

# TRADING STRATEGY COURSE

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DAY 1 – SECTION 1

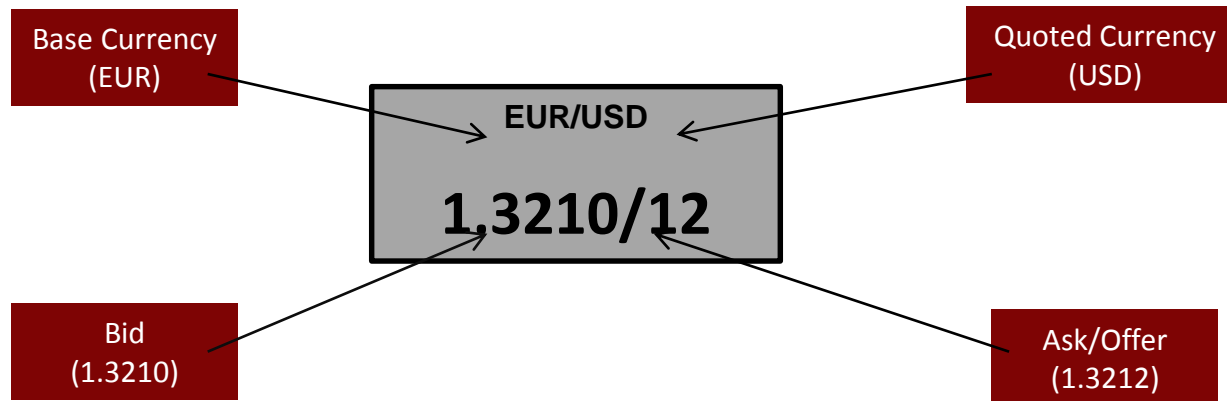
# MARKET FUNDAMENTALS 1

# 1. Introduction – Market Fundamentals

## 1.1 What is a financial market?

- Place where buyers and sellers come together
- Price is determined by supply and demand (more supply the lower the price or more demand the higher the price, all other things are being equal)
- In equity markets, sellers are effectively selling their ownership interest in companies in return for cash. In fixed income (debt) it is different as the buyer is loaning the seller money in return for an interest payment. In currencies, the buyer is purchasing a currency in return for another one. In commodities, the buyer is purchasing a commodity in return for cash.
- Efficient markets – The price of a traded asset (equities, fixed income, currencies or commodities) is constantly changing as the market analyses and incorporates new information about that asset's future prospects.

## 1.2 How prices work...



# 1. Introduction – Market Fundamentals

- The left hand side of the price is called the bid, the right hand side is called the offer/ask. The bid is the price that a market maker is willing to buy and asset at, the offer being the price a market maker is willing to sell at. In this case, if the trader wants to buy, they can do so from the market maker who is willing to sell at 1.3319<sub>5</sub>. The opposite is true at 1.3317<sub>8</sub>.



- On a trading platform, the price will be displayed like how it is on the right. You will also see the high traded for the day as well as the low

Symbol	Bid	Ask	High	Low
📈 USDCHF	0.93473	0.93490	0.93478	0.93143
📉 GBPUSD	1.52360	1.52377	1.52467	1.52031
📉 EURUSD	1.30423	1.30432	1.30837	1.30312
📈 USDJPY	99.747	99.756	99.882	99.584

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# 1. Introduction – Market Fundamentals

## 1.3 Fundamentals

This course is designed to give you a better understanding on how to trade financial markets. So in the first instance, we will explain the relationship between the financial markets and the real economy (the actions of governments, economic indicators and company results). Company results will only really impact equity markets and individual company stocks rather than fixed income, currencies and commodities.

### 1.3.1 Role of the Government

Let us look at the government and their role. Governments want to achieve '**sustainable growth**', which is basically growth without inflation. They go about this by controlling the level of activity in the economy and measure this activity in terms of the level of 'nominal' GNP (gross national product). The financial markets pay close attention to this too, as there is a well established relationship between this and 'monetary aggregates', which is basically the spending power in the economy.

A government will use interest rates to try and control growth and inflation. If there is low growth, they will try and reduce interest rates in an attempt to decrease the cost of credit and stimulate upward pressure on spending and economic activity. Some may argue this is inflationary, but as spending in the economy is low, they are just simply increasing it to normal levels. The opposite is true when there is high growth and interest rates are increased to any inflationary pressures.

The government may also use fiscal policy, where by they increase/decrease public spending and taxation. This is a way of adjusting individuals and households disposable incomes as well as the amount of money circulating in the economy.

Generally, when the economy is in a growth cycle, it is met with higher interest rates, higher taxes, and lower public spending. When we are in a recessionary cycle, there are lower interest rates, lower taxation and higher public spending. This should help to avoid volatile economic cycles.

# FOREIGN EXCHANGE

# 3. Foreign Exchange

## 3.1 Introduction to FX trading

Foreign Exchange trading is the practise of **buying and selling currencies**. Currencies may be bought and sold for various reasons, ranging from speculating on moves in the exchange rate to businesses that need to buy a foreign currency for investment purposes. It is a lucrative market as it is very liquid with daily turnover of around \$4 trillion, making it one of the largest and most volatile financial markets in the world.

### 3.1.1 Key facts of FX markets

- The high trading volumes causing high liquidity in the market
- **Long trading hours** (24 hours a day during the week between 22:00 on Sunday and 22:00 of Friday)
- Use of leverage
- London is the global centre for FX, accounting for about 35% of total daily volume. New York and Tokyo account for 17% and 6% respectively. The rest of the volume is transacted in other financial centres such as Singapore, Paris and Chicago.
- FX trading has more than doubled since 2001, due to an increase in FX instruments used by Hedge Funds, and various pension funds. In 2006, the retail market accounted for 2% of the whole FX market volumes averaging \$50-60bn, and this is likely to have increased substantially in the years since then.
- The ten most active traders account for 80% of the market volume, with Deutsche Bank being the biggest single entity accounting for 20% of total daily volume. This will be on the back of 'prop' accounts internally and the customers of the bank. The banks provide the bid and offer prices to the market.
- EUR/USD has the tightest spread being about 2 pips. The spread has a positive correlation with the liquidity

55% of all trading is done via the 'top tier' inter-bank traders. These are traders at banks such as Goldman Sachs, Deutsche, JP Morgan etc. They have access to the tightest spreads and can also trade directly with each other via brokers allowing them to execute at the best possible prices. The smaller investment banks have slightly wider prices than the top tier due to credit rating restrictions and as a result, these banks will have credit limits to trade with the top tier banks. This is known as the **line** and once these are exhausted they are unable to trade (through regulatory requirements) with the top tier banks until the contract/trade has been settled. Large corporations will have wider prices and will usually trade via the top tier banks to ensure they get the best execution.

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# 3. Foreign Exchange

## 3.1.2 Key player in the FX markets

### (i) Banks:

These are the biggest counterparties in the trading arena as they trade on the back of their own prop accounts, corporations, funds and government. They can get the best prices hence can provide the best execution.

### (ii) Commercial companies:

These companies have exposure to FX volatility as they have to pay for goods and services coming in from abroad. Whether it is raw materials, or even if the company has a foreign branch, money will be flowing between countries, hence FX will be used for either hedging or settlement of trading balances.

### (iii) Central banks:

They play a major role in FX markets. They use tools such as interest rates and fiscal policy to control inflation, money supply and the value of the currency. They attempt to use their own reserves to stabilise the market. A point to note is the influence that the central banks have when trying to manipulate the market as this is limited to prevent the central bank exhausting their reserves and going bankrupt.

### (iv) Hedge fund and speculators:

70%-90% of all FX transactions are speculative, meaning that the only reason the currency is bought or sold is merely to profit from the move in price. Hedge funds have played a massive role in this since 1996 by leveraging (i.e. using millions of dollars to trade billions). It is for this reason that they can overwhelm central banks when they are attempting to intervene in the market.

### (v) Investment Management Firms:

These firms invest money into many markets globally and will require currency to purchase foreign assets. These firms are institutional investors that will invest on behalf of your pensions etc.

### (vi) Other players:

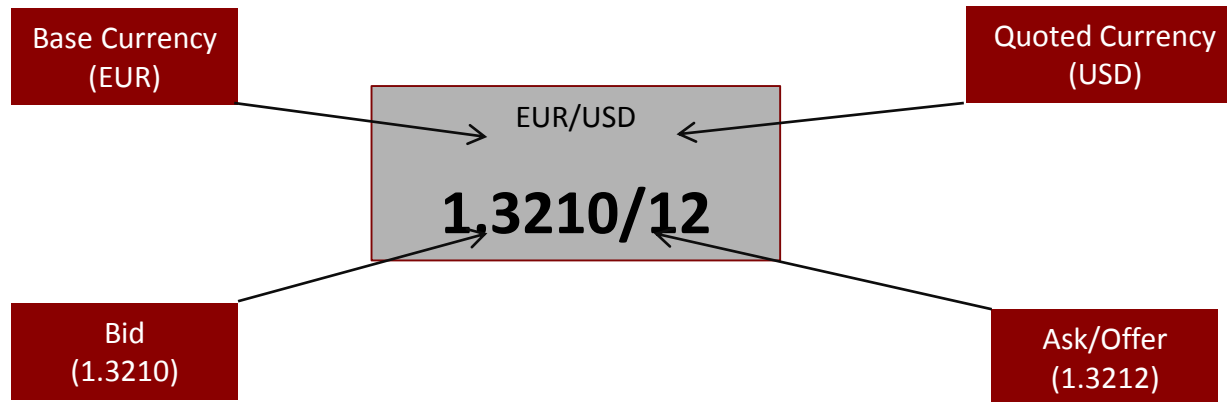
Retail FX brokers, non-bank FX companies (these offer FX to private individuals and companies) and money transfer/remittance companies.



# 3. Foreign Exchange

## 3.1.3 Currency Pricing

The US Dollar is the most traded currency around the world, accounting for 86% of the daily turnover. When a currency is quoted, it is always quoted against another currency. For example:



In the above diagram, if we are buying EUR/USD, then we would be buying EUR and selling USD. 1.32 is known as the big figure, and the '10' or '12' are known as the little figures. Hence, if we are buying EUR 1m (i.e. paying the offer at 1.3212, so buying from the market maker who is selling at 1.3212), we are buying EUR 1,000,000 and selling US\$1,321,200. Now, if the price goes up to 1.3222, and we decide to sell the EUR 1m that we just bought, we will get US\$1,322,200 in exchange ( $1,000,000 \times 1.3222$ ) and will have made a profit of US\$1,000 ( $1,322,200 - 1,321,200$ ).

# 3. Foreign Exchange

## 3.2 FX fundamentals

### (i) Spot:

This is the simplest instrument within FX markets. It is just the cash market, with the shortest settlement date. It is usually a 2-day delivery transaction. When the price is negotiated, it is simply the price for changing one currency into another and does not include interest etc such as a futures contract.

### (ii) Forward:

Another way to deal with foreign exchange risk is to trade via a forward transaction. Money does not change hands until a future date. A calculation is made whereby interest rates are taken into consideration to obtain a price. The price takes into consideration all forms of dividends, interest etc hence there is no arbitrage opportunities.

### (iii) Swaps:

Simply where 2 parties exchange currencies for a certain length of time and agree to reverse the transaction at a later date.

### (iv) Options:

The owner has the right but not the obligation to exchange money denominated in one currency into another at a pre-agreed exchange rate on a specified date.

# 3. Foreign Exchange

## 3.2.1 What affects the FX rates

### (i) Economic factors:

#### a) Government budget deficits/surpluses:

This is the difference between what the government takes in, in terms of taxes and duties, and what it pays out in terms of spending in the economy. A budget deficit is seen as being negative for a currency, as the Government would be expected to print more money to balance the books causing depreciation in the value of the currency.

#### b) Balance of trade levels and trends:

A country will account for the demand for goods and services with other countries through its balance of trade. If a country is a 'net-importer' then it will be importing more goods and services from a country than it is exporting. Thus it will then be acquiring more of the target country's currency to settle trading balances. Therefore, when the numbers for the balance of trade are released, you will see an appreciation in that currency's price.

#### c) Inflation levels and trends:

Typically, a currency will lose value if there is a high level of inflation or levels are perceived to be rising. This is because inflation erodes the purchasing power, and therefore demand, for that particular currency. However, a currency may sometimes strengthen when inflation rises because of expectations that the central bank will raise short-term interest rates to combat rising inflation. When inflation comes in strong, the initial reaction generally is that the currency strengthens

#### d) Economic growth:

The better the health of the economy, the better the currency will do in most cases. When an unexpected number is released for growth, you will generally get a 'knee-jerk' reaction and quick move in the currency.

#### e) Political conditions:

Political upheaval in the economy is a reason for the currency to be sold off. In G7 currencies, this does not happen much as the governments are viewed as stable, but this is more so for the emerging market currencies

# 3. Foreign Exchange

## 3.2.1 What affects the FX rates

### (ii) Market psychology:

**Flight to Quality:** When there are unsettling international events, there is usually a ‘flight’ with investors finding a safe haven. Of all the currencies, the Swiss franc (CHF) is seen as a safe haven so it will usually appreciate during a period of uncertainty. Over recent years, the US Dollar (USD) has come into play significantly. When the markets have turned to a downward trend people have been buying the USD because the US is viewed as having the strongest government to withstand any recession. When markets rally, people will sell the USD. This is evident when GBP/USD was trading around 2.00 and the Dow was above 11,000, however as soon as the Dow dropped to 6,500, GBP/USD dropped to 1.35.

Psychology always changes in the markets and there are always new reasons to buy or sell a currency, so it is worth noting that trading styles should be **flexible and readily changeable**.

