Forecasting Foreign Exchange Market Trends: Is Technical Analysis Perspective Successful?

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ABSTRACT

Foreign exchange market or FOREX is the biggest and the most liquid financial market in the world. According to the BIS latest report announced in December 2010, the volume of daily transactions in this market is about $3.98 trillion. Volatility dominated in this market made it a complicated business for policy makers and consequently caused investors and speculators to be very cautious in their trading strategies.

The thesis investigates the reliability of technical analysis for forecasting the accurate price and trend direction in the FOREX market. The analysis was carried out for a period of two months. Due to existence of high fluctuations with exchange rates, investors choose technical analysis in order to minimize the risk associated with the market and finally find currency pairs' price movement. In order to carry out the test, the research employs some of the common indicators and tools provided by brokerage companies in the transactional platform of Meta Trader 4. These indicators are examined together in order to send different types of signals to traders to identify the price reversal pattern configuration.

Technical analysis test confirms to be a reliable instrument for forecasting the market trend. The results show that 63.34% of total transactions faced with profit; 46.67% in daily and the rest 16.67% in weekly trading. The test has also found that technical analysis is not very reliable for monthly forecasting.

Keywords: forex market, foreign exchange forecasting strategies, technical analysis, reversal pattern model, common indicators.

ÖZ

Döviz piyasası (FOREX), dünyanın en büyük ve likit piyasasıdır. BIS'in Aralık 2010'daki raporuna göre, FOREX'teki günlük işlem hacmi 3.98 trilyon ABD dolarıdır. Bu pazarda hakim olan oynaklık ve dalgalanma, tedbir alınmasını çok karmaşık ve zor bir hale getirmesinden dolayı piyasada bulunan yatırımcı ve spekülatörlerin çok dikkatli işlem yapmasını gerektirir.

Bu çalışmada doğru fiyat (kur) tahmini için teknik analizin güvenilirliğini ve FOREX piyasasındaki yönünü araştırıldı. Test ve analiz iki aylık süreyle gerçekleştirildi. Döviz kurlarındaki yüksek dalgalanmalardan dolayı, yatırımcılar piyasadaki riski en aza indirmek ve paritelerdeki fiyat hareketlerini bulmak için teknik analiz kullanmaktadırlar.Testi gerçekleştirmek amacıyla, aracı kurumlar tarafından sağlanan Meta Trader 4 işlem platformundaki ortak göstergeler ve araçlar kullanıldı. Piyasadaki yatırımcılara farklı sinyaller göndermek ve fiyat dönüş formasyonunu tanımlamak maksadıyla, tüm bu göstergeler birlikte incelenmiştir.

Teknik analiz testi, piyasadaki trendi tahmin etmek için güvenilir bir araç olduğunu doğrulamaktadır. Sonuçlar % 63.34'lük kar oranı sonucuna ulaşılmış ve bunun % 46.67'si günlük, geriye kalan %16.67'si ise haftalıktır. Test aynı zamanda teknik analiz yönteminin aylık tahmin için çok güvenilir olmadığını tespit etmiştir.

Anahtar Kelimeler: döviz (forex) piyasası, döviz tahmin stratejileri, teknik analiz, ortak göstergeler

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LIST OF ABBREVIATIONS

BOE... Bank of England

BIS .... Bank of International for Settlement

CCI ....Commodity Channel Index

CPI ....Consumer Price Index

CHF .... Confederation Helvetica Franc

ECB .... European Central Banks

ECN..Electronic Communication Networks

FOMC .... Federal Open Market Committee

FOREX .... Foreign Exchange

GDP .... Gross Domestic Production

GBP .... Great Britain Pound

IBRD .... International Bank for Reconstruction and Development

IMF...International Monetary fund

JPY .... Japanese Yen

MACD.......................................Moving Average Convergence Divergence

OTC..Over-the-counter

PIP ....Price Interest Point

RSI .... Relatively Strength Index

SMA .... Simple Moving Average

USD..United States Dollar

Chapter 1

INTRODUCTION

1.1 Overview of FOREX Market

Nowadays, many financial institutions such as commercial banks, financial firms and individual investors actively participate in foreign exchange (FOREX) market in order to grasp potential profits or to hedge in their financial transactions. Since it is considered to be the biggest and the most liquid market, the vast majority of investors are inclined to put their capital in this market for speculation purposes. According to the last report of *Bank for International Settlement* as of April 2010, average daily turnover in global foreign exchange markets is estimated at $3.98 trillion (*BIS Report, Dec 2010*). It demonstrates a fast growth of approximately 20% more than the previous figure of $3.21 trillion daily volume in April of 2007.

One attractive feature of FOREX Market is that any investor can open his trading account with FOREX brokerage firms by maintaining low balance in order to enter into FOREX market. FOREX market is considered to be a highly volatile market like stocks, bond and other capital markets. Exchange rate fluctuation, the deriving factor of volatility, is an important indicator of macroeconomic policies. It is related with price movement either high/up or down/low direction.

Impeding factors affecting the foreign exchange market are economic indicators such as reporting variation in GDP, Interest Rate, Employment, Unemployment, Factory Order Report, Trade Balance, Payroll, Retail Sale, Personal Income Report and etc. There always exists uncertainty about natural catastrophes such as floods, earthquakes, wars, political disturbances etc. that could have a direct impact on FOREX market trend.

The traders in FOREX market are divided into three categories:

A) 1st group shows interest in **Fundamental Analysis** of speculation only. It involves following news, analyzing economic and political scenarios of various trading economies.

B) 2nd group trades according to its **Technical Analysis** only. This is the method to predict price movement and future market trend by critically analyzing the past history of FOREX market and the respective charts.

C) 3rd group who uses both **Fundamental Analysis and Technical Analysis** together. In reality, these are the professional market groups who trade after analyzing the true market potential (Chen, 2009).

1.2 Objectives of the study

The aim of this study is to investigate ***Technical Analysis*** through tools available in FOREX market. The volatility makes speculation a difficult process for financial analysts and the investors as well. Exchange rate changes in the market at rapid pace and exposed to fluctuation every time which makes it a complicated market. Investor has to learn certain strategies that are associated with FOREX market and to understand the underlying derivatives in order to grasp maximum earning potential from the market.

One strategy that help investors a lot is *forecasting the price movements* and *trend associated thereof*. Forecasting currency pair's prices properly help investors and decision makers plan more precisely in their trading strategies. Forecasting methods in FOREX help traders in predicting if not exact then almost probable currencies exchange rate. Forecasting demands for past market behaviors and events associated with price movement (either up/high, low/down).

Market forecasting is highly important for all size of businesses; from individual/retail investor to international financial institutions. Precise technical and financial analysis of forecasting methods will help them not lose their money easily in the market and to survive in the market for a longer period of time for their speculative activities.

1.3 Scope of the Study

This study will review the forecasting process based upon technical analysis for two months i.e. from the *16th January 2012* till *16th of the March 2012.* It will test the FOREX market trend forecasting on daily (including 1-hour and 4-hours timeframe), weekly and monthly charts. It will examine several current indicators which are available in every broker's transactional platform of Meta Trader 4. These indicators mathematically will analyze the historical data in the broker's platform's charts to carry out price forecast.

This research will explore the impact of technical analysis through tools available for successful/unsuccessful forecasting of market trading trend. Thereafter, it will validate the efficiency of these tools in different time-frame through technical analysis for different level of signals to traders regarding market behavior and price movement. For the purpose of this study, these signals are classified as:

- Weak buy or sell signals
- Medium buy or sell signals
- Strong buy or sell signals

The data which is used in this study includes following world's major currencies versus United States Dollar (USD) namely:

- Great Britain Pound (GBP)
- Euro (EUR)
- Swiss Franc (CHF)
- Japanese Yen (JPY)

Since, EUR/USD, GBP/USD, USD/JPY and USD/CHF have the highest daily turnover in FOREX market they are selected in this study's test process. In addition, these pairs are more liquid in nature than other currencies and own 55% of daily transactions in FOREX market (BIS, 2010). Therefore, the result derived there from can be more accurate for the purpose of this study.

1.4 Method of the Study

The model which the study benefits is called **Reversal Pattern** where the exchange rates are oversold or overbought due to the high supplies or demands levels. Therefore, traders, investors and financial analyst will face a situation that the price will retrace itself and a reversal configuration is made as the main signal for further actions in the market in order to buy or sell the currencies. Technical analysis by applying different tools and indicators provided by brokerage companies will help investors and traders to identify the right points for forecasting the price and trend directions.

There are many types of indicators and software that are useful for FOREX traders in assisting them to find the trend cycle. These tools are very handy in recognition of the trend directions. These directions can be upward, downward and sideway. The tools this study will explain in its examining process include a number of indicators on the FOREX platform of Meta Trader 4.

In this study *Support and Resistance Lines* are identified first. They will be brought in the charts to show the primary right directions for trend current position before entering into market or closing the orders already opened. In order to find the correct or the most probable support and resistance line, the study will be benefited by using leading indicator of *Fibonacci Retracement*. Fibonacci retracement evaluates the levels of support and resistance and identifies the correct point status if currently the market is in bullish or in bearish trend.

Once these are specified in study work then other complementary indicators currently used by traders will be added into the charts in different time-frame divided into daily (including 1 hour and 4 hour), weekly and monthly time. These indicators include:

i. Stochastic,
ii. Moving Average (MA),
iii. Moving Average Convergence and Divergence (MACD),
iv. Relatively Strength Index (RSI),
v. Commodity Channel Index (CCI).

All above listed indicators have their usage and instruction standards which have been delineated in Literature Review section at length. These indicators quantitatively analyze price history trend, average weight of the asked currency pair and to show the leading direction of upward, downward or a sideway status.

In a nutshell, the research will analyze the reliability of indicators used for technical analysis as one of the methods of forecasting exchange rate in FOREX market. In fact, the study will find how successful these indicators are for traders to rely on these tools in order to organize strong strategies according to their abilities and needs.

1.5 Structure of the Thesis

In this chapter, overview of foreign exchange market has been outlined. Objectives and scope of the study have been introduced. The following chapter will review the foreign exchange market, terminologies used in the market and forecasting methods. Chapter 3 builds up the methodology which will be employed for forecasting analysis. Chapter 4 has the application with the results of the analysis. Last chapter concludes with some remarks.

Chapter 2

FOREGIN EXCHANGE MARKET AND FORECASTING METHODS

In this chapter, in the first phases of study, the study will define foreign exchange (FOREX) market, key terminologies, benefits of the market, major pairs transacted in the market and the importance of FOREX market. And then, in the second phase, the forecasting analysis methods in the market are described. And finally, in the third phases of the study, the study will go over with technical analysis method in FOREX market associated with several common tools and indicators used by investors and traders.

2.1 What is FOREX Market?

FOREX or FX as the name implies refer to foreign exchange market wherein brokerage firms and commercial banks mutually interact on timely-basis through Electronic Communication Networks (ECNs) for buying and selling of currencies around the world. The FOREX market transacts highest volume of financial transactions among investors and financial intermediaries which make it biggest and most lucrative financial market for potential earnings around the world. (Mohammadi, 2010).

According to the Bank of International Settlement (BIS) report announced in December 2010, the average volume of transactions in this market was recorded around $3.98 trillion/day that has showed a fast growth of approximately 20% over the last four years. In April 2007 the volume of transactions was recorded around $3.21 trillion/day.

Major players of FOREX market are:

- Institutional Investors (pension funds and Insurance co. etc)
- Commercial Banks
- Hedge Funds
- Investment Management Firms

(Galati and Melvin, 1994).

Trading of one currency against another currency takes place simultaneously. For example a buy position in EUR/USD means that the trader buys euro while selling USD concurrently. Transactions in the FOREX market occur via two channels. The first one is interbank transactions or wholesale where banks exchange different currencies of countries. This is an important segment of the FOREX market which wholesalers and whole buyers participate in market (Bankers).The second way is the over-the-counter (OTC) market where all transactions take place via phone or Electronic Communication Networks (ECNs). There is not centralized exchange or physical market place for such transactions. It is 24 hours a day and five days a week market. It opens from Sydney Australia while moving to Tokyo Japan then London and lastly, New York and vice versa. Since this market is highly volatile, exchange rate is subject to change at every spectrum while people join together during day and night around the world. When Asian markets close their index, European countries start trading and thereafter US market transacts. So it is a non-stop market unlike other financial markets. (Mofett, Stonehill, Eiteman, 2005 and also available in http://www.forexeconomiccalendar.com/forex-trading-hours.htm).

