

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Gross domestic product implicit deflator is calculated by dividing the current dollar GDP figure by the constant dollar GDP figure.

Both the GNP and GDP implicit deflators are released quarterly, along with the respective GNP and GDP figures. The implicit deflators are generally regarded as the most significant measure of inflation.

## **Commodity Research Bureau's Futures Index (CRB index)**

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The Commodity Research Bureau's Futures Index makes watching for inflationary trends easier. The CRB Index consists of the equally weighted futures prices of 21 commodities. The components of the CRB Index are:

- precious metals: gold, silver, platinum;
- industrials: crude oil, heating oil, unleaded gas, lumber, copper, and cotton;

- grains: corn, wheat, soybeans, soy meal, soy oil;
- livestock and meat: cattle, hogs, and pork bellies;
- imports: coffee, cocoa, sugar;
- Miscellaneous: orange juice.

The preponderance of food commodities makes the CRB Index less reliable in terms of general inflation. Nevertheless, the index is a popular tool that has proven quite reliable since the late 1980s.

## The “Journal of commerce” Industrial Price Index (JoC)

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The “Journal of commerce” industrial price index consists of the prices of 18 industrial materials and supplies processed in the initial stages of manufacturing, building, and energy production. It is more sensitive than other indexes, as it was designed to signal changes in inflation prior to the other price indexes.

## Merchandise Trade Balance

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It is one of the most important economic indicators. Its value may trigger long-lasting changes in monetary and foreign policies. The trade balance consists of the net difference between the exports and imports of a certain economy. The data includes six categories:

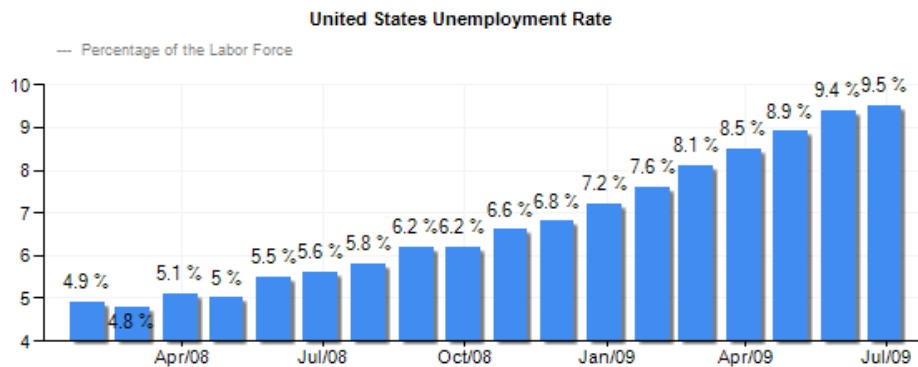
1. Food;
2. Raw materials and industrial supplies;
3. Consumer goods;
4. Autos;
5. Capital goods;
6. Other merchandise.

## Employment Indicators

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The employment rate is an economic indicator with significance in multiple areas. The rate of employment, naturally, measures the soundness of an economy. The unemployment rate is a lagging economic indicator. It is an important feature to remember, especially in times of economic recession. Whereas people focus on the health and recovery of the job sector, employment is the last economic indicator to rebound.

When economic contraction causes jobs to be cut, it takes time to generate psychological confidence in economic recovery at the managerial level before new positions are added. At individual levels, the improvement of the job outlook may be clouded when new positions are added in small companies and thus not fully reflected in the data. The employment reports are significant to the financial markets in general and to foreign exchange, in particular. In foreign exchange, the data is truly affective in periods of economic transition — recovery and contraction. The reason for the indicators' importance in extreme economic situations lies in the picture they paint of the health of the economy and in the degree of maturity of a business cycle. A decreasing unemployment figure signals a maturing cycle, whereas the opposite is true for an increasing unemployment indicator.



## Employment Cost Index (ECI)

Employment cost index measures wages and inflation and provides the most comprehensive analysis of worker compensation, including wages, salaries, and fringe benefits. The ECI is one of the Fed's favourite quarterly economic statistics.