**Long-term trends:** Currency markets often move in visible long term trends. Although currencies do not have an annual growing season like physical commodities, business cycles do make themselves felt. Cycle analysts will look at longer-term price trends that may rise from economic or political trends.

**‘Buy the rumour, sell the fact’:** This market truism can apply to many currency situations. It is the tendency for the price of a currency to reflect the impact of a particular action before it occurs and, when the anticipated event comes to pass, react in exactly the opposite direction. This may also be referred to as a market being ‘oversold’ or ‘overbought’. To buy the rumour or sell the fact can also be an example of the cognitive bias known as **anchoring**, when investors focus too much on the relevance of outside events to currency prices. For example, if there is a rumour that the Bank of England is going to cut rates, GBP/USD may get sold initially, but once the rate cut is officially announced the market will have expected it so the traders who were short GBP/USD, may buy back their positions; hence the market may get bought.

**Economic numbers:** While economic numbers can certainly reflect economic policy, some reports and numbers take on a talisman-like effect: the number it self becomes important to market psychology and may have an immediate impact on short-term market moves. “What to watch” can change over time. In recent years, for example, money supply, employment, trade balance figures and inflation numbers have all taken turns in the spotlight.

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

# 3. Foreign Exchange

## 3.2.2 Major movers of FX markets during the day.

During a typical trading day there are also some other facts that may cause the market to move, these are explained below alongside some other terms that you may come across during your trading career.

Term	Description
Buy Order	An order that someone may have in the market to buy a certain amount of currency. As you can imagine, a large order will move the market. The reasons for these orders vary from a corporate needing FX to buy another corporate to a hedge fund believing the price of a currency is overvalued. In the case of the latter, attempting to sell a large amount of the currency to profit from the overvaluation.
Sell Order	The opposite of a Buy Order.
Fix	At certain times of the day, Fix orders will go through the market. The main times are 8am, 10am, 11am, 1.15pm and 4pm. <i>So why are Fixes used?</i> For example, if you are a corporate who makes shoes, you are not interested in trading FX, but you may have FX exposure as your profits may be in the US and you are a UK based company. So at a certain time, you may place an order to a bank, to buy GBP/USD (turning your Dollar profits into Sterling). Some corporates will do so at a fixed day and time every month, i.e. 4pm on the last day of the month. A large fix will usually see the market move in a certain direction towards the time when the Fix takes place. For this reason, rumours of big Fixes are a good way of predicting whether the market will be higher or lower at the time when the Fix takes place.
Left Hand Side Fix (LHS Fix)	This means the client will want to sell a certain currency at the Fix time.
Right Hand Side Fix (RHS Fix)	This means the client will want to buy a certain currency at the Fix time.

# 3. Foreign Exchange

Term	Description
Stops or stop losses	<p>If you hear the term there are stops at a certain level, this means a number of stops have been built up. For example, this may be above or below a trend line. A trader will generally put his/her stop loss at a point where they do not think the market will trade because there will be too much support for the market above or resistance below it. But if the market breaks the support/resistance, then there could be a situation where the market attempts to move to take the stops out (i.e. buying, if above, or selling, if below). Sometimes, stops are seen as being magnetic and the market moves towards them. For instance, if EUR/USD is trading at 1.3980 and you hear there are stops above 1.4000, when 1.4000 trades, the banks out there may have to start buying EUR/USD to fill every clients stop losses. This may cause the market to accelerate to maybe the 1.4020 area quickly. As 1.4000, if the market moves to 1.4020, the trader is still obliged to fill the client who had the stop loss at the level 1.4000 even if the trader has not bought any at the time, hence the trader is holding the risk. For this reason, the trader may start buying from 1.3990 and cause 1.4000 to trade hence he is triggering the stop. Stops are usually met with limit orders (banks working a bid/offer) in front as they are on key levels.</p>
Working a bid / on the bid	<p>This means a bank is working an order and sitting on the bid. For example, if EUR/USD is at 1.4000/02, the bank may be sitting at 1.4000 trying to buy some EUR/USD. The price will not move below, as it is made up of the highest bid and lowest offer. If someone tries to sell at 1.3999, they will be filled at 1.4000, as there is someone willing to buy there. If the order is a large one, the market will find it hard to break below, hence a lot of attention is always paid to which bank is on the bid. Information about the size of the order cannot be disclosed, but knowing someone like Goldman Sachs is buying will build a picture that it is a big order. Also, if the order stays there for a while, people will try and get long in front of it, and place the stop loss at 1.3995, so a fill of this order, may cause the market to take stops out so may see a slightly more significant move down.</p>

# 3. Foreign Exchange

Term	Description
Working an offer / sitting on the offer	This is the opposite of working a bid, instead someone is trying to sell, i.e. have a sell order. It works in exactly the opposite way to a bid.
Buying Dips	Buying when the market dips lower.
Selling Rallies	Selling when the market trades higher.
Option Expiries	At 3pm London time, there are option expiries. Options give someone the right but not the obligation to buy or sell a currency at a certain price. They will exercise the option if the market is trading at a certain price. Around this time of the day, you may get extra volatility especially as people are trying to hedge their positions.

DAY 1 – SECTION 4

# COMMODITIES



# 4. Commodities

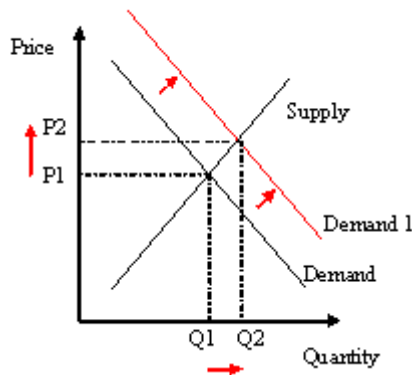
## 4.1 Introduction to Commodities

The terms 'commodities' and 'futures' are often used to describe commodity trading or futures trading. You can think of them as generic terms to describe the markets. It is similar to the way 'stocks' and 'equities' are used when investors talk about the stock market. To be more specific, this is what they really mean: Commodities are actual physical goods like corn, soybeans, gold, crude oil, etc. Futures are contracts of commodities that are traded at a futures exchange like the Chicago Board of Trade (CBOT). Futures contracts have expanded beyond just commodities; now there are futures contracts on financial markets like the S&P 500, t-notes, currencies and many others.

Commodity Markets are markets where raw or primary products are exchanged. These raw commodities are traded on regulated commodities exchanges, in which they are bought and sold in standardised contracts.

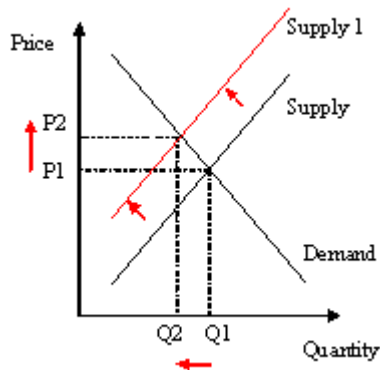
## 4.2 Movements in Commodities Prices

Commodity prices move a great deal on changes in expected Supply and Demand. An expected increase in supply will decrease the price, whilst an expecting increase in demand will increase the price as long as all other things are equal.



As you can see in the graph, a shift in demand will see a rise in Price from P1 to P2. This is because supply has not changed in the economy, and to buy more, a higher price will be demanded. This shift in demand in the economy may be caused by a number of factors. For example, if the global economy is doing better, global output of goods and services is increasing, which means more fuel is demanded to produce these products. Fuel will also be used for vehicles, people may purchase more powerful cars with more disposable income or take more holidays therefore there will be more air traffic, hence increasing fuel used by airline companies etc. There are also seasonal factors that affect the price of oil, for instance more oil will be demanded during winter months for heating fuel, therefore causing an increase in the demand and ultimately the price.

# 4. Commodities



As you can see, a decrease in supply means that the equilibrium point (where demand = supply) has shifted with the quantity supplied lower but the price much higher. Supply changes for a number of reasons. These can be things like OPEC changing production, geopolitical issues such as wars, natural disasters, man made disasters such as fires etc. These can all impact supply by reducing production, hence increasing price as long as all other things remain the same.

## 4.2.1 So how does one make money in the commodity futures market?

A speculator is someone who invests in an asset with the goal of turning a profit. In the case of commodities, speculators are traders who try to buy futures low and sell them high to make money. The reason why speculators can do so with futures is that traders aren't required to hold the futures contracts for the duration of the contract; they can buy or sell anytime they want. So, to use the Kellogg's as an example, a speculator could buy a corn contract from a farmer at a certain price, then wait for the price of corn to go up before selling the contract to Kellogg's, even if the contract is not due for another couple of months, turning a profit in the process.

## 4.2.2 Size of the market

- Trading consists of direct physical trading and derivatives trading
- This is a market which has seen an increase in level of activity dramatically over recent years
- The notional value outstanding of banks 'OTC commodities' derivatives contracts increased 27% in 2007 to \$9 trillion

# 4. Commodities

## 4.2.3 Main players in the commodities market

There are three different types of players in the commodity markets:

- **Commercials:** The entities involved in the production, processing or merchandising of a commodity. For example, both the corn farmer and Kellogg's from the example above are commercials. Commercials account for most of the trading in commodity markets.
- **Large Speculators:** A group of investors that pool their money together to reduce risk and increase gain. Like mutual funds in the stock market, large speculators have money managers that make investment decisions for the investors as a whole. Also, the traders at banks too can have big positions.
- **Small Speculators:** Individual commodity traders who trade on their own accounts or through a commodity broker. Both small and large speculators are known for their ability to shake up the commodities market.

## 4.3 Trading Oil

With Oil's stature as a high-demand global commodity comes the possibility that major moves in the price have significant impact on the global economy. The 2 main factors that impact the price of oil are **supply/demand** and **market sentiment**.

The supply and demand side is quite easy to understand.

The demand comes from people and corporations (i.e. used for manufacturing, petrol etc.), and supply comes from all the wells around the world. An increase in global demand will normally see a rise in prices as long as all other things are equal. Supply can be affected by geopolitical situations (such as wars which may hinder output), or other events which cannot be helped such as fires etc. A reduction in output, will cause a rise in price as long as all other things remain the same.

# 4. Commodities

## 4.3.2 Trading Gold

Gold is the most popular of the precious metals that are traded. It is generally seen as a safe haven commodity with investors buying gold to hedge against any economic, political, social or currency based crisis. Also, other reasons to buy gold are during periods of crisis such as a declining investment market, currency failure, inflation, war and social unrest.

Like all other investments and commodities, the price of gold is driven by supply and demand. Most of the gold ever mined still exists, in fact if you collect all the gold in the whole world, you will fill up an Olympic size swimming pool. Over the past few years annual mine production of gold is close to 2,500 tonnes, with 2,000 going into jewellery and industrial/dental production, with the rest going to retail investors and exchange traded gold funds. Central banks and the International Monetary Fund play a big part in gold prices. At the end of 2004, central banks and official organisations held 19% of all 'above the ground gold' as official gold reserves.

Other reasons which affect the gold price:

- When there is worry that the banking sector will fail, people will try to buy/hold gold, as a safe haven instrument.
- If there are low interest rates, and the return on assets is not adequately compensating for risk and inflation, then the demand for gold and alternative investments will rise.
- In times of national crisis, people fear that their assets may be seized and that the currency may become worthless. They see gold as a solid asset which will always buy food or transportation. Thus in times of great uncertainty, particularly when war is feared, the demand for gold rises.

Since the Financial Crisis in 2008, the demand for Gold has grown aggressively due to a lot of the above issues occurring. We traded from around \$850 at the time of the Lehman Brothers Collapse in 2008, to a high of \$1922 within 3 years (2011). An increase of 126%. As the market has settled down in the past few years, we have seen prices drop to the \$1200 level.

On the next slide we have a chart of historical Gold prices.

# 4. Commodities

You can see on the right the substantial move up from 2008. Whenever there are global worries you generally see a move up in the price of Gold.

Since 2008 there have been many issues such as the Economic Crisis, potentially Central Bank defaults, Geopolitical issues such as the unrest in the middle east, Low interest rates.

Over the past few years, the issues have slowly started to be sorted out. People are more optimistic and interest rates should start to rise over the next few years. Therefore Gold has started to be sold since 2011.



## 4.3.2.1 Investment strategies for Gold

### (i) Fundamental analysis

This form of analysis is used to analyze the macroeconomic situation i.e. growth rates, inflation, interest rates, productivity and energy prices. The point with gold is that production is unlikely to change in the near future, but will be influenced by supply and demand from human investors.

### (ii) Technical analysis

Graphs work very well with gold, and we recommend the use of technical analysis to formulate trading decisions.

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# FIXED INCOME

# 5. Fixed Income

## 5.1 Introduction to Fixed Income

Fixed income securities are more commonly referred to as bonds. Most of the time they will give you lower returns, but sometimes they can outperform stocks, especially over shorter periods. The prices are almost always more stable than stocks.

Bonds are debt. When an investor buys a bond they are effectively loaning the bond issuer a sum of money, and that issuer is incurring a debt. The price paid for the bond is the money the investor is loaning the issuer. The issuer then pays the investor interest for as long as the loan is outstanding, and then at the end of the agreed period of the loan (maturity/redemption date), pays the loan back. So in the case of a Government bond, the issuer is the country's Government. They may want to raise money for a number of reasons. For instance the first bond known to have been issued was by the English in 1693 to fund a war against France.

With bonds, the price you pay for the bond is known as the **principal amount** or the face value. The length of the loan is known as the **maturity**. The interest paid on the loan is called the **coupon**. The interest over time as the bond is traded is known as the **yield**.

