

Technical Analysis in Forex – A Strategy for Individual Trader in Intra-Day Trading

Miikka Linden LD06

Thesis

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<p>Authors Miikka Linden</p>	<p>Group LD06</p>
<p>The title thesis Technical Analysis in Forex - A Strategy for Individual Trader in Intra-Day Trading</p>	<p>Number of pages and appendices 78 + 3</p>
<p>Supervisors Seppo Suominen, Tanja Vesala-Varttala</p>	
<p>The goal of the thesis was to create a simple and profitable strategy for Foreign Exchange Market (forex) currency trading. Forex is an interesting international market, which is becoming globally more and more popular. The author has a strong interest in forex and he had noticed how many trading strategies are very complicated and difficult to use. The meaning was to study what kind of simple trading strategy would be profitable in forex. The target of the study was intra-day traders, who trade short-term trades, prefer technical trading and already have the basic information of the market. The strategy created was tested through using virtual money by the author and it was also published as an e-book in different online forums for collecting comments and improvement suggestions.</p> <p>The thesis was carried out as a project-based thesis and it consists of introductory, theoretical and empirical parts. Theory consists of four parts; forex market, what moves the exchange-rates, how technical analysis predicts exchange-rate movements and money management. The trading strategy was created by applying the theory to the author's own ideas of forex trading. The empirical part contains a complete forex trading strategy and a report of the testing period.</p> <p>The goal of making a simple and profitable forex trading strategy was reached as a three-month testing period ended with a gain of 19%. The e-book received many positive comments, but also some criticism and improvement suggestions from other traders. Most people who commented on the trading strategy liked the simplicity of it.</p> <p>Even though the strategy created was tested with virtual money, the study indicates that simple forex trading can be profitable. The next phase is to test the strategy with real money and study the results over a longer period of time. Emotional factors that affect trading decisions will only be shown when real money is traded. The author is confident that every trader who reads the study will learn a lot and get new ideas for their own forex trading.</p>	
<p>Key words Foreign Exchange Market (forex), currency trading, technical analysis, market patterns, trading strategy, intra-day trading</p>	



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<p>Opinnäytetyön tavoitteena oli luoda tuottava ja helppokäyttöinen forex valuuttakaupankäyntistrategia. Forex on mielenkiintoinen ja kansainvälinen markkina, joka on viime vuosina kasvanut maailmanlaajuisesti suosiotaan. Opinnäytteen tekijällä on vahva kiinnostus valuuttakauppaa kohtaan, ja hän on huomannut, kuinka useat kaupankäyntistrategiat ovat hankalia ja vaikeaselkoisia. Opinnäytetyön tarkoituksena oli tutkia, minkälainen yksinkertainen strategia voisi olla tuottava valuuttakaupassa. Kohderyhmänä on jo perustiedot forexista omaavat päiväreidaajat, jotka tekevät lyhyen aikavälin kauppaa ja käyttävät teknistä analyysia. Opinnäytetyössä luotua strategiaa testattiin virtuaalirahalla tekijän toimesta, ja se julkaistiin e-kirjan muodossa eri keskustelupalstoilla kommentteja ja kehitysehdotuksia varten.</p> <p>Opinnäytetyö tehtiin projektityönä ja sen rakenne koostuu johdannosta, teoriaosioista ja empiirisestä osiosta. Teoria muodostuu neljästä osasta; forex markkina, mitkä seikat vaikuttavat valuuttakurssisiin, miten teknistä analyysia voidaan hyödyntää valuuttakurssien liikkeiden ennustamiseen, ja rahan hallinta. Kaupankäyntistrategia luotiin hyödyntämällä käytettyä teoriaa ja yhdistämällä sitä tekijän omiin ideoihin. Empiirinen osio sisältää kokonaisvaltaisen forex kaupankäyntistrategian ja raportin testijaksosta.</p> <p>Kolmekuukautinen testiajanjakso tuotti 19%:n tuoton, joten tavoite helppokäyttöisestä ja tuottoisasta kaupankäyntistrategiasta saavutettiin. E-kirja sai useita positiivisia kommentteja, mutta myös kritiikkiä ja kehitysehdotuksia muilta valuuttakaupan kävijöiltä. Useimmat kaupankäyntistrategiaa kommentoineet pitivät sen yksinkertaisuudesta.</p> <p>Vaikka testijakso toteutettiin virtuaalirahalla, tutkimus osoittaa, että yksinkertainen valuuttakaupankäynti voi olla tuottavaa. Seuraavaksi on tarkoitus testata strategiaa oikealla rahalla, ja tutkia tuloksia pidemmällä aikavälillä. Kaupankäyntiin vaikuttavat emotionaaliset asiat tulevat esiin ainoastaan käymällä kauppaa oikealla rahalla. Opinnäytetyön tekijä uskoo, että jokainen työn lukenut oppii paljon valuuttakaupankäynnistä ja saa ideoita omaan kaupankäyntiinsä.</p>	
Avainsanat Forex, valuuttakauppa, tekninen analyysi, kaupankäyntistrategia, päiväreidaus, markkinakuviot	

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1 Introduction

Forex (foreign exchange market) is the world's largest financial market. It is a market where one country's currency is exchanged to another currency. The exchange rates of currencies are permanently changing due to alterations in the supply and demand of the country's products. Different players in the market are trying to earn money with exchange rate fluctuations by buying currency at low price and selling it at higher price or vice versa. Today, forex is an on-line market, which makes it easy for anyone to participate. Compared to other financial markets there are different advantages that make forex very popular. The average daily turnover in Forex in 2008 was estimated to be more than three trillion U.S. dollars. In comparison, The New York Stock Exchange lists 30 billion daily turnover.

In any financial market, an investor can use either technical analysis or fundamental analysis (or both) for forecasting future price movements. Technical analysis monitors the price movements in a chart with different indicators. Fundamental analysis analyses common economic situations using different financial statements, such as news and reports.

The meaning of the thesis was to create a simple currency trading strategy, which uses technical analysis as a way of predicting exchange-rate movements. The idea of the strategy is to keep trading simple, so it will be named KISS FX breakout strategy (Keep It Simple Stupid). The strategy created will be tested during a three-month period by the author. The testing phase will be carried out using virtual money. The strategy will also be published in different online forums for comments and improvement suggestions from other traders. The goal of the study is to create a profitable but simple and easy-to-use strategy that any individual intra-day trader can use to make profit in forex. The topic has been chosen as the popularity of forex is growing globally and the author has a strong personal interest in forex.

1.1 The scope of the study

The study is a project-based thesis and creates a strategy for forex trading that uses technical analysis (predicting the price movements according to price movements in the exchange rate chart) as a method of forecasting exchange rate movements. The outcome of the study is an e-book containing a trading strategy. Fundamental analysis (predicting price movements according to economical factors) is taken into account in the study, but it is not studied further in detail. Emotional factors that also affect trading decisions were not included in the study.

The e-book is not a beginners' guide to forex. The author recommends babypips.com as a beginners' guide to forex. However, the basics of forex are described to make the study understandable for a reader not familiar with the topic. The target audience of the e-book are people, who already have the basic knowledge of the forex market. They might be demo trading (virtual money) or even live trading, but they are looking for an alternative and more simple strategy to use in their trading. They are willing to learn more about forex market. As the strategy is an intra-day strategy, the target people are short-term traders, who open and close a trade during the same day.

In online forex forums there are many trading strategies available, made by other traders. Usually these guidebooks use several mathematical indicators, which make the strategy very difficult the use. Also, since studying the forex market for 18 months, the author has not seen a guidebook that contains the most important part of forex trading, money management.

The author of the thesis wants to create a simple trading strategy, which does not require complex mathematical indicators for trade entries. The e-book is a complete strategy containing also the aspects of money management such as risk percentages, risk-to-reward ratios and stop losses. The e-book made during the thesis proves that actually mathematical indicators are not needed at all, if the basics of technical analysis are learned properly. Every trader who reads the e-book gets an alternative strategy to their trading, and they also learn a lot from money management rules in forex.

The e-book was posted on different forex online forums such as tienaus.com, forexfactory.com, babypips.com and pipthefx.com. The reason for this was that other traders could test the strategy and give comments for the author to develop it further. The strategy was not marketed in other ways, because it is not a product that needs to be marketed. The e-book is a free trading strategy for anyone to use.

Forex itself is an international market with many international players, which makes the international aspect of the study very strong.

1.2 Project steps

During the project the meaning was to learn about the forex market, to create a profitable strategy for intra-day forex trading and then test it. For seeing whether the strategy was profitable or not, it was very important to test it. For seeing whether the strategy created was simple for other traders, it was important to receive comments from other traders. There were four different steps in the project. All phases are equally important.

1. Finding theory, studying forex and technical analysis

In this stage, the meaning was to study forex market and technical analysis carefully. The author collected theory from books, articles and online forums. This theory was then applied to the trading strategy. The books about forex are the main source for the study.

Four books were chosen to be primary sources for making the trading strategy. There are numerous books available about forex and many of them deal with fundamental side of currency trading. The books had to be chosen very carefully, as they author wanted specific books that are concentrated on the technical side of forex. In addition, it was very important to find books that supported the author's idea of creating a strategy that would be simple to use. The author also wanted to use books including the concept of money management, as it is considered to be the most important single factor in profitable currency trading.

Forex Made Easy: 6 Ways to Trade the Dollar by James Dicks (2004) was chosen as it provides a lot of information about forex market as a whole. It also gives ideas of trading techniques in forex. The second book that was chosen to be another main source was *Profiting With Forex: The Most Effective Tools and Techniques for Trading Currencies*, by John Jagerson & S. Wade Hansen (2006). This book is a very comprehensive book about trading techniques and it provides a lot of information about different options a trader can use as ways of trading. *Forex Trading Using Intermarket Analysis*, by Louis B. Mendelshon (2006) was chosen due to its concentration on forex trading using technical analysis. This book provides a lot of information about simple tools for technical analysis that a trader can use in forex. The last book that was chosen was an overall guide to technical analysis. This book was made for the stock market, but the same rules of technical analysis apply in the stock market as in forex. The last book was *Chart Your Way to Profits*, by Tim Knight (2007). These four books, in addition to several online sites that were used as secondary sources, covered all the aspects the author wanted to cover in theoretical part.

2. Creating the strategy (e-book)

In the second stage the currency trading strategy in a form of an e-book was created. The e-book is a manual including overall information about the strategy used as well as important things from the trader's point of view, e.g. entry- and exit rules for trading, money management and example trades. Different technical analysis options were studied and tested during the strategy creation, and the most suitable methods were chosen to be used in the strategy. The e-book is the empirical part of the study, and it was published in online forums on a different form than in the thesis.

3. Testing the strategy

The e-book was published in different online forums for forex (such as tienaus.com, forexfactory.com, babypips.com and pipthefx.com) as soon as it was ready. The reason for this was that while the author was testing the strategy, other traders could test it as well and give comments. The comments were taken into account as possible improvement suggestions. Due to financial reasons, the test carried out by the author was only on a demo account with virtual money. The test period was approximately three months.

4. Analyzing the results

In the last stage of the project the results of the test period were analysed. The tests gave a picture of whether the strategy is profitable or not. The comments from other traders showed whether the strategy created is simple to use or not.

1.3 Definitions of key concepts

The key concepts of the thesis are forex (foreign exchange market), currency trading, technical analysis, market patterns, trading strategy and intra-day trading. All the chart figures used in the thesis are taken from the author's own demo account.

Foreign exchange market (Forex):

Forex is the largest financial market in the world. It is an online market, where currency pairs are being traded 24 hours a day, five days a week. Daily turnover in 2008 was more than \$3 trillion. Typical transaction involves buying one currency and selling another with free-floating exchange rates. The biggest players in foreign exchange market are different banks, corporations and governments, but also millions of individual currency traders take part in trading.

Forex is a two-way market, where a trader can either enter a buy position or a sell position. When one trader is making a profitable trade in forex, it means that another trader is losing.

Currency trading:

Forex is the place to trade currencies. Players in the market use large quantities of currency to make profit as the value of currency changes. Currency fluctuations take place because of two things:

1. The real market

Investors or visitors need some currency to buy goods from another country, and they have to convert their own currency to another currency and the other way around. As a need for currency grows, its value goes up.

2. Speculation

Investors try to figure out how currency will react to a certain incident, such as economic news, e.g. interest rate releases.

Individual traders trade through their online brokers. For example, when taking a buy (long) position in EUR/USD currency pair, a trader will simultaneously buy euros and sell dollars. If the trader has analyzed correctly, he will make profit if the value of euro strengthens against dollar. If the euro weakens against dollar, the trader will lose money. If the exchange rate in EUR/USD would be 1.3000 before the trader entered his long position, and when closing the trade the same exchange rate grew to 1.3001, he would have gained one pip from his trade. Pip (price interest point) is the last decimal of a price, and it is a system to determine profit or loss in forex. The pip values and position size determine the profit/loss in dollars.



Figure 1. The exchange-rate chart for EUR/USD (Fibogroup, demo account)

EUR/USD currency pair on 15-minute timeframe. The figure shows, how the exchange rate of EUR/USD went up by 161 pips.

Technical analysis:

Technical analysis is a way of predicting future price movements. It is one of the oldest tools used in financial markets. Technical analysis analyses indicators, market patterns and it is based on the idea that history repeats itself and the price moves in trends and patterns. For technical analyst it is important to know how other players in the market see future movements.

Market patterns:

Market patterns are different figures that are formed in the price chart by the movement of currency pair's exchange rate. The price of an exchange rate will form points where the price does not go any lower or higher. When a trader can draw a line between these points, the line is called "support" or "resistance". Support and resistance lines are the basis for a market pattern idea. A trader can trade simply by using only support and resistance lines. When an exchange rate hits support or resistance line, it will either break out from the line or bounce back to the direction it originally came from. There are also several other market patterns that will be explained later on in the thesis.



Figure 2. The exchange-rate chart for EUR/USD (Fibogroup, demo account)

EUR/USD currency pair on daily timeframe. The red lines describe support- (the lower line) and resistance (the upper line) lines. The price was stuck between these two lines, but once the support line was broken, the price went down nearly by 3000 pips in three months.

Trading strategy:

Trading strategy is very important for every trader involved in forex. Trading strategy contains very specific entry rules that need to be fulfilled before a trader can enter a position. Money management is the most important thing in a trading strategy, as it is the basis for continuous profit making. Without proper money management a trader will most likely fail and lose money.

Intra-day trading:

Intra-day trading simply means that a trader opens and closes a position he has taken during the same day. An intra-day trader does not take positions that last longer time periods, e.g. days, weeks or even months. Intra-day traders trade using shorter timeframe price charts (1min-4h). Depending on the trading platform used, a trader can get exchange rate timeframes from 1 minute to 1 month.

2 What is forex?

Forex (foreign exchange market) is a place, where one currency is exchanged to another using free-floating exchange-rate system. Forex is already world's largest financial market with estimated daily turnover of three trillion U.S. dollars. There is no central exchange, as the entire market is an electronic network that is open 24h a day, five days a week. The major participants in forex are commercial and investment banks and also central banks. Other players include companies, hedge funds and millions of individual traders worldwide, who try to gain profit by exchange rate fluctuations. Forex has been growing rapidly during the past few years, as new technology has made the market available for everyone through the Internet.

(Dicks 2004, 12-14.)

2.1 History of foreign currency exchange market

For understanding the forex market it is important to know how foreign currency exchange market has been developed from its early days to the point where it is today.

“From the 1870s until World War I, gold backing provided stability for many of the world's currencies”. Even though gold has a long history of being a store of value, it had also a few disadvantages. In the beginning of 20th century, if a country had a strong economy they could afford importing more goods. Importing meant sending money overseas. The country had to reduce its supply of gold reserves to back its currency. “With less gold to back its currency, money supplies had to be reduced, causing interests rates to rise, which then slowed economic activity until it brought about a recession”. (Mendelsohn 2006, 11-14.)

Recession makes the prices of goods decline, which means that foreign buyers will get interested in low-price products, which again increases the exports and the flow of money. The country can start rebuilding the gold reserves and the money supply. This reduces interest rates and produces economic wellbeing. These kinds of “boom-and-bust cycles” were common during the gold standard days. The trade flow was disrupted by the World War I, which made forex market very volatile. “The depression of the 1930s and onset of World War II further disrupted normal economic and forex activity”. (Mendelsohn 2006, 11-14.)

To design a new economic order after the war, the officials from the United States, Great Britain and France met in 1944. As European economies and currencies were in a bad condi-

tion, the U.S. dollar emerged as the world's benchmark currency. Major currencies were pegged to the U.S. dollar, which was again pegged to gold. "Major currencies were allowed to fluctuate in a band within one percent on either side of the standard set for the dollar, and no devaluations were allowed in an attempt to gain trade advantages". Central banks stepped into forex market to bring currency back into acceptable range in case it deviated too much. These actions brought stability to help the post war economic recovery.
(Mendelsohn 2006, 11-14.)

Mendelsohn (2006, 11-14) explains, how the international trade was expanding and U.S. dollars were deposited a lot overseas and there was a risk of possible demand for gold backing to dollars. In 1971 President Nixon announced that the U.S. dollar would no longer be convertible to gold. This was the end of the agreement made in 1944 and provided a wider band for different currencies to fluctuate. However, the float arrangement was doomed to failure because different economic and political situations in different countries.

European officials wanted to hold on to the float concept but did not want their currencies to be tied so closely to US. In 1978 European Monetary System (EMS) was created to keep European currencies in alignment. EMS lasted until 1993, when Great Britain dropped out. This opened a way for free-floating exchange rate system, as there was no structure in place to control currency fluctuations. "Most currencies float freely today although Argentine peso, Chinese yuan, and other currencies have been pegged to the U.S. dollar".
(Mendelsohn 2006, 11-14.)