## Consumer Spending Indicators

Retail sale is a significant consumer spending indicator for foreign exchange traders, as it shows the strength of consumer demand as well as the consumer confidence component in the calculation of other economic indicators, such as GNP and GDP.

Generally, the most commonly used employment figure is not the monthly unemployment rate, which is released as a percentage, but the nonfarm payroll rate. The rate figure is calculated as the ratio of the difference between the total labour force and the employed labour force, divided by the total labour force. The data is more complex, though, and it generates more information. In foreign exchange, the standard indicators monitored by traders are the unemployment rate, manufacturing payrolls, nonfarm payrolls, average earnings, and average workweek. Generally, the most significant employment data are manufacturing and nonfarm payrolls, followed by the unemployment rate.

## Auto Sales

Despite the importance of the auto industry in terms of production and sales, the level of auto sales is not an economic indicator widely followed by foreign exchange traders. The American automakers experienced a long, steady market share loss, only to start rebounding in the early 1990s. However, car manufacturing has become increasingly internationalized, with American cars being assembled outside the United States and Japanese and German cars assembled within the United States. Because of their confusing nature, auto sales figures cannot easily be used in foreign exchange analysis.

## Leading Indicators

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The leading indicators consist of the following economic indicators:

- Average workweek of production workers in manufacturing;
- Average weekly claims for state unemployment;
- New orders for consumer goods and materials (adjusted for inflation);
- Vendor performance (companies receiving slower deliveries from suppliers);
- Contracts and orders for plant and equipment (adjusted for inflation);
- New building permits issued;
- Change in manufacturers' unfilled orders, durable goods;
- Change in sensitive material's prices.

## Personal Income

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This is the income received by individuals, non-profit institutions, and private trust funds. Components of this indicator include wages and salaries, rental income, dividends, interest earnings, and transfer payments (social security, state unemployment insurance, and veterans' benefits). The wages and salaries reflect the underlying economic conditions.

This indicator is vital for the sales sector. Without an adequate personal income and a propensity to purchase, consumer purchases of durable and nondurable goods are limited.

For the Forex traders, personal income is not significant.

## 5.3. Financial and Socio-political Factors

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### The Role of Financial Factors

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Financial factors are vital to fundamental analysis. Changes in a government's monetary or fiscal policies are bound to generate changes in the economy, and these will be reflected in the exchange rates. Financial factors should be triggered only by economic factors. When governments focus on different aspects of the economy or have additional international responsibilities, financial factors may have priority over economic factors. This was painfully true in the case of the European Monetary System in the early 1990s. The realities of the marketplace revealed the underlying artificiality of this approach. Using the interest rates independently from the real economic environment translated into a very expensive strategy.

Because foreign exchange, by definition, consists of simultaneous transactions in two currencies, then it follows that the market must focus on two respective interest rates as well. This is the interest rate differential, a basic factor in the markets. Traders react when the interest rate differential changes, not simply when the interest rates themselves change. For example, if all the G-5 countries decided to simultaneously lower their interest rates by 0.5 percent, the move would be neutral for foreign exchange, because the interest rate differentials would also be neutral.

Of course, most of the time the discount rates are cut unilaterally, a move that generates changes in

both the interest differential and the exchange rate. Traders approach the interest rates like any other factor, trading on expectations and facts. For example, if rumour says that a discount rate will be cut, the respective currency will be sold before the fact. Once the cut occurs, it is quite possible that the currency will be bought back, or the other way around. An unexpected change in interest rates is likely to trigger a sharp currency move. “Buy on the rumour, sell on the fact...”

Other factors affecting the trading decision are the time lag between the rumour and the fact, the reasons behind the interest rate change, and the perceived importance of the change. The market generally prices in a discount rate change that was delayed. Since it is a fait accompli, it is neutral to the market. If the discount rate was changed for political rather than economic reasons, what is a common practice in the European Monetary System, the markets are likely to go against the central banks, sticking to the real fundamentals rather than the political ones. This happened in both September 1992 and the summer of 1993, when the European central banks lost unprecedented amounts of money trying to prop up their currencies, despite having high interest rates. The market perceived those interest rates as artificially high and, therefore, aggressively sold the respective currencies. Finally, traders deal on the perceived importance of a change in the interest rate differential.