### 5.1.1 Example of a Bond

Principle amount:	\$10,000
Price:	100 (par)
Maturity:	10 years
Coupon:	10% (\$1,000)

To calculate the yield, you must use the following formula:

$$\text{Yield} = \frac{\text{Coupon}}{\text{Price}} \times 100$$

For the above Bond, the yield = (10 (Coupon) / 100 (Price)) \* 100 = 10%

# 5. Fixed Income

Lets say the price of the bond drops to 90. The coupon stays at \$10, but yield changes:

$$\text{Yield} = \frac{10}{90} \times 100 = 11.1\%$$

**The relationship between the price and yield is an inverse relationship.** This is because the guaranteed coupon on the initial issue (£1,000) is a greater percentage of the price of the bond (in the example above). This is also the case vice versa.

When dealing with bonds, the yield will usually have a correlation with the credit rating of the bond. Generally, the riskier the bond, the higher the yield offered will be. Also, if people are selling the bond, the yield will go up. One of the reasons they may be selling the bond, is because the risk profile for the bond may have shifted so they wish to place their funds into another security. An example of this is when there is a negative announcement on the state of a country's economy, people may get worried and move their money to buy bonds in a safer deemed country.

## 5.2 Credit Ratings

Bonds have credit ratings, issued by ratings agencies (Standard and Poors, Moody's, Fitch, etc). The higher the credit rating (AAA is highest), the safer your investment is deemed. With a higher risk of default, the bond issuer will need to offer a high rate of return (coupon) in order to compensate for the lender's risk.

Also, as credit ratings change, the bond prices will change accordingly, changing the yield on the current bond.



# 5. Fixed Income

## 5.3 Government Bonds

A government bond is a security issued by a national government denominated in the country's own currency. Government bonds of major economies are generally seen as having very little risk of default. There is hardly any chance that one of these governments will default on their obligations. Therefore these bonds will usually offer a lower yield as they are seen as being the safest and least likely to default. This again depends on the country. For example, over the past few years, Greece has offered a very high yield, in an attempt to encourage investment in their bonds, as investors considered the chance of default was very high.

### 5.3.1 Auctions

An auction is where an **issuer** (e.g. ECB, Treasury) sells the bonds to financial institutions. Bids are taken by the issuer and securities allocated on a high to low basis. These auctions are a way of gauging what the current demand is for the particular bond being auctioned. The key thing to look out for is the **bid/cover ratio**.

Before each auction takes place there is an expected Bid/Cover ratio. If the actual ratio comes out higher than this, then it shows there is a higher demand for the issue, which in turn should be bullish for the price of the bond, and vice versa if the ratio is lower. Another factor to look out for is the **tail**. This is the difference in basis points between the average and the highest yields accepted on auction. A large tail indicates a weaker demand.

## 5.4 Bond Risks

**Interest Rate Risk:** The price of a bond typically moves in the opposite direction to a change in interest rates. So for instance, if Ben Bernanke (chairman of the US Federal Reserve) comes out and says he thinks that they will raise rates in the near future, you would expect the price of US bonds to fall.

**Inflation Risk:** This is the risk of inflation reducing the value of the cash flows from a bond in terms of their purchasing power. Inflation risks arise because the payment a bond guarantees is fixed for the life of the security and does not take into account the time cost of money (i.e. inflation).

**Default Risk:** Risk the company/government defaults on the bond, hence the investor will not receive their initial investment fully back.

# 5. Fixed Income

## 5.5 Trading Bonds

The bond markets that are heavily traded day to day are that of the major economies. The ones which we look at for reference and trading are the US 10year Treasury Note, the Euro 10year Bund and the UK 10year Gilt.

Stock Markets and Bonds generally have an inverse relationship. When people invest in the stock market such as the S+P 500, they are usually investing in a riskier asset than bonds. Whereas investment in bonds is usually considered safer. They will therefore seek higher returns in the stock market when they feel the economy and the prospects for the economy are improving, based mainly on fundamentals. When they are less optimistic, they will invest in bonds, which provide a lower rate of return, but are safer, as they do guarantee some form of return. As they say it, is better to receive something than to lose money.

An example would be that if the S&P 500 is moving up in price then you would expect the US 10year Treasury Note to be going down in price. See the weekly charts below over the last 6 months:



S+P 500



Us 10 YR Treasuries

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DAY 2 – SECTION 1

# STOCKS & EQUITIES

# 1. Stocks & Equities

## 1.1 What are stocks?

A **stock** is a share in the ownership of a company. Stock represents a claim on the company's assets and earnings. As you acquire more stock, your ownership stake in the company becomes greater. Stock is also referred to as **equity** or **shares**.

Being a shareholder of a public company does not mean you have a say in the day-to-day running of the business. Instead, one vote per share to elect the board of directors at annual meetings is the extent to which you have a say in the company. The management of the company is supposed to increase the value of the firm for shareholders. If this doesn't happen, the shareholders can vote to have the management removed, at least in theory. Generally, the average member of the public will not really own enough shares to influence these things. The main reason the average public buys shares is to gain a share of the company's profits. These profits are sometimes paid out in **dividends**. As a shareholder, you also have a claim on the company's assets, although this only comes into play if a company goes bankrupt or into liquidation.

Although you own a share in the company, you are not personally liable if the company can not pay its debts. **Shareholders have limited liability**. The maximum you can lose by owning stock is the amount of your investment.

**Companies issue stock to raise money.** A reason why a lot of companies go down this route to raise money is that they are not required to pay back the money or make interest rate payments, as would be the case if they issued bonds or got a loan. **By becoming an owner of stock you assume the risk that the company might not be successful and you may lose your investment.** Taking on this risk of not being guaranteed a return, you would expect some kind of benefit, and demand a greater return should your investment be successful. This is the reason why stocks have historically outperformed bonds and other investments.

## 1.2 Pricing

The price of a stock is based on what investors feel the company is worth at that moment in time, as well as reflecting the growth that investors expect in the future.

It is important to note that the stock price of a company is not the value of the company. The value is the **market capitalization**. This is the stock price x number of shares outstanding, e.g. – A company that trades at \$10 per share and has 20 million shares outstanding has a value of \$10 x 20 million = \$200 million.

There are various factors that affect the value of a company, the most important being **earnings**. This is the profit a company makes. Publicly listed companies are required to report their earnings four times a year (every quarter).

# 1. Stocks & Equities

Earlier on you were introduced to the terms **bull** and **bear**. The stock market is often spoken of in these terms. A bull market is when the economy is doing well, jobs are being created, GDP is growing, and stock prices are rising. A person is referred to as being a bull if they believe stock price will go up. Conversely, a bear market is when the economy is not doing well, there is a recession and stock prices are generally falling. A person is referred to as a bear if they feel prices are going to come down. When there is a bear market it is much harder for investors to pick stocks, as most stocks are going down, and no-one wants to buy something that is going down in value. One can get around this by trading futures or CFD's, which allows the trader to sell without having to own the security first.

## 1.3 Equity Indices

An **equity index** is an imaginary portfolio of companies which represent either a particular market or a portion of it (e.g. - S&P500 or S&P500 Financials). The key thing to look at when comparing indices is the **percentage change** rather than the actual numeric value. This is because each index calculates its own value differently. What an index does is that it allows traders to invest in a range of stocks from particular market segments to the total market.

With equity indices they follow the same rules as equities in general. However, it is important to realise that where as an individual company will go up and down solely based on how it performs relatively, an index will have numerous companies and bad news for one company may be outweighed by good news for another company. The larger companies on the index are likely to move the index more.

The largest and most traded equity index in the world is the S&P 500. It has 500 stocks chosen based on factors such as market size, liquidity and industry.

# 1. Stocks & Equities

It is designed to be a leading indicator of US equities and reflects the risk/return characteristics of the large cap universe. The 500 companies are selected by the S&P index committee. It is a market value weighted index, where each stock's weight is proportionate to its market value. Another large US stock index is the Dow Jones. These two indexes correlate very well as can be seen below.



S+P 500



DOW 30

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# 1. Stocks & Equities

Other examples of prominent global stock indexes are the FTSE, Dax, Hang Seng and the Nikkei. All of these indices should generally move in the same direction as a whole over time. As per the previous section and charts in fixed income, the indices will generally have an inverse relationship to the bonds in terms of price.



FTSE



NIKKEI

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# 1. Stocks & Equities

If we look in more detail, we can see why this inverse relationship between bonds and stocks exists. When the economy is doing well, the stock market will generally be doing well. If the stock market is going up then bond prices would be coming down. This is because most investors invest in either bonds or stocks. So if stocks are doing well, then the probability that they will outperform bonds is high (as bonds generally give a lower fixed guaranteed return). Investors are more likely to take their money out of the bonds and pile it into stocks. Hence, stock prices increase and bond prices decrease. On the other hand, as stocks guarantee no return, when the economy is not doing well, investors are much more likely to look for the 'safe haven' of bonds as it will at least guarantee a return. In this scenario, one would expect bond prices to rise and stock prices to fall. This rule is not a given but exists most of the time in the medium to long-term timeframe.



S+P 500



10 YR US TREASURY

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# 1. Stocks & Equities

However there are exceptions. When interest rate decisions come out, initially the price of bonds and stocks will generally go the same direction. This can be explained by taking a look at what affect an increase in interest rates has on the economy. If the interest rate increases, then you would expect the price of bonds to drop. This is because as the rate goes up, new issues of the bond will start to give a better coupon to reflect the current interest rate. So in theory holders of current bond issues would look to sell their bonds to buy the new issues, hence the price would go down. At the same time, when interest rates increase, company's costs go up. This is in the form of increased loan payments, having to pay a higher yield on any bonds they issue, etc. Then there is also the fact that most companies rely on the consumer's having disposable income to purchase their goods and services. When interest rates go up, individual's and household mortgage payments go up, etc and their disposable income decreases, so they are less likely to buy these goods and services. The process works in reverse when interest rates decrease.

Also, when there is economic uncertainty in the market, and traders are not sure what is going to happen, then the relationship can be a bit sporadic. A good recent example of this can be seen in the UK. It was known since the start of the year that the Bank of England was going to have a new governor, Mark Carney. This has led to people speculating on what his policies will be for the UK economy and has seen the relationship between the FTSE and the Gilts not being an inverse as such. See below.



FTSE 100



10 YR UK GILT

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# 1. Stocks & Equities

## 1.4 Other Market Movers

One last thing to be aware of when trading stocks is **triple witching**. This term often gets referred to in reports and articles. It occurs when the contracts for stock index futures, stock index options and stock options all expire on the same day. Triple witching days occur 4 times a year on the third Friday of March, June, September and December. The markets tend to be very volatile in this period of trading as traders look to offset their positions before the expiry at the closing bell.

DAY 2 – SECTION 2

# MARKET FUNDAMENTALS 2

# 2. Market Fundamentals 2

## 2.1 Economic Indicators

- Every day economic data is released from different countries
- Some are more important than others. The economic calendar displays the importance.
- The greater the importance, the larger the expected move in the markets will be, as more traders will be focusing on it
- **Only unexpected data will move the market**

### Economic Calendar

Global Economic Calendar (GMT -5:00)						Date Range		Filter Results
<a href="#">Adjust Timezone</a>								
Date	Time	Currency	Importance	Event	Actual	Forecast	Previous	
Apr. 05	00:01	MYR	▼▼▼	Malaysian Trade Balance	8.20B	5.80B	3.30B	⊕
	01:00	JPY	▼▼▼	Leading Index P	97.5	97.2	95.0	⬆️⊕
	01:00	JPY	▼▼	BoJ Monthly Report				⊕
	01:00	EUR	▼▼▼	Estonian Consumer Price Index (MoM)	0.70%		0.60%	⊕
	03:00	GBP	▼▼▼	Halifax House Price Index (MoM)	0.2%	0.2%	0.5%	⊕
	03:00	HUF	▼▼▼	Hungarian Industrial Output (YoY)	-5.40%		-1.40%	⊕
	05:00	EUR	▼▼▼	GDP (QoQ)	-0.6%	-0.6%	-0.6%	⊕
	05:00	EUR	▼▼▼	Retail Sales (MoM)	-0.3%	-0.2%	0.9%	⬇️⊕
	06:00	EUR	▼▼▼	German Factory Orders (MoM)	2.3%	1.2%	-1.6%	⬆️⊕
	07:30	CLP	▼▼▼	Chilean Economic Activity (YoY)	3.8%	4.9%	6.7%	⊕
	07:30	INR	▼▼▼	Indian FX Reserves, USD	292.65B		293.37B	⊕
	07:30	INR	▼▼▼	Indian Bank Loan Growth	14.10%		15.40%	⊕
	08:30	USD	▼▼▼	Average Hourly Earnings (MoM)	0.0%	0.2%	0.1%	⬇️⊕
	08:30	CAD	▼▼▼	Employment Change	-54.5K	9.0K	50.7K	⊕
	08:30	USD	▼▼▼	Nonfarm Payrolls	88K	200K	268K	⬇️⊕
	08:30	CAD	▼▼▼	Trade Balance	-1.0B	0.2B	-0.8B	⬇️⊕

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# 2. Market Fundamentals 2

## 2.2 Economic Indicators

Asset	If business conditions are stronger than expected	If inflation is higher than expected	If business conditions are weaker than expected	If inflation is lower than expected
Fixed Income prices	↓	↓	↑	↑
Stock market prices	↑	↓	↓	↑
Value of domestic currency	↑	↑	↓	↓

# 2. Market Fundamentals 2

Now, we will look into the various economic indicators in more detail and explain what they mean and their impact on each market.

## (i) GDP and GNP:

Gross Domestic Product measures the total value of a country's output (total of all economic activity). The Gross National Product is the same as GDP but includes a country's net earnings from abroad. So to put it simply, the GNP is a measure of monies generated by residents of the country in question, but is not limited to the domestic output as there is an element of it generated abroad.