Before 1970, the world financial system was based upon fixed exchange rate system. The Bretton Woods system of monetary management demonstrated regulations among world's major industrial countries on July 1944. The planners of Bretton Woods established the International Monetary Fund (IMF) and International Bank for Reconstruction and Development (IBRD). The main aspects of this system were firstly, obligation for each country to accept a monetary policy that made countries' exchange rate fixed against US dollar. And secondly, the ability of IMF in order to support imbalances of payments. Ultimately in 1971 the system collapsed and currencies have been traded according to the floating rate instead of fixed rate until today (Grabbe, 1996).

At this stage, it is found to be useful to define some of the key terms/terminologies used in FOREX market before going into a more in-depth analysis. Those are described hereunder for better understanding:

Broker- An individual or commercial firm which acts as intermediary between retail investor and larger institutions. It is necessary to open an account with broker for trading in FOREX market. Brokers in turn charge fees (spread) or commission (some of brokers) for executing buy and sell orders on behalf of trader.

Currency Pairs- Currencies in FOREX are traded in pairs. E.g. EUR/USD means euro against US dollar. In this case euro considered to be the first currency and it is called *Base Currency* while USD ($) considered to be the second currency and it is called *Counter or Quote Currency*.

Major Currency- Currency pairs which are evaluated versus US dollar. E.g. EUR/USD, GBP/USD, USD/JPY, USD/CHF are called major currency pairs.

Cross Pairs- currency pairs which are not valued against US dollar. EUR/GBP, EUR/JPY, GBP/JPY are examples of cross pairs.

Pips- Initials for Price Interest Point are called Pips which is the smallest unit of the price for any foreign currency. Usually four (some brokers' platforms five) decimal points are placed in the currency price. E.g., if the buy price of EUR/USD changes from 1.3343 to 1.3348 it means that there were 5 pips increase in the currency price.

Lot- A unit used to measure dealing of transaction in FOREX market. One standard lot size refers to 1000 dollar and the smaller size is called Mini Lot which equals to 0.1 or 100 dollar. (Standard Lot and Mini Lot are the types of accounts allowed by brokers).

Leverage- A facility that broker gives to its traders in order to enable them to hold a larger position in their transactions than actual capital hold by them for trading activities. The leverage size can differ from 1 to 500 times of their initial capital depending upon brokers' regulations. E.g., if a trader holds $1000 in his account by a leverage of 100 to 1, it means that he can benefit $100,000 in his trading ($1000*100=100,000) account. Higher leverage means higher risk for that the broker takes extra precautionary actions in facilitating the traders. Traders usually earn more profits while maintaining margin account with the broker but at the same time when market moves against the traders' position it bring higher losses as well.

Bid Price-The bid is the price at which the market dealers are ready to buy a particular currency in FOREX market. E.g. in the quote GBP/USD the bid price is 1.5940/1.5943 meaning that trader can sell one US dollar for 1.5940 Great Britain Pound.

Ask Price- The price at which the market dealers are willing to sell a particular currency. More precisely, it can be narrated as the price at which traders buy a particular currency. In the quote GBP/USD, the ask price is 1.5940/1.5943 meaning that trader can buy one US dollar for 1.5943 Great Britain Pound.

Spread- the difference between the bid prices and ask prices.

Balance- The total amount of investment held by traders in brokers' transactional platform when there is no open position in the market is called balance.

Margin- Denotes the part of investors' deposit (equity portion) that is placed in the brokers account when traders have open sell or buy positions. Margin Account differs from broker to broker. It should be added that with the increase in leverage the investor's margin will decrease accordingly.

Margin Call- When trader incurs losses and its initial margin (equity portion) becomes inadequate to cover its leverage position with brokerage firm then he or she is sure to receive a margin call from its broker. Whenever, trader receives a margin call from its broker, it means that the trader is required to fulfill its maintenance margin requirement for further trading activities.

Hedging- A strategy adopted by traders that protects them against reverse price movement while enjoying open position in the market.

Take Profit- It is an order made by traders on the platform for a sell or buy position to close the account automatically when the market price reaches to a certain amount.

Stop Loss- It is an order executed by traders in the platform for a sell or buy position to avoid more losses when the market moves in the opposite direction of existing position (Galant & Dolan, 2007and also Mohammdi, 2010).

2.2 Benefits of FOREX Market

There are many underlying benefits that motivate potential traders to join FOREX market. Same are stated hereunder:

- As described earlier, this market enables traders to trade thereupon 24-hour/day, 5 days a week through ECNs irrespective of physical place from anywhere around the world.
- Traders are not obliged to worry about searching for buyer or seller as this market is supposed to be the highest liquid market around the world.
- **Buy low Sell high**: this is one of the most considerable advantages of FOREX market which enable traders to grasp the maximum potential profit from bullish and bearish states. In other words, they can either buy the currency at discount price or sell at higher. When the market is overbought they start selling the pair and buying when it is oversold. Such transactions allow traders a unique opportunity to gain profit from raising and falling of the market.
- **Hedging Activity**: Hedge is basically the potential cover for traders to trade against market movement (up/down). This is a trading process in which trades are hedged against potential losses if market slugged by downward trend.
- **Low Transaction Cost**: FOREX traders do not need to pay commission to brokers whereas in other financial markets one is supposed to pay full-service or discounted-brokerage fee depending upon arrangement between investor and broker. It is only the spread; an explicit cost between bid and ask price that the trader has to pay to broker.
- **Flexibility of leverages** to traders by their brokers. The leverage ranges from 1 to 500 times of the initial capital depending upon creditworthiness of trader. While gaining higher profit by trader through enjoying higher leverage position may result in more losses if market slugs downward (Chen, 2009.)

2.3 Major Pairs

Most traded currencies against USD are called Major Pairs. These include;

a. GBP/USD
b. EUR/USD
c. CHF/USD
d. JPY/USD
e. AUD/USD
f. NZD/USD
g. CAN/USD

In fact, more than 85% of daily FOREX trading takes place in these currencies. According to the latest survey made by *Bank for International Settlements* (BIS) in April 2010, EUR/USD, USD/JPY and GBP/USD recorded highest turnover in the FOREX market. Table below explains explicitly details about the FOREX market turnover by currency pair during the last decade.

Table 1: Global foreign exchange market daily turnover by currency pair; Daily averages in April, in billions of US dollars and percentages

Currency Pairs	2001		2004		2007		2010	
	Amount	%	Amount	%	Amount	%	Amoun	%
USD/EUR	372	30	541	28	892	27	1,101	28
USD/JPY	250	20	328	17	438	13	568	14
USD/Other *	152	12	251	13	498	15	445	11
USD/GBP	129	10	259	13	384	12	360	9
USD/AUD	51	4	107	6	185	6	249	6
USD/CAD	54	4	77	4	126	4	182	5
USD/CHF	59	5	83	4	151	5	168	4
EUR/JPY	36	3	61	3	86	3	111	3
EUR/GBP	27	2	47	2	69	2	109	3
EUR/Other	17	1	35	2	83	2	102	3
USD/HKD	19	2	19	1	51	2	85	2
EUR/CHF	13	1	30	2	62	2	72	2
Other Pairs	60	6	96	5	299	7	429	10
All Currency	1,239	100%	1,934	100%	3,324	100%	3,981	100

Source: Bank of International for Settlements (2010, April)
*Notes: * refers to other currencies against USD such as Turkish Lira, Chinese Yuan and etc.*

As the table 1 shows, euro and Japanese yen have the highest daily trading turnover with US dollar. Many factors may exist which investors consider these currencies in their business activities. Germany, France, Italy and Spain play a great role in the euro's economy. For example, Germany has the largest economy in the

European countries and is one of the largest exporters in the world. Japan also is a huge exporter among the world's countries.

Most of these two countries' exports consist of engineering, machinery, automobiles, metals and chemical goods. Therefore, United States and other countries across the world need euro and yen as the trading tools for importing European and Japanese goods, machineries and other stuffs.

2.4 Importance of FOREX Market

Each country has its own national currency or is in a monetary unit. For domestic commercial transactions the domestic monetary unit of the country is used by local people living in the country to pay for or to receive from their business activities. But for making and receiving payments from other countries around the world using the local currency may not be possible. For example people in Turkey use Turkish Lira as local currency in their daily businesses, but when they want to enter into a transaction with other people, group or international companies located outside Turkey, they have to exchange their current unit into the other currencies requested by the corresponding parties. In any country whose residents supervise business abroad or manage in financial transaction with persons or parties in other countries, there must be a mechanism for providing instruments to bring the facilities to have access to foreign currencies. It should be defined somehow that payment can be made to foreigners in an acceptable way. In other words foreign exchange transactions are needed strongly to meet the nation's requirements by exchanging one currency versus another.

The main goal of the foreign exchange is to assist international traders and investors by allowing them to convert one currency to another currency. For example, it permits a US company to import Japanese goods and pay yen or it allows

Japanese companies to import US goods while paying US dollar. Therefore, the currency is a valuable instrument for nations enabling them to participate in global markets by buying other countries goods or selling them their productions and services. In short, it enables transfer of purchasing power from one economy to another (Grabbe, 1996).

FOREX market currently plays an important role in the world economy, where the currencies are being traded among individuals, financial firms or governments easily. Until recently, trading in FOREX market was only limited to special groups which possessed huge wealth like commercial banks or financial institutions. But nowadays with the development of new technologies such as computers, internet, telecommunication facilities, currency markets have become accessible for all investors being both individual investors or government and non-governmental organizations (Chen, 2009).

According to Galati and Melvin (2004), it is stated that "since the beginning of 2000s, Pension Funds, Insurance Companies, Mutual Funds and other Institutional Investors have played a major role in development of financial markets in general and FOREX market in particular. In addition, Hedge funds have grown markedly over the 2001–2004 period in terms of market penetration and size". Central Banks are also regarded as one of the main players in FOREX market. They participate in FOREX market in order to maintain balance of payment of their countries (Import and Export) and to earn potential gains out of it.

The significance of FOREX market can be determined through willingness of industrial and commercial companies to invest their excess cash in order to earn profit. Their main emphasis is to participate in speculative activity for earning future gains. For the purpose thereof, investment analysis tools are used by individual traders or the investment firms are let to manage the capital on behalf of investors.

2.5 Forecasting Analysis in FOREX Market

A good trader is one who possesses the ability to analyze the volatility of FOREX market for forecasting pattern keeping in view the past history and trend thereof. Forecasting cannot be 100% accurate since it has the element of uncertainty. Uncertainty always bears some kind of inherent risk. Although, different tools are developed from time-to-time in order to predict the future pattern of certain behaviors in FOREX market.

Volatility refers to the riskiness of transaction that is always inherent in FOREX market. This volatility makes the forecasting a cumbersome task for financial experts and investors to analyze the future pattern. FOREX market is affected all the time from several variables at each spectrum on timely basis. Likewise relieving news from any media about the healthy performance of one's economy or conflict in remote areas can have a direct effect on FOREX market behavior. In this way, the institutional investors and individual traders are extremely cautious about investing in FOREX market.

High volatility refers to high risk that in turn gives higher return to the traders in FOREX market. It may also be loss for the traders. Therefore, it is the responsibility of institutions and traders to apply appropriate tools on timely-basis for better forecasting in order to make adequate profitability. Thus, transactions are associated with different types of risks like other financial markets. The risk of transactions is involved continuously within the FOREX market (Schwartz and Smith, 1990).

In this case, FOREX traders are cautious about their capital put in the market. They try to minimize the risk of their orders by decreasing the size of their capital or minimizing the leverage used in the market and other factors. It should not be forgotten that a volatile market does not mean that no profit exist or the profit level is low. But conversely, it supports the assumption that if traders can find the trend correctly, they may earn a high rate of return in their transactions. According to the result of the study by Walton (2009), many of large sized investment firms like commercial banks enter into the market even when it is so volatile. This is because of the high margin of their capital. They set the size of the capital at a level so that nothing threats their money. In fact, they use a hedging system by opening different positions in buying or selling at the same time in their speculative business. In a long position which they opened a buy order previously for GBP/USD, they are expecting for the rising of the price, they open a short sell also whenever they realize that the market trend is changing to downward trend. Therefore by such hedging system they can insure their capital in the market and earn profit from their transactions.

Currency pairs' price movement imposes great implications to institutional investors and decision makers to strategize more upon their trading in FOREX market. Exchange rate of a country is an economic indicator of one's economy. Different tools are used by experts and individual investors in FOREX market to minimize and hedge the risk associated with future financial transactions. Forecasting helps in predicting nearly perfect future market behavior in currencies through reviewing summary charts of past events and other probable variables that might affect the price movement.

By applying appropriate forecasting technique, one cannot lose his/her capital and can survive for longer period in speculative business and earn potential earnings. If the investor maintains margin account with broker and price suddenly falls short of expectation then investor is sure to receive a margin call from its broker. Best way to avoid shortfall in maintenance margin requirement is to use suitable forecasting methodology that would help the investor to remain in FOREX market otherwise Investor’s confidence will become discouraged and he/she will not be able to continue his/her trading in the future.