## **Political events and Crises**

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Political events generally take place over a period of time, but political crises strike suddenly. They are almost always, by definition, unexpected. Currency traders have a knack for responding to crises. Speed is essential; shooting from the hip is the only fighting option. The traders' reflexes take over. Without fast action, traders can be left out in the cold. There is no time for analysis, and only a split second, at best, to act. As volume drops dramatically, trading is hindered by a crisis. Prices dry out quickly, and sometimes the spreads between bid and offer jump from 5 pips to 100 pips. Getting back to the market is difficult.

## CHAPTER 6

# Fibonacci Analysis and Elliott Waves Theory

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## 6.1. Fibonacci Analysis

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The Fibonacci analysis provides ratios, which play an important role in the forecasting of market movements. This theory is named after Leonardo Fibonacci of Pisa, an Italian mathematician of the late twelfth and early thirteenth centuries. He presented an additive numerical series - Fibonacci sequence.

The Fibonacci Sequence comprises of the following chain of figures:

1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4181, (etc.), which show numerous remarkable relationships, in particular, the ratio of any term in the series to the next higher term. This ratio leans asymptotically towards 0.618 (the Fibonacci ratio). In addition, the ratio of any term to the next lower term in the sequence leans asymptotically towards 1.618, which is the inverse of 0.618. Likewise, constant ratios exist between two terms.

Golden spirals present in diverse natural objects, from seashells to hurricanes- even galaxies!

The financial markets reveal Fibonacci proportions in a number of ways; particularly, it constitutes a tool for calculating price targets and placing stops. For instance, if a correction is expected to retrace 61.8 percent of the preceding impulse wave, an investor might place a stop slightly below that level. This will ensure that if the correction is of a larger degree of trend than expected, the investor will not be exposed to excessive losses. On the other hand, if the correction ends near the target level, this result will upsurge the probability that the investors preferred price move interpretation is accurate.

## 6.2. The Elliott Waves

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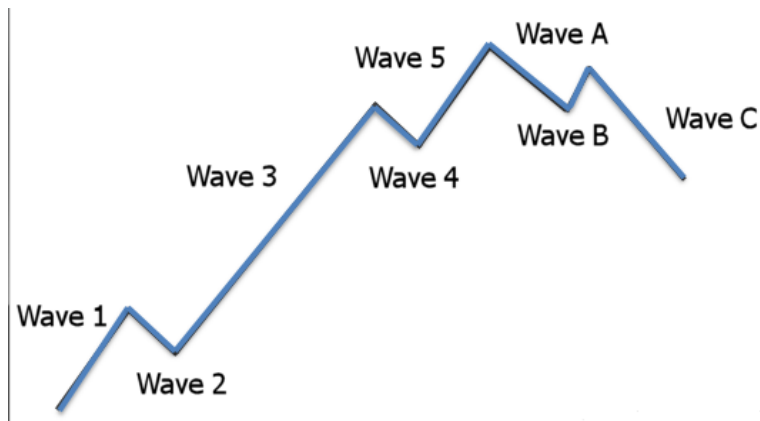
### Basics of Wave Analysis

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The Elliott Waves principle is a method of empirically derived rules for understanding action in the markets. Elliott indicated that the market develops in relation to a simple design or model of five waves in the direction of the trend at one larger scale and three waves against that trend. In a rising market, this five wave/three-wave model creates a comprehensive bull market/bear market cycle of eight waves. The five-wave upward movement is holistically referred to as an impulse wave, and the three-wave counter trend movement is defined as a corrective wave.

Within the five-wave bull move, waves 1, 3 and 5 are themselves impulse waves, subdividing into five waves of minor scale; while waves 2 and 4 are corrective waves, subdividing into three minor waves each. As depicted below, sub waves of impulse sequences are labeled with numbers, while sub waves of corrections are labeled with letters.