Market reaction to unexpected changes in GDP/GNP:

Market	Increase in GDP/GNP	Decrease in GDP/GNP
Bond Prices	↓	↑
Equity Market	↑	↓
Currency	↑	↓

An important point to note is that GDP and GNP levels are predicted very easily by the market due to the components that make up the figures. Hence, any large variation from the expected figures will usually be the catalyst to move the markets.

## (ii) Producer Prices Index:

These are the prices that producers charge to the retail sector, hence a rise in these will lead to a rise in the overall retail prices charged to the consumers. It is obvious then that Producer Prices are a key indicator of inflationary pressure as there is such a direct link between retail prices and supplier prices. Analysts will keep a close eye on this figure as market sensitivity to any unexpected changes is very high.

## 2. Market Fundamentals 2

Any inflationary pressure will lead to the monetary authorities to increase interest rates, and vice versa. The fixed income market sees large rises in inflation as cause for interest rates to rise, hence a large rise in inflation should see bond prices drop (yields to rise). Equity markets should see inflationary pressure as being negative as it decreases the amount of disposable income people have, as well as higher interest rates increasing the cost of credit.

Market reaction to changes in Producer Prices Index:

Market	Increase in Producer Prices	Decrease in Producer Prices
Bond Prices	↓	↑
Equity Market	↓	↑
Currency	↑	↓

Producer Prices Index are also impacted by commodity prices. Many commodities are supplies (e.g. oil, agricultural raw materials, etc...) and any changes in the prices will directly impact the costs to the producers for their supplies which then follow through to the prices paid by retailers. Commodity prices are also seasonal so this must be taken into consideration.

Consumer Prices are the prices that are paid by the consumer on the street. This is obviously directly linked to the Producer Prices and the markets should react in the same way as the table for Producer Prices.

### (iii) Industrial Production

This is a set of numbers that shows the monthly output of a country's factories, mines, utilities and so on. An increase in output in this area signals economic growth and a decline indicates a contraction in growth. The fixed income market views an increase as inflationary, hence an expected increase should see a drop in bond prices. The equity markets should rally, as an increase in output would mean that firms are more profitable.

## 2. Market Fundamentals 2

Market reaction to changes in Industrial Production:

Market	Increase in Industrial Production	Decrease in Industrial Production
Bond Prices	↓	↑
Equity Market	↑	↓
Currency	↑	↓

### (iv) Unemployment

This indicator is watched very closely by analysts and traders. High levels of unemployment indicate lower growth prospects for a country as unemployment gives rise to the opinion of poor job security in the wider economy. Individuals and households will have less disposable income thus leading to lower spending in the economy and a drain on the resources of the government. The government may use interest rates to try and curb unemployment by stimulating spending through lowering the cost of borrowing.

Market reaction to changes in unemployment levels:

Market	Increase in unemployment	Decrease in unemployment
Bond Prices	↑	↓
Equity Market	↓	↑
Currency	↓	↑



## 2. Market Fundamentals 2

Average earnings is another reliable indicator to provide an insight into disposable income in the economy. A high average earnings number would suggest that there is greater buying power and in turn this should impact equity markets in the same way that an increase in employment would. The opposite is true for a lower than expected average earnings figure. There is also a positive correlation between earnings and inflation, with greater buying power comes greater demand from consumers which would fuel increases in retail prices.

### (v) Retail Sales

Retail sales calculates the amount of merchandise sold within the retail trade by taking a sample of companies engaged in the business of selling 'end products' to consumers. With a high retail sales output, the economy is likely to be in a period of increased spending, which should increase corporate profitability as well as job stability etc.

Market reaction to a change in Retail Sales:

Market	Increase in Retail Sales	Decrease in Retail Sales
Bond Prices	↓	↑
Equity Market	↑	↓
Currency	↑	↓

**REMEMBER THAT ONLY UNEXPECTED NEWS MOVES THE MARKET**

# 2. Market Fundamentals 2

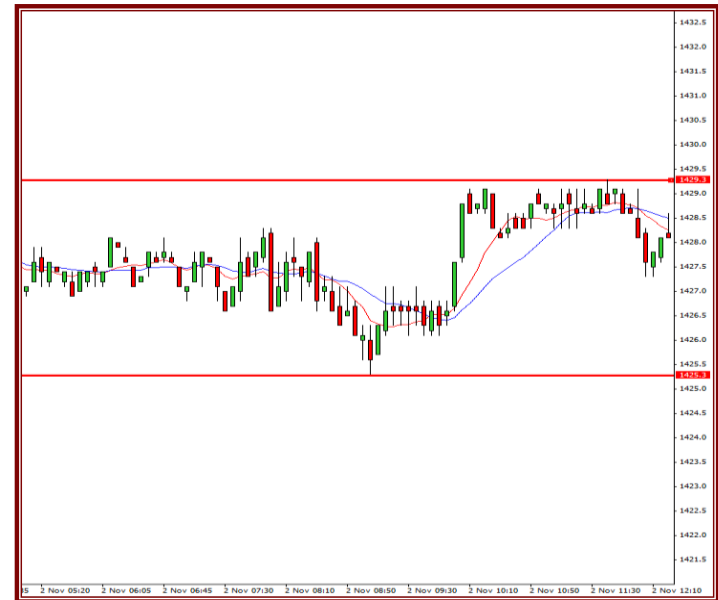
## 2.3 Examples of Data Releases

### (i) S&P 500 and the Non-Farm Payrolls

Firstly, we will look at the effect of Non-farm Payrolls on the S&P500. Non-farm payrolls is the most closely watched indicator in the Employment Situation, considered the most comprehensive measure of job creation in the US. Such a distinction makes the NFP figure highly significant, given the importance of labour to the US economy. On a whole if the number beats expectations we're looking to buy the market and alternatively if the reading is worse we're looking to sell.

The market expectations for this figure were 125k. On the right is a chart of how S+P was trading prior to the release of the number.

The number came out at 171k. What do you expect to happen?



## 2. Market Fundamentals 2

### (i) S&P 500 and the Non-Farm Payrolls

A chart of the market after the number is:



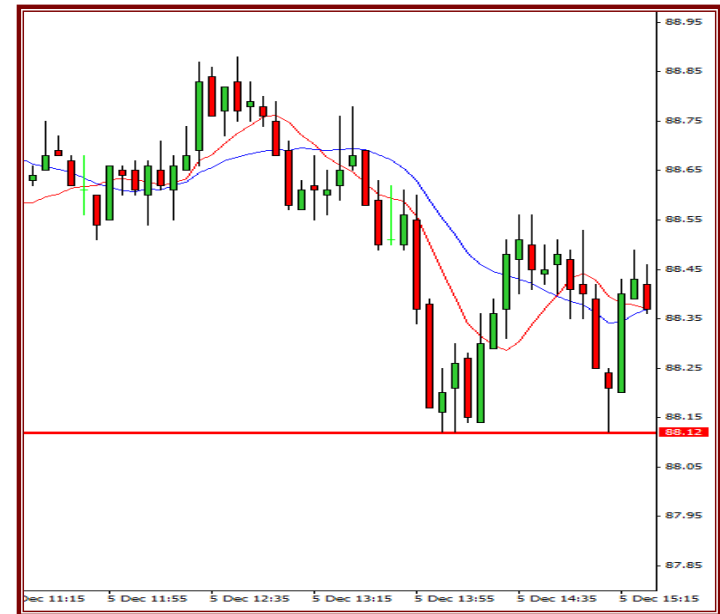
# 2. Market Fundamentals 2

## (ii) Crude Oil and Crude Oil Inventories

Looking at the effect of Crude Oil Inventories on Crude Oil price. The COI report is used to assess weekly US supply and demand for crude oil, gasoline, diesel, heating oil and natural gas. The report outlines activity in the energy sector, includes weekly energy supply and consumption rates. The energy markets tend to rise when inventories are falling, and fall when inventories are rising and are above the market consensus estimate.

The market expectations for this figure were -500k. Below is a chart of how Crude Oil was trading prior to the release of the number.

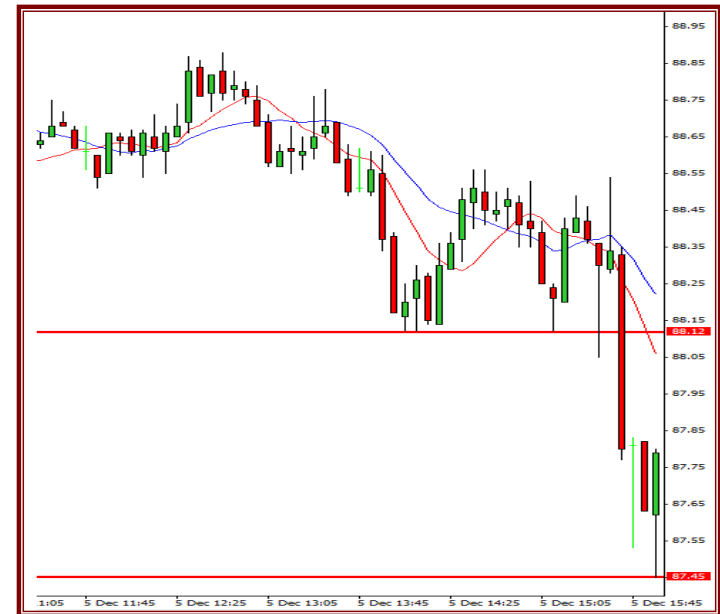
The number came out at -257k, which means an increase in inventories by more than expected hence an increase in supply.



## 2. Market Fundamentals 2

### (ii) Crude Oil and Crude Oil Inventories

In this example we can see Crude Oil Inventories came out at -257K vs -500K expected. This read shows an increase in inventories (increase in supply) and as such we can see the price of Crude falling from pre-data levels of 88.37, to lows of 87.45 after the data, a decrease of \$0.92.



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## 2. Market Fundamentals 2

### (iii) AUD/USD and the Australian Interest Rate decision

Looking at the effect on the Reserve Bank of Australia Rate Decision on the Australian Dollar vs. the US Dollar. Changes in rates affect interest rates in consumer loans, mortgages, and bond rates. Since short term interest rates essentially reflect the return on holding a currency, rate decisions usually affect the exchange rate of the Australian Dollar. An increase in rates will see the Australian Dollar appreciate while rate decreases will cause the currency to fall against its peers.

The market expectations for this figure were 3%. Below is a chart of how AUD/USD was trading prior to the release of the number.

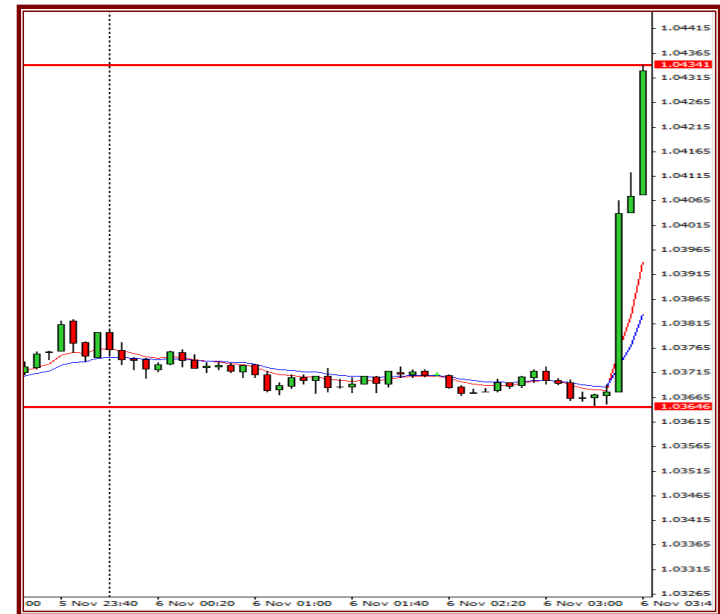
The rate announcement came out shortly after and it was announced that rates were increased to 3.25%. How would you trade it?



## 2. Market Fundamentals 2

### (iii) AUD/USD and the Australian Interest Rate decision

In this example we can see the RBA increase rates to 3.25% vs. 3.00% expected. This quarter % increase causes the Australian Dollar to appreciate significantly against the US Dollar. Trading from 1.0367 before the release to highs of 1.0434, an increase of 67pips.



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## 2. Market Fundamentals 2

### (iv) Gold and the US GDP figure

Looking at gold, over the US GDP figure. It is important to note that gold is considered a safe haven product, so if any economic data comes out worse than expected, you would expect to see traders buy gold as a flight to safety mind frame enters the market. A safe haven is a product that traders turn to when they think their economy is not performing well.

The GDP was expected as 1.1% QonQ. Here is a chart showing how gold was trading prior to the data release.

The GDP came out as -0.1%. How would you expect the market to react?





## 2. Market Fundamentals 2

### (iv) Gold and the US GDP figure

As you can see the market has rallied higher, which would be expected as the data came out worse than expected, which would make traders feel the US economy is contracting.



# 2. Market Fundamentals 2

## 2.4 Key terms and definitions

We will now explain and define the key terms that you are likely come across during your trading career before we get into the more integral and complex areas of trading.