This requires understanding of FOREX market, its trend pattern analysis, understanding the cause of certain behaviors for movement in prices and then reaches at right conclusion before entering the market. It requires traders to choose appropriate methodology for forecasting in market movements based upon their preferences and abilities while testing different strategies separately or altogether. All traders speculate based on their own requirements and objectives. One must be well informed about economic situation in the world before entering into FORX market. This information can be gathered from internet, news study, TV or other resources available.

Any good or bad news imposes an implicit impact on fundamentals of FOREX market and it moves in unsystematic manner. Professional traders make a rational decision concerning current market scenario. They become pro-active and well verse about market and take precautionary measures against price movement. Professionals wait for favorable open market position in order to find the less risky situation. Then, they trade in market accordingly. Every traders both short term and long term speculators follow the factors influencing the market trend in order to face a better conclusion in their strategies. This will not be obtained unless using a planed forecasting method in their businesses (Archer, 2008).

2.6 Forecasting Methods

In general, there are 3 methods which are used for forecasting:

1. **Fundamental Analysis**
2. **Technical Analysis**

3. Market Trend Analysis

2.6.1 Fundamental Analysis:

In general, fundamental analysis is concerned with reviewing, studying and analyzing financial data of an economic enterprise like Balance Sheet, Profit and Loss statement and etc. by evaluating its relative performances with other economic enterprises in the same sector. However, when we talk about FOREX market, we come across a different definition. In FOREX market fundamental analysis can be defined as studying past, present and future events of an economy in order to forecast price movement (ups and downs) and find the demand and supply capacity of the subject currency.

This method includes different aspects of country current and future economic and political events and environmental changes. It reviews the data from past and current trend of currency movement and evaluates its relative performance thereof. In addition, it depends upon upcoming economic events data to be released from media or other resources. Thereafter these fundamentals are combined together in order to arrive at one conclusion.

Marker Researchers divide economic fundamentals in four main categories as follows:

1- Economic factors
2- Financial factors
3- Political and Social events
4- Crisis

2.6.1.1 Economic Factors

Micro and Macro variables in a country are called Economic Variables. Such as Existing and New Home Sales, Un/Employment data, Non-Farm Payrolls, GDP, Inflation, Trade Balance, Retail Sales, Consumer Price Index (CPI) etc. Beside aforesaid factors, there are numerous factors that influence FOREX market behavior. They include weekly, monthly, annually meetings and press conferences such as European Central Banks (ECB) Press Conference, Federal Reserve Meeting, Federal Open Market Committee's (FOMC) Decisions, Bank of England's (BOE) Governor's Speeches and other major countries' central banks report's announcement and meetings etc.

2.6.1.2 Financial Factors

Financial factors focus upon monetary policy of governments. Financial market traders follow very stringently central banks' news and reports in order to forecast the future interest rate pattern of countries and also other data. This forecasting figure released from monetary authority is supposed to be not an exact figure. Financial decisions are always made with great attention after taking into consideration all possible economic and financial impacts on one's economy. Resultantly, FOREX market is affected promptly upon releasing of new policy or economic data from concerned decision making authorities.

Fundamental traders always wait for favorable condition to occur. They used to place their order on platform in such a way that could give them potential benefits out of their transactions. For example, when they put a buy order in the system, it means they are waiting for prices to raise high. As soon as prices go upward, buy order in pending order is activated automatically and consequently traders earn profit in this way. Similarly, when prices go down, sell order in pending order will execute transaction automatically and traders will earn profit in such way.

2.6.1.3 Political and Social Events

Political and social issues also possess significant impact on countries' currencies. Stability on political situation gives confidence to traders for trading and speculating in respective currency. The same can happen vice versa if deteriorating political situation prevails in one's country. This causes high fluctuation in currency demand around the world and it may convince investors not to enter to transact with the relative currency transaction after witnessing high diversity in price movement. Investors prefer to hold Safe-Haven investment expecting to face less volatile situation in their portfolio mix.

FOREX traders follow political news very tightly and analyze internal and external impacts thereof on speculative business. Suppose, US has presidential election in month to come; there would be high attention in FOREX market by investors regarding future government action plans. The policies regarding upcoming cabinet structure its new economic agenda, international relation policies and etc. All these give a glance of new set of economic indicators of the country. In this way traders will be able to speculate better and can earn more money. For example, it sends a good signal to speculators when a higher rate of job opportunities created by US government. In fact, it indicates that the policy makers have worked well and tried to bring satisfaction and happiness for the people.

2.6.1.4 Crisis

Political events occur normally over a period of time but crises occur suddenly and most of the time they are not predictable in markets. Natural catastrophes like earthquake, flood, drought and war are highly unpredictable (Schwager and Turner1997).

For example recent earthquake in Japan made the market move so fast in a few moments. The earthquake caused the Japanese yen to appreciate rapidly. The reason behind this scenario is that a great number of foreign traders thought that the yen will become unavailable due to high demand; therefore many investors changed their decision towards yen. Market dynamics are reflected so fast when news releases. Traders then are prompted to manage their open position on timely basis. Otherwise, it could be a great potential loss for the traders or losing a suitable opportunity. Fundamental traders are required to remain in touch all the time with FOREX market in order to grasp even small disparity between appreciation and depreciation at times. *(http://www.topforexnews.com/2011/04/07/yen-climbs-after-another-earthquake-rates-stays-unchanged)*

In the following section the study will illustrate an example for fundamental analysis regarding the euro currency. As it can be seen in the figure 1, it shows us a unique fall occurred in the price of EUR vs. USD on Wednesday 9th November 2011 while London markets were opening at 8:00 GMT. A very remarkable change in the market trend is seen in 1 hour chart when the news about European debt crisis associated with Italian Prime Minister Mr. Berlusconi's resignation from the position. The reflection due to the news caused that the EUR sank from 1.3833 to 1.3540 and reached 1.3513 near to 320 Pips. The lowest level since August 10 as news agencies reported. As it can be followed from the graph below, those black candlesticks are confirming the news impact on traders' transaction in the FOREX platform of Meta Trader 4. The indicator of Moving Average was showing the uptrend previously but it changed to downtrend after the news released. In fact, it shows that traders decided to sell the euro versus the USD due to the economic concerns dominating in the Eurozone.

Figure 1: Big drop in EUR/USD due to economic crisis in Europe

Source: Alpari UK, Metatrader 4, EUR/USD, 1hour chart, 9th Nov.2011

2.6.2 Technical Analysis:

The second target group in FOREX market is one who relies more upon technical analysis. Technical analysis can be defined as the method used to predict price movement and future market trends by studying charts of past market history and behavior. Through technical analysis FOREX traders glance at charts to determine the buying and selling indicators, price movement trend and carry out strategies for choppy and stable market. Technical analysts use different software simultaneously to combine all indicators in order to reach at some right points for rational investment decision (Murphy, 1996).

As described earlier, fluctuation in price movement at every time session strive traders to earn potential profit at shortest possible time through proper analysis of market behavior. For the purpose thereof, it suggests traders first to comprehend the market dynamics and implication of these dynamics on investment portfolio mix. Then analyze market trend and conduct strategies accordingly keeping in view the market dynamics. Technical analysis gives investors better tools to analyze all market events already incurred and identifies average weight for current market situation (Booker, 2006).

Technical analysts believe that volatility in price movement (*up/down*) does not last for long and comes to its real stage after some time. They believe that at times when the market becomes highly volatile, traders should find better trend direction through technical analysis. While opening or closing a position by traders, technical analysts take precautionary measures to cope with volatility of the market. Traders receive a safer way through analyzing currency floor and ceiling. Technical analysts find probable spectrum for trading activity during a day, week or for month etc. If analysts report that the price movement in EUR/USD would range from 1.3334 to 1.3390, 56 units (Pips) for today then this becomes a source of good information to new traders and investors to reach at rational investment decision whether to enter the market or exit (Booker, 2006).

2.6.3 Market Trend Analysis (Fundamental and Technical Analysis)

The third target group of analysts and traders are those who are professional enough to use both fundamental and technical analysis together. They combine both methods carefully and take action after taking into consideration all implicit and explicit effects on the market (Booker, 2006).

The study thereafter will illustrate the indicators used by brokers and specialists on transactional platform of Meta Trader 4 in FOREX market. In addition, the study will test the validity of these indicators for appropriate analysis of FOREX market trend behavior.

2.7 Technical Indicators

The figure below shows various tools commonly used by professional investors and traders in FOREX market.

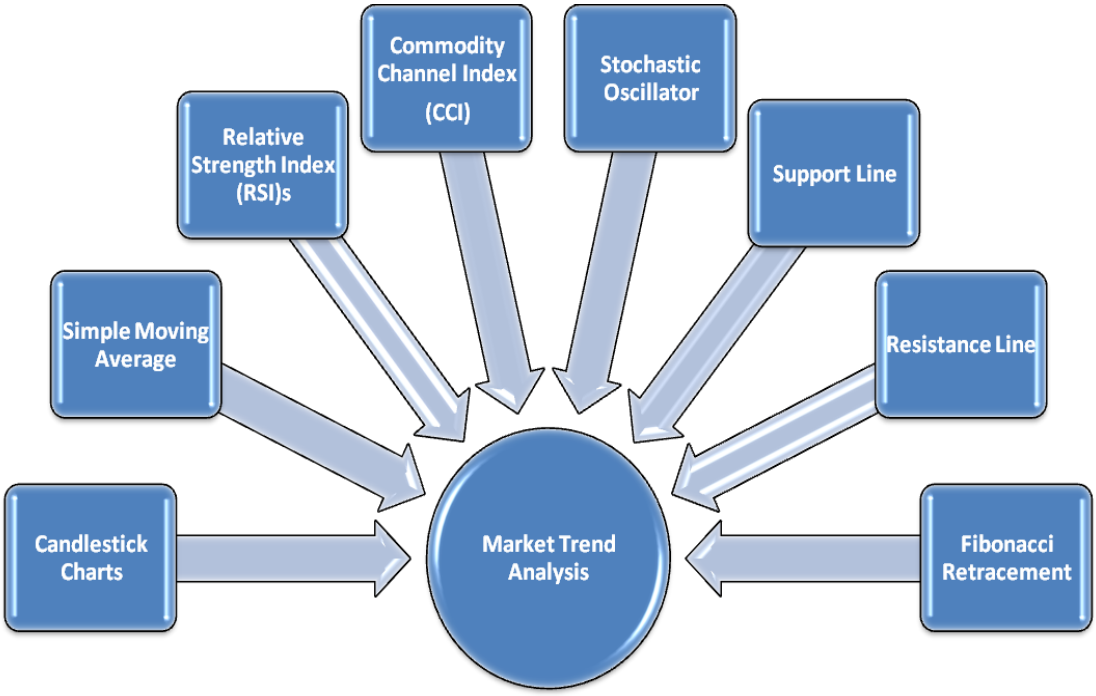

Figure -2: Market Trend Analysis Tools

2.7.1 Candlestick Charts

This technique used for the first time by the Japanese rice traders in 18th century and currently popular for technical analysts in financial markets. Candlestick technique originated in Japan when Munehisa Homma of Dojima Rice Exchange used past prices to predict future price movement and generated enormous amount of wealth. The Hollow or white candlestick represents the buy status while the black one shows the sell situation in the chart. Candlesticks are easy to interpret the trend of the market. For example by looking some consequent black candlestick, it gives valuable clue to the traders that market price is declining. Thus, it helps traders to adopt optimal decision strategy while opening or closing the position. The chart presented below shows candlestick pattern in the market in trading of GBP versus CHF. Black candles show the pressure of seller but the white ones represent the pressure of the buyer to increase the pound price against Swiss franc through their demand. (Nison, 1991).

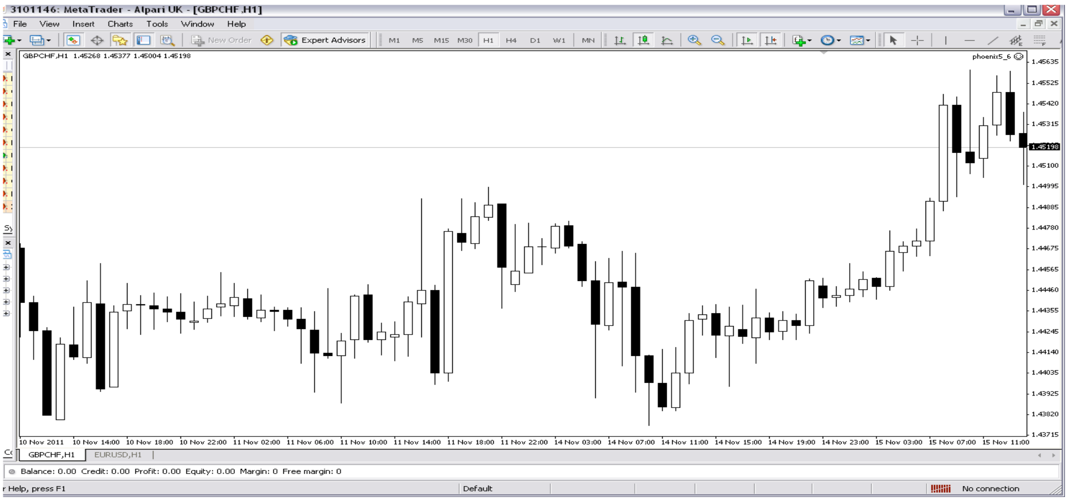

Figure 3: Candlestick chart

Source: Alpari UK , Metatrader 4,GBP/CHF, 1hour chart.