Euro was launched on the 1st of January 1999 and it has become one of the strongest currency in the world.

2.2 Motives to trade forex

Forex trading volumes have been growing rapidly in recent years as participants like banks, financial institutions, hedge funds, multinational corporations and individual traders create different strategies to benefit from currency fluctuations and minimize the risks. According to Mendelsohn (2006, 14-15), there are three main motives to get involved in the forex market.

The first motive is "to convert profit in foreign currencies into a domestic currency to bring gains back "home". This is something that international companies do on a daily basis.

The second motive is “to hedge exposure to risk from changes in forex values”. Companies use this way of minimizing the risk in their international deals. They want to lock in profit with forex position instead of taking a risk if currency values change. The third and the biggest motive is “to speculate on changes in currency values”. It is impossible to indicate how big the volume of speculation is, but it is estimated to be about 95 % of all forex activity. (Mendelsohn 2006, 14-15.)

According to Mendelsohn (2006, 14-15) there are three different venues that are involved in forex trading:

1. The biggest share of forex trading takes place in the interbank market. This market is a “global over-the-counter” network and it consists of world’s largest banks and other large financial institutions and corporations. Interbank market has no centralized marketplace. Transactions are done between parties over phone or electronically. Deals may involve billions of dollars, which explains why these players are called “big boys” in forex.
2. Cash forex trading has been one of the fastest going segments in the past few years. Individuals and corporations are gaining information about online trading and less restrictive regulations. Controversy frauds have become also more common as fake brokers enter the market. This is why a trader needs to pay a special attention to a company background, when choosing a broker for trading.
3. Forex futures have been a common trading method for about thirty years. Chicago Mercantile Exchange (CME) introduced futures for currencies already in May 1972. In recent years forex futures have gained popularity. In 2004 CME traded over 50 million forex contracts, which was a 50 % increase from 2003. Advantages of forex futures are the centralized market, tight bid/ask spreads, transparent pricing and the fact that there is no counter-party risk, as the traders trade only with one firm.

There are different advantages in forex trading, when comparing to other financial markets. No other market competes with forex about protection, possibility to profit and the easiness of trading. New York Stock Exchange turnover is about 60 times less than forex’s. Forex makes buying and selling currencies easy, because of the amount of different players involved. Because of the leverage (explained in chapter 2.4), one does not need a large capital to start

making profit in forex. Guaranteed stops are also something that help a trader to reduce risks of losing the entire capital. (Dicks 2004, 19-25.)

Dicks (2004, 19-25) explains that forex is a two-way market, which means that a trader can either go into a buy- (long) or a sell (short) position. A trader can make money even if a value of his own currency is going down simply by shorting (sell) the currency. Even if the economic situation is bad, a trader can profit in forex. In some countries forex income is also tax-free income (not in Finland).

One does not have to be a full-time trader to trade forex as the market is open 24 hours a day, five days a week. There are a lot of part-time traders, who trade currencies after their daily work. In the stock market or bonds and mutual funds one has to pay commission. In forex this is different as the trader only pays the listed price and the brokers will get their share from spreads. Other advantages are continuous liquidity, volatility and trending market. (Dicks 2004, 19-25.)

2.3 Forex market vs. stock market

In the stock market, each time a trader decides to buy or sell shares he will have to pay a commission. Often an investor will contact a broker, who will make the required action for him. In forex one does not have to pay any commission. (Jagerson & Hansen 2007, 10-14.)

The U.S. stock market is open from 9.30 am to 4 pm from Monday to Friday. Often market investors are working during these days. Forex is open 24 hours per day, five days a week, which means that a trader can enter a position anytime he wants. The orders will be filled in seconds. The forex market has much more liquidity than any other financial market. (Jagerson & Hansen 2007, 10-14.)

Bearish (down-trending) markets are usually something the stock investors do not like. Selling (shorting) a stock has a much more complex meaning than it does in shorting a currency. It is also much more risky and expensive due to its many stages. In forex, if an investor thinks that some currency will lose value, he just clicks on “sell” and will gain profit, should this happen. (Jagerson & Hansen 2007, 10-14.)

In the stock market an investor can find a huge selection of shares. This might be confusing, as an investor should be aware of every company's economic situation. Usually every investor diversifies interesting stocks into his portfolio. By doing this he will also lose chances of benefiting from shares outside his portfolio. In forex it is probably enough for a trader to keep an eye on the major currency pairs. (Jagerson & Hansen 2007, 10-14.)

The stock market is even more trending market (and predominantly an up-trending market), so it might be easier to make profit during long up-trends than it is in forex. During an up-trend, an investor can invest money and trust that the market will continue going up. In forex changes occur more often. (Jagerson & Hansen 2007, 10-14.)

2.4 Forex dictionary

This chapter explains important concepts of forex such as *leverage*, *pips*, *lots*, *currency pairs* and *bid/ask spread*.

Leverage

Forex offers a unique possibility compared to any other financial market. This possibility is called leverage. Leverage allows a trader to control bigger amounts of money that he actually has. Usually the trader can choose the leverage he wants to use, but for example with 1000 dollars one can control \$100 000 dollars, when the leverage is 100:1. With 1% of the money, one can keep all the profit made by \$100 000 dollars. Leverage makes forex also risky, but guaranteed stops are used to reduce risks. If the price of the exchange rate hits the stop loss point, the trade exits itself to protect trader's capital. The stop loss point can be determined by the trader, if wanted. (Jagerson & Hansen 2007, 4-9.)

Pips

Currencies are traded in forex by using price interest point (pip) system. Every currency has its own pip value that is determined by a mathematical formula. Some of the pip values are fixed and some fluctuate. The pip values are not too important to understand, as the main goal is to gain as many pips as possible (Dicks 2004, 18-19.) When taking a buy (long) position in EUR/USD currency pair, a trader will simultaneously buy euros and sell dollars. If the trader has analyzed correctly, he will make profit, if the value of Euro strengthens against dollar.

If the euro weakens against dollar, the trader will lose money. If the exchange rate in EUR/USD would be 1.3000 before the trader entered his long position, and when closing the trade the same exchange rate was 1.3001, he would have gained one pip from his trade.

Lots

Instead of buying shares (like in the stock market) in forex when a trader wants to buy something, he buys a contract or a *lot*. The term *contract* is used, because a trader buys (or sells) currency future contracts. The contracts are divided into *mini-* and *full-size contracts*. A mini contract controls 10 000 units of a base currency of a currency pair. A full-size contract is ten times larger, so it controls 100 000 units of a base currency. Some brokers also offer smaller lots like a micro lot (1000 units), and they might have also lots as small as 1 lot. (Jagerson & Hansen 2007, 41.)

Currency pairs

Everyone who has been in a foreign country knows that one has to deal with exchange rates when exchanging from one currency to another. Currencies are traded in pairs and are indicated for example EUR/USD. Here euro is the base currency. If the exchange rate EUR/USD goes up in price, it means that euro is getting stronger against dollar. In forex one can practically trade any currency pair (depending on the broker used), but the major currency pairs that are traded the most are EUR/USD (euro/U.S. dollar), GBP/USD (British pound/U.S. dollar), USD/JPY (U.S. dollar/Japanese yen), USD/CHF (U.S. dollar/Swiss franc), AUD/USD (Australian dollar/U.S. dollar) and USD/CAD (U.S. dollar/Canadian dollar). (James Dicks 2004, 16.) Instead of trading all the currency pairs available, it is important to concentrate on only few currency pairs. This is recommended to avoid confusion.

Bid/Ask spread

The amount of pips between the bid/ask price is called the spread. As in forex one does not have to pay commissions, spread is what forex brokers use to make money. Brokers take the spread out of every trade made through them. Spread works so that the broker might pay 1.3600 for buying a currency. Then he allows you to buy at a price of 1.3601. Then the

bid/ask spread the broker gets is 1 pip. By the time a trader closes a trade, he will always have to pay the spread to the broker. (Russell)

Spreads vary a lot depending on currency pair used and the broker. Usually spreads for major currency pairs are around 1-4 pips. Spreads for currency pairs that are not traded very often might be very high. Brokers might change their spreads very often.

Realtime Forex Rates

FXTrade Dealable Rates		Spread	
EUR/USD	1.35880 / 95	1.5	
AUD/USD	0.76950 / 68	1.8	↑
EUR/CHF	1.51117 / 67	5.0	↓
EUR/JPY	129.866 / 906	4.0	↑
GBP/USD	1.54592 / 632	4.0	↑
GBP/JPY	147.763 / 818	5.5	↑
NZD/USD	0.60003 / 43	4.0	
USD/CAD	1.15678 / 728	5.0	
USD/CHF	1.11218 / 58	4.0	↓
USD/JPY	95.586 / 96	1.0	
XAG/USD	14.1550 / 850	300.0	↑
XAU/USD	927.25 / 70	45.0	↓

Market Event [See All Spreads](#)

Figure 3. Bid/ask spread table (Oanda)

Bid/ask spreads are shown usually clearly on a broker's website. This figure is a spread table from a broker called Oanda on the 20th of May 2009.

2.5 How is a trade done?

Currency trading is becoming more and more popular today. There are hundreds of brokers offering their services online. Trading itself is very simple. One only needs a computer with an Internet connection to start trading forex. Usually brokers offer so called demo-accounts. With this demo, a starting trader can follow up live exchange rates and trade with virtual money. All one needs to do, is to download a trading platform. Metatrader is a trading platform that many brokers offer to their customers.

The following examples are done via Metatrader, demo account by Fibo Group (fibo-group.com). The demo has been started with \$5000, with a leverage of 100:1. The idea of trading is the same, when trading with live accounts (real money accounts).

The following figures explain, how easy online forex trading is.

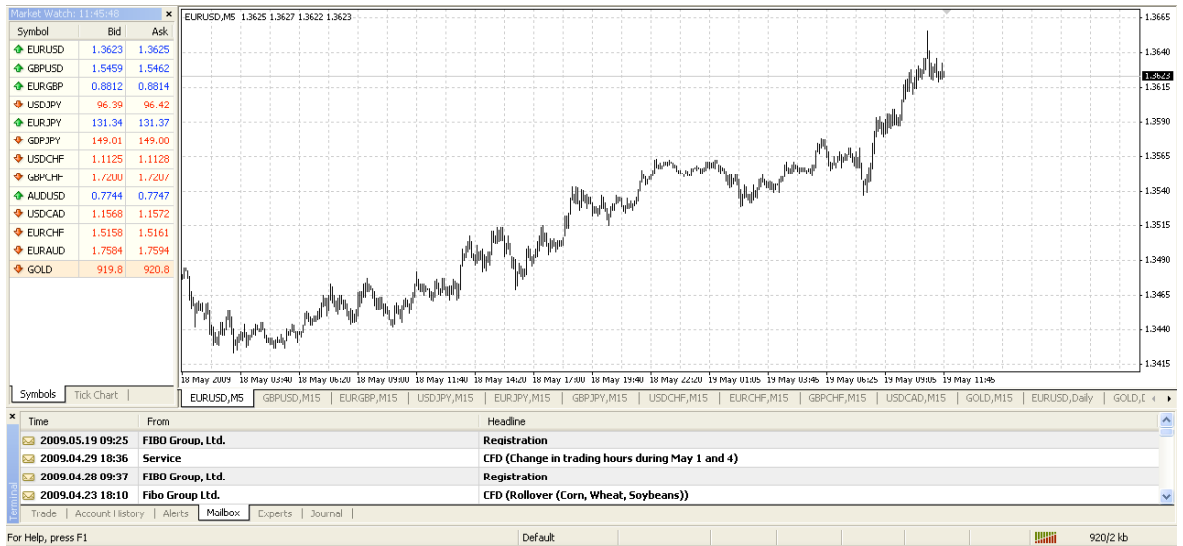


Figure 4. An exchange-rate chart on metatrader (Fibogroup, demo account)

A typical view of an exchange-rates chart. It shows how the price of a currency has moved over time.

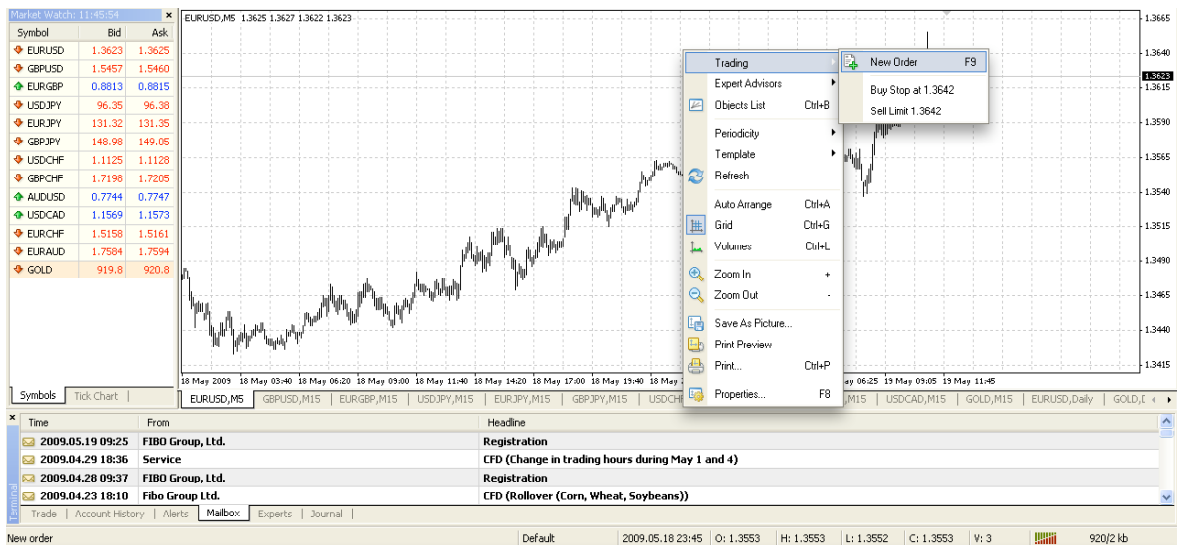


Figure 5. Making a new order (Fibogroup, demo account)

Making a buy/sell order is very simple. With a couple of clicks a trader enters either a buy or sell position.

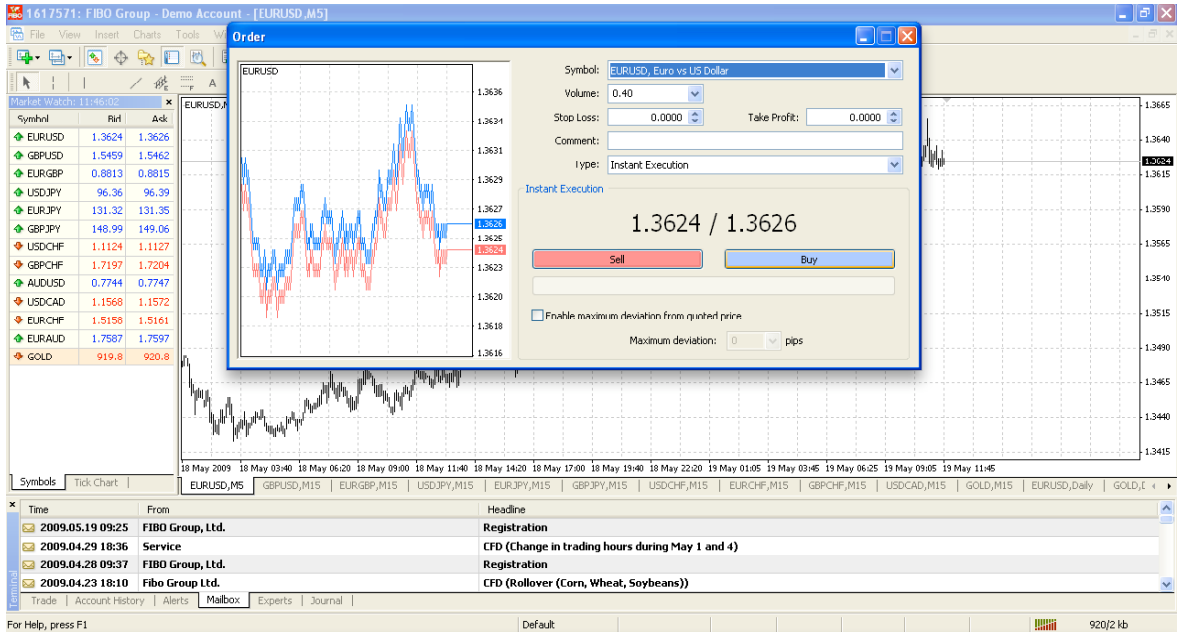


Figure 6. Choosing buy or sell order (Fibogroup, demo account)

If a trader enters into a buy position he buys a “buy contract”. At first he chooses the volume (how big he wants the contract to be).



Figure 7. An exchange-rate chart on a position (Fibogroup, demo account)

When a trader is on a position, he can follow the price movement and see whether profit or loss is made. The box at the bottom of the screen shows the profit/loss.

2.6 What moves the currency market?

There are different factors that affect exchange rates. Firstly, one must understand the concept of supply and demand. Secondly, other fundamental factors such as economic policies, inflation, balance of payments, unemployment and all the news that may affect the economic situation can move exchange rates. Moreover, political and psychological factors and unexpected incidents like natural disasters all have an effect on exchange rates. Fundamental factors are good for forecasting long-term changes in the exchange rates. In the short-term however, fundamentals cannot explain the changes that occur in exchange rates. This is where the technical analysis tries to explain the movements in currency values.