<b>Bid:</b>	The price at which a market maker is willing to buy a certain security.	<b>CME:</b>	The Chicago Mercantile Exchange.
<b>Ask/offer:</b>	The price at which a market maker is willing to sell a certain security.	<b>Correlation:</b>	The statistical relationship between 2 variables. A positive correlation means that when one variable moves in a certain direction, so will the other. The opposite is a negative correlation
<b>Bear:</b>	A person who believes that a stock, index or market will decline in value. The opposite is a Bull.	<b>Coupon:</b>	The contractual rate of interest on a credit instrument
<b>Benchmark:</b>	The standard to measure, monitor, price or evaluate a security or derivative.	<b>Credit Crunch:</b>	When credit availability is restricted, hence normal economic or financial activity is impacted.
<b>Breakeven Point:</b>	The level whereby an investor achieves neither profits or losses. Often used in options and other derivative trading.	<b>Deflation:</b>	This is where you have a decrease in prices in the economy. This may occur for various reasons, i.e. reduced demand in the economy, a stronger currency meaning imports are cheaper etc.
<b>Broker:</b>	the person/party that acts as an agent for his/her customer. They are the middle agents between traders (buyer and seller) and improve liquidity.	<b>Derivative:</b>	A financial product which derives its value from an underlying security. An example is a future or an option.
<b>Cheap:</b>	This term is used to compare various securities. When one says a security is cheap, it is used in a relative sense		

## 2. Market Fundamentals 2

<b>Fair Value:</b>	the indifference point from a modelling perspective, as to whether to buy or sell a security. If the market value is greater than the fair value, then it can be suggested that the security should be sold.	<b>Leverage:</b>	The concept of increasing, multiplying or magnifying the market impact of an investment.
<b>Fast market:</b>	Market where prices and volumes change very quickly.	<b>Limit:</b>	An order which is to be filled at the stated price or better.
<b>FED:</b>	The Federal Reserve Bank	<b>Liquidation:</b>	Act of buying/selling some or all positions to reduce or close out a portfolio.
<b>FOMC:</b>	Federal Open Market Committee	<b>Long:</b>	Is a purchased position or a party who is bullish on the market. Hence they get into a position, where they expect the price to rally, and will make money when it does so.
<b>Forward:</b>	A cash market transaction in which delivery of the commodity is deferred until after the contract has been made. Although the delivery is made in the future, the price is determined on the initial trade date.	<b>Margin:</b>	Amount of capital which needs to be put up as collateral to open a new trading position
<b>Future:</b>	A Future is an obligation to buy or sell a certain underlying product at a certain expiry date at an agreed price. We will explain this in a lot more detail later in the training manual	<b>Market if touched:</b>	Is an order that becomes a market action when a price is hit.
<b>Hedge:</b>	Method used to protect a position. A long hedge is where a derivatives contract is bought to protect the value of a short actual position. The short is where a derivative is sold to protect against a long actual position.	<b>Market on Close:</b>	An order to buy or sell on the close of the market. You can also have buy on close or sell on close.
<b>IMF:</b>	International Monetary Fund	<b>Market on Open:</b>	An order to buy or sell on the open of the market. You can also have buy on open or sell on open.

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## 2. Market Fundamentals 2

<b>Market Value:</b>	The value of an open position. Determined by multiplying the known or implied prevailing price by the quantity	<b>Spread:</b>	The simultaneous purchase and sale of two related instruments. Strategy tries to transform outright price risk into a basis or relationship risk position. Also viewed as the difference between the bid and the offer or the profit margin.
<b>NYMEX:</b>	The New York Mercantile Exchange	<b>Stagflation:</b>	A situation where you have a relatively high rate of unemployment couples with a relatively moderate to high rate of inflation
<b>Open Order:</b>	An order which remains live until it is executed or cancelled	<b>Stop:</b>	An order which gets executed when a level is hit or crossed. A sell stop order is used for a long position, and will be placed below the market, to stop any further losses from being taken on. A buy stop is the opposite.
<b>Range:</b>	The difference between the high and low traded prices for a time series for a stated period.	<b>Support:</b>	A price level where securities are expected to receive buy orders. It refers to the boundary of some described trading range, and is usually at the bottom. The opposite is Resistance, which is where the sale orders are expected.
<b>Round-trip:</b>	The opening purchase or sale of a stock or futures contract and the subsequent opposite and closing transaction in the same contract. Transaction costs are usually quoted on a round-trip basis.	<b>Technical</b>	Study of market behaviour which tries to <b>Analysis:</b> discern patterns which enhance position taking. We will go into more detail later.
<b>Short:</b>	The position opposite that of a long. Here the person hopes to capitalise when the price of a certain security decreases.	<b>Yield:</b>	The rate of return on an asset. Expressed as a percentage of the current market price.
<b>Slippage:</b>	Refers to the commissions, fees and other costs of executing a transaction.		
<b>Sovereign:</b>	A debt security issued by the government other than the United States of America.		

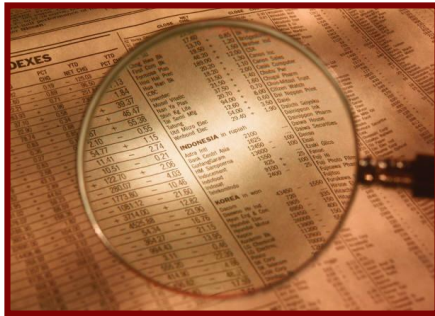
# INTRODUCTION TO TECHNICAL ANALYSIS

# 4. Introduction to Technical Analysis

## 4.1 Fundamental Analysis v Technical Analysis

Fundamental Analysis is the tool used to analyse the market without the use of charts. You try to analyse everything which can affect the price of the asset, including Macro-economic and Micro-economic factors.

Technical analysis is the use of charts and indicators to help you predict future directions in the price of a security. This is a very powerful tool to use especially when used with Fundamental Analysis as it provide you with trigger, entry and exit points, when and where to enter into a trade.



**Fundamental Analysis**

+



**Technical Analysis**

=

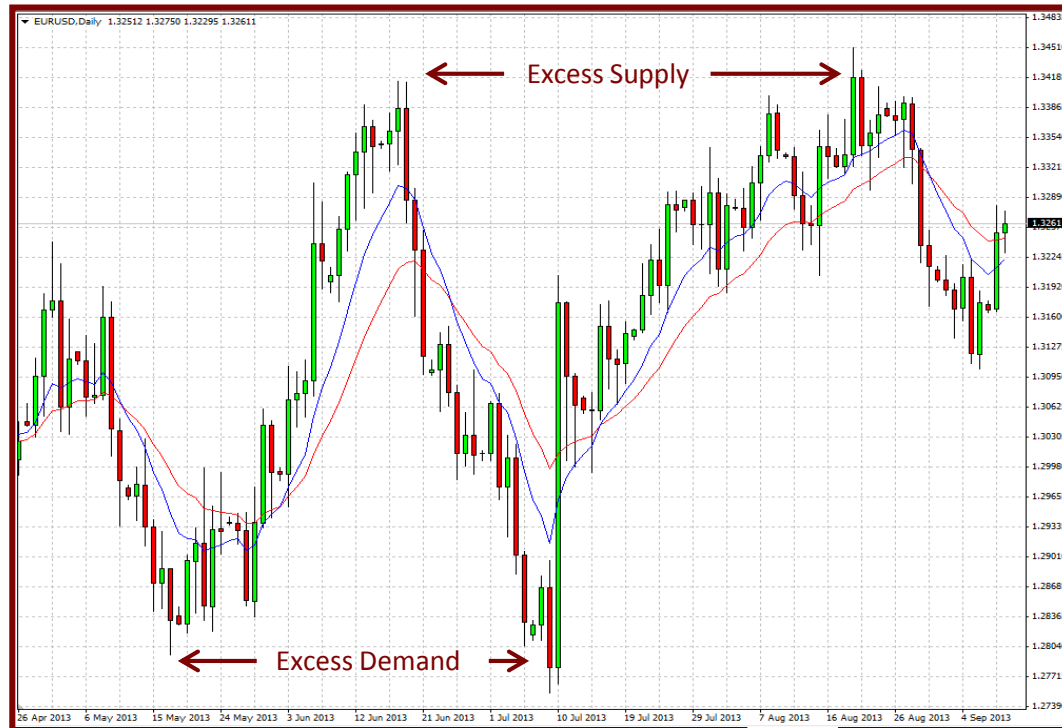


**Profitable Trading Ideas**

# 4. Introduction to Technical Analysis

## 4.2 Supply and Demand

Charts help you to determine areas where there is excess supply (more sellers than buyers) and excess demand (more buyers than sellers). Below I have displayed this on the chart:

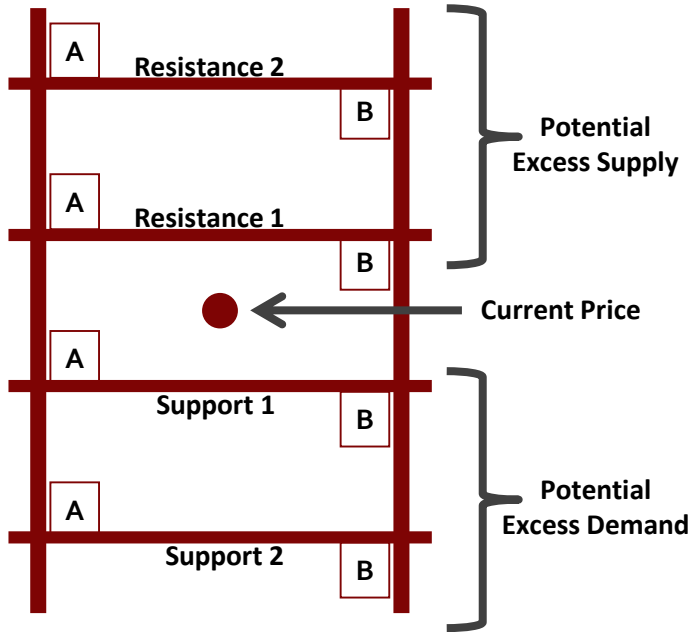


Using technical analysis, these levels can be areas can be predicted thus is easier to forecast future direction.

# 4. Introduction to Technical Analysis

## 4.3 The Ladder

The Ladder is a good tool to use once you have done your technical analysis, as it displays levels which you have found in a format which is easy to view. There are many different techniques to find the support and resistance levels. To name a few, you can use; Previous Highs/Lows, areas of congestion, trend lines, gaps in the market, round numbers as well as indicators providing these levels to you such as Moving averages and Fibonacci's.



### 8.3.1 When to trade?

You should always trade at levels and never in between. The reason being, when trading between levels, you have a 50% chance of the market rising, or market falling. When trading at Levels, you are improving the probability your trade will be profitable.

### 8.3.2 When to buy?

You should buy in front of the support or when we break resistance predicting the market will go higher. The points on the ladder is where the **A** is displayed. The reason you buy in front of the support is because there should be extra demand there, hence the market has a high probability of bouncing higher. By buying in front, you are increasing the probability you get filled on the order. You may also break resistance where you should buy once broken. You should not be buying in front, because there should be excess supply, therefore the market has a high chance it will bounce off, hence you buy on the break as it will only trade higher once broken.

### 8.3.3 When to sell?

You should sell in front of the resistance levels or on a break of the support levels. The points on the ladder is where the **B** is displayed. The reasoning is the opposite to why you should buy.

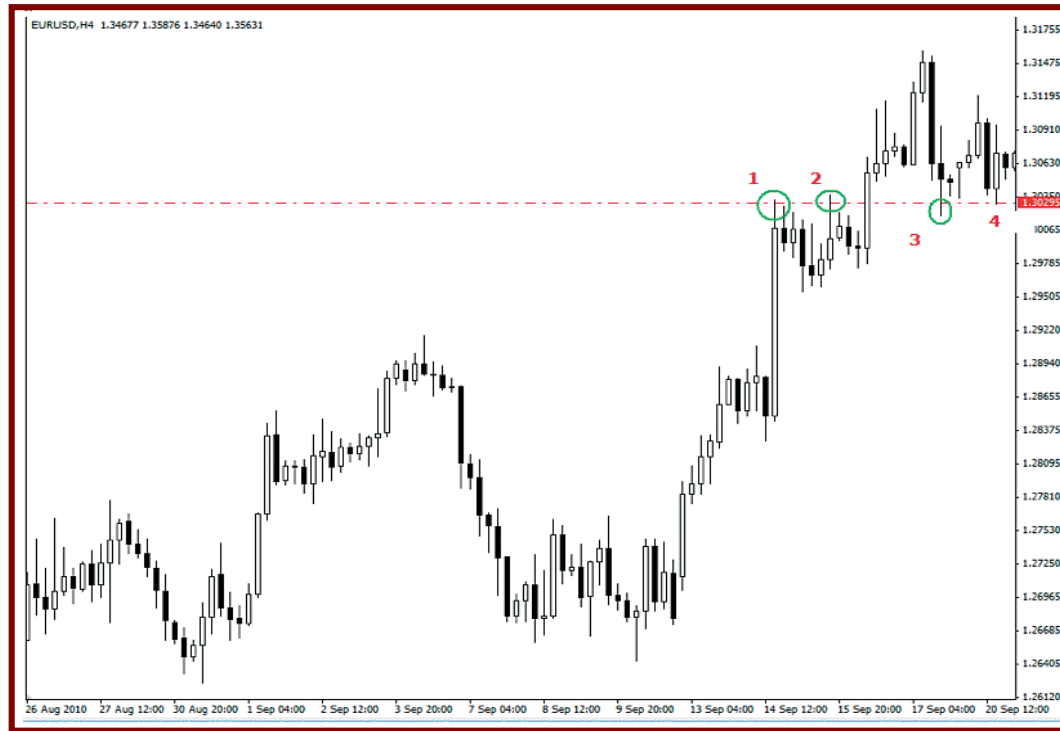
If you buy at A, your take profit should be at a B (in front of the resistance), and the stop loss should be at B (below the Support). If you sell at B, your take profit should be at A (in front of the support) and stop loss at A (above the resistance)



# 4. Introduction to Technical Analysis

## 4.4 Support turns into resistance and vice versa

When support breaks, it turns into resistance and the opposite is also true. As can be seen from the below chart, 1 and 2 acted as resistance previously. Once it was broken, it acted as support which is demonstrated by 3 and 4. This is a regular occurrence as people who wish to get long will now be buying at 3 and 4 which has created excess demand there.