2.7.2 Simple Moving Average

This is one of the most widely used technical analysis tools for financial market traders. It is constructed in simple pattern and changes promptly on timely basis due to its flexibility with price movements at every spectrum. The purpose of this indicator is to identify the existing trend in the market and send signals to traders about future market reaction. A simple moving average is structured by calculating the average price of a currency according to its closing price over a period of time.

These periods can be in 30 minutes, 1 hour, 4 hour, daily, weekly or monthly. The thin line in chart below represents daily chart of USD/CHF. In this picture every candle shows the daily value of the currency pair (Kahn, Galati and Melvin, 2006).

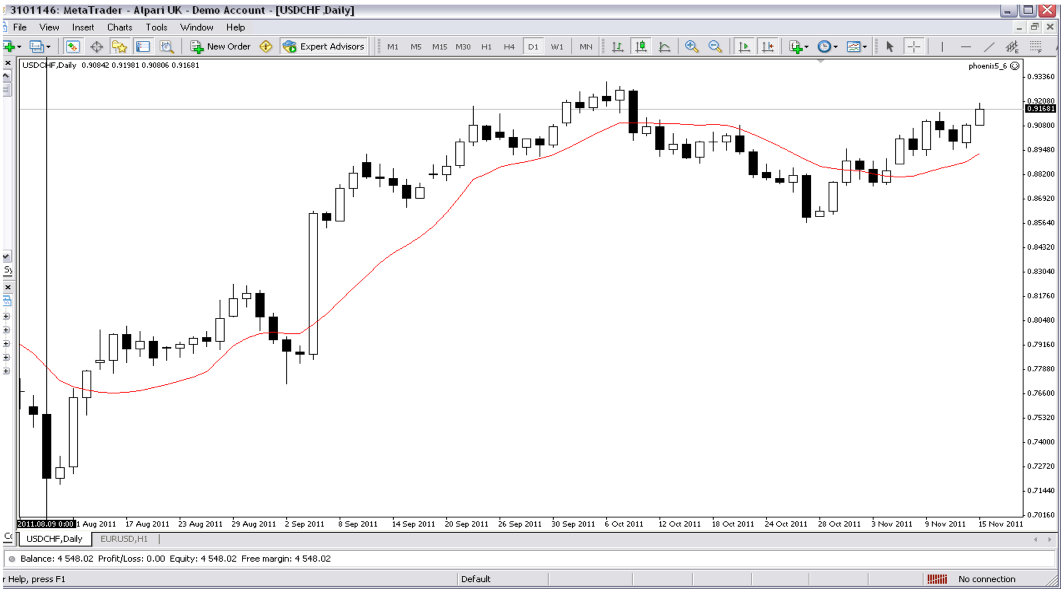

Figure 4: Simple Moving Average Indicator

Source: Alpari UK , Metatrader 4,USD/CHF, Daily chart.

2.7.3 Moving Average Convergence Divergence (MACD)

This indicator based upon Moving Average was created by Gerald Appel in the late 1970s. This indicator consists of 2 lines and a set of bar which shows the oscillators in the market. The dotted line (-----) is the signal line and the thin line is the MACD line. As it can be analyzed from chart below that when 2 lines cross each other, the intersection points send signals for a sell or a buy order. When the MACD line falls below the stippled one represents a bearish trend and send sell signal at that time and vice versa (Mohammadi, 2009).

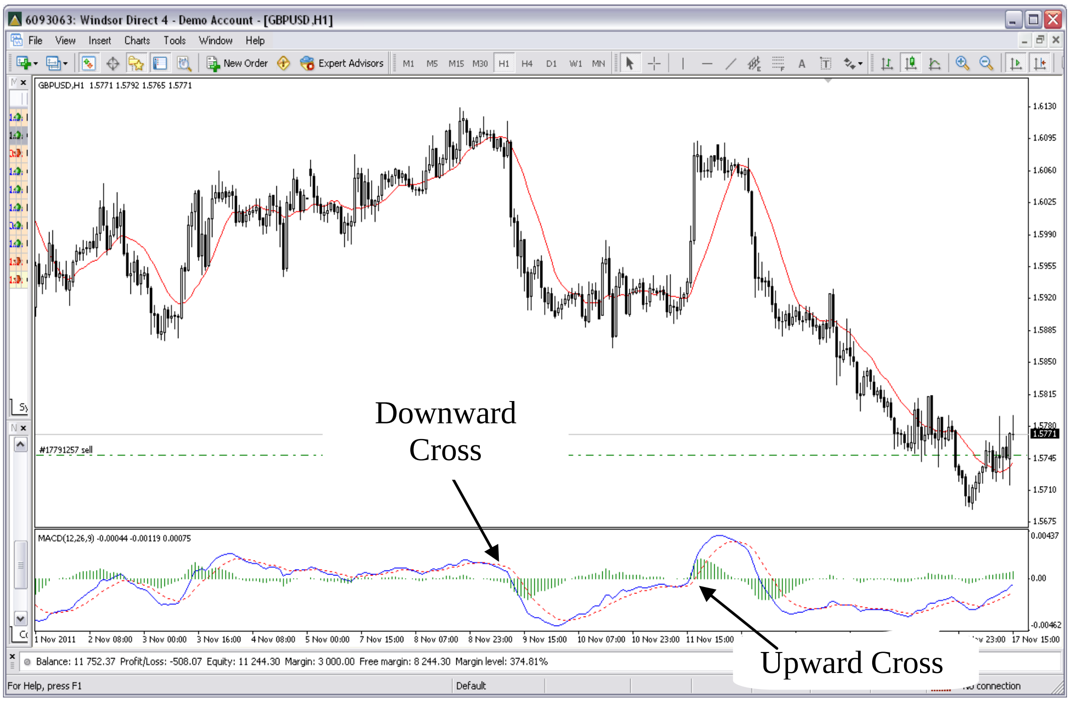

Figure 5: Moving Average Convergence Divergence (MACD) Indicator

Source: Windsor Broker, Metatrader 4, GBP/USD, 1 hour chart

2.7.4 Relatively Strength Index (RSI)

This indicator is very handy developed by Welles Wilder in 1978 and published in his book “New Concepts in Technical Trading Systems” and some magazines. It is quite simple and developers recommend to use when the market is overbought or in oversold position. When the market is oversold it means that the trend will change the market direction to a buy position. By using RSI, the identification of a buy or sell position is simplified. In the shape below it is seen that GBP/USD has been overbought and the trend changed from buy position to a sell order (Murphy, 1996).

Figure 6: Relatively Strength Index (RSI) Indicator

Source: Windsor Broker, Metatrader 4, GBP/USD, 4 hour chart.

2.7.5 Commodity Channel Index (CCI)

This is an oscillator indicator made by Donald Lambert in 1980 to recognize the new trend where it reaches its final extent in commodities. Afterward, it was developed to be used in stock and other security markets. CCI also works like RSI in order to identify the oversold and overbought points. This will be a good way to find strong signal in buy or sell order position in the market. This technical indicator evaluates current price level relative to the arithmetic mean of price level during a certain time period (Mohammadi, 2009).

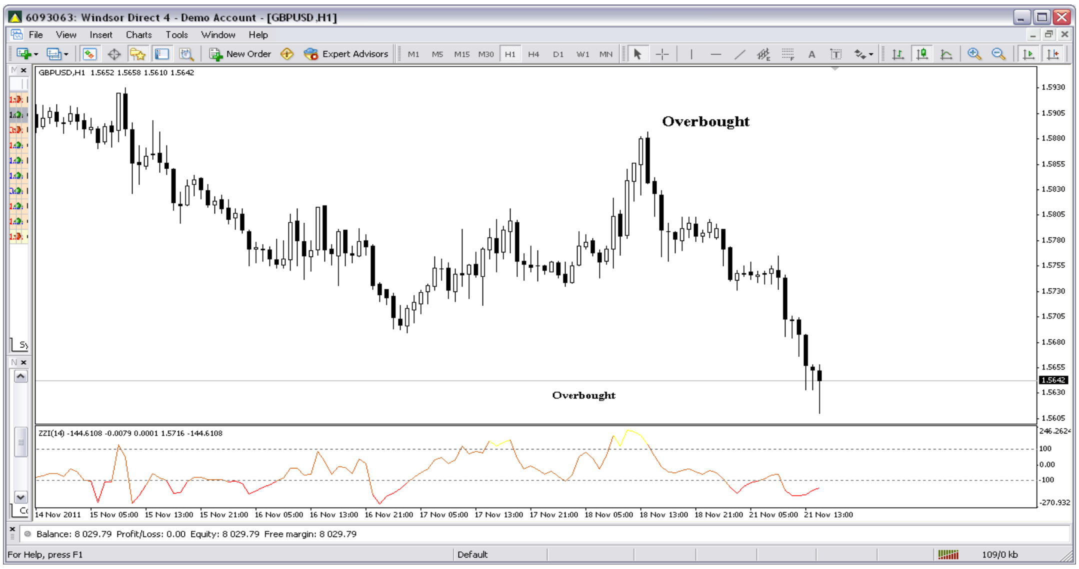

Figure 7: Commodity Channel Index (CCI) Indicator

Source: Windsor Broker, Metatrader 4, GBP/USD, 1 hour chart.

2.7.6 Stochastic Oscillator

This technical indicator was developed by George C. Lane at the end of 1950s in order to find bullish and bearish position and to forecast the future price movement in stocks. This indicator is used to predict reversal status in the market. Since this is a range bound indicator, it can be useful for FOREX traders to assist them in identifying the overbought and oversold ranges. This indicator compares the closing price of a currency pair to its price range during a time period. Identifying the price range helps traders find the trade trend in the time while opening or closing the account (Murphy, 2006).

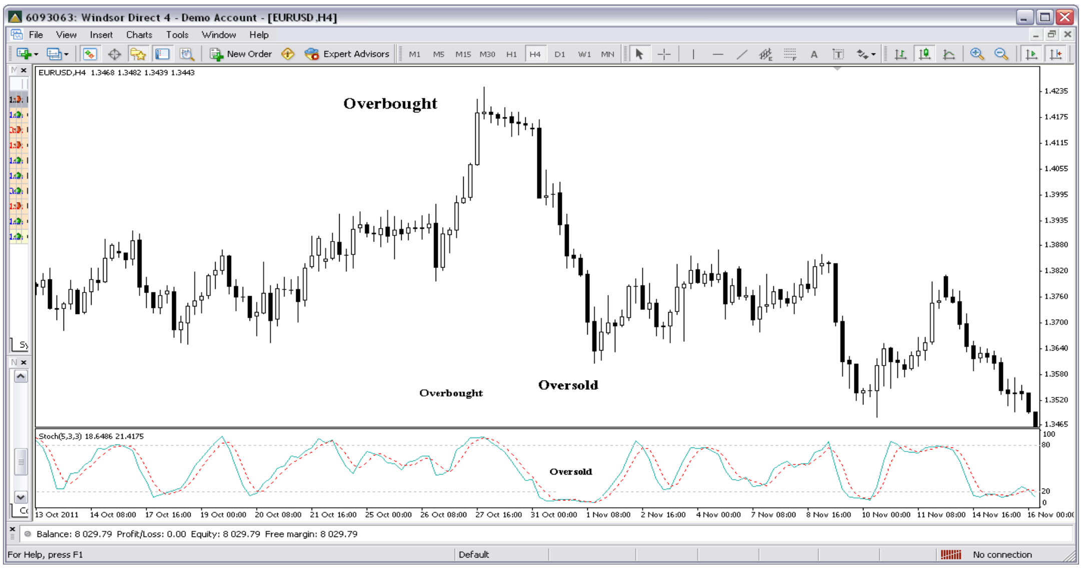

Figure 8: Stochastic Oscillator Indicator

Source: Windsor Broker, Metatrader 4, EUR/USD, 4 hour chart.