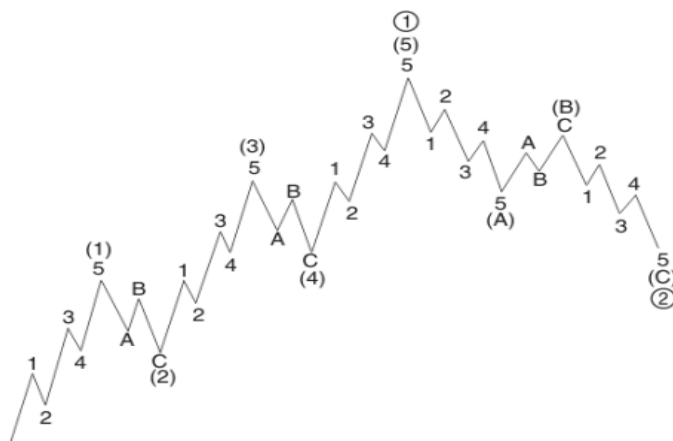
## The basic Elliott Wave pattern



Following the cycle shown in the illustration, a second five-wave upside movement begins, after which, another three-wave correction, then an extra five-wave up move. This sequence of movements creates a five-wave impulse pattern at one larger degree of trend, and a three-wave corrective movement at the same scale must follow. The image below shows this larger-scale pattern in detail.

As the illustration shows, waves of any degree in any series can be subdivided over and over again into waves of slighter degree or expanded into waves of greater degree.

## The larger pattern in detail



The following rules are applied to the interpretation of Elliott Waves:

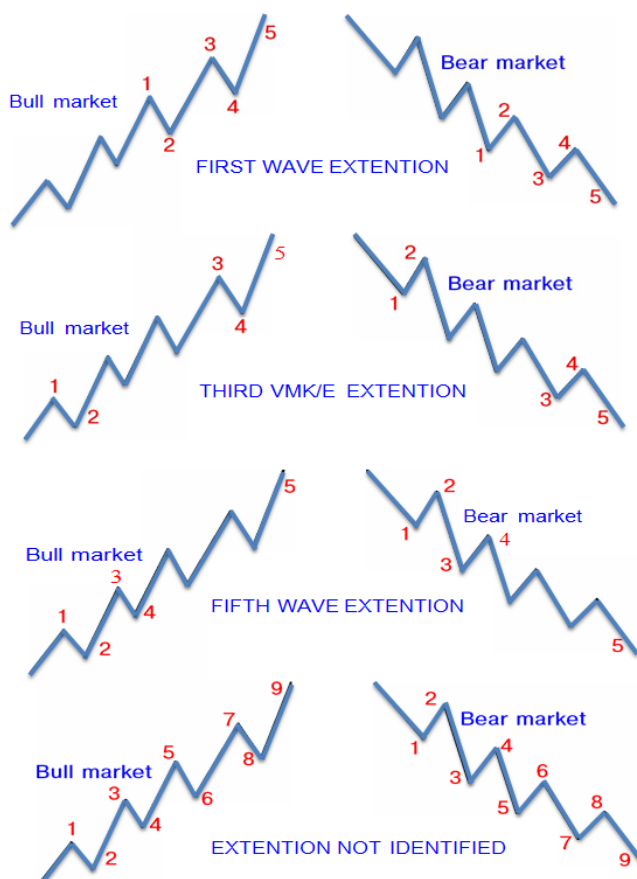
1. A second wave may not ever retrace more than 100 percent of a first wave; for example, in a bull market, the low of the second wave may not go below the commencement of the first wave.
2. The third wave is never the shortest wave in an impulse sequence; more often than not, it is the longest.
3. A fourth wave can never enter the price range of a first wave, except in one specific type of wave pattern; the form of market movements is basically the same, regardless of the size or duration of the movements.

Moreover, smaller-scale movements link up to create larger-scale movements possessing the same basic form. On the other hand, large-scale movements consist of smaller-scale subdivisions with which they share a geometric resemblance. Because these movements link up in growths of five waves and three waves, they produce sequences of numbers that the analyst can use (along with the rules of wave formation) to help recognize the present state of pattern development.