# 4. Introduction to Technical Analysis

## 4.5 Trend lines

A very popular function of technical analysis is to draw trend lines. This not only displays the future direction of the market, but also levels where you should buy/sell.

- Trend lines are dynamic Support/Resistance levels.
- They must have a minimum of 3 touches to be confirmed and the more touches they have the stronger they are. The most important points are the first and last points to draw off.
- Lines are drawn using the extremes of price.
- If price spikes through the line, the line becomes a weaker level of support/resistance.
- Trends can speed up or slow down. It may therefore be necessary to re-draw a line. Trend lines which are very steep ( $>45^\circ$ ) are more likely to slow down.
- Once broken, the trend lines will reverse their S/R roles.



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# 4. Introduction to Technical Analysis

## 4.6 Other notes

Over the next sections, we will teach other forms of technical analysis and how to build it into your trading strategies.

The reason why technical analysis works so well is that everyone is looking at the same charts and tools. Therefore if the majority of traders view a level as significant it will be. Significant support levels will be met with demand for the security, whereas resistance levels will be met with excess supply for the security. Technical Analysis should be used with Fundamental Analysis.

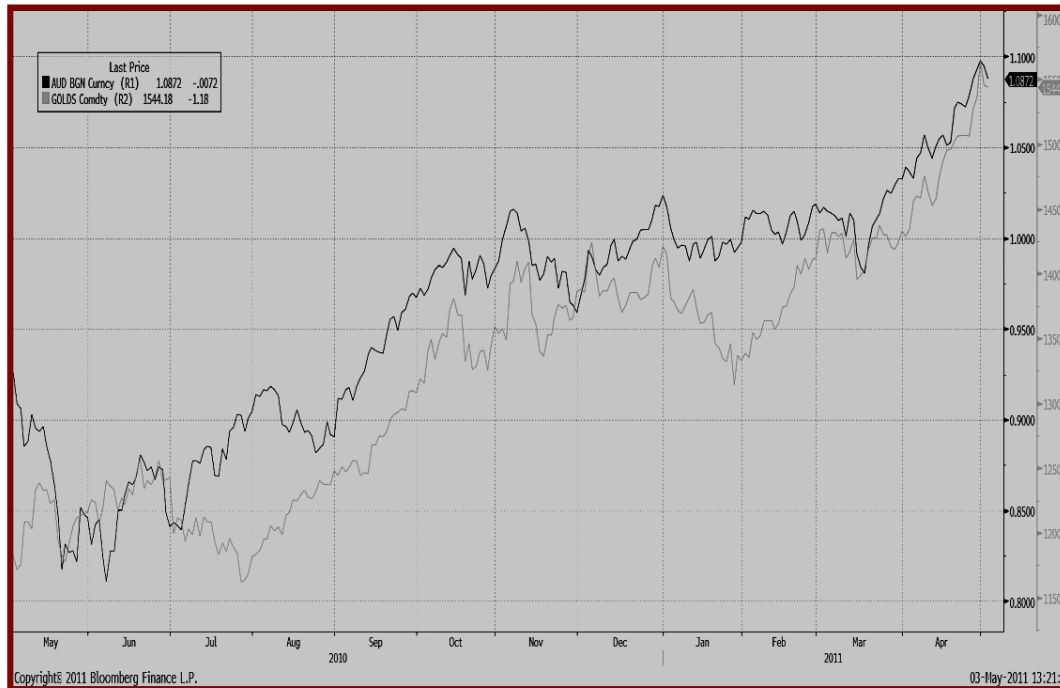
Fundamental is very good at predicting changes in the direction of a security before Technical Analysis predicts it. Therefore hand in hand, and you will get a clearer picture

# CORRELATION STRATEGY

# 5. Correlation Strategy

## 5.1 What are Correlations?

Correlations are a statistical measure of how the prices of various financial assets move in relation to others. If the correlation is positive, that means when the price of one asset increases, so does another. A negative correlation will mean that when the price of one asset increases, the other's decreases.



As can be seen this is an example of how AUD/USD correlates with the price of GOLD. Generally as the price of AUD/USD increases, so does the price of Gold. What we will do in this section is to teach you how to identify correlations, and understand how to create a profitable strategy.

# 5. Correlation Strategy

## 5.2 Calculating Price Ratios

When you have 2 assets, you can quickly calculate the price ratio. It is simply:

Price of Asset A

Price of Asset B

This price ratio will help you to understand whether the price of an asset is overvalued/undervalued compared to the price of another asset, looking at historical values for this ratio.

## 5.3 Gold versus Silver

Here is an example from earlier in the year where we consider the the correlation ratio between Gold and Silver.

At the time, the price for Gold is 1549 and Silver is 26.80, giving me a ratio of:

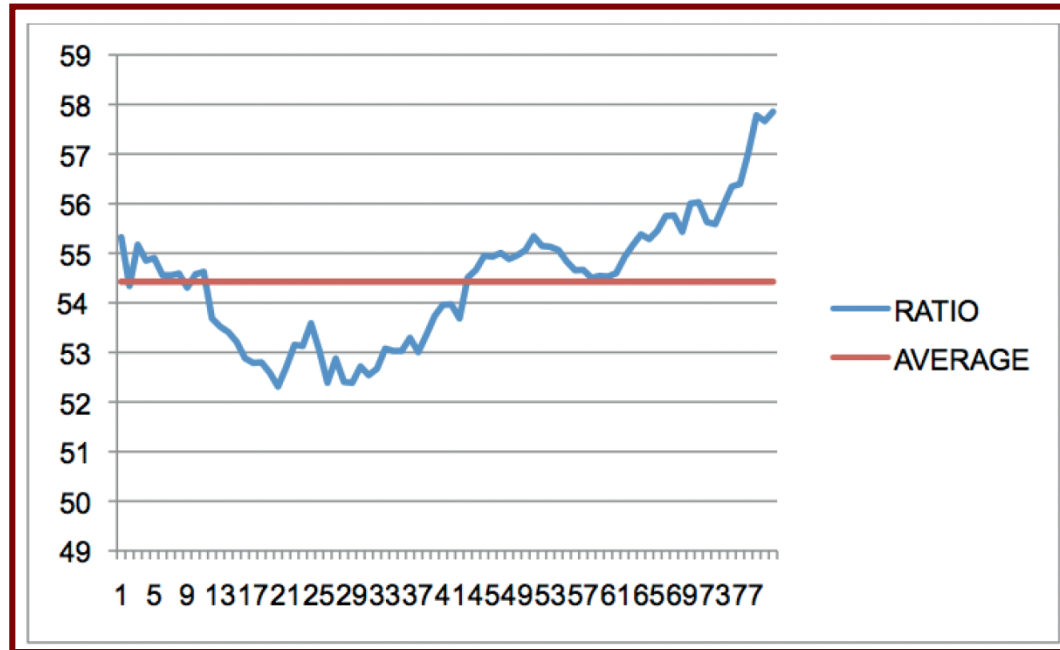
1547.70 (Gold)

26.75 (Silver)

= 57.85

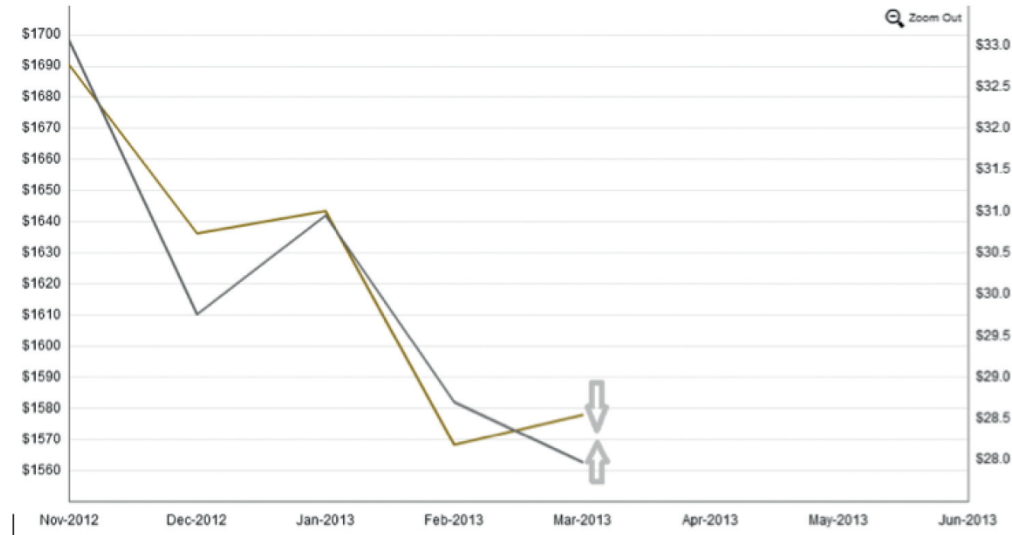
# 5. Correlation Strategy

The chart of the ratios 3 months prior, along with the average ratio is:



This is taking the daily data since the start of the year, showing a significantly higher than average ratio. If the ratio is above the average line, that tells me that Asset A, in this case Gold is overvalued in relation to Silver. If the ratio was below the average, this would tell me that Asset B, in this case Silver is overvalued.

# 5. Correlation Strategy



Above we have the price charts of both gold and silver on the same graph. As you can see, the gap usually closes between the price of Gold and Silver. Therefore in this case, we would look to Sell Gold and Buy Silver. As a strategy, this reduces the risk of metal prices moving in an unfavourable direction, and you are merely trading the ratio to change rather than the price.

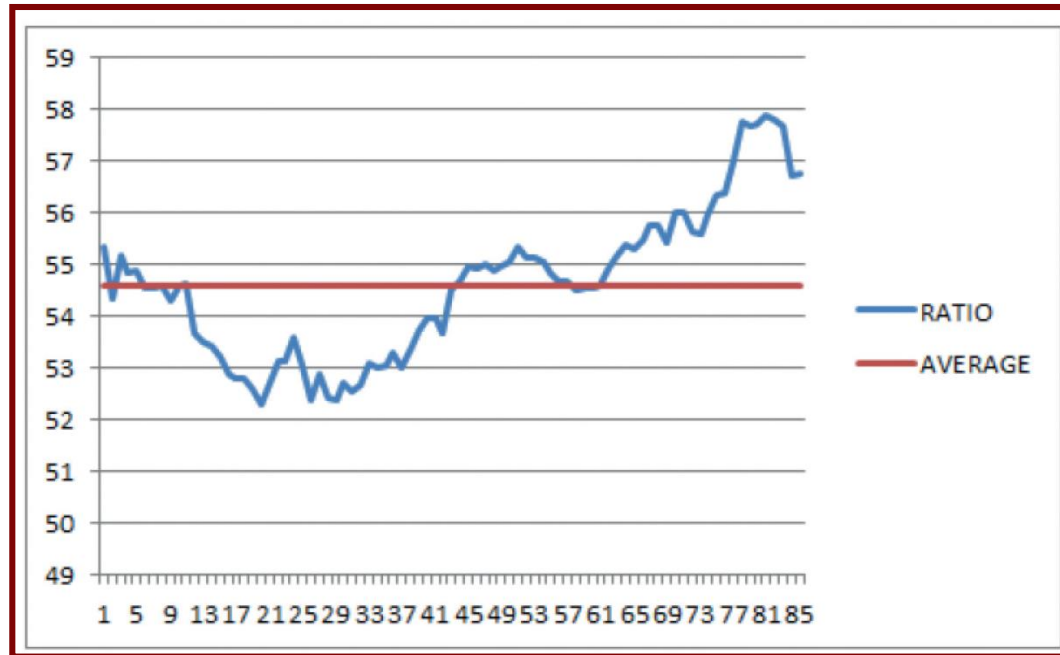
Having done that, this is what you would expect your account to look like:

6185659	2013.04.04 14:33	buy	1.00	xagusd	26.772	0.000	0.000	27.851	0.00	-8.10	5 395.00
6185668	2013.04.04 14:32	sell	1.00	xauusd	1547.97	0.00	0.00	1581.80	0.00	-1.44	-3 383.00
											2 002.46



# 5. Correlation Strategy

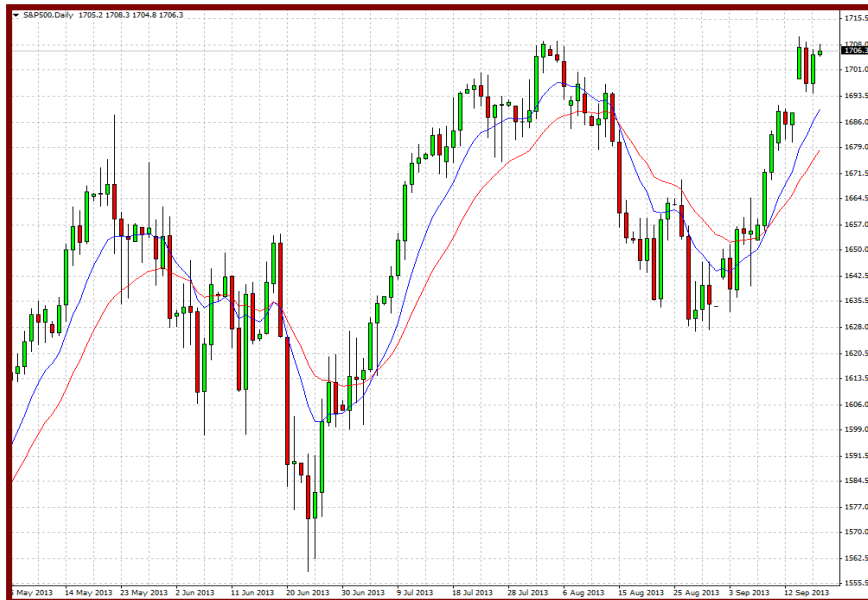
As you can see, as the gap closes, you are making more money on one asset than the other, providing you with net profits as this happens. After a week of placing the trade, the ratio chart is as follows:



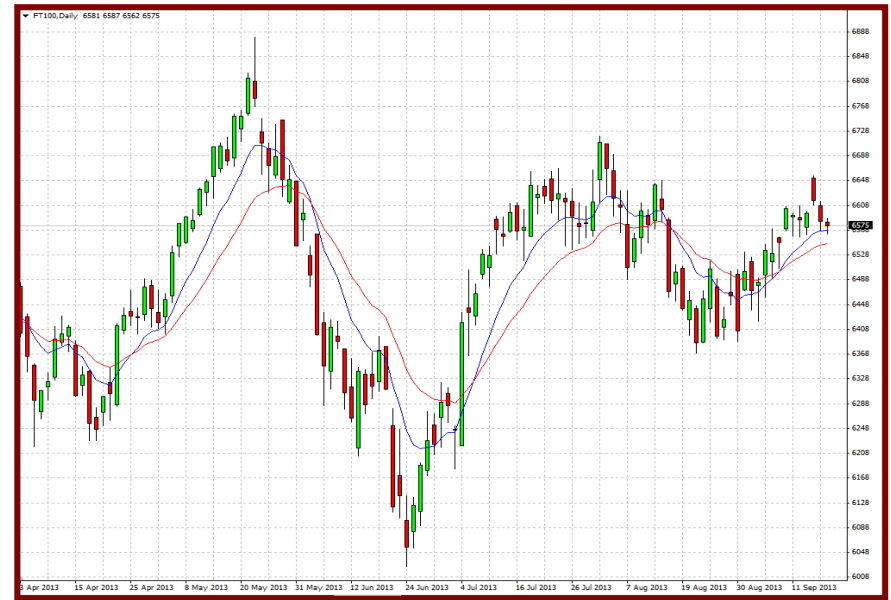
# 5. Correlation Strategy

## 5.4 Building a strategy

We will now build a ratio chart using the S&P 500 and the FTSE 100. The daily charts for the 2 assets are as follows:



S+P 500



FTSE 100

As you can see in general, the price of the FTSE goes up, with the price of the S+P. Global stock markets generally move together as an improving situation will help all economies. S+P is usually the leader, as the US economy is the biggest in the world, so improvements or deteriorations is likely to impact other economies in the world. Let's now look at the Correlation Ratio between the 2 asset classes:

# 5. Correlation Strategy

## Step 1

We export the data from Metatrader into Excel:

The screenshot shows the Metatrader 4 interface. The top menu bar includes File, View, Insert, Charts, Tools, Window, and Help. The 'Tools' menu is open, showing options like New Order, History Center, Global Variables, MetaQuotes Language Editor, and Options. A red arrow points from the 'History Center' button in the 'Tools' menu to the 'History Center: S&P500, Daily' window. The 'History Center' window displays a table of historical data for S&P500, Daily, with columns for Time, Open, High, Low, Close, and Volume. The table contains 1425 records, starting from 2013.04.04 00:00 to 2013.03.15 00:00. The 'Symbols' list on the left includes FX Majors 1, FX Minors, EUR Crosses, GBP Crosses, FX Futures, Contract 5, HEATOIL\_K13, NIFTY50\_J13, PALLAD\_M13, PLATIN\_N13, S&P500, 1 Minute (M1), 5 Minutes (M5), 15 Minutes (M15), 30 Minutes (M30), 1 Hour (H1), 4 Hours (H4), Daily (D1), Weekly (W), and Monthly (MN). The 'Database: 1425 records' label is visible above the table. The table has columns for Time, Open, High, Low, Close, and Volume. The data is sorted by Time, with the most recent record at the bottom.

Time	Open	High	Low	Close	Volume
2013.04.04 00:00	1553.2	1563.5	1552.6	1563.0	9907
2013.04.03 00:00	1569.4	1574.0	1550.3	1553.1	18681
2013.04.02 00:00	1562.3	1574.2	1560.7	1572.2	15644
2013.04.01 00:00	1569.5	1571.4	1559.2	1562.2	8026
2013.03.31 00:00	1569.8	1569.9	1568.4	1569.4	114
2013.03.28 00:00	1561.9	1570.8	1556.2	1570.3	13580
2013.03.27 00:00	1563.4	1566.8	1552.3	1561.7	13646
2013.03.26 00:00	1550.2	1565.4	1549.9	1563.5	15147
2013.03.25 00:00	1563.2	1567.3	1546.1	1550.1	23531
2013.03.24 00:00	1556.8	1565.1	1555.6	1563.3	946
2013.03.22 00:00	1545.7	1559.3	1542.1	1559.1	18154
2013.03.21 00:00	1555.9	1557.6	1543.6	1545.8	17501
2013.03.20 00:00	1545.5	1562.6	1543.4	1556.0	19212
2013.03.19 00:00	1554.2	1558.1	1538.8	1545.4	23547
2013.03.18 00:00	1543.4	1559.3	1536.5	1554.1	17433
2013.03.17 00:00	1545.2	1547.2	1543.0	1543.2	848
2013.03.15 00:00	1562.7	1565.6	1555.9	1560.2	11051

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# 5. Correlation Strategy

## Step 2

Once we have the data in a spread sheet, we build a sheet, copying the closes for each asset class across the same dates:

	A	B	C	D
1	S&P 500	FTSE 100		
2	1629.3	6374		
3	1634.8	6311		
4	1636.8	6121		
5	1642.6	6139		
6	1652.8	6056		
7	1668.5	6124		
8	1674.6	6189		
9	1676.1	6228		
10	1677.1	6223		
11	1682.5	6290		
12	1677	6285		
13	1679.2	6246		
14	1683.8	6419		
15	1694.5	6435		
16	1695.5	6405		
17	1696.5	6527		
18	1693.5	6527		
19	1687.5	6569		
20	1691.1	6558		
21	1691.1	6597		
22	1691.9	6567		
23	1686.4	6572		
24	1686.4	6640		
25	1689.6	6625		
26	1704.8	6623		
27	1708.3	6616		
28	1705.1	6627		
29	1703.8	6614		
30	1696.3	6591		
31	1692.3	6574		
32	1697	6580		
33	1688.8	6613		

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# 5. Correlation Strategy

## Step 3

Once you have the data into one spread sheet, you calculate the ratio's using the formula above. You then have to calculate an average of the ratios, by using the function =AVG(RATIO CELLS). It is worth also calculating a 10 period moving average You will then get a spread sheet which looks like the following:

	A	B	C	D	E	F	G	H
1	S&P 500	FTSE 100		RATIO	AVERAGE		10 SMA	
2	1629.3	6374		0.255617	0.258018			
3	1634.8	6311		0.25904	0.258018			
4	1636.8	6121		0.267407	0.258018			
5	1642.6	6139		0.267568	0.258018			
6	1652.8	6056		0.272919	0.258018			
7	1668.5	6124		0.272453	0.258018			
8	1674.6	6189		0.270577	0.258018			
9	1676.1	6228		0.269123	0.258018			
10	1677.1	6223		0.2695	0.258018			
11	1682.5	6290		0.267488	0.258018		0.267169	
12	1677	6285		0.266826	0.258018		0.26829	
13	1679.2	6246		0.268844	0.258018		0.269271	
14	1683.8	6419		0.262315	0.258018		0.268761	
15	1694.5	6435		0.263326	0.258018		0.268337	
16	1695.5	6465		0.262258	0.258018		0.267271	
17	1696.5	6529		0.259841	0.258018		0.26601	
18	1693.5	6527		0.259461	0.258018		0.264898	
19	1687.5	6569		0.256888	0.258018		0.263675	
20	1691.1	6558		0.257868	0.258018		0.262511	
21	1691.1	6597		0.256344	0.258018		0.261397	
22	1691.9	6567		0.257637	0.258018		0.260478	
23	1686.4	6572		0.256604	0.258018		0.259254	
24	1686.4	6640		0.253976	0.258018		0.25842	
25	1689.6	6625		0.255034	0.258018		0.257591	
26	1704.8	6623		0.257406	0.258018		0.257106	
27	1708.3	6616		0.258207	0.258018		0.256942	
28	1705.1	6627		0.257296	0.258018		0.256726	
29	1703.8	6614		0.257605	0.258018		0.256798	
30	1696.3	6591		0.257366	0.258018		0.256747	
31	1692.3	6574		0.257423	0.258018		0.256855	
32	1697	6580		0.257903	0.258018		0.256882	
33	1688.8	6613		0.255376	0.258018		0.256759	
34	1685.3	6710		0.251162	0.258018		0.256478	
35	1687.2	6668		0.253029	0.258018		0.256277	
36	1694.4	6620		0.255952	0.258018		0.256132	
37	1680.7	6605		0.254459	0.258018		0.255757	

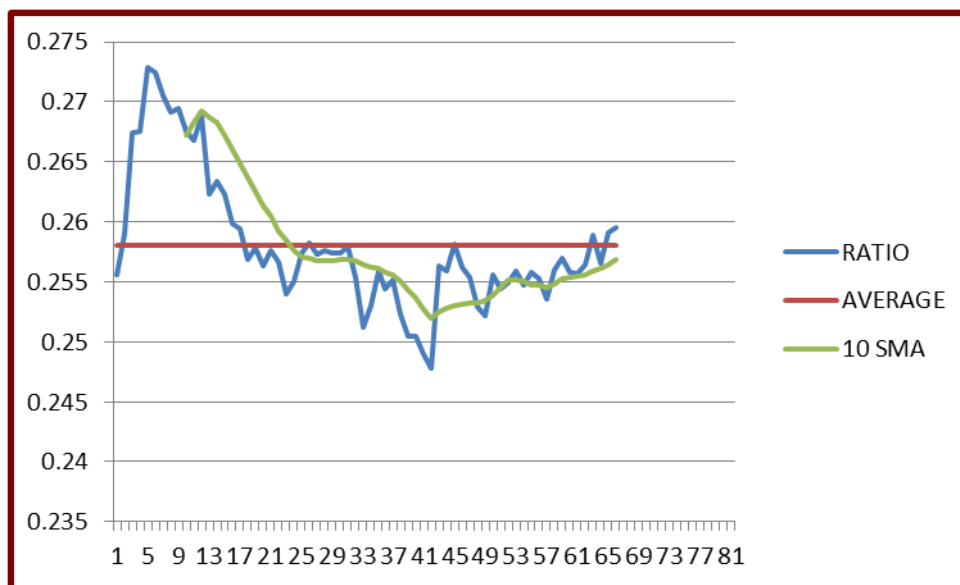
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# 5. Correlation Strategy

## Step 4

You can now draw a chart of the average and the ratios, which will tell you how much an asset is overbought/oversold in relative terms:



Since the ratio is above the average, it is telling me that the S+P is slightly overbought against the FTSE. I will not trade now though. Once the SMA is above the average, then I will look to sell the S+P and buy the FTSE, expecting the 2 market ratio's to return back to the longer term average. Likewise, if the SMA stays where it is, but the ratio starts trading below the SMA, I will buy the S+P, and sell the FTSE.

The correlation strategy can also be used if you have a position in one security and you wish to hedge yourself with another to minimise your losses, so in this case if I was short S+P, I may buy the FTSE against it to hedge myself.

# 5. Correlation Strategy

## 5.5 What are Inversely Correlated Assets:

Some products have an inverse correlation. An example is Gold and S&P 500. As the economy improves, people will be taking their money out from safe haven assets (such as gold, treasuries) and placing them in higher risk assets (such as equities and commodities such as oil).

Examples of the S&P 500 and Gold charts are as follows for the same time period:



S&P 500

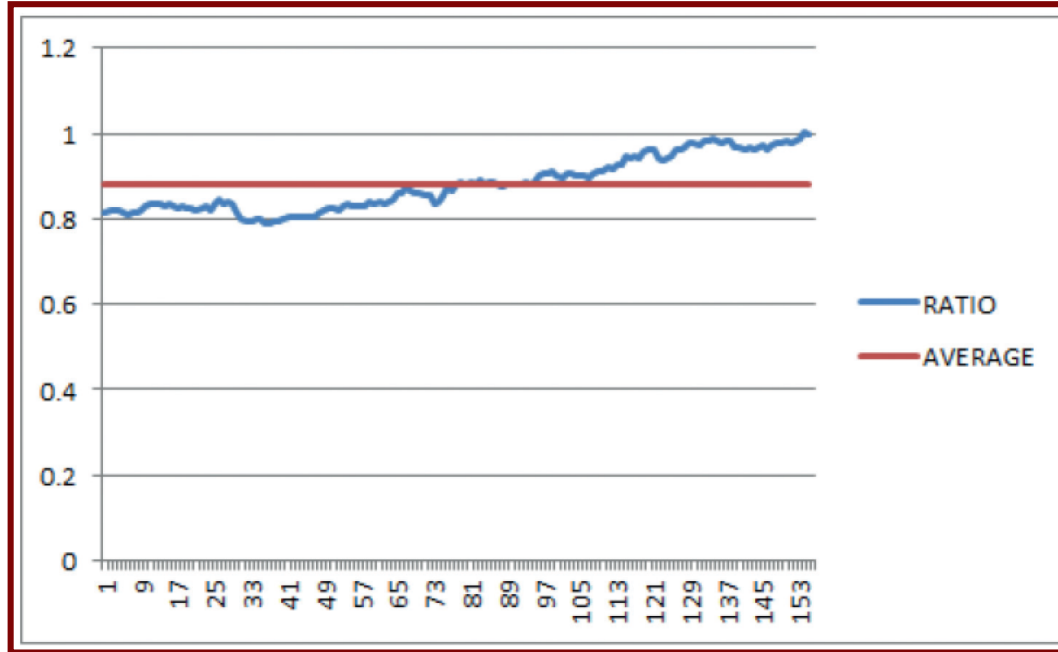


GOLD

As can be seen, the moving averages point the direction of this trend, and in this case they are inversely correlated.