2.7.7 Support Line

The price level at which the buyers want to keep equilibrium in FOREX market and hold the prices not to fall more. This is controlled by buyers of the pairs from preventing the price declining against sellers' pressure. When traders break this line and pass from the current price level, it means that the seller could overcome the buyer due to the strong demand against supply (Kahn, Galati and Melvin, 2006).

Figure 9: Support Line

Source: Alpari UK, Metatrader 4, USD/CHF, 1 hour chart.

2.7.8 Resistance Line

The price level at which sellers is supposed to maintain a favorable equilibrium of sale price and hold the price level not to raise high. When traders break this resistance line it means that the buyers could overcome the sellers due to the strong supply against demand (Kahn, Galati and Melvin, 2006).

Figure 10: Resistance Line

Source: Alpari UK, Metatrader 4, GBP/USD, 1 hour chart.

2.7.9 Fibonacci Retracement

Fibonacci Retracement first has been introduced by an Italian mathematician named Leonardo Fibonacci in the thirteen century. The sequences of number in Fibonacci are as follows: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55 and etc. Each number in this sequence is the sum of the two preceding numbers. Analysts and traders use this indicator in order to find appropriate support and resistance line and price retracements. It includes some key ratios which can be categorized to 23.6%, 38.2%, 50%, 61.8% and 100% (Marshall and Moubray, 2008).

Figure 11: Fibonacci Retracement Indicator

Source: Metaquotes Software Corp, Metatrader 4, USD/CAD, Daily chart

These indicators together will help traders to find a better idea about the market behavior. They are currently used by many types of traders to show them significantly the **trend directions**. In fact, the collections of aforesaid tools are used to give traders the currency pairs oversold or overbought points and levels.

Chartists or technical analysts know well that when there was a big fall or rise in the price movement, the market will be reversed to its real form of trading. Therefore, when a big fall or rise happens in the transactions, many of traders will wait until the reversal configuration appears. As soon as they observed the symbols of the pattern constructed in the charts, they start trading in the market. In technical analysts' point of view such occurrences are called **Reversal Pattern**. Most common types of reversal pattern can be seen in different shapes and formation. Head and Shoulder, V formation, double tops and bottoms are examples of such category (Murphy, 1996).

2.8 Summary of Literature Review

In the preceding chapter, FOREX market is described as the biggest and the most liquid market in the world's financial markets. According to the latest data released by Bank of International Settlement (BIS) in April 2010, the daily turnover in the subject market was recorded around $3.98 trillion. Then major players of FOREX market are referred briefly. According to a survey made by Galati and Melvin in 1994, institutional investors (*Pension Funds and Insurance Companies*), Commercial Banks and Hedge Funds play a significant role in FOREX market.

Thereafter, benefits of speculation in FOREX market are delineated shortly. The chapter defined that due to easy accessibility in the market through internet, 24-hours 5 days a week around the globe and low cost of transaction made it an attractive market for individual traders and institutional investors in the world.

Later on, the study outlines major pairs traded in the FOREX market. It states that most traded currencies (GBP, EUR, CHF, JPY, AUD, NZD and CAD) against US dollar are called Major Pairs. According to BIS report in 2010, 85% of daily transactions in FOREX market occur through these currencies. It is observed from the table 1 of the thesis that the EUR/USD and USD/JPY have the highest daily turnover of transaction i.e. 28% and 14% respectively.

Then, the study reviews forecasting analysis and the methods used in FOREX market. The role of volatility and risk associated with the market fluctuation is explained at length. Furthermore, three forecasting methods (*fundamental, technical and market trend analysis*) are covered comprehensively in order to depict FOREX market mechanism. Fundamental analysis as delineated before is a forecasting type in which traders rely on the news and data released from central banks and other sources of respective countries. The technical analysis is another technique in which history of FOREX market is analyzed through charts, Bars, past trend and market behavior. Then indicators and technical tools are applied accordingly for trading in FOREX market. The last one is the combination of these two methods which most traders use in their trading strategies. In fact, this group of market analyst considers both news impact on the market and the direction of the trend according to the appropriate indicators and tools. At the end, the study elaborated some of the most common indicators used by FOREX traders in current time. These indicators and tools consist of Stochastic, Moving Average (MA), Moving Average Convergence and Divergence (MACD), Relatively Strength Index (RSI), Commodity Channel Index (CCI), Fibonacci Retracement, Support and Resistance line. They will help the research to explore how traders benefit from reversal patterns in the market trend analysis when the market falls or rises considerably. The following chapter will outline the methodology based on the reviewed sources in this chapter.

Chapter 3

METHODOLOGY

The main focus of this research is to find the significance and the efficiency of technical analysis in FOREX forecasting strategies. In order to explore how technical analysis assists traders in forecasting the market behavior, the study will test different tools and indicators at the same time. In this chapter, functions of different commonly used indicators by FOREX traders are described separately. In fact, the thesis will outline these tools to provide traders with different types of trading signals in their speculation cycles.

Investors and traders in FOREX market use different methods and strategies for forecasting of the market trend for their transaction purposes. Due to the high volatility dominating the market, traders like to apply for an efficient method which could be able to meet their needs in forecasting techniques.

As already discussed in chapter two of the study, based on the preferences and interests of investors, they are grouped under three categories. The first group uses only fundamental analysis while the second group uses only technical analysis. The third group employs more professional approach where combination of both fundamental and technical analysis is applied together.

In this study, the research will test technical analysis in FOREX market for forecasting process. Technical analysis is the method of predicting the price movement and future market trend by studying charts of past market history and behavior. This method actually reviews the previous data as well as actions occurred in different timeframes; then employs them for the future forecast purposes.

"There are two major categories of price patterns-reversal and continuation. As theses names imply, reversal pattern indicate that an important reversal in trend is taking place. The continuation pattern, on the other hand, suggests that the market is only pausing for a while. Possibly to correct a near-term overbought or oversold condition, after which the existing trend will be resumed". (Murphy, 198, p.104).

3.1 The Model and Approach

The model which the study is going to adopt in technical analysis through charts will be the ***Reversal Pattern***. In literature review, the study explained reversal pattern model. In this research, the study develops the pattern when some of commonly used indicators in FOREX market are employed simultaneously. In fact, not only those symbols and formation like Head and Shoulder or V formation are considered but also they are associated with different tools in order to improve the aim of the study.

Reversal pattern is involved with two important market circumstances. The first one occurs when the market is overbought. This is a situation in the market, when the price of a currency pairs rose highly and caused the currency pair to become overvalued due to high demand. Thus, the likelihood of a pull back is high in such markets. The second one happens when the market has become oversold or undervalued.

The purpose of using this model in trading activity is to find a signal in order to enter into the market or exit from the market at the right time and point. This procedure will assist traders to find the trend direction whether uptrend or downtrend. Traders will know that when the market is completely oversold, the trend will change most probably to an upward position soon. Therefore, this sends a signal to traders that it is the time for opening a buy position since the market is ready to move to the opposite direction. And vice versa, when the market is overbought, it will face a downward trend.

In this study, the study will explore how this model can be applicable in FOREX market regarding the high volatility and instability of the currency prices. Furthermore, in depth, it also will test how traders can find correct signal in their forecasting analysis by identifying the ups and downs of the trends when the market is overbought or oversold. The study is also expected to test if such methods are useful for forecasting in FOREX market.

The study will test Reversal Patterns for a period of 2 month from the 16th of January 2012 until 16th of March 2012. In fact, the study examines a period of 8 weeks or in other words, 40 working days. Since, during the final days of the year, major participant of the FOREX market like commercial banks and financial institutions are closing their fiscal year's account, they will not enter into the market due to the increase in the volatility and new years' holidays. Therefore, in order to obtain a better result from the study and collection of data, the study chooses to start study and data analysis process from the middle of the January.

Currencies in FOREX are traded against one another. The currencies which will be applied in this study are major currencies versus USD or called major pairs. These currencies have the highest daily turnover in FOREX market. Since, according to the recent report released by the Bank of International Settlement in April 2010, EUR/USD, GBP/USD, JPY/USD and CHF/USD are the most liquid currency pairs in the world, they have been selected in the study process in order to obtain optimal conclusion from technical analysis method.

As explained before, traders are connected together through internet to FOREX market by brokerage companies. For this reason, brokerage companies provide different facilities to their customers. In this study, the study employs one of the most commonly used platforms in FOREX market called Meta Trader 4 software. The thesis will apply a demo account of Meta Trader 4 in the study processes. One of the advantages of this platform is that many of useful indicators have been installed in the software as complimentary tools to guide traders regarding their knowledge and interest to analyze the market trends technically.

The main focus of the thesis is forecasting analysis of price actions and market trend cycles. This will be done by applying different technical indicators available in the brokers' platform of Meta Trader 4. Therefore, in this research some of the well known indicators used by FOREX traders are applied. They include Candlestick Charts, Simple Moving Average, Relative Strength Index (RSI), Commodity Channel Index, (CCI), Stochastic Oscillator, and Fibonacci Retracement.

The stated tools and indicators have been discussed in detail in the literature review chapter. In this chapter, the study will describe their functions and usages in the practical sense later on.

Before the study starts to explain technical indicators function, there are some important parameters in the research area which should be clarified at the beginning of practical test. They are described hereunder:

- Transactional platform of Meta Trader 4 which the research is made through and the data are collected belongs to the Windsor Brokerage Company located in South Cyprus.

-The volume of the initial capital (deposit in broker's bank account) in the opening time of the demo account will be $100,000

-The account type would be the standard one.

-The size of the leverage is 1:100

-The lot size for each transaction (position or order) whether opened or closed one is 1 standard lot size.

-In this study, the currency pairs trading will be limited to 100 pips in the time when the order is placed. In other words, research initially will restrict the transaction range to 100 pips while 50 pips are considered for the stop loss point and 50 pips will be calculated to take profit point. However, if the market moves according to the direction of the trade, it will be broaden to more pips from time to time regarding the market demand or benefiting from releasing positive news in the favor of the subject currency.

Whenever the price hits to the stop loss limited in the order, the position will be closed automatically in the platform. And conversely, it also will be applicable when the price hit to the profit level as defined in opening time of the order.

-The division of the time schedules in this study includes reviewing market in various timeframes. These timeframes are based on daily charts (consists of 1 hour and 4 hour charts), weekly and monthly. Daily timeframe for the transactions covers 1 until 4 days, weekly includes 5 to 29 days, and finally floating time more than 29 days will be considered as monthly period. The starting date would be from the 16th of January 2012 until 16th of March 2012; for 2 months which include 8 working weeks.

- As soon as the indication of trading (signals) is observed by indicators available in the platform, the order will be replaced promptly.

-Market hours' study will be accomplished from 8:00 GMT; London session opening time until 22:00 GMT; New York session closing time. It will cover all the working days from Monday till Friday evening. It is necessary to add that all working days do not mean that trading will occur in every day or every time. When indications of trading are not observed or no signal received, there would be no need to enter into the market rapidly. Therefore, in order to have a better money management for the capital invested in the market, the study will continue trading strategies while enough evidences occur in appropriate charts.

-Signal means any configuration which some of the indicators certify that a reversal pattern is going to shape in the charts simultaneously. In fact, this is a sign to traders to make decision to enter into the market or exit. This would be possible by seeing evidences that the market has nearly become overbought or oversold at that time.

-In this research direct signals will be measured by oscillators and indicators of Moving Average, MACD, RSI, CCI and Stochastic. Other tools would be used as complimentary indicators in order to verify that the signal is correct or incorrect. Since FOREX is completely a volatile market and changes by news impact in every time, it will not be logical to claim that the mentioned indicators can provide the most accurate signals. That is why the study is testing them in different time schedules to find to some extent they are valid to use.

-The **main criteria** for interpretation of the degree of **validity** and **reliability** for **forecasting method** will be based on the result the study is expected to provide at the end of the research. In this study, results are evaluated on two major assumptions: Firstly, the number of positions (orders) opened and closed are counted at the end of the study. Then, the appropriate ratio is calculated to find at what rate those indicators sent correct or wrong signals during the trading process. If above 50% of the whole positions taken in the market ended with a positive figure (profit), it implies that those indicators were successful in forecasting the trend and price movements. Otherwise, the study will reject their performances in technical forecasting analysis method.

Secondly, the numbers of the pips (unit) which cause the balance to show profit are counted at the end of the period. Then, they are compared with the numbers of the pips caused the initial capitals to decline in the same time. The more profitable pips will certify better the accuracy of the performances of the forecasting methods in this study.

3.2 Tools and Indicators for Decision Making

In previous chapter, all tools and indicators history and roles have been discussed along with their related figures. In the following section, the chapter will separately depict the indicators' function and usage. It will give some useful details about their performances and the task which they are going to take in this research. For these purposes, first, Simple Moving Average indicator is described hereunder with the respective figure. Then, the study delineates oscillator indicators i.e. MACD, Stochastic, RSI and CCI. And finally, Fibonacci Retracement will be explained in order to help to find the support and resistance level in the market charts.