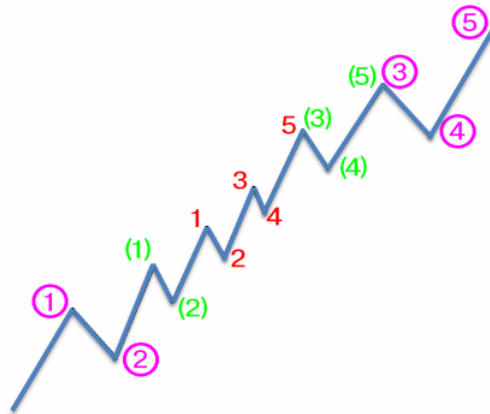
## A complete market cycle



## Wave extensions



## Wave extensions



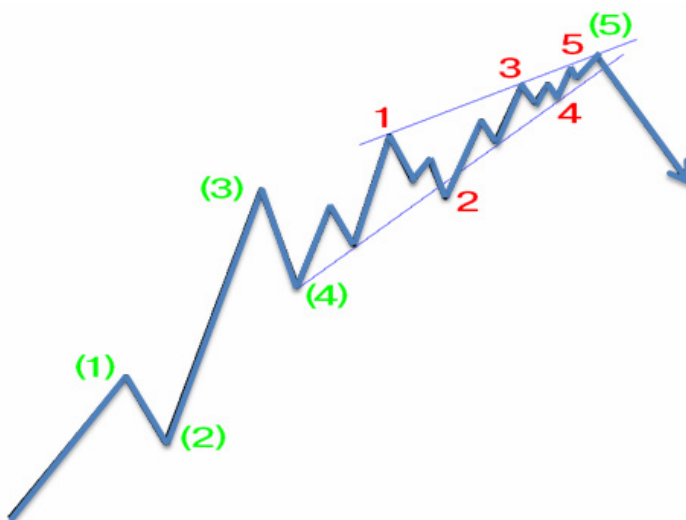
Extensions can provide a useful guide to the lengths of future waves. Most impulse sequences contain extensions in only one of their three impulsive sub-waves. Thus, if the first and third waves are of about the same enormity, the fifth wave will most likely be extended, particularly if volume during the fifth wave is greater than during the third.

## The Diagonal Triangles

There are some recognizable designs from the Technical Analysis theory, specifically two types of triangles, which should be noticed in the frame of Elliott's wave consideration.

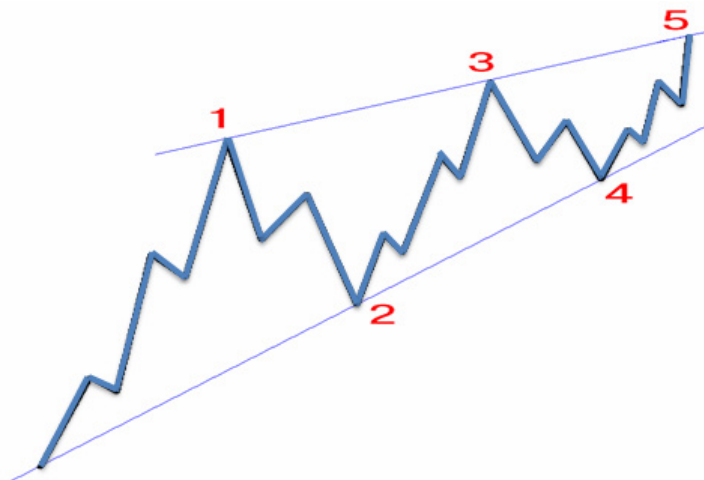
The diagonal triangle type 1 occurs only in fifth waves and in C waves, and it signals that the prior move has, in accordance to Elliott, "gone too far, too fast." All of the patterns' sub-waves, including waves 1, 3, and 5, consist of three-wave movements, and their fourth waves often enter the price range of their first waves, as shown in the next two images. A rising diagonal triangle type 1 is bearish, because it is generally followed by a sharp drop, at least to the level where the formation began. In contrast, a falling diagonal type 1 is bullish, because an upward thrust typically follows.