2.6.1 Supply and demand

The forex is driven by supply and demand. Availability of a particular commodity is measured by *supply*. The value of a commodity (currency) is directly linked to its supply. Currency loses its value if the supply of it increases. If the supply of a currency decreases it becomes more valuable. *Demand* is the measure of how much of a certain commodity people want. Demand works in the opposite way to currency's value, when compared to supply. If the demand increases, the currency becomes more valuable and if the demand decreases it becomes less valuable. (Jagerson & Hansen 2007, 43-44.)

The following graphs show the effect of supply and demand in forex.

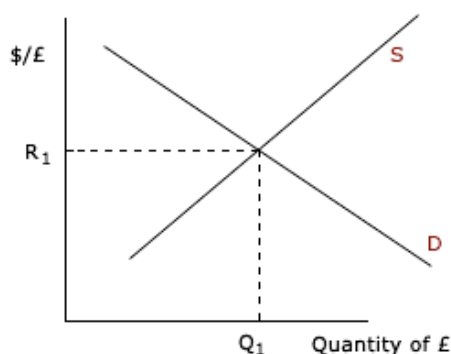


Figure 8. The supply (S) and demand (D) curve (Online Forex Course)

X-axis (horizontal line) represents the quantity of a currency and the Y-axis (vertical line) represents the value of a currency. The ideal exchange rate is the point, where the supply and demand curves meet.

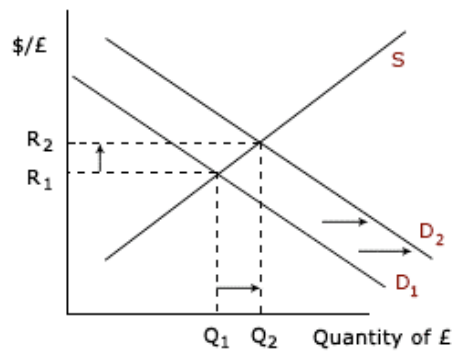


Figure 9. The effect on a currency's price, when a demand rises (Online Forex Course)

When the demand of a currency rises, the currency's exchange rate goes up as well.

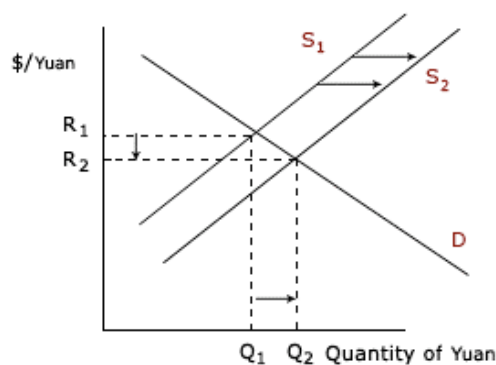


Figure 10. The effect of an increasing supply of a currency on a currency's exchange rate (Online Forex Course)

When the supply of a currency increases the value of the currency weakens.

Understanding the movement of the exchange rates is relatively simple. Oil prices and Japan is a good example. Japan does not have loads of oil reserves hence it needs to import nearly all of its oil. The oil Japan needs to use for producing electronics must be bought with the present rate. Japan's economy is based on the exports it creates to other countries such as the US. They have to ship those goods across the Pacific Ocean, which is also expensive. "Japan is getting hit on both sides. It has to import all its oil at inflated prices to create its goods, and then it has to pay inflated prices to ship all the good it creates".

(Jagerson & Hansen 2007, 48-50.)

To cover the manufacturing expenses, Japanese companies must raise the prices of the goods they are selling. Simultaneously, consumers are able to buy less and less. That means less prof-

its for the Japanese companies, which leads to economically negative outcomes. When looking at exchange rates through the supply and demand it is obvious, how the raise in the prices of oil affected Japanese yen. “Oil is priced and sold in U.S. dollars”. As oil becomes more expensive, Japanese must convert more of their currency into dollars. This increases the supply of Japanese yen in the forex market and lowers the value of yen. Also, as Japanese products are getting more expensive and less people can afford buying them, the demand for Japanese yen falls. The fundamental elements of supply and demand are crucial elements for understanding the basics of changes behind exchange rate movements. (Jagerson & Hansen 2007, 48-50.)

2.6.2 Other fundamental factors

Forex market goes far beyond basic supply and demand figures. Everything that affects political and economic situation of a country, will affect its currency’s value. That is the reason why forex traders need to follow news broadcasts, government reports, newsletters, listen to analysts and other information sources. (Mendelsohn 2006, 21.)

Other fundamental factors can be categorized in four categories: *economic factors*, *financial factors*, *political factors* and *crises*. Usually economic data is scheduled for release in advance. This helps traders to plan more carefully their trades based on fundamental factors. Political factors vary in terms of dates and times but they might have huge impacts on exchange rates. “Financial factors are partially timed and predicted”. Central banks change discount rates and they are mostly unknown in advance. However, the dates when central banks meet are available. Also different crisis like September 11th or wars can affect on the exchange rate of a country involved. (Dicks 2004, 73-74.)

3 Forecasting exchange rate movements

There are two ways the exchange-rate movements can be predicted. Fundamental analysis is based on the forces of supply, demand and commonly the economic situation in a country. When a trader trades fundamentally he will be looking at economic indicators and news releases to make trading decisions. Sometimes however, fundamental analysis cannot explain the movements of the exchange rates. This is the case especially in shorter time periods. These chart movements can be explained by technical analysis. (Dicks 2004, 30.)

3.1 Fundamental analysis

Making trading decisions based on fundamental analysis means buying or selling currency as exchange rate is expected to go up or down, because of a news release or other economical incident. The news releases that affect exchange rates are news containing information about economic indicators such as interest rates, gross domestic product (GDP) or employment cost index (ECI). When these economically important numbers are released currencies will react immediately. If the numbers vary a lot from what was expected, huge moves can occur. (Dicks 2004, 29-32, 73-75.)

Economic calendar is an important tool for a fundamental trader. These calendars are created by economists and they try to predict the upcoming economic figures and values based on previous months. Economic calendars usually contain at least the following data: Date — Time — Currency — Data Released — Actual — Forecast — Previous. (Boyd 2006,1)

Beside news releases on economic calendars, fundamental traders usually follow carefully for example speeches of leaders of the European Central Bank, chairman of the Federal Reserve Bank of USA and Secretary of the Treasury. Also speeches of presidents might have an effect on exchange rates. (Boyd 2006,1)

May 22								Filter	
Date	9:57am	Currency	Impact	Detail	Actual	Forecast	Previous	Chart	
Fri May 22	Tentative	JPY		Monetary Policy Statement					
	Tentative	JPY		Overnight Call Rate			0.10%	0.10%	
	Tentative	JPY		BOJ Press Conference					
	10:00am	EUR		Italian Retail Sales m/m			-0.1%	-0.7%	
	10:30am	GBP		Revised GDP q/q			-1.9%	-1.9%	
	10:30am	GBP		Index of Services 3m/3m			-1.2%	-1.2%	
	2:30pm	CAD		Core Retail Sales m/m			-0.2%	0.6%	
	2:30pm	CAD		Retail Sales m/m			0.5%	0.2%	
	8:00pm	USD		Fed Chairman Bernanke Speaks					

Figure 11. An economic calendar for 22nd of May 2009 (<http://www.forexfactory.com/>)

Economic calendar is an important tool for fundamental traders. The first column of an economic calendar shows the date, second the time, third shows the currency, which will be affected and the fourth one shows how big is the impact expected to be (red being high and yellow low). The fifth column shows the event. The sixth column shows details after clicking the links. “Forecast” shows how the numbers are expected to be and “previous” shows what they were last time. The column “actual” will be updated after the data is out.

The fundamental traders, who use economic calendars as a tool for trading, follow the calendar very carefully. They might also watch the events on TV or online if possible. It is important to know which indicators will affect the exchange rates and how. Traders might trade before different news are released but they also watch corrections in the market price movements, when differences between forecasts and actual information occur.

3.2 Technical analysis

Technical Analysis is one of the older tools used for trading in any financial market. It has been used for at about 30 years and there are as many versions of technical analysis as there are traders. People take advantage of technical analysis in many different ways. ”The common description of technical analysis is that you take past performance of a position, equity, currency, future, or whatever and tie it together with mathematical calculations to try to predict the future outcome of the position”. (Dicks 2004, 32.)

3.2.1 What is it and why it works?

The study of past price movement for forecasting future price movement is called technical analysis. Like any trading method it can lead to profit if done correctly. The study of technical analysis is based on three facts:

- The price chart gives all the information needed of the balance of buyers and sellers
- Prices move in trends and patterns, which can lead to statistically meaningful probabilities in future movements
- History repeats itself, hence skilled examination of exchange rate chart will guide a trader to give entry and exit signals

Technical analysis relies on the fact that price charts will always give the most correct picture of a tradable object. "Chart is as good as it gets". Everything that can be publicly known is already built into the graph. (Knight 2007, 1.)

Dicks (2004, 32-33) explains how technical analysts (technicians) think that fundamental analysis leads to explanation of a current price, not to an accurate forecast of future price. The benefit of technical analysis is that it can be applied to any financial market.

When buyers are more powerful than sellers (there are more buyers than sellers), the price of a currency will go up. If sellers are more powerful than buyers the price moves down (there are more sellers than buyers). Speculation between these two groups leads to the movements that take place in the market on a daily basis. This is the basic idea that technical analysts try to predict from exchange-rate charts. If an individual trader would always know whether there are more buyers than sellers he would be multimillionaire. (Knight 2007, 2.)

3.2.2 Technical analysis vs. fundamental analysis

According to Dicks (2004, 33-34) fundamental analysis studies the cause of market movement where as technical analysis tries to figure out the effect. Most traders are aware of both methods but they will specialize on either of them. "Technicians and fundamentalists are often in conflict with each other, because one tries to predict the future with present events and the other uses history to predict the future". Technical analyst looks at the charts, while fundamentalist follows news releases and financial statements. Technical analysis will not predict the future but it can offer valuable information on which direction the price will most likely go next.

One important difference between these two methods of trading is that even if fundamental analysis can be used more in longer timeframe trading it does not necessarily explain the price movements in shorter timeframes.

May 25										Filter
Date	10:12am	Currency	Impact		Detail	Actual	Forecast	Previous	Chart	
Mon May 25	1:50am	JPY	📈	All Industries Activity m/m	📄	-2.4%	-2.3%	-2.3% ⁴	📊	
	4:00am	JPY	📈	BOJ Gov Shirakawa Speaks	📄					
	7:00am	JPY	📈	BOJ Gov Shirakawa Speaks	📄					
	7:00am	JPY	📈	BOJ Monthly Report	📄					
	All Day	GBP	📄	Bank Holiday	📄					
	10:00am	EUR	📈	German Ifo Business Climate	📄	84.2	85.1	83.7	📊	
	Tentative	EUR	📈	Buba President Weber Speaks	📄					
	All Day	USD	📄	Bank Holiday	📄					

Figure 12. An economic calendar for 25th May 2009 (<http://www.forexfactory.com/>)

The economic calendar of 25th May 2009 shows no incidents that could be affecting EURUSD exchange rate before 10 am GMT+2.



Figure 13. EUR/USD exchange rate chart on the 25th May 2009 (Fibogroup, demo account)

Even though there were no economic incidents during that period of time affecting EUR or US zone, a move from 1.3974 to 1.4026 (52 pips) occurred. Hence this movement cannot be explained by fundamental factors.

3.2.3 Trends

The price moves in trends. This is the most important fact of technical analysis. Trends are followed because they are most likely going to continue than reverse. Markets are expanding and retracing constantly. The nature of the market is to move into a certain direction and then pause or retrace. Pries will move either upwards or downwards for some time, but at some

point they make corrective moves (retracements) and after that oscillate between the top and bottom of the price. As the price moves in trends it always contains retracement moves and ascending/descending tops and bottoms. During an up-trend, the price pattern produces higher highs (tops) and higher lows (bottoms). In a down-trend lower lows and lower highs can be spotted. (Dicks 2004, 82-91).



Figure 14. EUR/USD exchange-rate chart (Fibogroup, demo account)

From 30th March 2006 until 22nd November 2007 a clear up-trend is shown. The red points illustrate higher highs and higher lows.



Figure 15. EUR/USD exchange-rate chart (Fibogroup, demo account)

From the 1st October 1998 until 20th September 2000 an obvious down-trend on EUR/USD exchange-rate. The red points illustrate lower highs and lower lows. Noticeable in this figure is that this down-trend also included two short up-trends where higher highs are marked as blue points.

Trends are not always as easy to recognize as in the figures shown above. Dicks (2004, 91) explains, how sometimes there might not even be a clear up- or down-trend. These horizontal movements are called channel trends (the price is moving sideways). In horizontal channels supply and demand seems evenly balanced within the patterns. Buyers and sellers are equally matched each time the currency pair reaches the previous high or previous low. These equal highs and equal lows form support & resistance lines that the price will not cross. However, eventually a breakout from these channels will occur. Knight (2007,5) describes three things that happen when a breakout upwards from a channel occurs: 1) Buyers overcome sellers, 2) volume increases as more people are buying and 3) as people take some profit, price might come downwards for a bit, but they won't go below the former resistance line, which then becomes support line.



Figure 16. EUR/USD exchange-rate chart (Fibogroup, demo account)

For some time (from 4th of May until 7th of November 2007) there was a clear channel forming on EUR/USD exchange-rate on a daily timeframe. Even if the highs and lows are not 100% equal one could draw support & resistance lines to the exchange-rate chart. Once the resistance (the red dots above the price) was eventually broken the price went upwards for a long time. Figure 16 also shows, how the price retraced a bit after the break out, but the imaginable old resistance was never crossed.

3.2.4 Support & resistance

Technical analysis does not have to be confusing and complex. There are hundreds of mathematical indicators, studies, patterns and rules that can be very difficult to understand. A trader does not necessarily have to worry about different indicators. He can already trade

using technical analysis by knowing the ideas of support and resistance. “There is absolutely no reason good charting has to be complicated”. (Knight 2007, 5.)

Support and resistance are the peaks and lows explained in the previous chapter. The lower points are called support (as the price will not go lower) and the highs are resistance (as the price refuses to go any higher). Support and resistance are one of the oldest principals used in technical analysis. (Dicks 2004, 95.) When using support and resistance as a tool in trading, profit are usually made during breakouts (when price pushes through support or resistance line) explains Knight (2007, 5) and continues that the longer the price has been trying to push through the line the stronger the breakout will be. Resistance levels are formed as buyers are unwilling to pay higher prices selling pressure exceeds buying pressure. Support levels occur because sellers are unwilling to accept lower prices and buying pressure exceeds selling pressure.

Breakouts from support and resistance lines occur when buyers overcome sellers (breakout from resistance), volume is increasing (as many traders noticed the breakout) and the price eases back (when traders take profit). However, even if the price comes downwards again, very often the previous resistance line becomes a support line. (Knight 2007, 5).



Figure 17. A resistance line on EUR/USD exchange-rate chart (Fibogroup, demo account)

Resistance line will not allow the price to go higher but eventually it is broken and after that one of the basic principles of support and resistance occurs; resistance becomes support.



Figure 18. A support line on EUR/USD exchange-rate chart (Fibogroup, demo account)

In this case, the breakout from support line did not last very long, but a trader would still have made profit with this breakout.

Many technical analysts rely only on support and resistance lines. A system that relies on these two main ideas of technical analysis is called back-to-the basics method. It does not matter whether one is a long-term or intra-day trader, support and resistance will always work. Support and resistance will be formed whether the market is going upwards, downwards or sideways. There are two different ways for a trader to base trading decisions on support and resistance levels. The first way is to trade bounces off the support or resistance line, and the second way is to trade the breakouts. Method of drawing support and resistance lines can be fully used as a model of technical analysis to show optimal entries, exits and risk management. (Chen 2007).

3.2.5 Market patterns

In addition to trends and support & resistance also other chart patterns can provide important information for technical analysts. Market patterns are based on support & resistance lines on a price chart. These patterns can create trading signals or give signs of future price movements. Patterns are used to identify whether a trend is going to continue or reverse. (Jansen, Langager, Murphy, 9).

It is an important fact about market patterns to understand that they are created by human behaviour. Price action on an exchange-rate chart form patterns as traders buy and sell currencies. One of the basic ideas of technical analysis is that history repeats itself. The market patterns have worked in past, and they will be predicible today as well. This is explained with

the amounts of technical analysts on the market. When a certain pattern is forming, there are numerous people following the creation of the pattern. When the price for example breaks out from a resistance line there are more people buying, which means that the price will go up. (Knight 2007, 6-11.)

Below some market patterns that technical analysts follow:

Head and shoulders is one of the most used market pattern in technical analysis. It is a reversal pattern. When it is formed, it signals the previous trend to reverse.

(Jansen, Langager, Murphy, 9).

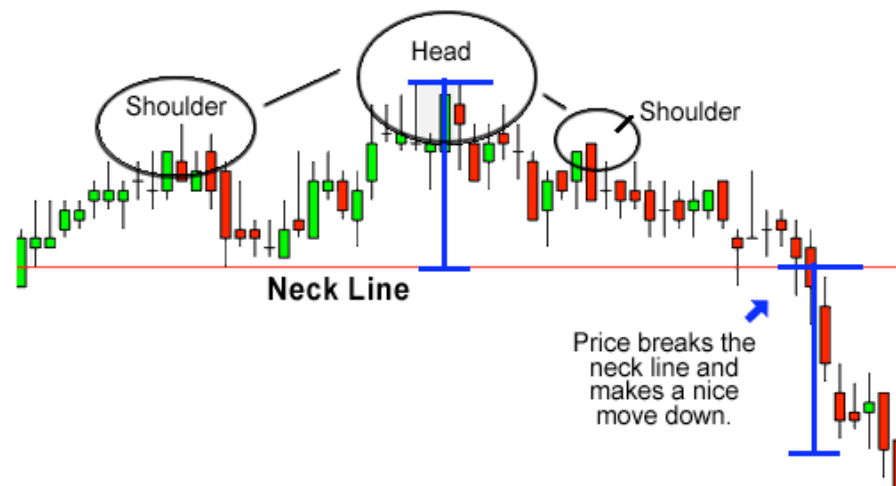


Figure 19. Head & Shoulders (babypips.com)

Figure 19 illustrates a clear head and shoulders market pattern. There are two shoulders, head and a neckline. After making a high (left shoulder), the price goes down to form a neckline. After that it bounces up to form the head, then again downwards to form the right shoulder. After forming the right shoulder it goes to the neckline and trend reverses.