3.2.1 Simple Moving Average (SMA)

'The simple moving average, or arithmetic mean, is the type used by most technical analyst" (Murphy, 1986, p.236). It is calculated by adding the closing price of the currency pair for a number of time periods and then dividing them by the total number of time periods taken in the charts. Finding signals from MA indicator will be described hereunder:

Once the thin red line (MA line) lies above the candlesticks; it represents a downward trend. By contrast, when MA line lies under the candlesticks it represents an upward trend. The first step can be accredited while at the same time some of the recent candlesticks confirm the trend direction.

For example, if the MA line lies above the candlestick, those candlesticks should be black indicating the fall in the price considering the different timeframe. Therefore, through these analysis buy or sell signal will be obtained. This would not be possible unless other indicators certify the situation at the same time. Figure 12 of the research shows EUR/USD downward trend on 4 hour timeframe charts in 13th of December 2011. It is seen that two black candlesticks situation are below the MA line and confirm the pressures of sellers of the currency pair in the market.

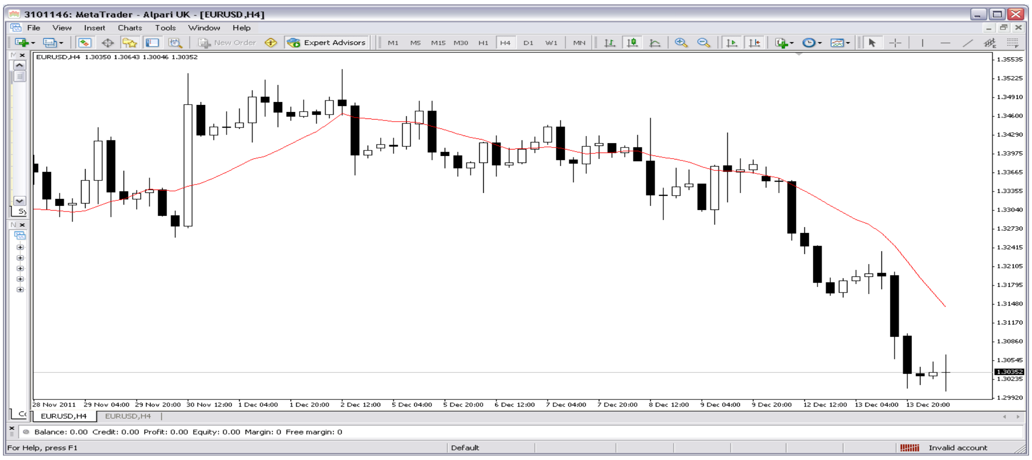

Figure 12: Simple Moving Average (SMA) Indicator

Source: Alpari UK Broker, Metatrader 4, UER/USD, 4 hour chart.

3.2.2 Moving Average Convergence Divergence (MACD)

A trend-following momentum indicator which represents the relationship between two Moving averages of currency prices. The MACD is computed by subtracting the 26-day exponential moving average (EMA) from the 12-day EMA. A 9-day EMA of the MACD, called the "signal line", is then plotted on top of the MACD, functioning as a Trigger for buy and sell signals

When the two lines cross together, they send us a signal in order to make decision to enter into the market or exit from the position already opened. **Crossing below or above zero would send traders a strong signal.** Therefore in this study we will enter into the market when we come across with such situations in the research periods.

3.2.3 Stochastic Oscillator

The indicator constituted of two lines of K and D which oscillate between a vertical scales from 0 to 100. The K is solid line while the D line is dashed line. The upper and extreme zones are valued between 20 and 80. **The best buy signal occurs when the D value is in the 10 to 15 range** indicating that the market faced with an oversold situation. Conversely, **the best sell signal is received when the D is in the 85 to 90 range showing an overbought area.**

3.2.4 Relative Strength Index (RSI)

This is also an oscillator indicator similar to Stochastic and MACD ones. The default period for RSI is 14. RSI is plotted on a vertical scale of 0 to 100. **Movement above 70 is considered as an overbought condition**; sending a signal for **a reversal pattern** to shape for a sell order. By contrast, **an oversold status will occur when the RSI line moves under 30**; indicating that a reversal pattern may soon shape for a buy order.

3.2.5 Commodity Channel Index (CCI)

CCI or ZZI like other indicators discussed above is an oscillator indicator which is used to identify the period where the market is oversold or overbought. The indicator made of a range from -100 to +100. **When the price reaches above +100, it indicates a strong uptrend.** The trade will be closed when CCI goes back under +100. **When the price moves under -100, it sends a strong signal for a downward**

trend indicating a bearish position for a sell order. The position will be closed whenever the price moves above -100.

3.2.6 Fibonacci Retracement

The last tool which the study uses in the testing process is not an oscillator indicator like those the study outlined above. Fibonacci retracement uses **horizontal lines to show the area of support and resistance** at its key Fibonacci levels. These levels are generated by plotting a trend line between two extreme points and then dividing the vertical distance by the key Fibonacci ratios of 23.6%, **38.2%, 50%, 61.8%** and 100%. Interpretation of these ratios assists traders **to observe the reversal pattern simply** in the charts. In order to get a general idea about Fibonacci ratios the following graphs are analyzed.

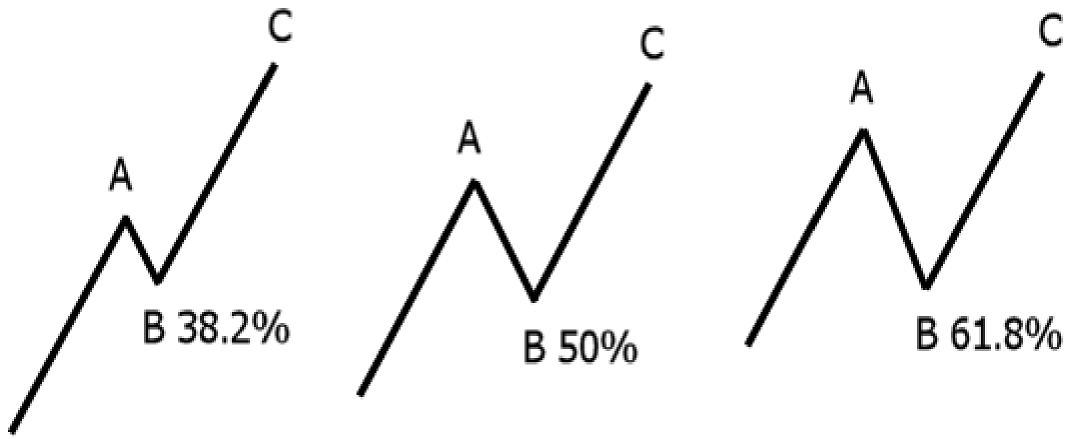

Figure 13: Retracement degree in Fibonacci key numbers

Source: http://www.swing-trade-stocks.com/fibonacci-retracements.html

After a currency pair makes a move to the upside (A), there would be some probabilities that it can then retrace to point B, before moving on again in the desired direction of C. These retracements or pullbacks points are what this indicator shows us to watch carefully the charts when planning to open buy or sell positions in FOREX market.

For example, if different indicators are confirming that GBP will appreciate against US dollar, trader will not enter into the market soon. One will wait until one of the important retracement ratio of 38.2%, 50%, and 61.8% to be seen or be broken by buyers. Whenever it occurred and buyers could pass these lines, it represents that they could give the market's control in their hands and appreciates pounds versus US dollar for now. This is a good signal to enter into the market for a long position.

In the next chapter of the study, according to the parameters which have already been discussed earlier in this section, data will be collected in practice from trading of four major currencies of EUR/USD, GBP/USD, JPY/USD and CHF/USD through the application of tools and indicators provided in FOREX platform of Meta Trader 4 for a period of 8 working weeks. In addition, the role of technical analysis in decision making for forecasting strategies will be identified in each time frames based on daily, weekly and monthly transactions. Once data collected, they will be analyzed regarding how they are reliable for traders in their trading plans; whether, for short time or for long term transactions and finally which currency pairs give better result by using Reversal Pattern model.

Chapter 4

TESTING TECHNICAL ANALYSIS PERSPECTIVE IN FOREIGN EXCHANGE MARKET: EMPIRICAL RESULTS

Based on the literature review and methods extensively outlined in the two previous chapters, trading data have been collected from FOREX platform of Meta Trader 4 for the time period of two months (8 working weeks), from 16th January to 16th March 2012. Four major currency pairs of EUR/USD, GBP/USD, USD/JPY and USD/CHF are going to be analyzed with the objective of determining the extent of reliability and success of approach of the study. It is also expected that this analysis will give good information to investors and traders in the process of finding what time frames and currency pairs show better result. Additionally, how tools and indicators provided by brokerage companies can persuade them to follow such technical analysis in their trading strategies.

Following data have been collected from trading in the platform of Meta Trader 4 of Windsore Brokerage Company of South Cyprus. They are categorized into three tables showing the result of speculations in different major currencies and different timeframes. Before the data analysis, it should be noted that trading plan for entering into the market or exiting have been based on mostly the degree of the signal observed in the FOREX platform. Depending on the degree of the signal categorized to medium and strong sized, trading has been completed. Medium sized signal means half of the indicators degree confirmed the sell or buy order in the appropriate time frame while strong one represents that most of the indicators together are confirming a position to be taken in the market. For example, below in the figure 14 of the study, a strong signal observed in EUR/USD, 4 hour chart in 16th of January 2012. As it can be seen all the indicators together are signaling that the pressure of the seller could not break the support level during the previous couple of days and caused a strong support for buyers. In addition, RSI is in its 30 degree, CCI starts to go above 100, both MACD line are below zero (oversold), Stochastic is in 20 degree and the candlestick lay below the Moving Average line. Therefore, a strong signal has been sent by showing the configuration of reversal pattern at the same time. Consequently, buy order has been placed in the platform. Then, simply the reversal pattern made in the candlestick chart and the direction continued to be an uptrend during the following hours.

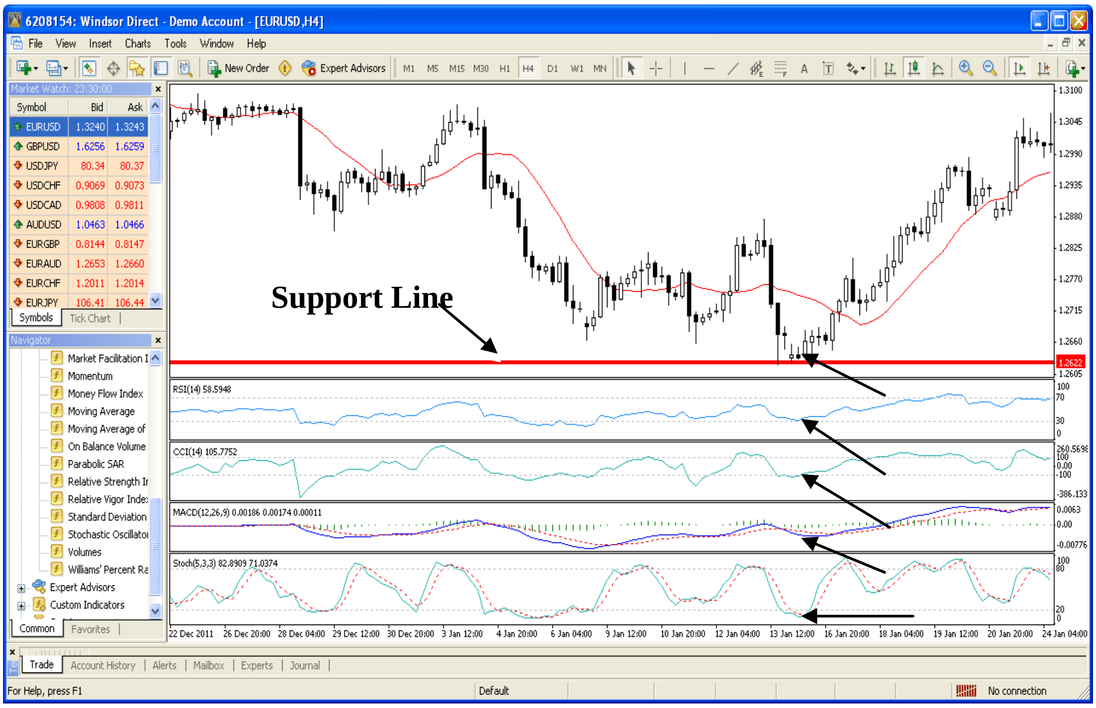

Figure 14: Indicators of SMA, RSI, CCI, MACD, and Stochastic

Source: Windsore Broker, Metatrader 4, UER/USD, 4 hour chart.