## A bullish patten

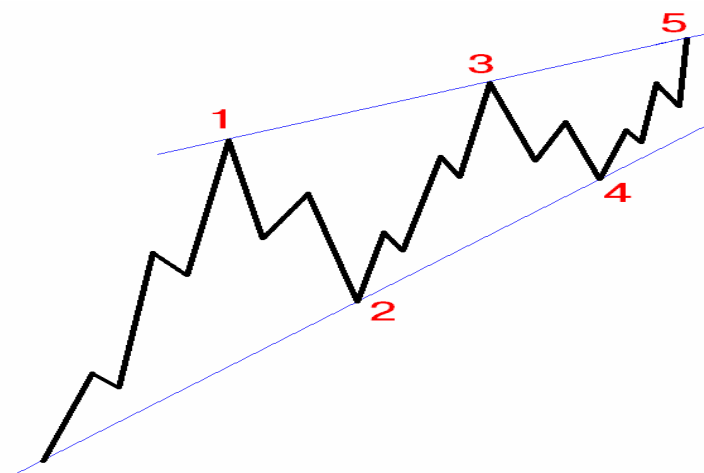


## A bearish pattern

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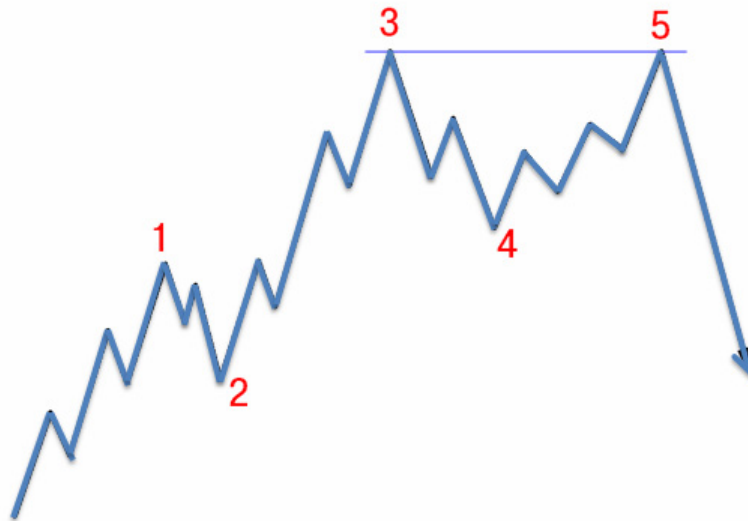


The diagonal triangle type 2 occurs even more seldom than type 1. This design, found in first-wave or A-wave positions in very rare cases, bears a resemblance to a diagonal type 1 in that it is defined by converging trend lines and its first wave and fourth wave overlap, as shown below. However, it clashes notably with type 1 in that its impulsive sub waves (waves 1, 3, and 5) are normal, five-wave impulse waves, in contrast to the three-wave sub waves of type 1. This substantiates the message of the type 2 diagonal triangle, which signals continuation of the underlying trend, in contrast to the type 1's message of termination of the larger trend.



## Failures (Truncated Fifths)

Elliott defined an impulse pattern in which the extreme of the fifth wave fails to exceed the extreme of the third wave as a failure. The next two diagrams are examples of failures in bull and bear markets. The graphics will show that the truncated fifth wave contains the necessary impulsive (i.e., five- wave) substructure to complete the larger movement. Albeit, its failure to surpass the previous impulse wave's extreme signals weakness in the underlying trend, and a sharp reversal commonly follows.



## Chapter 7

### Foreign Exchange Risks

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On the foreign exchange market, one is made aware of the following kinds of risks:

- Exchange rate risk;
- Interest-rate risk;
- Credit risk;
- Country risk.

#### 7.1. Exchange Rate Risk

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Exchange rate risk is a result of the continuous swing in the global market supply and demand balance on an outstanding foreign exchange position. A position will be dependent on all the price changes as long as it is outstanding. To cut losses short and ride profitable positions, losses should be kept within manageable limits; and the most popular steps are the position limit and the loss limit. The limits are a function of the policy of the banks along with the expertise of the traders and their specialized areas. The typology of daily limits is two-fold; there are daylight limits and overnight limits.