Double tops and double bottoms are also reliable and well-known trend reversal patterns. They are formed after a long trend to signal a trader that the trend is about to reverse. Even more secure patterns are triple tops and triple bottoms, which work with the same principle than double tops and bottoms. Double tops can also be used as support or resistance lines, and breakouts of those tops can be traded. (Jansen, Langager, Murphy, 9).

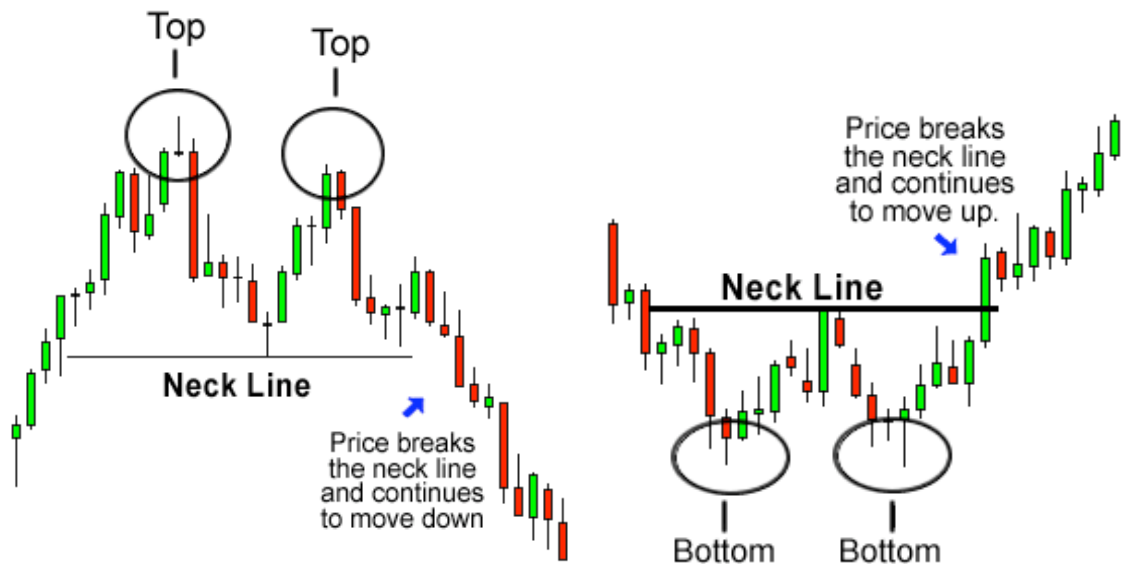


Figure 20 & 21. Double top & Double bottom (babypips.com)

Good examples of a double top and a double bottom are shown in the figure. In figure 20 (double top) the price went up nearly to same high twice. After two unsuccessful attempts to go up the price starts going downwards and the trend reverses. In figure 21 (double bottom) tried to go lower twice, but found support from exactly the same point. After the second bounce up the trend reverses.

Symmetrical triangle is a formation where highs and lows form a triangle. During this formation the market is making lower highs but higher lows. Neither the buyers nor sellers are in control of the market to make a clear trend. (babypips.com).



Figure 22. Symmetrical triangle (babypips.com)

In a symmetrical triangle the exchange-rate squeezes in triangular form pattern, where prices test the support and resistance lines before breaking out of the formation.

Ascending triangle includes an even resistance level and higher lows. Buyers cannot take control of the price even though the price is pushed upwards. After most ascending triangles the price will eventually breakout upwards. (babypips.com).



Figure 23. Ascending triangle (babypips.com)

In an ascending triangle exchange-rate produces higher lows but equal highs until the buyers take control and the price will start going upwards.

Descending triangle is the opposite of ascending triangle. Lower highs form the upper line and the lower line is even. During these formations sellers are gaining ground over the buyers. (babypips.com).



Figure 24. Descending triangle (babypips.com)

A downward sloping triangular pattern is formed. In a breakout, sellers take control over the price, which starts going downwards.

It is important to know about ascending and descending triangles that the prices won't necessarily go into directions shown above in figures. However, the price will eventually breakout to either direction.

Flags are formed when there is a sharp price movement followed by sideways movement. They are called flags because of direct movement upwards or downwards followed by a channel. Flags are good patterns as they usually include a profit target. Usually the flagpole is as long as the breakout will be. (Jansen, Langager, Murphy, 9).

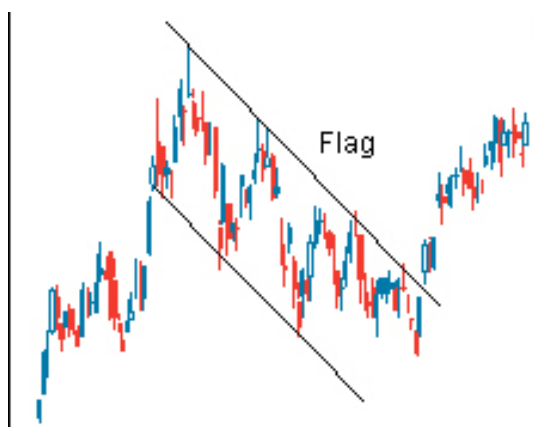


Figure 25. A flag pattern (investopedia.com)

Price went up sharply at first then a downward sloping channel was formed until the price finally broke out from the channel. Flagpole (on the left side of the channel) is usually a good profit target, as the breakouts are often as long as the flagpole.

3.2.6 Tools & indicators

Instead of looking at trends, market patterns or support and resistance lines, technical analysts can use technical indicators for analysing future price movements. There are more than 200 different technical indicators and they are usually based on mathematical calculations of previous price data. These indicators can be used one at a time or a chart may include several indicators simultaneously. (Knight 2007, 83-84.) A minus side on technical indicators is that they only calculate mathematical formulas and they do not take other market variants such as market patterns and support or resistance lines into account. That is why one should never base trading decisions only on mathematical indicators.

Knight (2007, 84-87) explains how moving averages are one of the easiest technical indicators to understand. There are different sorts of moving averages (simple, exponential, weighted, etc), which are used for example for filtering out the “noise” in price movements, identifying trends and creating signals. Simple moving average is a sum of prices divided by the number of days. For example 89-timeframe moving average consists of the prices of the last 89 days added together and divided by 89. Dicks (2004, 101,110) explains that the weight assigned to the most recent data is the difference between the different types of moving averages. Exponential and weighted average applies more weight to recent prices. Usually 2-3 moving averages are used simultaneously to compare them and look for crossovers. Depending on the timeframe used in a chart moving averages give the information based on the last 89 bars or candlesticks on a chart. For example 89 simple moving average is last 89 days in daily chart, but in 15 minute chart, it represent the last 89 15 minute time periods.

Moving averages can also be used to create buy or sell signals. Usually, when a moving average is crossed to one way or another, it is a signal for buy/sell. The shorter the time used in a moving average, the more sensitive it is (more false signals). The longer the time used in a moving average, the more slowly it will turn direction. (Knight 2007, 84-87.) Also the longer the time used in a moving average, the less signals will be given. However, it is never recommended to base trading decisions only on moving averages.



Figure 26. Moving averages in action (Fibogroup, demo account)

In figure 26 there are three moving averages on a 15min timeframe EURUSD chart: 1=200 simple moving average, 2=55 exponential moving average and 3=34 moving average. The rounded point shows a price crossover of the 200 simple moving averages. This is the point, where the trend reversed, and trader could have made profit by entering a buy position at that point. Also the crossovers of the exponential moving averages and simple moving average almost at the same time could have given confirmation to the trade.

Knight (2007, 91-92) describes that Bollinger bands are used to identify, whether the prices are high or low so that a trader can make entry/exit decisions by comparing price actions. Dicks (104-107) goes deeper by explaining, how Bollinger bands are made of 2-3 lines and the meaning is to show volatility and price levels over a period of time. Bollinger bands provide information about the price situation relative to past actions on market. If the prices are close to the upper line, it means they are quite high. If the prices are close to lower line, it means they are quite low. This helps a trader to understand, which direction the price is more likely to go next.

Stochastic indicator identifies tops, bottoms and swings of a price. It measures the position of the exchange rate compared to its most recent price range and the relationship between the closing price and its highs and lows during a certain number of days. The meaning of this indicator is to get information, when the market is “overbought” or “oversold”.

(Dicks 2004, 109-110.)

MACD is an indicator based on moving averages. It is the difference between 26- and 12-day exponential moving averages added with 9-day exponential moving average to signal buy/sell opportunities. The basic rule is to sell when the MACD (26 and 12 EMA) falls below the signal line (9 EMA line). (Knight 2007, 100.) Dicks (2004, 116-119) explains MACD can be used to show entry signals but also overbought/oversold situations and trend changes.

Knight (2007,195) describes how the Relative Strength Index (RSI) indicates market’s current strength or weakness by comparing “the magnitude of recent gains to recent losses”. Dicks (2004, 119-121) continues that RSI is one line moving on scale from 0 to 100 and it is simple to understand: If it drops below 70, there is a sell signal and if it goes above 30, there is a buy signal.

Volume indicator is used to show the strength of upwards/downwards movement. Many traders use it for confirmation of entry and exit signals. (Dicks 2004, 119-121.)

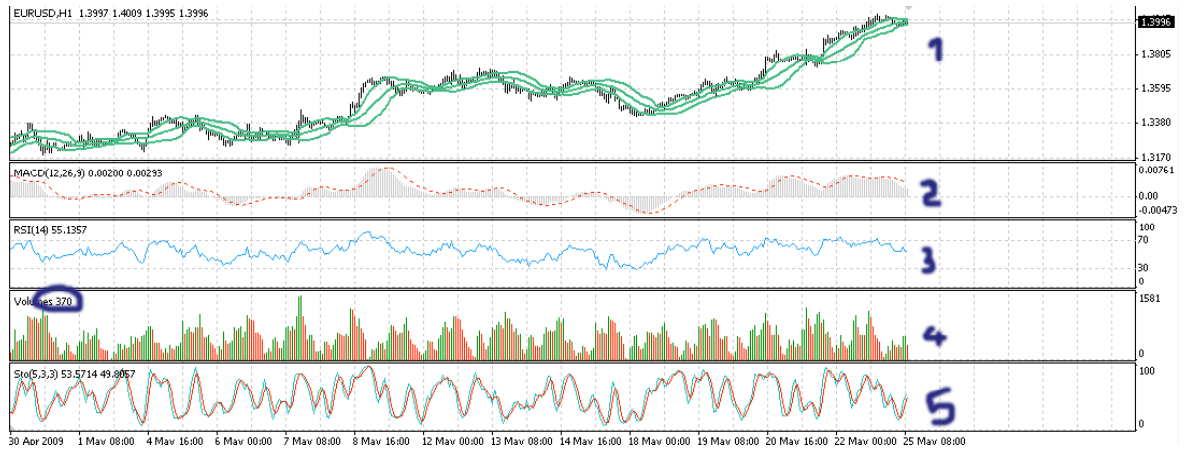


Figure 27. Indicators in action (Fibogroup, demo account)

All the technical indicators explained above are shown in this figure. 1. Bollinger bands, 2. MACD, 3. RSI, 4. Volumes, 5. Stochastic. Event though technical indicators provide important information on entry signals, trends and market volumes, they might be confusing, if one tries to use all of them simultaneously. Also technical indicators might take a lot of room from the price chart itself. The price action is the most important factor of technical analysis and it cannot be fully seen if it is full of technical indicators. Technical indicators should never be used alone as a trading system, as they do not take market variants such as support & resistance into account.

4 Money management

Most beginners in the forex market think that a good entry point is the most important factor in currency trading. This is not true. Money management is far more important single factor for gaining continuous profit in forex. Money management determines for example overall capital, how much one is willing to risk for a single trade and how to protect profit.

(Jagerson & Hansen 2007, 239-241; Dicks 2004, 140-141.)

4.1 Live to trade another day

The number one rule considering money management is trading with capital one can afford to lose. One should never ever trade with money borrowed from a bank or with money one should pay for the food. In forex there is always a risk of losing the entire capital.

(Dicks 2004, 147.)

Even though there are brokers, who offer possibilities to open accounts with only one dollar, it is recommendable to invest at least \$2000 dollars in the beginning. One needs to have enough money to handle the movement of the market. A *regular account* allows trading with lot sizes equal to \$100 000. Hence it will take \$1000 dollars to trade one lot with one percent margin. If one uses two percent margin, one lot will be worth of \$2000. In regular accounts, each pip is worth \$8-\$10 dollars. (Dicks 2004, 140.)

A *mini account* was developed to make participating in forex easier for everyone. One does not need huge amounts of money to start a mini account. The account itself is a bit different than a regular account. The leverage calculation is different, one lot is \$10000 dollars and instead of \$1000 dollar margin, one needs only \$50 dollars to move one lot. Pips are worth \$1 dollar on average. (Dicks 2004, 140.)

Before entering a trade one should know what the risk actually is. It is important to understand the risk margin correctly. A trader has a \$10000 dollars regular account and he buys one full-size EUR/USD contract. The margin will be \$1000 dollars. However, it means that the \$1000 is tied to the contract, but the risk is actually the rest of the capital, \$9000. The trade might go to the opposite direction, and in a regular account a 900 pips (when pip value is about \$10) loss would mean margin call (automatically taken out from the trade, because one

has no more money). “If you do not risk too much of your account in any trade today, you know you will have enough in your account tomorrow”. (Jageron & Hansen 2007, 243-235.)

Most professional traders will not risk more than 2-3 % of their total account balance in one trade. It is up to every trader to decide, but even if being aggressive trader one should consider risking maximum 2-5 % in one trade. Being conservative means risking 1-2% of the total capital. Once a trader has determined the risk percentage, he plugs that into numbers (*Account balance X Risk percentage=Amount at risk*). (Jageron & Hansen 2007, 246-237.)

After determining the amount at risk, a trader needs to determine the trade size. Trade size means the number of contracts (or lots) bought in any one trade. To determine the trade size, one must first decide where to put the stop loss (how big is the risk). The amount of pips between the entry point and stop loss determines the amount of pips a trader can lose. The value per pip will determine the capital a trader can lose. The equation for calculating the trade size is *Amount at risk / (pips at risk X value per pip) = number of contracts*. (Jageron & Hansen 2007, 247.)

The pip values vary depending on the account. In standard account (100000 units) the value is \$10, and in mini account (10000 units) the value is \$1. Pip values also vary depending on the currency pair traded.

Here is how pip values are calculated for currency pairs, where it is not fixed:

GBPUSD price 1.5940

0,0001 x 100000 (standard lot) x 1,5940

Pip value = \$15,94

GBPUSD price 1.5940

0,0001 x 10000 (mini lot) x 1.5940

Pip value = \$1,594

4.2 Stop losses

Stops are placed in the market in a certain distance (pips) from your entry point. Dicks (2004, 144-145) explains how stop losses are used for minimizing the risk of running out of capital.

Sometimes the market might turn the opposite way than expected. Stop losses are important for risk management. Once a trader has determined, how much he is willing to risk for one trade he should keep to the stop losses set. Stop losses should always be used and never removed if a trade goes into wrong direction. With stop losses one ensures that no more money than the stop loss allows will be lost in case a trade goes against a trader.

The amount of pips used in a stop loss depends on the money management strategy a trader has chosen, but also on the timeframe used. When trading longer timeframes the stop losses have to be bigger compared to shorter timeframes. This is due to market movements that are bigger in long timeframes than in short timeframes. Naturally the pips gains will also be bigger in longer timeframes. (Dicks 2004, 141-142.)

4.3 Risk-to-reward ratio

The risk-to-reward ratio compares potential reward against potential loss. Risks are calculated in pips as described in previous chapters and reward is calculated on the price, where a trader would exit a winning trade. “To manage risk effectively, it is necessary to find high-probability trades that have a 1:1.5 or greater risk-to-reward ratio”. (Dicks 2004, 142.)

After maximizing the profit, minimizing losses is the most important thing in forex. With the help of money management, a trading system that wins 50% (or even less) of the trades made can be extremely profitable. If the trader is smart and cuts his losses short, protect wins and lets profit run, he only needs to be right every second trade. Stop losses are the key in risk-to-reward ratio. (Dicks 2004, 142.)

Table 1. Examples of risk-to-reward ratios and Win-Ratios

Risk-to-reward ratio (in pips)	Win Ratio required to Break Even
40/20 (2:1)	67 %
40/40 (1:1)	50 %
40/60 (1:1.5)	40 %
40/80 (1:2)	33.5 %
60/20 (3:1)	75 %
100/100 (1:1)	50 %

The table proves that for example with risk-to-reward ratio of 1:2, a trader only needs to get 33,5 % of the trades correct to break even.