The following tables show the transactions made during the study periods according to:

1. Daily transactions (1 to 4 days).
2. Weekly transactions (From 5 to 29 days).
3. Monthly transactions (To 30 days or more).

Table 2: Daily Trading (1-4 days)

Transaction No.	Currency	Standard Lot Size*	Type of Transaction	Opening Date	Opening Price	Closing Date	Closing Price	Number of PIPs (Closing Price - Opening Price)*	PIP Value	Floating time/Days	Profit/Loss(Number of PIPs*PIP Value)
1	EUR/USD	1	Buy	16/01/2012	1.2670	17/01/2012	1.2792	122	12.50	2	1525.00
2	GBP/USD	1	Buy	16/01/2012	1.5308	18/01/2012	1.5416	108	10.00	3	1080.00
3	USD/CHF	1	Sell	16/01/2012	0.9535	19/01/2012	0.9334	201	10.71	4	2152.71
4	EUR/USD	1	Buy	17/01/2012	1.2794	19/01/2012	1.2885	91	12.50	3	1137.50
5	EUR/USD	1	Buy	19/01/2012	1.2886	19/01/2012	1.2945	59	12.50	1	737.50
6	USD/JPY	1	Buy	23/01/2012	76.99	25/01/2012	78.15	116	13.15	3	1525.40
7	EUR/USD	1	Buy	25/01/2012	1.2943	25/01/2012	1.3113	170	12.50	1	2125.00
8	USD/JPY	1	Buy	30/01/2012	76.66	01/02/2012	76.03	(63)	13.15	3	(828.45)
9	USD/CHF	1	Buy	01/02/2012	0.9130	03/02/2012	0.9223	94	10.71	3	1006.74
10	USD/JPY	1	Buy	01/02/2012	76.11	03/02/2012	76.61	50	13.15	3	657.50
11	GBP/USD	1	Sell	01/02/2012	1.5846	03/02/2012	1.5758	88	10.00	3	880.00
12	EUR/USD	1	Sell	01/02/2012	1.3176	03/02/2012	1.3081	95	12.50	3	1187.50
13	USD/CHF	1	Sell	02/02/2012	1.0604	05/02/2012	1.0709	(105)	10.71	4	(1124.55)
14	GBP/USD	1	Sell	06/02/2012	1.5752	06/02/2012	1.5821	(69)	10.00	1	(690.00)
15	EUR/USD	1	Sell	06/02/2012	1.3039	06/02/2012	1.311	(71)	12.50	1	(887.50)
16	GBP/USD	1	Buy	07/02/2012	1.5827	07/02/2012	1.5897	70	10.00	1	700.00
17	EUR/USD	1	Sell	09/02/2012	1.3304	10/02/2012	1.3166	138	12.50	2	1725.00
18	USD/CHF	1	Buy	10/02/2012	0.9106	10/02/2012	0.9194	88	10.71	1	942.48

Standard Lot: The standard lot is worth 100,000 USD in Forex by using a leverage of 1:100

PIP: Price Interest Point is the smallest unit of the price for any foreign currency

Table 2: Daily Trading (1-4 days)

Transaction No.	Currency	Standard Lot Size*	Type of Transaction	Opening Date	Opening Price	Closing Date	Closing Price	Number of PIPs (Closing Price - Opening Price)*	PIP Value	Floating time/Days	Profit/Loss(Number of PIPs*PIP Value)
19	GBP/USD	1	Buy	14/02/2012	1.5759	17/02/2012	1.5793	34	10.00	4	340.00
20	EUR/USD	1	Buy	16/02/2012	1.2985	16/02/2012	1.3151	166	12.50	1	2075.00
21	GBP/USD	1	Buy	16/02/2012	1.5696	16/02/2012	1.5809	113	10.00	1	1130.00
22	USD/CHF	1	Sell	17/02/2012	1.0771	19/02/2012	1.0875	(104)	10.71	3	(1113.84)
23	USD/JPY	1	Sell	17/02/2012	79.02	19/02/2012	79.8	(78)	13.15	3	(1025.70)
24	GBP/USD	1	Sell	22/02/2012	1.5769	22/02/2012	1.5721	48	10.00	1	480.00
25	GBP/USD	1	Sell	22/02/2012	1.5719	22/02/2012	1.5675	44	10.00	1	440.00
26	GBP/USD	1	Buy	22/02/2012	1.5675	24/02/2012	1.5801	126	10.00	3	1260.00
27	EUR/USD	1	Buy	23/02/2012	1.3330	24/02/2012	1.341	80	12.50	2	1000.00
28	GBP/USD	1	Buy	24/02/2012	1.5803	24/02/2012	1.587	67	10.00	1	670.00
29	GBP/USD	1	Sell	29/02/2012	1.5935	02/03/2012	1.5865	70	10.00	3	700.00
30	EUR/USD	1	Sell	29/02/2012	1.3324	02/03/2012	1.3222	102	12.50	3	1275.00
31	USD/CHF	1	Buy	01/03/2012	0.9044	02/03/2012	0.9123	79	10.71	2	846.09
32	USD/JPY	1	Buy	01/03/2012	81.07	02/03/2012	81.52	45	13.15	2	591.75
33	EUR/USD	1	Buy	05/03/2012	1.3189	06/03/2012	1.3113	(76)	12.50	2	(950.00)
34	GBP/USD	1	Buy	05/03/2012	1.5812	06/03/2012	1.572	(92)	10.00	2	(920.00)
35	EUR/USD	1	Buy	09/03/2012	1.3108	12/03/2012	1.3155	47	12.50	4	587.50
36	GBP/USD	1	Buy	13/03/2012	1.5730	16/03/2012	1.585	120	10.00	4	1200.00

Standard Lot: The standard lot is worth 100,000 USD in Forex by using a leverage of 1:100

PIP: Price Interest Point is the smallest unit of the price for any foreign currency

Table 3: Weekly Trading (5 -29 days)

Transaction No.	Currency	Standard Lot Size	Type of Transaction	Opening Date	Opening Price	Closing Date	Closing Price	Number of PIPs (Closing Price - Opening Price)	PIP Value	Floating time/Days	Profit/Loss(Number of PIPs*PIP Value)
37	GBP/USD	1	Sell	23/01/2012	1.5538	03/02/2012	1.5833	(295)	10.00	12	(2950.00)
38	EUR/USD	1	Sell	23/01/2012	1.3018	09/02/2012	1.3308	(290)	12.50	18	(3625.00)
39	GBP/USD	1	Sell	27/01/2012	1.5671	31/01/2012	1.5780	(109)	10.00	5	(1090.00)
40	USD/CHF	1	Buy	30/01/2012	0.9169	03/02/2012	0.9219	50	10.71	5	535.50
41	GBP/USD	1	Buy	07/02/2012	1.5900	13/02/2012	1.58	(100)	10.00	7	(1000.00)
42	EUR/USD	1	Buy	07/02/2012	1.3258	16/02/2012	1.2986	(272)	12.50	10	(3400.00)
43	USD/CHF	1	Buy	08/02/2012	0.9124	14/02/2012	0.9176	52	10.71	7	556.92
44	GBP/USD	1	Buy	09/02/2012	1.5820	14/02/2012	1.5639	(181)	10.00	6	(1810.00)
45	EUR/USD	1	Sell	10/02/2012	1.3257	16/02/2012	1.2993	264	12.50	7	3300.00
46	GBP/USD	1	Buy	13/02/2012	1.5801	17/02/2012	1.5836	35	10.00	5	350.00
47	USD/JPY	1	Sell	14/02/2012	77.54	27/02/2012	81.16	(362)	13.15	14	(4760.30)
48	USD/JPY	1	Sell	15/02/2012	78.45	24/02/2012	80.54	(209)	13.15	10	(2748.35)
49	GBP/USD	1	Sell	17/02/2012	1.5794	22/02/2012	1.5772	22	10.00	6	220.00
50	EUR/USD	1	Sell	18/02/2012	1.3133	24/02/2012	1.3413	(280)	12.50	7	(3500.00)
51	GBP/USD	1	Buy	20/02/2012	1.5862	24/02/2012	1.5895	33	10.00	5	330.00
52	USD/CHF	1	Buy	22/02/2012	0.9132	06/03/2012	0.9176	44	10.71	14	471.24
53	EUR/USD	1	Sell	24/02/2012	1.3411	05/03/2012	1.3173	238	12.50	11	2975.00
54	GBP/USD	1	Sell	28/02/2012	1.5858	05/03/2012	1.5801	57	10.00	7	570.00
55	USD/CHF	1	Sell	08/03/2012	0.9102	16/03/2012	0.9139	(37)	10.71	9	(396.27)
56	USD/JPY	1	Sell	08/03/2012	81.39	16/03/2012	83.77	(238)	13.15	9	(3129.70)
57	EUR/USD	1	Buy	12/03/2012	1.3156	16/03/2012	1.3195	39	12.50	5	487.50

Table 4: Monthly Trading (More than 29 days)

Transaction No.	Currency	Standard Lot Size	Type of Transaction	Opening Date	Opening Price	Closing Date	Closing Price	Number of PIPs (Closing Price - Opening Price)	PIP Value	Floating time/Days	Profit/Loss(Number of PIPs*PIP Value)
58	EUR/USD	1	Sell	16/01/2012	1.2668	16/03/2012	1.3198	(530)	12.50	60	(6625.00)
59	GBP/USD	1	Sell	16/01/2012	1.5308	16/03/2012	1.5853	(545)	10.00	60	(5450.00)
60	USD/CHF	1	Buy	23/01/2012	0.9282	16/03/2012	0.9135	(147)	10.71	52	(1574.37)

Table 5: Transactions Summary Based on Timeframes

Time fames	No. of Transactions	Transactions in Percent (%)	No. of Positive Result	Profit in Percent (%)	No. of Negative Result	Loss in Percent (%)
Daily	36	60%	28	46.67%	8	13.33%
Weekly	21	35%	10	16.67%	11	18.33%
Monthly	3	5%	0	0.00%	3	5.00%
Total	60	100%	38	63.33%	22	36.67%

As the table 5 above illustrates, number of 60 transactions have been performed in the platform of Meat trader 4 during the eight weeks of the study. The empirical test results in the table indicate that daily transactions at 46.67% of total of trades have the highest rate of reliability and success of technical analysis applications during the different trading time periods. While, weekly trading with 16.67% lies in the second place of the study and monthly trading experiences the weakest outcomes at zero. It also shows that 76.8% of total daily transactions (28 out of 36) resulted successfully, which according to the parameters of the study; this outcome is classified in a good level. In addition, 47.62% of total weekly transactions (10 out of 21) ended satisfactorily, which it is categorized as a rarely good level in this study. Moreover, Figure 14 below shows that daily trading owns the biggest proportion of trading volumes at 60%, then weekly and monthly at 35% and 5% respectively.

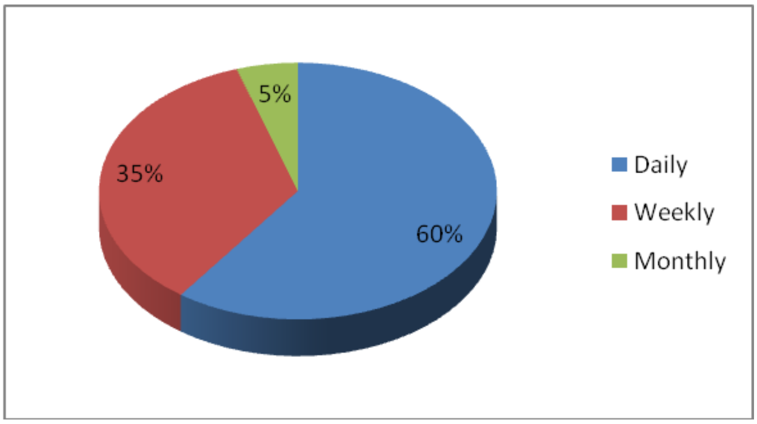

Figure 14: Transactions Timeframes Distribution

Figure 15 of thesis below depicts that in total 63.33% of trades (more than half of transactions) showed a positive result (Profit) and 36.67% of transactions faced a negative result (Loss) in total.