1. The daylight position limit determines the maximum amount of a certain currency which a trader is allowed to cart at any given time during the day. The limit should reflect both the trader's level of trading dexterities and the summation at which a trader peaks.
2. The overnight position limit should be smaller than daylight limits and concerns any outstanding position kept overnight by traders. In reality, most foreign exchange traders do not hold overnight positions.

The loss limit is a measure to avoid unmaintainable losses accrued by traders; which is implemented by the senior officers in the dealing center. The loss limits are chosen on a daily and monthly basis by upper management.

The position and loss limits can now be executed more conveniently with the assistance of high-tech electronic systems, which allow the treasurer and the chief trader to have unremitting, rapid, and wide-ranging access to correct figures for all the positions and the profit and loss. This information may also be conveyed from all the branches abroad into the headquarters stations.

#### 7.2. INTEREST-RATE RISK

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Interest-rate risk is essential to currency swaps, forward out rights, futures, and options. It makes reference to the profit and loss produced by both the vacillations in the forward spreads and by forward amount disparities and maturity gaps among transactions in the foreign exchange book. An amount mismatch is the spot amount different from the forward amounts. For an active forward desk, the complete eradication of maturity gaps is practically unfeasible. However, this may not be a grave problem if the sums of money involved in these mismatches are small. Every day, traders balance the net payments and receipts for each currency through a special type of swap, that is called tomorrow/next or rollover.

To reduce interest-rate risk, management sets restrictions on the total size of mismatches. The policies vary among banks, but the popular approach is to separate the mismatches, based on their maturity

dates, into up to six months and past six months. All the transactions are entered in electronic systems in order to calculate the positions for all the delivery dates and the profit and loss. Unceasing analysis of the interest rate environment is necessary to forecast any changes that may impact on the outstanding gaps.

### 7.3. Credit Risk

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Credit risk is connected with the possibility that an outstanding currency position may not be repaid as agreed, due to a voluntary or involuntary action by a counter party. In these cases, trading occurs on regulated exchanges, where all trades are settled by the clearing house. On such exchanges, traders of all sizes can deal without any credit concern.

The following forms of credit risk are known:

1. Replacement risk which occurs when counter parties of the failed bank find their books unbalanced to the extent of their exposure to the insolvent party. To rebalance their books, these banks enter new transactions.
2. Settlement risk which occurs because of different time zones on different continents. Such a way, currencies may be credited at different times during the day. Australian and New Zealand dollars are credited first, then Japanese yen, followed by the European currencies and ending with the U.S. dollar. Therefore, payment may be made to a party that will declare insolvency (or be declared insolvent) immediately after, but prior to executing its own payments.

The credit risk for instruments traded off regulated exchanges is to be minimized through the customers' creditworthiness. Commercial and investment banks, trading companies, and banks' customers must have credit lines with each other to be able to trade. Even after the credit lines are extended, the counter parties' financial soundness should be continuously monitored. Along with the market value of their currency portfolios, end users, in assessing the credit risk, must consider also the potential portfolio's exposure. The latter may be determined through probability analysis over the time to maturity of the outstanding position. For the same purposes netting is used. Netting is a process that enables institutions to settle only their net positions with one another not trade by trade but at the end of the day, in a single transaction. If signs of payment difficulty of a bank are shown, a group of large banks may provide short-term backing from a common reserve pool.

### 7.4. Country Risk

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The failure to receive an expected payment due to government interference results in the bankruptcy of an individual bank or institution, a situation described under credit risk. Country risk refers to the government's interference in the foreign exchange markets and falls under the joint responsibility of the treasurer and the credit department. Outside the major economies, controls on foreign exchange activities are still present and actively implemented.

In the case of traders, it is imperative to know or be able to foresee any constricting changes concerning the free flow of currencies. If this is possible, though trading in the affected currency will dry up considerably, it is still a manageable situation.







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