4.4 Obeying trading plan

Beginners become soon disappointed in case they do not achieve immediate success. Patience and persistence are important qualities for a successful trader. These qualities in addition to discipline are needed to follow the trading rules that a trader has set before starting his trading career. It is much easier to watch past price movements and decide where it would have been possible to enter and exit than recognizing opportunities “now”. This is also the reason, why a trader should stick to his trading plan. All entry rules must be fulfilled before a trade can be taken. Emotions should be left out and well-proved rules should be strictly followed always. (Dicks 2004, 140-146.)

Dicks (2004, 140-146) stresses out that no trading system is always correct. A trader will always face losses every now and then. Learning *how to lose* and *how to forget the losses* is an important part for successful forex trading. If in doubt of the future market direction, stay out of the market. The old saying among traders is “A lost opportunity is better than lost capital”. The market will wait there the next day.

In forex a trader can protect his profit. Say, one has set his goal of a trade to be 30 pips. He follows the trade that goes to +29 pips. He can now move his stop loss from -30 pips to break-even and at least avoid the loss. If the trade goes to +40 pips, he can move the stop loss to +30 pips, which was the initial goal. Or the other option is to close part of the trade at +30 pips and leave some to run for bigger profit.

4.5 Magic of compounding

Imagine that someone would tell you that he would give you two options to gain money. The first option would be getting 1 million euro right away and the second would be getting 1 cent now, and doubling it every day during a 30 day period. Which one would you choose?

Table 2. How magic of compounding works

Day	Deposit	Capital
Day 1	1	2 cents
Day 2	2	4 cents
Day 3	4	8 cents
Day 4	8	16 cents
Day 5	16	32 cents
Day 6	32	64 cents
Day 7	64	128 cents
Day 8	128	256 cents
Day 9	256	512 cents
Day 10	512	1024 cents
Day 11	1024	2048 cents
Day 12	2048	4096 cents
Day 13	4096	8192 cents
Day 14	8192	16384 cents
Day 15	16384	32768 cents
Day 16	32768	65536 cents
Day 17	65536	131072 cents
Day 18	131072	262144 cents
Day 19	262144	524288 cents
Day 20	524288	1048576 cents
Day 21	1048576	2097152 cents
Day 22	2097152	4194304 cents
Day 23	4194304	8388608 cents
Day 24	8388608	16777216 cents
Day 25	16777216	33554432 cents
Day 26	33554432	67108864 cents
Day 27	67108864	134217728 cents
Day 28	134217728	268435456 cents
Day 29	268435456	536870912 cents
Day 30	536870912	1073741824 cents

After 30 days in euros **10 737 418€**

What happens if one gets 1 cent on a day one, and that 1 cent is doubled daily during a 30-day period? In the end of the period the money will grow to nearly 11 million euro.

Forex does not allow people to get rich quick, but magic of compounding applies also there. Let's imagine that a trader starts with an initial deposit of 2500 €. He would risk 3% of his capital on every trade placed and trade 16 days per month. His monthly gain would be 15 %. After every month the trader would withdraw 50 % from his winnings to his own account for variable expenses. He would obey this money management during 3 years (36 months).

Table 3. Magic of compounding in forex

Month	Bank	15 %	per month	per day	50 % drawing
1	2 500€	2 875€	375€	23€	188€
2	2 688€	3 091€	403€	25€	202€
3	2 889€	3 322€	433€	27€	217€
4	3 106€	3 572€	466€	29€	233€
5	3 339€	3 839€	501€	31€	250€
6	3 589€	4 127€	538€	34€	269€
7	3 858€	4 437€	579€	36€	289€
8	4 148€	4 770€	622€	39€	311€
9	4 459€	5 127€	669€	42€	334€
10	4 793€	5 512€	719€	45€	359€
11	5 153€	5 925€	773€	48€	386€
12	5 539€	6 370€	831€	52€	415€
13	5 954€	6 848€	893€	56€	447€
14	6 401€	7 361€	960€	60€	480€
15	6 881€	7 913€	1 032€	65€	516€
16	7 397€	8 507€	1 110€	69€	555€
17	7 952€	9 145€	1 193€	75€	596€
18	8 548€	9 831€	1 282€	80€	641€
19	9 190€	10 568€	1 378€	86€	689€
20	9 879€	11 361€	1 482€	93€	741€
21	10 620€	12 213€	1 593€	100€	796€
22	11 416€	13 129€	1 712€	107€	856€
23	12 272€	14 113€	1 841€	115€	920€
24	13 193€	15 172€	1 979€	124€	989€
25	14 182€	16 310€	2 127€	133€	1 064€
26	15 246€	17 533€	2 287€	143€	1 143€
27	16 389€	18 848€	2 458€	154€	1 229€
28	17 618€	20 261€	2 643€	165€	1 321€
29	18 940€	21 781€	2 841€	178€	1 420€
30	20 360€	23 414€	3 054€	191€	1 527€
31	21 887€	25 170€	3 283€	205€	1 642€
32	23 529€	27 058€	3 529€	221€	1 765€
33	25 294€	29 088€	3 794€	237€	1 897€
34	27 191€	31 269€	4 079€	255€	2 039€
35	29 230€	33 614€	4 384€	274€	2 192€
36	31 422€	36 136€	4 713€	295€	2 357€

How much would 2500€ grow in forex being patient and persistent and using the money management rules mentioned above. After 3 years the trader would have more than 31 000 € in his bank account and he would be able to withdraw almost 2500 € on a monthly basis. If he would have started with 5000 €, he would be able to withdraw about 7000 € on a monthly basis. The starting daily gain was only 23€.

Obviously forex trading will not ever be as easy as it is known shown in table above, but monthly 15 % gain is highly achievable with risking only 3% of the capital on every trade. At

some point the trader would also reconsider lowering the 3% he is risking every day, because one does not want to risk several thousand euros on one trade. The meaning of these tables was to show that in forex there is a possibility to gain nice profit.

5 KISS FX breakout strategy

This chapter starts the empirical part of this thesis. The chapter is a guidebook, which provides a complete trading strategy for forex intra-day traders. The concepts shown in theoretical part of this thesis was used together with author's own ideas of currency trading to create the strategy. The e-book published online contained only chapter 5. That is the reason why there is some repetition between the theoretical and empirical part of this thesis.

The target audience of KISS (Keep it simple stupid) FX breakout strategy are intra-day traders who find mathematical indicators complex and difficult to use. KISS FX breakout strategy is simple and indicator-free trading strategy and it is created for traders, who want to keep currency trading simple. Continuous profits are possible without any mathematical indicators using KISS FX breakout strategy.

KISS FX breakout strategy is based on technical analysis. Everything that can be publicly known is already in the price chart. Also fundamental factors do not always explain exchange-rate movements in shorter timeframes. KISS FX breakout strategy is created for 15 min price chart, hence technical analysis is a natural choice for predicting exchange-rate movements. However, anyone using technical analysis should be aware of fundamental factors as well, and that is important to know, when news affecting exchange-rates are about to be released.

The key elements of KISS FX breakout strategy are market patterns and breakouts. Trading does not have to be complex so the strategy focuses only on the most obvious market patterns, especially support & resistance and breakouts. Market patterns are the key for profiting in forex and breakout trading is one of the simplest modes of trading. Technical analysis can be relatively simple by using the idea of support & resistance. The model of support & resistance can fully be used as a forex strategy. The money management rules are also crucial for succeeding with KISS FX breakout strategy.

Some traders believe that to make a successful trade they have to see something from the chart that no one else is seeing. They could not be more wrong. The idea of market patterns is that a trader wants to spot the most obvious market patterns that many other traders notice as well, and move upwards or downwards with the market. If many other traders (especially the big players such as banks, hedge funds and so on) notice the same patterns, and predict the price to move into the same direction as you are predicting, you will make a profit.

KISS FX breakout strategy can be used by anyone interested in forex market. However, this guidebook is targeted for intra-day forex traders, who already have the basic knowledge of the market. Forex School offered by babypips.com is recommended for beginners. The author of this guidebook is a graduating BBA student, not a professional trader. It is not recommended to go on a live account without testing the strategy on a demo account at first. The author will not take any responsibility in case the strategy does not work for someone. This guidebook is free and it can be freely forwarded to anyone interested in forex trading. However, it is forbidden to copy this guidebook without the permission of the author.

5.1 Magic of compounding

The problem with beginner traders is that they become soon disappointed if they do not achieve high gains immediately. This is why every forex trader should understand the concept of *magic of compounding*. To be a successful trader, one does not have to make huge profit right away. Being persistent is what makes the success in forex.

Example 1

Imagine that someone would tell you that he would give you two options to gain money. The first option would be getting \$1 million dollars right away and the second would be getting 1 cent now, and doubling it every day during a 30 day period. Which one would you choose?

Table 4. Example 1 and magic of compounding described

Day	Deposit	Capital
Day 1	1	2 cents
Day 2	2	4 cents
Day 3	4	8 cents
Day 4	8	16 cents
Day 5	16	32 cents
Day 6	32	64 cents
Day 7	64	128 cents
Day 8	128	256 cents
Day 9	256	512 cents
Day 10	512	1024 cents
Day 11	1024	2048 cents
Day 12	2048	4096 cents
Day 13	4096	8192 cents
Day 14	8192	16384 cents
Day 15	16384	32768 cents
Day 16	32768	65536 cents
Day 17	65536	131072 cents
Day 18	131072	262144 cents
Day 19	262144	524288 cents
Day 20	524288	1048576 cents
Day 21	1048576	2097152 cents
Day 22	2097152	4194304 cents
Day 23	4194304	8388608 cents
Day 24	8388608	16777216 cents
Day 25	16777216	33554432 cents
Day 26	33554432	67108864 cents
Day 27	67108864	134217728 cents
Day 28	134217728	268435456 cents
Day 29	268435456	536870912 cents
Day 30	536870912	1073741824 cents

After 30 days in use

\$ 10 737 418

Starting with 1 cent and doubling the capital daily during a 30-day period one would end up having nearly \$11 million dollars. Currency trading is not for people, who want to get rich quick. However, tremendous profit can be achieved by being persistent and relying on to magic of compounding.

Magic of compounding can be applied to forex as well. A trader starts with an initial deposit of \$2500 dollars. He would risk 3% of his capital on every trade placed and trade 16 days per month. His monthly gain would be 15 %. After every month the trader would withdraw 50 % from his trading account into his personal account for living expenses. He would obey this money management during 3 years (36 months).

Table 5. Magic of compounding explained in terms of forex

Month	Bank	15 %	per month	per day	50 % drawing
1	2 500\$	2 875\$	375\$	23\$	188\$
2	2 688\$	3 091\$	403\$	25\$	202\$
3	2 889\$	3 322\$	433\$	27\$	217\$
4	3 106\$	3 572\$	466\$	29\$	233\$
5	3 339\$	3 839\$	501\$	31\$	250\$
6	3 589\$	4 127\$	538\$	34\$	269\$
7	3 858\$	4 437\$	579\$	36\$	289\$
8	4 148\$	4 770\$	622\$	39\$	311\$
9	4 459\$	5 127\$	669\$	42\$	334\$
10	4 793\$	5 512\$	719\$	45\$	359\$
11	5 153\$	5 925\$	773\$	48\$	386\$
12	5 539\$	6 370\$	831\$	52\$	415\$
13	5 954\$	6 848\$	893\$	56\$	447\$
14	6 401\$	7 361\$	960\$	60\$	480\$
15	6 881\$	7 913\$	1 032\$	65\$	516\$
16	7 397\$	8 507\$	1 110\$	69\$	555\$
17	7 952\$	9 145\$	1 193\$	75\$	596\$
18	8 548\$	9 831\$	1 282\$	80\$	641\$
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21	10 620\$	12 213\$	1 593\$	100\$	796\$
22	11 416\$	13 129\$	1 712\$	107\$	856\$
23	12 272\$	14 113\$	1 841\$	115\$	920\$
24	13 193\$	15 172\$	1 979\$	124\$	989\$
25	14 182\$	16 310\$	2 127\$	133\$	1 064\$
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30	20 360\$	23 414\$	3 054\$	191\$	1 527\$
31	21 887\$	25 170\$	3 283\$	205\$	1 642\$
32	23 529\$	27 058\$	3 529\$	221\$	1 765\$
33	25 294\$	29 088\$	3 794\$	237\$	1 897\$
34	27 191\$	31 269\$	4 079\$	255\$	2 039\$
35	29 230\$	33 614\$	4 384\$	274\$	2 192\$
36	31 422\$	36 136\$	4 713\$	295\$	2 357\$

The growth of \$2500 dollars obeying money management and achieving goals explained above. After 3 years the trader would have more than \$31 000 dollars in his trading account and he would be able to withdraw almost \$2500 dollars into his personal account on a monthly basis. If he had started with \$5000 dollars, he would be able to withdraw about \$7000 dollars on a monthly basis. And the trader starts with daily gain of \$23 dollars only!

Obviously forex trading will not ever be as easy as it is shown in the table above, but 15 % monthly gain is highly achievable in forex risking only 3% of the capital on every trade. At

some point the trader would also reconsider lowering the 3% he is risking on every day, because he does not want to risk several thousand euro on one trade.

5.2 Chart-setup

This chapter explains the chart-setup for the KISS FX breakout strategy. It is not required that everyone's chart-setup looks exactly the same but the important thing is that the charts are kept as clear and as understandable to oneself as possible.

KISS FX breakout strategy's main timeframe 15min. However, one should be aware of the entire picture (also other timeframes) of the market. This strategy will work in any other time frame as well, but 15 min is recommended because of the possibility to small stop losses. The stop losses need to be bigger always in longer timeframe charts, because the price will need more space to move.

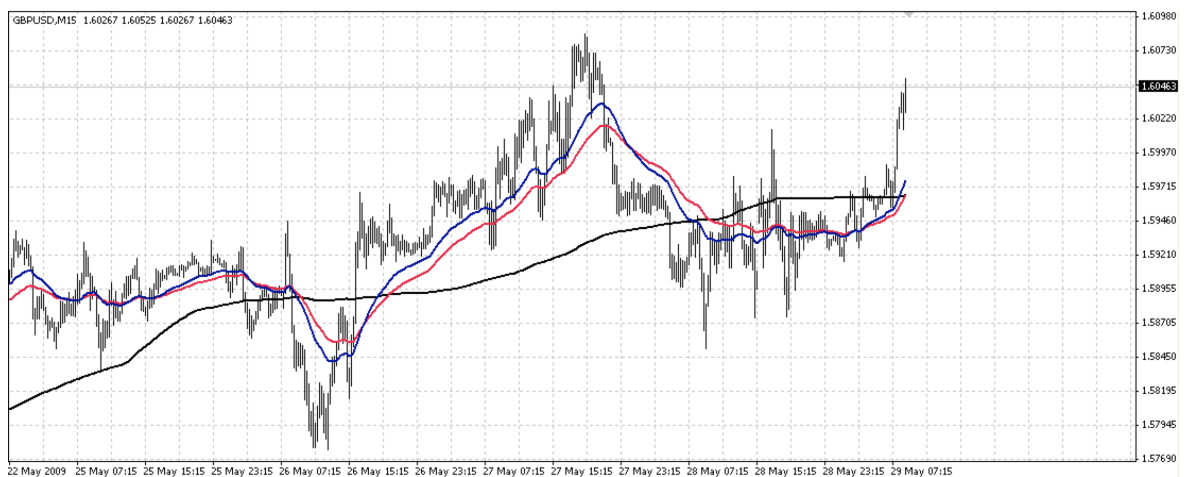


Figure 28. The chart overview of KISS FX breakout strategy (Fibogroup, demo account)

Choose either bar chart or candlesticks as long recognizing the most obvious market patterns is possible. Make the chart easy to read. The chart includes the following technical indicators (moving averages):

- 200 SMA black line
- 34 EMA blue line
- 55 EMA red line

Moving averages are used for the following purposes:

- to identify trends

- as a moving level of support & resistance
- to follow the interaction of lines (but wont base trading decisions on crossovers of the lines)
- to identify exit points and for stop loss placement.

KISS FX breakout strategy does not use any technical indicators besides moving averages, as they simply are not needed to make profit in forex. In case someone is interested adding other technical indicators into their own strategy, the author recommends following indicators: pivot points & Fibonacci retracement levels (to identify other possible support and resistance lines) and MACD & volumes (for confirmation of entry and exit signals).

NOTE! Moving average indicators (nor other technical indicators) should never be used alone as a trading system, because they do not pay any attention to other market variants like other participants for example. Technical indicators do not spot market patterns or support & resistance lines.

5.3 Trend is your friend

Number one mistake in any financial market is trading against the trend. One should always recognize the direction of the trend. Ask yourself a question “is the trend going up, down or sideways?” Price always moves in trends and trends are always more likely to continue than reverse. This means that the odds are on your side, if you trade on the same direction that the trend is. Prices do make corrective retracement moves, but they will continue their main direction most likely than reverse.

Simple moving average is a good tool for trend identifying. Simple moving average 200 (SMA 200, the black line) is chosen for KISS FX breakout strategy to be used as a trend identifier. If the trend is not obvious, the high- and low points of the price action can be marked to price chart. During an up-trend the price action produces higher highs and higher lows, and during a down-trend lower highs and lower lows. When there is no clear trend the market is moving sideways. During sideways movement the market does not produce clear higher lows or lower highs. When using the KISS FX breakout strategy, it is not recommendable to trade during unclear trends.



Figure 29. A nice up-trend in EURUSD currency pair (Fibogroup, demo account)

During an uptrend price action produces higher highs and higher lows (marked with red lines). 200 SMA (black line) is also clearly going up.



Figure 30. A down-trend in EURUSD currency pair (Fibogroup, demo account)

During down-trend price action produces lower highs and lower lows (marked with red lines). 200 SMA (black line) is going down.