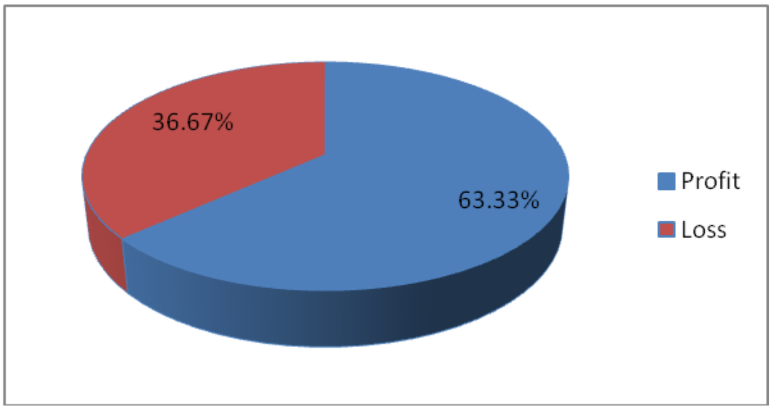

Figure 15: Profit and Loss Proportions

Table 6: Transactions Summary Based on Currency Pairs

Currency Pair	No. of Transactions	Transactions in Percent (%)	No .of Positive Result	Profit in Percent (%)	No. of Negative Result	Loss Result in Percent (%)
EUR/USD	19	31.67%	13	21.67%	6	10.00%
GBP/USD	22	36.67%	15	25.00%	7	11.67%
USD/CHF	11	18.33%	7	11.67%	4	6.67%
USD/JPY	8	13.33%	3	5.00%	5	8.33%
Total	60	100%	38	63.33%	22	36.67%

Table 6 of the study demonstrates that GBP/USD currency pair has the best result among four currency pairs considered in the study. In fact, 25% out of 63.33% of total positive result concluded from this currency pair. EUR/USD lies in the second place at 21.67%, and finally USD/CHF and USD/JPY are placed at 11.67%, 5% respectively. Although EUR/USD includes 28% of daily transactions in FOREX market, it is seen that GBP/USD has the best result during the study time because of higher economic stability of UK compared to Eurozone countries. Many reasons may exist that traders do not like to concentrate at present time in EUR/USD currency pairs. The most important factors can be due to the crisis dominated in Eurozone (debts) and volatility associated regarding to concerns over many of European countries. Unsolved issues of this area caused traders to be confused in their decision making for their speculations purpose and enter into the pair's trade more cautiously. All these factors made Euro currency to become a very vulnerable unit currently and caused to lose its value rapidly against even less important news released from media and appropriate sectors.

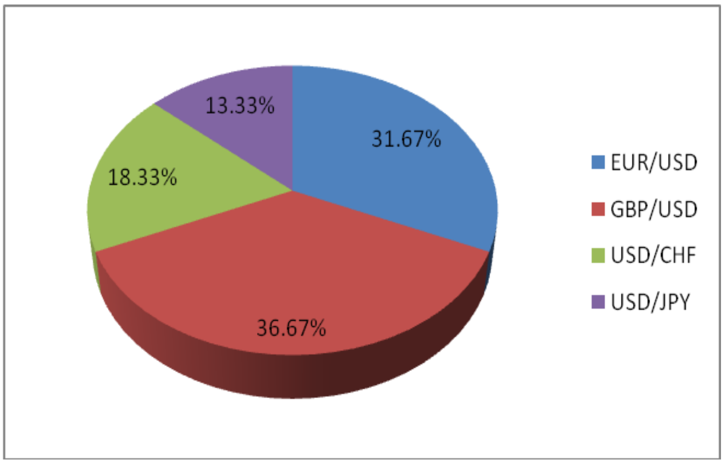

Figure 16: Currency Pairs' Transactions Distribution

Figure 16 of the study represents the currency trading distributions during the study time period. It displays that GBP/USD has the highest rate of transactions at 36.67%, and then EUR/USD covers 31.67% of the test of the research transaction. Ultimately, USD/CHF and USD/JPY have the rest of the proportion at 18.33% and 13.33% respectively.

Chapter 5

CONCLUSION

The aim of this thesis was to find the role of technical analysis application in FOREX market trading and forecasting strategies. Since currency rates are changing in every moment, forecasting the price and identifying the correct trend have become a very complicated process for investors and traders besides the high volatility dominated in the market and other important factors. On the other hand, the more volatile market is associated with more risk for speculators. This volatility can be resulted from the demand and supply levels of investors for currencies or it can be due to impact of releasing economic data, political news or some geographical issues. Decision making for entering into the market at the right points and gaining profit are the essential goals of investors. One of the methods which assist speculators to find the logical points of transactions is using the technical analysis perspective in defining a strategy for their speculation purposes. The thesis chose some of the main tools and indicators for running the technical analysis impact on forecasting and trading planning during the research period. Then, these indicators were incorporated into reversal pattern model in order to identify the retracements of the currency pairs' rates when the market encountered with an overbought or oversold situation.

The empirical parts of the thesis provided the effects of technical analysis through reversal pattern model by using several common indicators introduced by FOREX brokerage companies as described for a period of two months from 16th of January 2012 until 16th of March 2012. The currency pairs applied for testing purpose were

EUR/USD, GBP/USD, USD/JPY and USD/CHF because of their high liquidity and importance in FOREX market.

The main objective of this research has been to discover the reliability of technical analysis in FOREX trading strategies and forecasting the price actions regarding the high fluctuation in this market. Normally, FOREX market is a very risky market and trading without high knowledge about the behavior of market, correct forecasting and taking useful strategies will not lead into a reasonable and stable result. Thus, this research’s target was to measure the degree of success of technical analysis in speculation process through trading in the FOREX platform of Meta Trader 4 for a period of two months (8 working weeks).

In order to reach to this target, transactions were divided into three major timeframes; daily, weekly and monthly. The result of this study showed that in general technical analysis is very useful method for traders in their speculation planning in FOREX market. As it illustrated in chapter four of the thesis, 63.33% of total transactions (38 out of 60) closed with positive figures indicating profit for the trades made during the test process. While, 36.67% of the whole transactions (22 out of 60) experienced negative result demonstrating loss. This level of success resulted from the study confirms that in general more than half of transactions i.e. 63.33% encountered successful termination with profitability.

The outcomes of the thesis also confirmed that technical analysis and reversal pattern model have the best result in daily time frames recording 46.67% of successful prediction for the market trend identification. In fact, 28 out of 36 daily transactions (77.8%) had positive result in this timeframe which is an acceptable rate in this study. The reason for this degree of reliability is that in short time frame like 1 hour or 4 hour charts, indicators show rapid reflection to the price changes and consequently leads to the completion of reversal pattern configuration faster. However, it should be added that this pattern is shaped also in weekly and monthly or even yearly charts. But the completion process for observing the configuration needs more time and long-term money management before entering into the market or closing the previous open transactions.

In addition to daily trading, the research showed 16.67% of success for weekly transactions. Although this figure is a small percent of the whole test result (63.33%), but in comparison with monthly transactions which indicates a zero percent progress is a satisfactory rate. It also should be noted that 10 out of 21 of transactions in weekly trading resulted with profit which means that 47.62% of weekly transactions had positive outcomes; near to 50%. However, it should be considered that these low rates in weekly or more importantly in monthly trading do not mean that technical analysis is not useful or rejected for longer time periods. In this research due to the limitations in the duration of time period to two months (eight weeks) they are giving those result. It is not far to believe that they may lead into positive status or profit in the future by shifting the demand and supply levels or other interference of other factors involved with FOREX market.

Moreover, based on the result attained from this study during the practical tests, it has been perceived that GBP/USD has the highest level of positive outcomes at 25%, then EUR/USD with 21.67% is ranked as the second choice for the whole transactions. Finally, USD/CHF and USD/JPY are ranked in the next places at 11.67% and 5% respectively. In general, those currency pairs which are considered remarkably by investors for speculation have better consequences for applying reversal pattern model. For example according to the latest data released by Bank of International for Settlements (BIS) in April 2010, EUR/USD and GBP/USD together include 37% of the total daily transactions in FOREX. Therefore, this huge volume of daily transactions encourages more investors to trade in such currency pairs. On the other hand, these currencies are the monetary units of UK and Euro Zone countries which have close economic relations with United States.

The study confirmed that technical analysis is the inseparable part of FOREX market due to its important rule for forecasting analysis and trading strategies. The research showed that without studying the past histories of prices and their applications in such analysis traders will be confused in order to find the future trends direction correctly. High fluctuation makes the market a very complicated business; consequently, identifying the right points for entering into the market and closing the open positions already taken will become more problematic without using technical analysis.

The research suggests that technical analysis is a necessary method for predicting the price movement (trend) in FOREX market due to the volatility and complexity exist in the market. Since the most focus of this analysis is involved with the price direction, it is more safe and easier to speculate through technical analysis, because the history in prices repeats itself and can be renewed in the future. Thus, price patterns like candlesticks, reversal or continuation are appeared in charts quickly and help decision makers to organize efficient strategies in their business to gain the highest levels of profit.

Although the research's main concentration was on technical analysis in FOREX market, it also recommends that the market trend will be identified more accurately by a combination of technical analysis with fundamental analysis together. When traders are aware about the national and international positions of a country or zone, they can decide what to apply for a buy or sell order in the time entering into the market or exiting. It is expected that this study will be useful for policy makers, investors, speculators to assist them to minimize the risk degrees and take the best decisions in their investment portfolio.

REFERENCES

Archer, M. (2008). Getting Started in Currency Trading, John Wiley & Sons, Inc., U.S.A.

Bank for International Settlements (BIS), 2010, Report on Global Foreign Exchange Market Activity.

Booker, R. (2006). The Currency Trader's Handbook: Strategies for Forex Success, LULU.

Branson, W. H. (1979). Macro Economic Theory and Policy, Second Edition, Harper and Row Publishers.

Chen, J. (2009). Essentials of Foreign Exchange Trading (Essentials Series), John Wiley & Sons, Inc., U.S.A.

Galant, M. & Dolan, B. (2007). Currency Trading for Dummies, John Wiley & Sons, Inc., U.S.A.

Galati, G. & Melvin, M. (2004). Why has fx trading surged? Bank for International Settlements.

Grabbe, O. (1996). International Financial Markets, Third Edition, Prentice Hall.

Jardine, M. (2003). New Frontiers in Fibonacci Trading, Marketplace Books.

Kahn, M., Galati, G. and Melvin, M. (2006). Technical Analysis Plain and Simple: Charting the markets in your language, triennial Survey, Pearson Education.

Lee, Richard. (2009). Introducing the Bearish Diamond Formation. (http://www.investopedia.com).

Lien, K. & Schlossberg, B. (2006). High Probability Trading Setup for the Currency Market, FXCM.

Luca, C. (2000). Trading in Global Currency Market, Second Edition, New York Institute of Finance.

Marshall, K. & Moubray, R. (2008). Practical Fibonacci Methods for Forex Trading, Forex System Research Company.

Martinez, J. F. (2007). 10 Essentials of Forex Trading ; The Result for Turning Patterns into Profit, McGraw- Hill.

Moffett, M. H. Stonehill, A., I., and Eiteman, D., K., (2006). Fundamentals of Multinational Finance, Pearson.

Mohammadi, A. (2009). Trading Strategies in Financial Markets, Arad Ketab Publication.

Mohammadi, A. (2010). Introduction to Forex Market, Arad Ketab Publication.

Murphy, J. J. (1996). Technical Analysis of the Future Markets, A Comprehensive Guide to Trading Methods and Applications, New York Institute of Finance.

Murphy, J. J. (1999). Technical Analysis of the Financial Markets, Prentice Hall Press.

Niemira, M. P. and Zukowski, G. F. (1998). Trading the Fundamentals, The Trader's Guide to Interpreting Economic Indicators and Monetary Policy, McGraw- Hill.

Person, J. L. (2007). Forex Conquered: High Probability System and Strategies for Active Traders, John Wiley & Sons Inc.

Saunders, A. and Millon, M. (2001). Financial Markets and Institutions, a modern perspective, McGraw- Hill.

Schwager, J. and Turner, S. (1995). A study Guide for Fundamental Analysis, 1st edition, Wiley.

Schwartz, R., J., & Smith, C., W. (1990). The Handbook of Currency and Interest Rate Risk Management, New York Institute of Finance.

Steve, N. (1991). Japanese Candlestick Charting Techniques: A contemporary guide to the Ancient Investment, Prentice Hall Press

Suri, D. (2007). Traders Vic's '2B' Patterns. The trader Journal, Volume 3, Issue 12, P 23-9

Suri, D. (2008). Trading Horse Pattern. The trader Journal. Volume 4, Issue 1, p 18-24

Walton, M. (2009). How to trade forex, http://www.forex-fxtrader.com

Wasendorf, R. (1997). Foreign Currency Trading, From the Fundamentals to the Fine Points.

http://www.topforexnews.com/2011/11/10/euros-biggest-drop-since-august-2010/

http://www.fibonacciretracement.net

http://www.forexeconomiccalendar.com/forex-trading-hours.htm

http://www.marketforex.net/advantages-disadvantages-forex-trading.html

http://www.marketforex.net/advantages-disadvantages-forex-trading.html

http://www.forexeconomiccalendar.com/forex-trading-hours.htm