Figure 31. An unclear trend with sideways movement. (Fibogroup, demo account)

Without a clear trend trading is not recommendable because it is more difficult. Always wait for a clear trend and never trade against it!

5.4 Market patterns

Market patterns and support & resistance are key elements for KISS FX breakout strategy. Many professional traders agree that support & resistance is a very simple mode of trading, and one can base trading decisions only on market patterns. Instead of technical indicators, the entire trading strategy is based on market patterns. Trader using market patterns will have a possibility to keep the charts simple and look for the same things than the big players (banks, hedge funds etc) are looking for from their price charts. If trader moves on the same direction with big players he will most likely win than lose. Market patterns are formed over and over again in charts hence they create many trading possibilities.

5.4.1 Support & resistance

Support & Resistance are the base for market patterns. Most of the readers are probably already familiar with the concept of support & resistance, but here is the idea:

The market forms high and low points of the price action to price chart. High points are points, where the price refuses to go any higher. Low points are points, where price refuses to go any lower. Depending on the trend (up, down or sideways) points will be formed either upward sloping, downward sloping or vertically. Traders can draw lines between these points on their trading platforms. These points are formed in price charts every day. However, notice

that the contact points do not always have to be 100 % perfect. The sizes and durations of support and resistance lines are always different.

Sometimes traders can draw only a support line, sometimes only a resistance line. Sometimes price action forms a *channel-pattern* where both support and resistance lines are represented. An interesting thing about support and resistance lines is also the fact that previous support usually becomes resistance and vice versa. When price reaches the line (support or resistance) it will either bounce back to the opposite direction or break out through the line. Usually profit in support & resistance trading is done during breakouts.

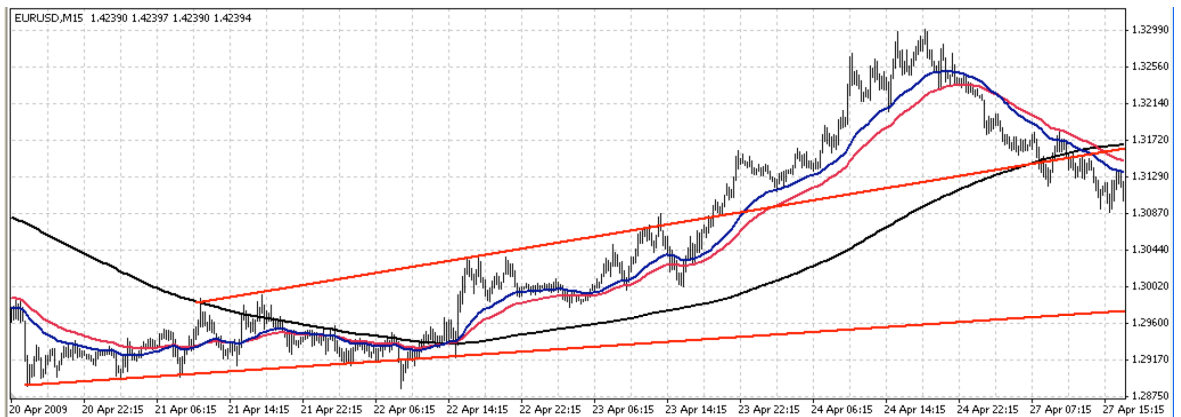


Figure 32. Support and resistance lines (Fibogroup, demo account)

In this example the price hits support at least 6 times and resistance at least 5 times. Finally the resistance line is broken and the price continues going upwards.



Figure 33. Support & resistance lines (Fibogroup, demo account)

This time the lines formed a clear channel pattern, which was eventually broken with a big move upwards.



Figure 34. The concept of previous resistance becoming support (Fibogroup, demo account)

A trader does not always have to draw both support and resistance line. Notice how price bounces back down always after hitting the resistance line before the breakout. When a breakout occurs, previous resistance becomes support.



Figure 35. Moving averages as a moving support line. (Fibogroup, demo account)

Moving averages EMA 34 and EMA 55 can also act as a moving support/resistance line.

5.4.2 Other market patterns

KISS FX breakout strategy is mainly concentrated on support & resistance lines and channels. However, there are also other market patterns that are worth of taking a look.



Figures 36 & 37. Triangle patterns (Fibogroup, demo account)

Triangle patterns are also channel patterns, but they form a triangle on the other end.



Figure 38. A flag pattern (Fibogroup, demo account)

Flag is also a channel pattern. This time the flag pattern is downwards, but there clearly is a flagpole, the flag and finally a breakout from the flag. Flag patterns usually include a profit target, as the breakout is often as long as the flagpole.



Figure 39. A double top (Fibogroup, demo account)

Double tops form a nice vertical resistance line.



Figure 40. A double bottom (Fibogroup, demo account)

Double bottoms are obvious support lines.

5.4.3 Breakouts

The easiest way to trade market patterns is to wait for breakouts. One can also trade the bounces off the support and resistance lines, but KISS FX breakout strategy concentrates only on breakout trading. Breakouts occur often enough to give a trader continuous profit in the market.

The price action, where the price forces itself out from a pattern (support or resistance line), is called a breakout. These breakouts occur in every currency pair and on every timeframe. It is recommended to leave old support and resistance lines in place, as previous support often

becomes resistance, as explained earlier. These lines can help in stop loss determining. However, remember to keep price charts clear and understandable.

For breakout traders it is important to have a strategy for breakout confirmation, as false breakouts occur every now and then. Breakout confirmation is explained later on in this guidebook.



Figure 41. A breakout of a resistance line (Fibogroup, demo account)

This figure is also a perfect example of how previous resistance becomes support as the price hits the previous resistance line at first after breaking through it.

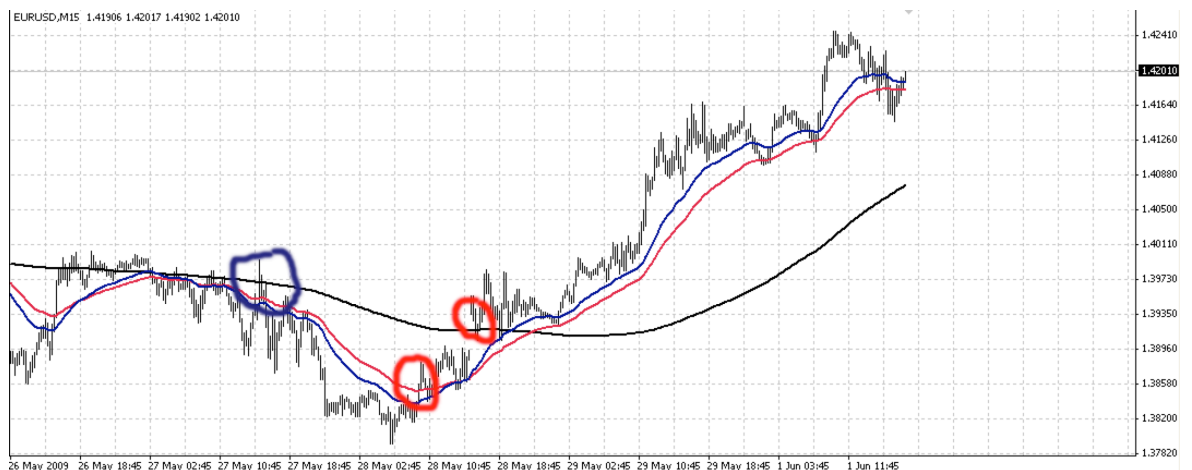


Figure 42. A false breakout and a breakout of moving averages (Fibogroup, demo account)

The blue circle shows a false breakout. Two red circles represent breakouts of moving averages (first the prices go through 34 and 55 EMA's, and in the second circle the price crosses 200SMA).



Figure 43. A double top (resistance line) and a support line (Fibogroup, demo account)

These lines together form a triangular channel. The price breaks through the resistance line on the third time, when price reaches the resistance line (double top).

5.5 Money management & risk determining

Apart from what many beginners think, in forex money management is far more important than a good entry point. Money management is the biggest single factor for successful forex trading. This fact cannot be stressed too much. Money management ensures continuous profit and makes sure that a trader has a possibility to trade on the next day. This chapter provides money management rules for KISS FX breakout strategy.

All the upcoming calculations are based on the following situations:

- Capital \$5000 dollars
- Traded currency pair EURUSD (pip value 10 USD, standard lot size 100 000) (Pip value is different in different currency pairs)
- Used risk percentage per trade 3 %
- Used stop loss +/- 30 pips
- Leverage 1:100
- Timeframe used 15 min

1. Determine the risk

At first, let's determine how much we are willing to risk from our total capital to a single trade. It is recommended to risk 1-3% of capital on a single trade. KISS FX breakout strategy uses the risk percentage of 3%.

Let's calculate the amount at risk we are willing to put on a stake on every trade (*Account balance X Risk percentage = Amount at risk*):

$5000 \times 0,03 = 150$. \$150 dollars is the risk of every trade.

2. Determine the trade size

To determine the trade size, we can afford to take (so that they risk wont get too big) we need to determine where to put the stop loss. KISS FX break out strategy uses stop losses of about 30 pips depending on the market pattern. The pip value must also be known to be able to figure out, how much money we will lose with every pip (if the trade goes against us). A pip value on EURUSD currency pair is \$10 dollars.

<http://www.goforex.net/pip-calculator.htm> is recommended for calculating pip values.

Let's calculate the trade size *Amount at risk / (pips at risk X value per pip) = number of contracts*:

$150 / (30 \times 10) = 0,50$. The lot size we can afford with the capital of \$5000 dollars is 1/2 lot.

This means that we are not buying complete lots (and when trading, the pip value will be only \$5 dollars per pip)

As the lot size is 1/2, every pip we win or lose will be worth of \$5 dollars. If we place the stop loss to 30 pips, we will risk \$150 dollars. Take profit will be put to 30 pips as well. If the trade goes in our favour, we will win \$150 dollars. Hence the risk-to-reward ratio is 1:1. This means that 50 % of the trades we make have to be correct to break even. No one does trading just for sake of for breaking even; the meaning is to make money. Using KISS FX breakout strategy it is possible to achieve at least 70%-80% win rate.

The stop loss placement varies according to the market pattern our trading decision is based on. Sometimes you have to use bigger stop loss, but try to achieve 30 pips or smaller stop losses. By placing stop losses according to the money management rules, ability to trade on the next day is ensured. This is important because the winning rate will not ever be 100%.

Table 6. risk-to-reward ratios and win ratios to break even

Risk-to-reward ratio (in pips)	Win Ratio required to Break Even
40/20 (2:1)	67 %
40/40 (1:1)	50 %
40/60 (1:1.5)	40 %
40/80 (1:2)	33.5 %
60/20 (3:1)	75 %
100/100 (1:1)	50 %

Table 3 shows that to break even with risk-to-reward ratio of 1:1, 50% of the trades has to be profitable.

5.6 How to trade?

This chapter describes entry-, exit- and trade management strategies for KISS FX breakout strategy. Before considering a trade, a technical trader must be aware of the upcoming news releases. The author recommends www.forexfactory.com for following upcoming news releases. A trader should be careful if trading during news time as the price can easily change the direction due to news.

This trading strategy applies to any currency pair. However, it is recommended to trade major currency pairs with low spreads. For the sake of simplicity it is recommended to concentrate only on two or three currency pairs simultaneously. If one tries to follow all the currency pairs available, the process of trading will be a total mess. Do not worry about losing trading chances because of not following all currency pairs available. Two or even one currency pair will provide enough trading changes to make continuous profit in forex. Remember that *a loss of chance is better than a loss of capital*.

5.6.1 Entry strategy

All rules for taking a trade must be fulfilled before entering a position. Hence to enter a position one must have a good reason for it. It is not wise to trade just for the sake of trading. Entering a position without a good reason is called overtrading, which is one of the main reasons why many beginners in forex fail. They get too confident and trade “because the last trade was a winning trade as well”. Obeying the trading plan is one of the most important things in successful forex trading.

Before a trade can be opened pay attention to the points below:

1. What is the trend?

What is the direction of moving averages? Is the market producing higher highs and higher lows or lower highs and lower lows? What is the direction the price is most likely going to go?

2. Is the price above or below the moving averages?

Do not sell if the price is above moving averages; do not buy if the price is below moving averages.

3. Look for the most obvious patterns!

Are there clear support and resistance lines or market patterns (channels, triangles, flags etc) with many contact points? For clarity, check also bigger picture from other timeframes to be sure that there are no support or resistance lines you cannot see from the timeframe used.

4. Wait for a breakout!

5. Wait for a breakout confirmation!

When a price bar closes above/below support or resistance line, wait for confirmation of price closing outside the support- or resistance line and going 3 pips above/below the previous high- or low point.

RULES FOR ENTERING A TRADE

BUY

- Trend is upwards
- Price is above moving averages
- It is also preferable that shorter moving averages (34 & 55 EMAS) are above the 200 SMA
- There is a clear resistance line
- Breakout upwards is about to take place
- **BREAKOUT CONFIRMATION:** Price closes above the resistance line. After a closed bar, the price must go 3 pips above the previous high point.

SELL

- Trend is downwards
- Price is below moving averages
- It is also preferable that shorter moving averages (34 & 55 EMAS) are below the 200 SMA
- There is a clear support line
- Breakout downwards is about to take place
- **BREAKOUT CONFIRMATION:** Price closes below the support line. After a closed bar, the price must go 3 pips below the previous low point.

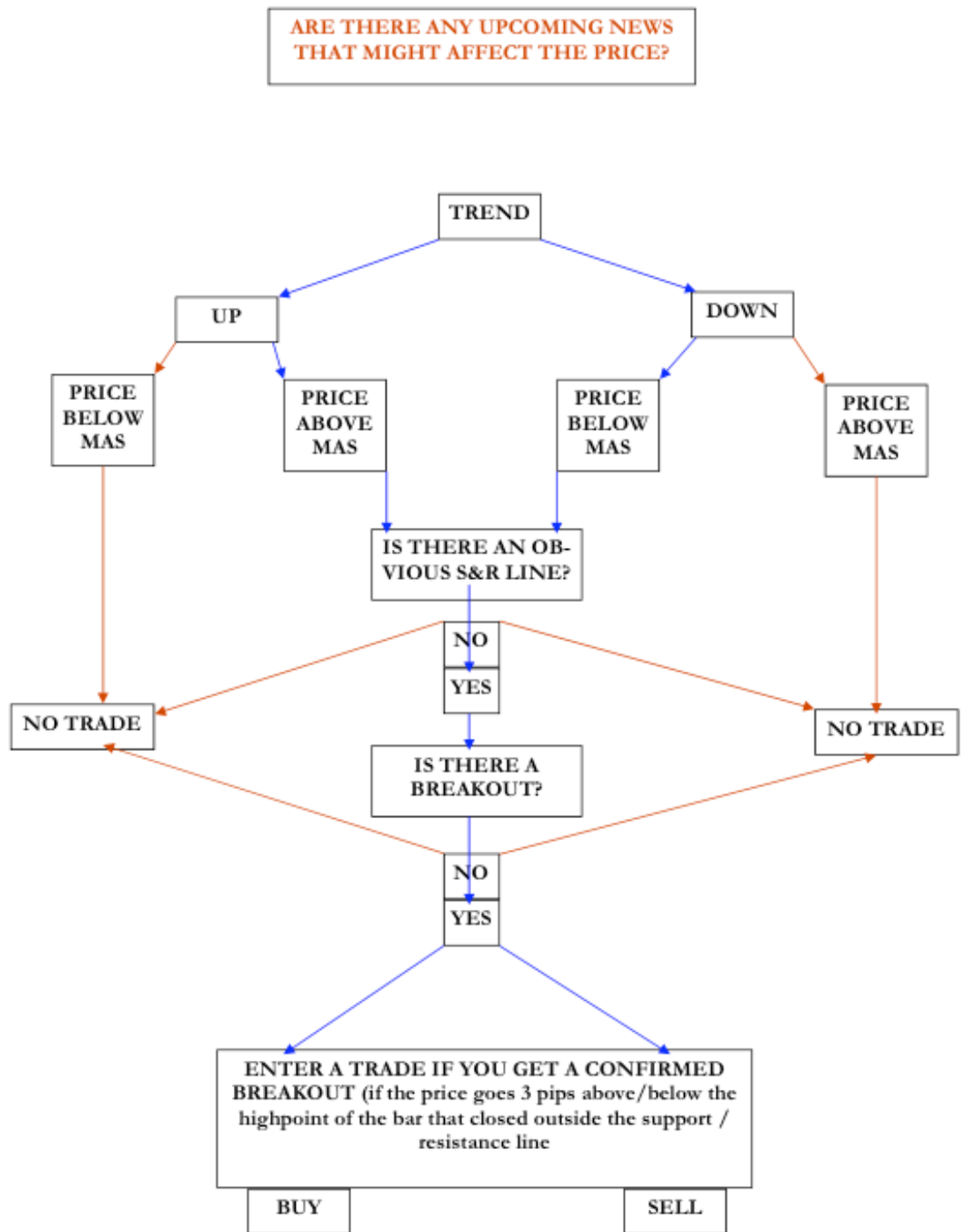


Figure 14. Factors to take into account before a trade can be taken

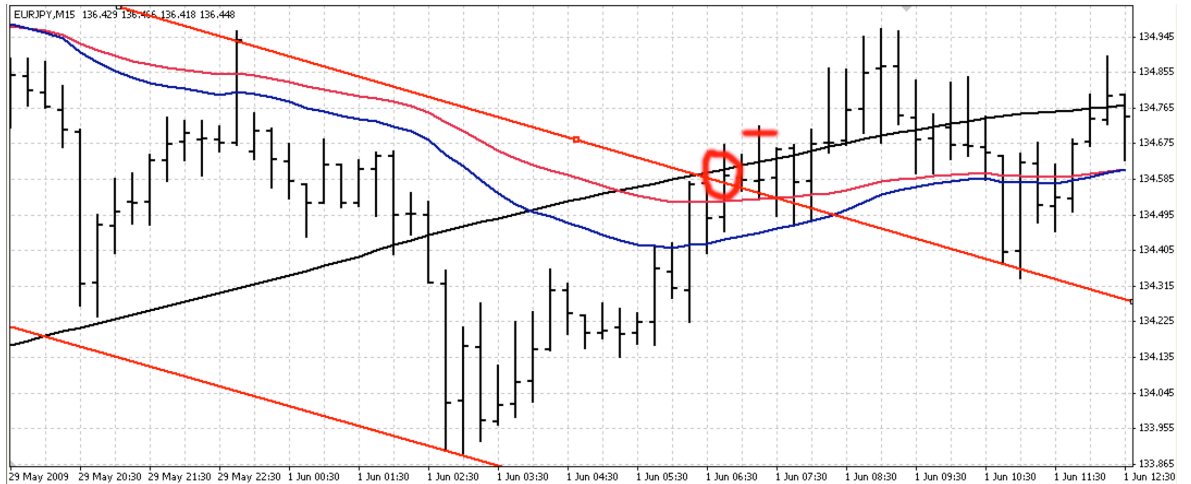


Figure 45. The confirmation of a breakout (Fibogroup, demo account)

When the bar closes above the resistance line (red circle), we enter 3 pips above the high point (red line).

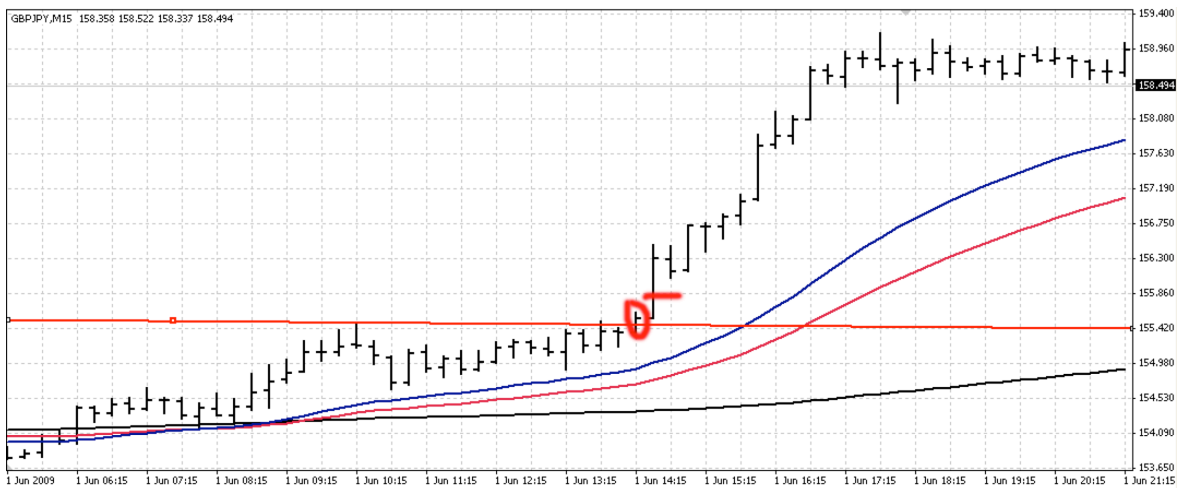


Figure 46. An example of a confirmed breakout (Fibogroup, demo account)

The bar closes above resistance line and we would have entered 3 pips above the high point.

5.6.2 Trade management

Determine stop loss- and take profit points before a trade is opened. A trading system that is correct 50% or even less at a time can be extremely profitable. This is due to trade management. As the aimed risk-to-reward in KISS FX breakout strategy is 1:1 (50%) the stop loss and take profits are set to similar pips distances. KISS FX breakout strategy uses about 30 pips stop loss and take profits (conservative traders can set their profit targets to even 10 or 20

pips). A trader should always use stop losses in case the trade goes to the opposite direction than predicted.

The stop loss and take profits will not always be the mentioned 30 pips. If a breakout from a resistance line occurs, a good stop loss point is right below the broken resistance line (because previous resistance becomes support). If a breakout of a support line occurs, stop loss would be placed above the broken support line (because previous support becomes resistance).

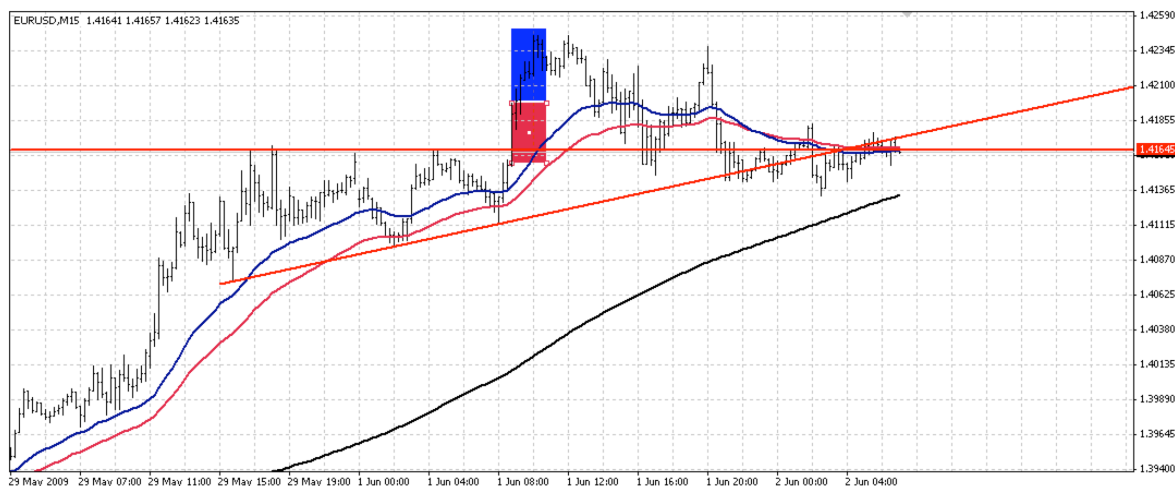


Figure 47. A possible trade on EUR/USD (Fibogroup, demo account)

We would have entered 3 pips below the previous high after confirmed breakout (the white area between red and blue box). The stop loss would have been right below the broken resistance line (about 33 pips) and the profit target at the top of the blue box (about 34 pips).

Minimize the losses and let your profit run. The first part means using stop losses always and the second part means exiting positions partly after profit target has been reached. Let's say we determine stop loss- and take profit-points. They will both be 30 pips (according to risk-to-reward ratio). Once we are following the trade it finally reaches the 30 pips we wanted. At that point we close only 80 % of the trade, move the stop loss to break-even and let the 20% run until we get an exit signal (explained in the following chapter). These remaining 20% can bring massive gains, but do not forget to move the stop loss point so that the trade will not go against you. In case the trade continues gaining pips, move the stop loss further and ensure profit (for example after every 40 pips of gains.). This kind of exit strategy is called *partial exits*.

Example 2

You go long (buy) in EURUSD at 1.4000. Stop loss and profit target are 30 pips away, so SL 1.3970 & TP 1.4030. When the price reaches 1.4030 exit 80 % of the position and take profit. Then move the stop loss to break-even 1.4000. 20 % of the position is still running as the price reaches 1.4080 (your 20% has gained 80 pips). At this point you want to take some profits so you move your stop loss to 1.4040, that ensures 40 pip gain for the 20% as well. As the price goes further up, keep moving the stop loss after every 40 pips of gain, until you see an exit signal.

5.6.3 Exit strategy

As mentioned already in previous chapter, KISS FX breakout strategy uses partial exits to protect gained profit. Set profit target for the bigger part of the trade (80%). Set the profit target to 10-30 pips depending on personal willingness to risk and risk-to-reward ratio.

As the magic of compounding chapter shows, even 10 pips per day can make massive gains in the long run. Exit the 80% of the position after the profit target is reached. Move the stop loss according to money management rules. Exit the 20 % from the trade, when 34 EMA rolls over. Exponential moving averages put more weight to recent prices, so they try to predict shorter term movements than simple moving averages, which show the long-term movements.



Figure 48. An example of a good trade entry, trade management and exit (Fibogroup, demo account)

We entered 3 pips after a confirmed breakout and set the stop loss 5 pips below the resistance line (about 40 pips because the first above resistance line closed bar was quite long). Then we set our profit target to 30 pips (Note that risk-to-reward ratio of 1:1 is not completely reached). The profit target was soon reached and we exited the 80 % of the trade. The 20 % of the trade was running until the 34 EMA turned downwards. (Note that if we would have moved stop loss, the 20% of our position would have been stopped out soon after profit target was reached).

5.7 Example trades

Look carefully at the examples shown on the following page. There are examples of good and bad trades. These examples are not live examples, but the meaning is to give the reader a clear picture of the things to look for before entering a trade.

Example 1 GBPUSD 15 min



Figure 49. Example 1 GBPUSD 15 min (Fibogroup, demo account)

The pattern formed is almost a flag pattern. Flagpole can usually be used as a profit target of a breakout. We saw the pattern forming; the price was above moving averages so we were expecting a breakout upwards. We got a confirmed breakout and entered.

Example 2 EURUSD 15 min



Figure 50. Example 2 EURUSD 15min (Fibogroup, demo account)

A perfect example of a trade we would not have taken. The triangle pattern is very clear and we do get a breakout as well. However, the trend is very unclear and the price bounces on both sides of the moving averages. No trade in this case. Remember to obey the entry rules every single time.

Example 3 EURUSD 15 min



Figure 51. Example 3 EURUSD 15 min (Fibogroup, demo account)

A clear market pattern. Would we have taken this trade? No. The price is below all the moving averages so we were expecting a breakout downwards. The trend is also very unclear.

Example 4 EURUSD 15 min

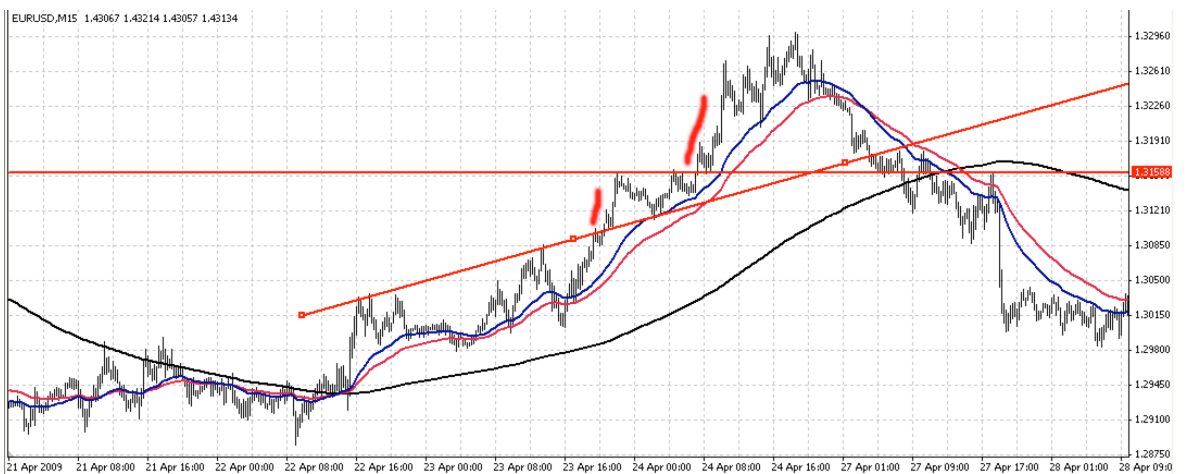


Figure 51. Example 4 EURUSD 15 min (Fibogroup, demo account)

A perfect example of support & resistance + a breakout trade. We can actually spot two breakout trades from this figure. The first breakout occurred and we made profit. We left the old resistance line in place and eventually the price came back down and found support from the old resistance line. Then the price formed a double top before a breakout and we made profit from the second breakout too.

Example 5 EURUSD 15 min



Figure 52. Example 5 EURUSD 15 min (Fibogroup, demo account)

A nice descending channel. The moving averages are also acting as a sloping resistance line. The prices were nicely below all the moving averages. However, the breakout occurred upwards so we did not enter, as we were expecting a downward breakout.

Example 6 EURUSD 15 min



Figure 53. Example 6 EURUSD 15 min (Fibogroup, demo account)

A very obvious up-trend with many market patterns. Trading can be easy, when an up-trend like this is found. This particular example included four very obvious breakout trade possibilities during three days.

6 KISS FX breakout strategy tested

The trading strategy created in this thesis was tested in a demo account with virtual money of \$5000 U.S. dollars. Broker used for the demo account is called Alpari (UK). It is noticeable that demo account does not completely correspond to a live account because emotional factors that would affect trading decisions are not involved, when using virtual money. Some live account brokers also cheat traders by doing so called stop-loss-hunting, where they try to get a trader stopped out from a trade and lose their money. However, the meaning of this test was to gain information, whether this strategy with these particular entry and exit rules could be profitable. The fact that author could not sit on the computer every day resulted in some missed trade places. All trades taken during the test period are shown in Trade Statement (Appendix 1). Some trading examples are shown in Trade Examples (Appendix 2).

Testing period started from 29th of May and it lasted until 7th of August. For simplicity, all the trades taken during this period of time consisted of position sizes of 1,00 lot. Normal lot size according to the money management rules would have been 1/2 lot with a capital of \$5000 dollars. About half of the trades were taken with the following money management rule: 90% of the position exited at 20-30 pips and 10% was left to grow, while the stop loss was moved further. The other half was done with the money management rule of 80% / 20%. This was simply done because the author wanted to test, if this would affect the results. It is hard to say how the change in money management rule affected the results because there were a lot of losing trades in the end of the testing period.

The test period started very well (by 16 winning traders in a row). This was very encouraging, and proved that KISS FX breakout strategy does have possibilities to be a very good technique in forex. However, after 16 winners the author started facing some losses and did lose a lot of money from the gains of first week's trades. The author believes that the reason for losing trades was the good start of the testing period. When a trader makes many profitable trades at first, he starts easily taking trades even if all the rules for taking a trade are not fulfilled. He starts overtrading and thinking that trading is very easy. Market conditions that were not suitable for breakout trading also had an effect on losing trades.

The most difficult part of trading seemed to be recognizing suitable conditions for breakout trading. The bad trades were usually consequences of bad analysing or of being careless. A trader should continue reading the rules made every now and then, because they can easily be

forgotten. It is very important to follow the trading rules before every trade. If some of the conditions do not meet the rules, no trades should be taken. If the market is messy or unclear, no trades should be taken. If one feels insecure about a trade, do not trade.

Altogether 33 trades were taken during testing period. 19 of them were winning trades and 14 were losing trades. This means that the winning rate was about 57%, which is quite ok. However, the author believes that by being more careful and persistent by sticking to the rules even 70%-80% winning rate can be achieved.

\$5000 dollars had grown to nearly \$5998,46 dollars (19% gain) during a 10-week testing period. This is a good result but still irritating, when taking account the fact that the account was almost doubled after two weeks of testing. As the beginning of the test period was amazingly good, a conclusion can be drawn that KISS FX breakout strategy is a profitable strategy in forex. Entry rules seem to be very good, as long as only the most obvious trade patterns are traded.

Below the weekly report of results, where total profit/loss is described:

Week 1:

During the first week, the conditions of market were highly suitable for KISS FX breakout strategy. During this week, 10 trades were taken. All the trades were profitable trades. 10 trades in one week turned out to be a very rare possibility. The gain in the first week was amazing \$2808,09 dollars. The gain was about 56% and it brought the total capital up to \$7808,09 dollars.

Capital on Monday: \$5000 dollars

Total profit/loss: \$2808,09 dollars

Capital on Friday: \$7808,09 dollars

Winning rate: 100 %

Week 2:

The second week seemed quite suitable for KISS FX breakout strategy as well. 11 trades were taken during this week (6 winners, 5 losers). The 5 losers were the last five trades taken this week, which meant that the testing phase has started with 16 winners in a row! 16 winners in a row meant that the capital had grown to \$9040,03 dollars in two weeks. However, after these

16 winners 5 losers were taken in a row. Because these 5 losers, the total gain of week 2 turned into a loss of \$207,12 dollars.

Capital on Monday: \$7808,09 dollars

Total profit/loss: - \$207,12 dollars

Capital on Friday: \$7600,09 dollars

Winning rate: 55 %

Week 3:

The entry rules were not fulfilled often during week three. Only 2 trades were taken, 1 winner and 1 loser. Unfortunately the losing trade turned out to be bigger than the winner, so week 3 was a losing week as well.

Capital on Monday: \$7600,09 dollars

Total profit/loss: - \$41,86 dollars

Capital on Friday: \$7559,11 dollars

Winning rate: 50 %

Week 4:

Five trades were taken during week four. Week four was a bad week as three first trades were losing trades. Week four was a losing week as well, which meant that the testing period consisted now of one winning week and three losing weeks.

Capital on Monday: \$7559,11 dollars

Total profit/loss: - \$511,5 dollars

Capital on Friday: \$7047,61 dollars

Winning rate: 40 %

Week 5:

In week 5 the conditions of the market seemed to have gone very bad for KISS FX breakout strategy. Also some “overtrading” was on sight by the author. There were no clear patterns but still the author traded. That naturally resulted as a losing week. Three trades were taken, one winner and two losers.

Capital on Monday: \$7047,61 dollars

Total profit/loss: - \$221,13 dollars

Capital on Friday: \$6826,48 dollars

Winning rate: 33 %

Week 6:

Conditions of the market continued to be very messy for breakout trading. Only one trade was taken (a losing trade).

Capital on Monday: \$6826,48 dollars

Total profit/loss: - \$272,56 dollars

Capital on Friday: \$6553,92 dollars

Winning rate: 0 %

Week 7:

No trades. The markets during week seven were very choppy. There were also some news releases that limited trading possibilities.

Capital on Monday: \$6553,92 dollars

Total profit/loss: \$0,00 dollars

Capital on Friday: \$6553,92 dollars

Winning rate: 0 %

Week 8:

The market continues to be messy. One trade was taken, which was a mistake. This trade was taken more for the sake of trading, not because the rules would have been fulfilled. Overtrading is a big mistake that a trader can make. One trade, One loser.

Capital on Monday: \$6553,92 dollars

Total profit/loss: - \$267,80 dollars

Capital on Friday: \$6286,12 dollars

Winning rate: 0 %

Week 9:

No trades taken. There were some possible trading places that could have been traded according to KISS FX breakout strategy, but those places were at times, when the author was not on a computer.

Capital on Monday: \$6286,12 dollars

Total profit/loss: \$0,00 dollars

Capital on Friday: \$6286,12 dollars

Winning rate: 0 %

Week 10:

The last week of the testing period continued to be similar to past weeks. Only one trade taken and that turned out to be a losing trade.

Capital on Monday: \$6286,12 dollars

Total profit/loss: - \$289,00 dollars

Capital on Friday: \$5998,46 dollars

Winning rate: 0 %

7 Discussion

Studying the forex market and creating a strategy based on the learned issues was a challenging but a very interesting task. As the author had a strong personal interest in forex before starting this project, motivating himself for studying was very easy. The overall process of making this study was very interesting and rewarding. It was very important for the author to do something concrete, from which he and other forex traders could benefit some day. After the study the author is 100% certain that forex is a market where one could make continuous profit with a simple strategy.

A lot of literature was available about forex and technical analysis. The books about technical analysis were often for the stock market, but the same rules of technical analysis apply also to forex market. As simplicity in trading was the goal of the trading strategy created, the author chose books, which were concentrated on keeping trading simple. It was a bit challenging to find these kinds of books, as there are so many books available about forex. Eventually suitable sources were found to be main sources of this study. The first book chosen covered forex market as a whole, the next one explained why certain strategies are profitable in forex. The third book went more into details in using technical analysis in forex. The fourth book was concentrated on technical analysis on any financial market. These four books were more than enough to cover the theory the author hoped for. Secondary sources, which were online sources like articles and forums supported the theory in the books, but also provided good information about forex market and also about different angles and facts about strategies that could be used.

The goal was to create a simple and profitable strategy, which would be profitable in forex trading. These goals were achieved. After two weeks of testing, the author had almost doubled his demo account. However, after the two weeks the author started facing losses but the overall result was still 19% higher than the starting capital. The problem during the author test phase seemed to be the losing streak after big wins. The losing streak was a result from overtrading and not trading the most obvious market patterns like described in the strategy. The author believes that the losing streak could have been avoided by paying more attention to the trading rules.

For seeing whether the strategy was profitable it needed to be tested. Comments from other traders were required for seeing if they considered the strategy to be simple. The author also

wanted to receive improvement suggestions for the strategy. Hence, the strategy was published in form of an e-book in three different forex forums (forexfactory.com, babypips.com & tienaus.com). The first two forums were chosen because they are probably the biggest international forex forums online. The third one is the only forex forum in Finland. Often the forex forums are filled with strategies that do make money for someone, but for other people they are very difficult to understand. The comments received from online forums were encouraging as most traders liked the simplicity of KISS FX breakout strategy.

Most of the feedback received was positive. Some people criticised money management rules and some provided improvement suggestions. Alias Jykä (tienaus.com 22.07.2009) criticised the strategy as follows: *moving averages cannot act as a moving level of support and resistance, and they cannot be used as stop loss or exit placements.* He continued that “never trade against the trend” is incorrect because *a professional opens a trade before others even notice it.* He also criticised that the idea of “a loss of an opportunity is better than a loss of capital” is actually vice versa *never miss a trading opportunity.* Alias Jykä also recommended a book by a professional trader Alexander Edler. The author cannot understand any of these comments as they totally are against all the ideas that came up with every book used as a source for this study. From charts it can easily be seen how moving averages act as moving levels of support & resistance. The idea of this strategy is trading with the trend, not noticing the turn in trend (because the idea is to make small profit at a time). Finally, *never miss a trading opportunity* is totally incorrect because it is absolutely impossible to sit on a computer 24h a day. The trading possibilities mentioned in this study will occur often enough and some of them can be missed as well. Alias Jykä also gave an improvement suggestion of improving the risk-to-reward ratio by thinking, how to get the open and stop loss place close to each other. This is a good suggestions and it will be considered if the strategy is developed further.

It was very nice to get all sorts of feedback from other traders. Altogether 11 traders commented on the strategy once or more. 9 of them gave positive comments about strategy. They all liked the simplicity of the trading rules. 2 negative comments received mainly criticized the money management rules and did not agree on some of the rules the author had in the strategy. Not everyone can like one’s strategy no matter how good it is. There is a common saying in forex that *there are as many trading techniques as there are trades in the forex market.*

Below some examples of the comments received on online forex forums:

“I like simple systems. In this business, the simpler the better. This is why I began concentrating on simple, proven setups to make my profit.” By alias M256, forexfactory.com, June 15, 2009.

“Hi everyone. This is a really Keep It Simple System. I have benefited a lot from this thread. Thanks fto the thread atarter and all contributors. Keep on making the pips!” By alias Jaaccl, forexfactory.com, August 21, 2009.

“with all due respect, however, seemingly to me, this is exactly a complicated system and unable to be automatically operated (by EA).” By alias Charvo, forexfactory.com, August 24, 2009.

“Seems like a good system, just remember to keep the risk as low as possible, in case you are not correct with the analysis” By alias iio, tienaus.com, June 16, 2009.

“A really nice strategy. I did a couple of trades and it does works. KISS is absolutely the best thing to do in forex. This is even more simple than my own method, I like, nice pdf!” By alias forextrader, tienaus.com, June 16, 2009.

The author believes that every trader who read the e-book, learned a lot about forex trading even if they already knew the market well. KISS FX breakout strategy provided them an alternative trading strategy with complete money management rules and trading examples. After reading the e-book, reader realizes that forex trading can be extremely simple.

It would be very interesting to see, what kind of results could be made on a live account with KISS FX breakout strategy. Due to financial reasons and risks, live account was not a possibility during this study. However, the author is planning to test the strategy later on with a small capital.

Forex market is full of possibilities. With the concept of magic of compounding it is possible to be a full-time forex trader. This project reminded the author how easy and difficult forex market can be at the same time. It is relatively easy to make profit, but once one starts losing, it is difficult to get out of the losing streak as the mistakes made will easily be repeated over and over again. In a losing streak it is important to study again your strategy, and trade according to it.

The author recommends this thesis for people, who are interested in forex market or any other financial market such as stock market for example. The author also hopes that someone, who thinks that high profit in forex is not possible, would read the study. When thinking back the process as a whole, the author would do nothing differently, except trade more carefully after the 16 winning trades.

As further study-suggestions the author would recommend for example “money management in forex trading”, “emotional factors in forex trading”, “automated currency trading” or “long-term forex trading”. This study was concentrated on short-term trades that are opened and closed during the same day. Long-term trades can be open for weeks. For that reason, it would be interesting to see a study of long-term forex trades.

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Appendices

Appendix 1. Statement of test period

Alpari (UK) Ltd.

Account: 850135 Name: Miikka Linden Currency: USD 2009 August 5, 13:48

Closed Transactions:

Ticket	Open Time	Type	Size	Item	Price	S / L	T / P	Close Time	Price	Commission	Taxes	Swap	Profit
51485502	2009.05.29 08:37	balance		Deposit									5 000.00
51676908	2009.06.01 09:06	buy	0.90	eurusd	1.41873	1.41538	0.00000	2009.06.01 09:27	1.42170	0.00	0.00	0.00	267.30
51676981	2009.06.01 09:07	buy	0.90	gbpusd	1.62847	1.62204	0.00000	2009.06.01 09:27	1.63316	0.00	0.00	0.00	422.10
51677069	2009.06.01 09:07	sell	0.90	usdcad	1.08438	1.08760	0.00000	2009.06.01 10:13	1.07900	0.00	0.00	0.00	448.75
51677096	2009.06.01 09:08	sell	0.90	usdchf	1.06562	1.07012	0.00000	2009.06.01 09:36	1.06308	0.00	0.00	0.00	215.04
51682629	2009.06.01 09:07	buy	0.10	gbpusd	1.62847	1.63839	0.00000	2009.06.02 08:06	1.63839	0.00	0.00	0.07	99.20
51682659	2009.06.01 09:06	buy	0.10	eurusd	1.41873	1.41873	0.00000	2009.06.01 15:04	1.41873	0.00	0.00	0.00	0.00
51685519	2009.06.01 09:08	sell	0.10	usdchf	1.06562	1.06562	0.00000	2009.06.01 13:13	1.06562	0.00	0.00	0.00	0.00
51693301	2009.06.01 09:07	sell	0.10	usdcad	1.08438	1.08438	0.00000	2009.06.01 13:41	1.08438	0.00	0.00	0.00	0.00
51907090	2009.06.02 12:18	sell	0.90	usdchf	1.06632	1.06941	0.00000	2009.06.02 12:40	1.06349	0.00	0.00	0.00	239.49
51907121	2009.06.02 12:19	sell	0.90	usdcad	1.08739	1.08739	0.00000	2009.06.02 12:53	1.08487	0.00	0.00	0.00	209.06
51907398	2009.06.02 12:20	buy	0.90	eurusd	1.41975	1.41637	0.00000	2009.06.02 12:40	1.42216	0.00	0.00	0.00	216.90
51911684	2009.06.02 12:18	sell	0.10	usdchf	1.06632	1.06522	0.00000	2009.06.02 14:31	1.06522	0.00	0.00	0.00	10.33
51911778	2009.06.02 12:20	buy	0.10	eurusd	1.41975	1.42085	0.00000	2009.06.02 15:24	1.42085	0.00	0.00	0.00	11.00
51914779	2009.06.02 12:19	sell	0.10	usdcad	1.08739	1.08639	0.00000	2009.06.02 13:11	1.08639	0.00	0.00	0.00	9.20
52059081	2009.06.03 06:47	buy	0.90	gbpchf	1.76407	1.75971	0.00000	2009.06.03 07:51	1.76646	0.00	0.00	0.00	202.66
52066404	2009.06.03 07:50	buy	0.90	gbpjpy	159.802	159.037	0.000	2009.06.03 08:05	159.909	0.00	0.00	0.00	100.12
52066647	2009.06.03 06:47	buy	0.10	gbpchf	1.76407	1.76407	0.00000	2009.06.03 08:17	1.76407	0.00	0.00	0.00	0.00
52069775	2009.06.03 07:50	buy	0.10	gbpjpy	159.802	159.037	0.000	2009.06.03 08:06	159.803	0.00	0.00	0.00	0.10
52473495	2009.06.05 08:36	buy	0.90	eurgbp	0.88321	0.88055	0.00000	2009.06.05 08:45	0.88553	0.00	0.00	0.00	334.99
52476177	2009.06.05 08:36	buy	0.10	eurgbp	0.88321	0.88321	0.00000	2009.06.05 10:45	0.88459	0.00	0.00	0.00	22.13
52799003	2009.06.08 19:39	sell	1.00	eurgbp	0.86583	0.86746	0.00000	2009.06.08 20:23	0.86575	0.00	0.00	0.00	12.84
52878618	2009.06.09 07:59	buy	0.90	gbpchf	1.75469	1.75009	0.00000	2009.06.09 08:37	1.75927	0.00	0.00	0.00	378.02
52884527	2009.06.09 08:30	sell	0.80	eurgbp	0.86422	0.86535	0.00000	2009.06.09 08:58	0.86289	0.00	0.00	0.00	171.68

52887317	2009.06.09 07:59	buy	0.10	gbpchf	1.75469	1.75669	0.00000	2009.06.09 09:45	1.75669	0.00	0.00	0.00	18.38
52891903	2009.06.09 08:30	sell	0.20	eurgbp	0.86422	0.86422	0.00000	2009.06.09 09:47	0.86422	0.00	0.00	0.00	0.00
53315995	2009.06.11 09:32	buy	0.80	gbpchf	1.77022	1.76781	0.00000	2009.06.11 10:26	1.77267	0.00	0.00	0.00	181.42
53316368	2009.06.11 09:35	sell	0.80	eurgbp	0.85396	0.85502	0.00000	2009.06.11 10:43	0.85274	0.00	0.00	0.00	160.45
53323984	2009.06.11 09:32	buy	0.20	gbpchf	1.77022	1.77022	0.00000	2009.06.11 14:45	1.77602	0.00	0.00	0.00	107.26
53328267	2009.06.11 09:35	sell	0.20	eurgbp	0.85396	0.85396	0.00000	2009.06.11 15:14	0.85155	0.00	0.00	0.00	79.32
53359759	2009.06.11 13:58	buy	1.00	gbpjpy	161.624	161.156	0.000	2009.06.11 16:26	161.744	0.00	0.00	0.00	122.57
53359882	2009.06.11 14:00	buy	1.00	gbpchf	1.77965	1.77603	0.00000	2009.06.11 14:16	1.77603	0.00	0.00	0.00	-334.54
53504535	2009.06.12 08:06	buy	1.00	gbpjpy	162.229	161.922	0.000	2009.06.12 09:03	161.922	0.00	0.00	0.00	-313.50
53504549	2009.06.12 08:06	buy	1.00	gbpchf	1.77700	1.77425	0.00000	2009.06.12 08:55	1.77425	0.00	0.00	0.00	-256.52
53507627	2009.06.12 08:25	buy	1.00	gbpusd	1.65737	1.65509	0.00000	2009.06.12 08:55	1.65509	0.00	0.00	0.00	-228.00
53507786	2009.06.12 08:25	sell	1.00	eurgbp	0.84976	0.85161	0.00000	2009.06.12 08:51	0.85161	0.00	0.00	0.00	-306.50
53814803	2009.06.15 19:25	sell	0.80	eurjpy	134.855	135.080	0.000	2009.06.15 19:37	134.691	0.00	0.00	0.00	134.07
53816202	2009.06.15 19:25	sell	0.20	eurjpy	134.855	134.710	0.000	2009.06.15 21:10	134.710	0.00	0.00	0.00	29.67
54430765	2009.06.18 09:07	buy	0.80	eurusd	1.39730	1.39473	0.00000	2009.06.18 09:55	1.39473	0.00	0.00	0.00	-205.60
55008557	2009.06.23 08:04	buy	1.00	usdcad	1.15775	1.15418	0.00000	2009.06.23 08:32	1.15418	0.00	0.00	0.00	-309.31
55221927	2009.06.24 06:41	buy	1.00	gbpusd	1.64798	1.64515	1.65103	2009.06.24 07:44	1.64515	0.00	0.00	0.00	-283.00
55395528	2009.06.24 20:39	sell	1.00	eurusd	1.39047	1.39306	0.00000	2009.06.24 20:55	1.39306	0.00	0.00	0.00	-259.00
55510307	2009.06.25 12:20	buy	0.80	usdcad	1.15974	1.15708	0.00000	2009.06.25 12:59	1.16183	0.00	0.00	0.00	143.91
55515972	2009.06.25 12:20	buy	0.20	usdcad	1.15974	1.15974	0.00000	2009.06.25 14:29	1.15974	0.00	0.00	0.00	0.00
55681788	2009.06.26 12:44	sell	1.00	gbpjpy	157.613	157.824	157.425	2009.06.26 12:54	157.425	0.00	0.00	0.00	196.89
55810986	2009.06.29 10:53	buy	1.00	gbpchf	1.79862	1.79595	1.79964	2009.06.29 11:41	1.79964	0.00	0.00	0.00	93.61
55832427	2009.06.29 13:28	sell	1.00	usdcad	1.15172	1.15302	0.00000	2009.06.29 13:53	1.15302	0.00	0.00	0.00	-112.75
55894990	2009.06.29 21:10	buy	1.00	gbpjpy	159.293	159.099	0.000	2009.06.29 21:27	159.099	0.00	0.00	0.00	-201.99
57342547	2009.07.10 08:58	sell	1.00	usdjpy	92.572	92.825	0.000	2009.07.10 10:12	92.825	0.00	0.00	0.00	-272.56
59189747	2009.07.24 08:00	sell	1.00	eurgbp	0.85778	0.85940	0.00000	2009.07.24 09:41	0.85940	0.00	0.00	0.00	-267.80
60565168	2009.08.04 08:46	buy	1.00	eurusd	1.44164	1.43875	0.00000	2009.08.04 09:23	1.43875	0.00	0.00	0.00	-289.00
									0.00	0.00	0.07	998.39	
													Closed P/L: 998.46

Open Trades:

Ticket	Open Time	Type	Size	Item	Price	S / L	T / P	Market Price	Price	Commission	Taxes	Swap	Profit
No transactions													
										0.00	0.00	0.00	0.00
													Floating P/L: 0.00

Working Orders:

Ticket	Open Time	Type	Size	Item	Price	S / L	T / P	Market Price
No transactions								

Summary:

Deposit/Withdrawal:	5 000.00	Credit Facility:	0.00		
Closed Trade P/L:	998.46	Floating P/L:	0.00	Margin:	0.00
Balance:	5 998.46	Equity:	5 998.46	Free Margin:	5 998.46

Appendix 2. Trade examples during the test period