# 5. Correlation Strategy

The Correlation ratio chart is:



Whenever the ratio is below the average line, you would look to sell both assets. When it is above the average you would look to buy both. In this example, I would look to start buying Gold and S&P. Over the time period of the chart, S&P has risen by 5% whereas GOLD has dropped by 15%, so the strategy of selling both would have made a net gain of 10%.



# 5. Correlation Strategy

## 5.6 Trading the Correlations

When trading the correlations, they should always be traded at the extremes. The way to calculate an extreme, is to get a high/low within the correlation ratios, and calculates the distance from the mean. The largest difference is the max high/low from the average, and the other high/low can be easily calculated being of the same difference.

So for example if the max low ratio is 0.2 away from the average, then the max high forecast is 0.2 above the average.

Some people use a short term moving average (maybe 10 periods). When ratio is above the average and the moving average, you sell the correlation. When below the average and moving average, you buy it.

## 5.7 Risk Management

This is a relatively low risk strategy as you are trading different products in a manner in which they are hedging themselves. Therefore external shocks to the markets will mean you are protected. You are not trading the price using the strategy, but merely the change in ratio.

You should be operating a 1:1.5 loss:profit ratio on this strategy, and calculate the loss as a percentage of your trading account. A good idea is to risk 5% of your account on each trading strategy. You cannot put orders in to trade ratios, so you have to manually monitor your positions.

If you feel the ratio will reverse, you can:

- Close all positions
- Trade in the opposite direction (reverse the trade)
- Close one of the trades out of the 2. You may build a view on one of the trades, hence close the other one.

You can trade the correlations on multiple time frames also. Longer term time frames (i.e. Daily Charts), which provide you with much larger correlation corrections. Short term time frames such as 15-30 mins, will provide you with a lot more opportunities to trade overbought/oversold assets.

These trades should be high probability and low risk trades, but stop losses should always be respected.

# MOVING AVERAGES

# 6. Moving Averages

## 6.1 What is a Moving Average?

- A moving average calculates the average price of a security over a specific period of time and a specific period of units of time.
- For example, if we take the closing prices of the last 10 trading days, we would add them all together and divide the result by 10, to calculate the moving average.

## 6.2 Types of Moving Averages

There are different types of moving averages, the two main ones are:

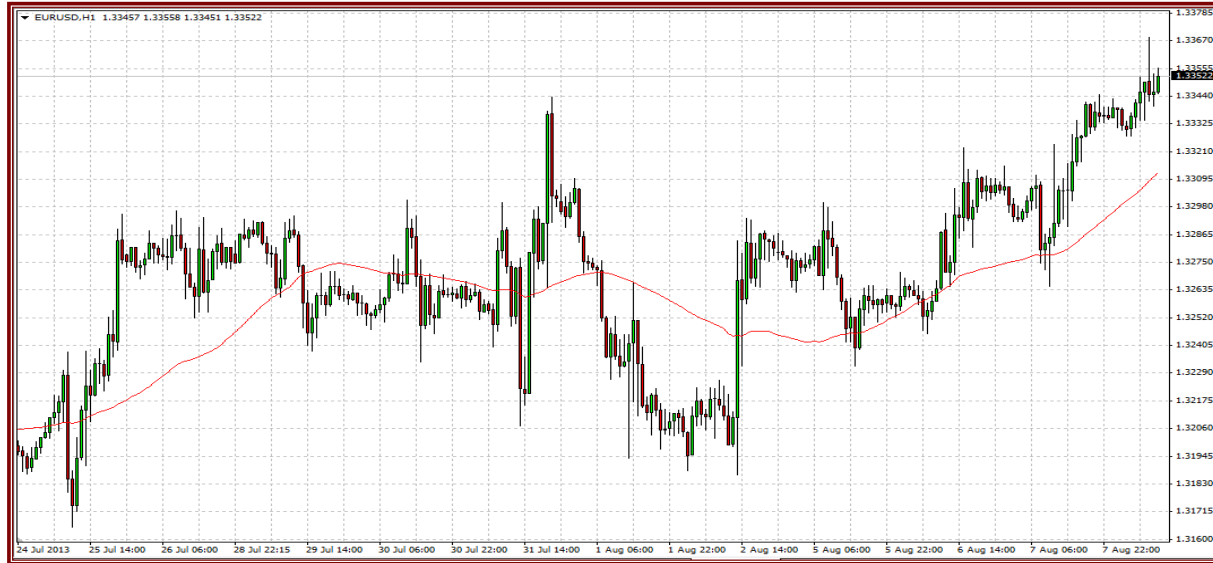
- Simple Moving Average (SMA)
- Exponential Moving Average (EMA)

In this course we will look into more detail of the types of moving averages, their application and the problems of using moving averages.

# 6. Moving Averages

## 6.3 What is a Simple Moving Average?

A simple moving average is calculated by adding the closing price of a security for a number of time periods and then dividing this total by the number of time periods. The chart below shows the 1 hour 50 SMA:



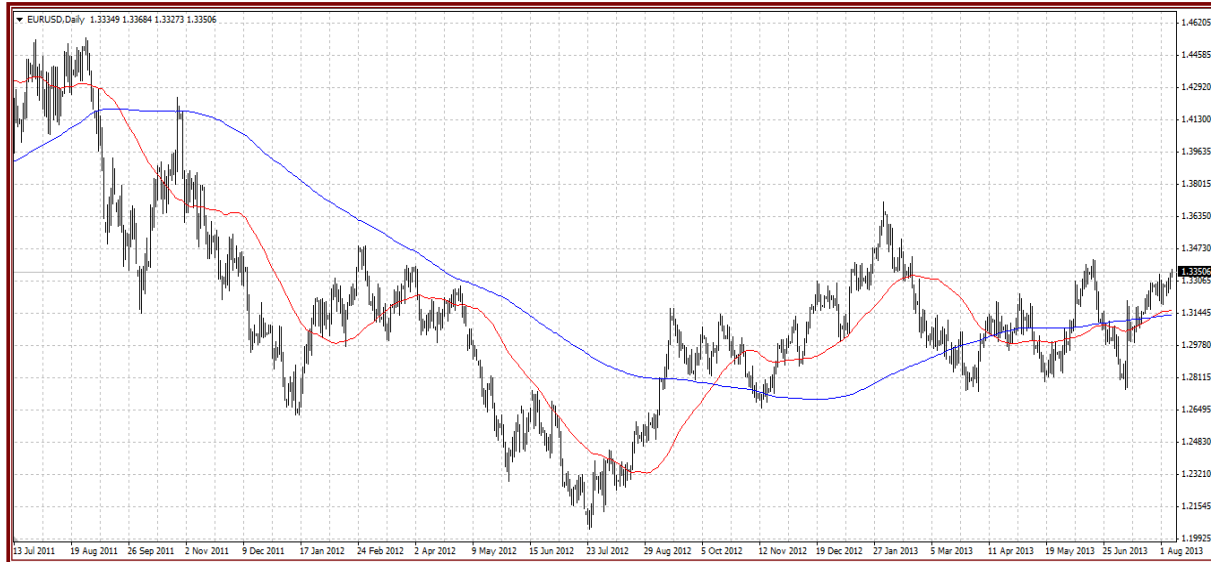
What does this show?...

This shows the average price for a security over a set time, giving equal weighting to each unit of time. So it gives you an idea of what price has done and as a result can be used to give you an idea of where price is going without focusing too much on the noise.

# 6. Moving Averages

## 6.3.1 How do I use a Simple Moving Average?

Below shows a simple application of a slow moving average and a longer term moving average:



The Slow moving average in this case is the blue line as it reacts to the market very slowly. In this case it takes the average of the last 200 periods. The Fast moving average (red line) reacts quicker to the market, in this case taking the average of the previous 50 periods.

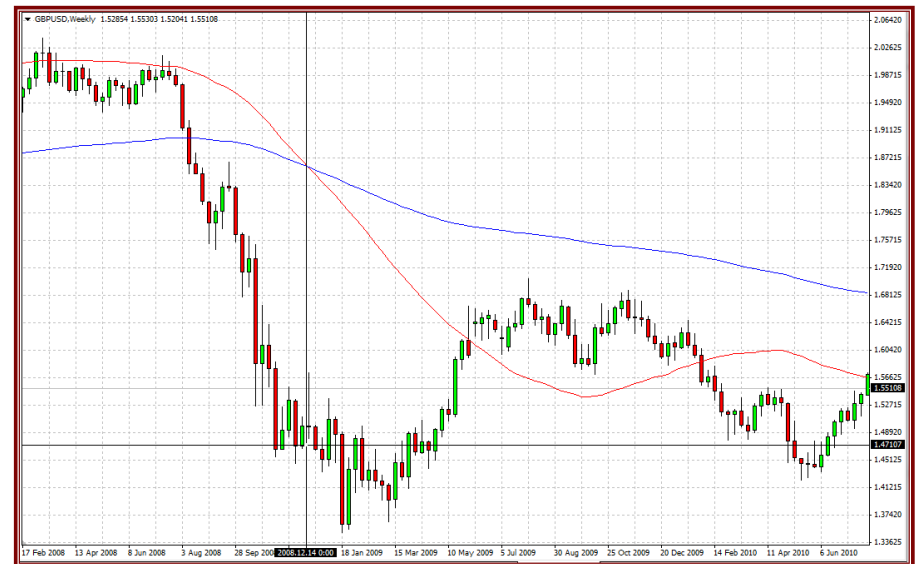
# 6. Moving Averages

## 6.3.2 Short term moving average crossing the longer term moving average..

- The previous chart showed the short term 50 SMA (red line) crossing over the longer term 200 SMA (blue line) on the topside indicating the end of a trend and the start of an uptrend.
- Once the short term moving average crosses over the long term moving average, this then offers us good opportunities to enter into a short/long position. Trend followers use this analysis to form a view on the trend and to trade it. For example, once the cross occurs, a trend follower may look for areas to buy/sell EUR/USD. A simple strategy is to buy it every time it trades at the fast moving average (red line), and aim to close the position when the red and blue moving averages cross the other way. You can also sell when the opposite occurs

## 6.3.3 Problems with the Simple Moving Average..

The most notable problem with the SMA in particular is that because it gives equal weighting to each unit of time this increases/decreases in price can often be lagging and you can sometimes either miss the move or get into the move too late for a good risk reward trade. The chart to the right shows the move down is almost finished before you get the signal.



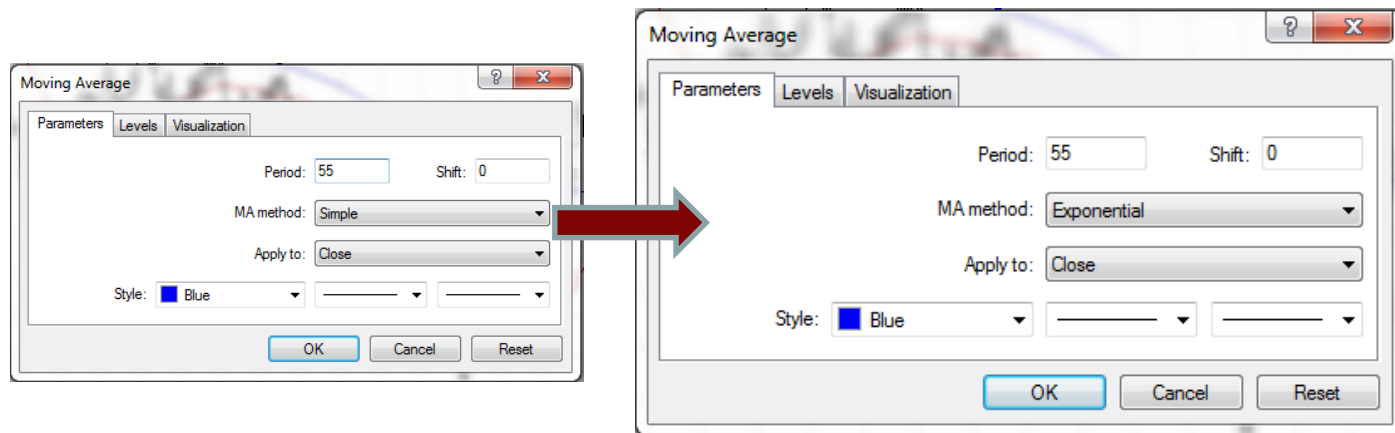
# 6. Moving Averages

Although the signal is still a good signal and gives you an entry you could have made more out of the move if you had got in earlier. Something that is important to realise is that it is often not profitable and difficult to call the tops. Only after they have formed will you get confirmation.

What is important is to be in for most of a move either on the upside or the downside.

## 6.3.4 How can I see a signal earlier and get in sooner to maximise profits for a move?

The use of an exponential moving average (EMA) will give a signal sooner than the simple moving average. Traders look to be long when the short term EMA is above the longer term EMA, and short when the opposite occurs.



# 6. Moving Averages

## 6.4 What is an Exponential Moving Average?

An Exponential Moving Average is a study which gives greater weighting to more recent price data. This is widely used by traders as it is viewed that recent data is more important than data from a further back in time. This moving average also is more adaptive to recent events which have caused price movements.

To Calculate the EMA you need to use the following formula:

$$EMA = ( Price * K ) + EMA ( Y ) * ( 1 - K )$$

Where Price is the current market price, EMA (Y) is the previous EMA, K is the  $(2 / (\text{Number of periods} + 1))$ .

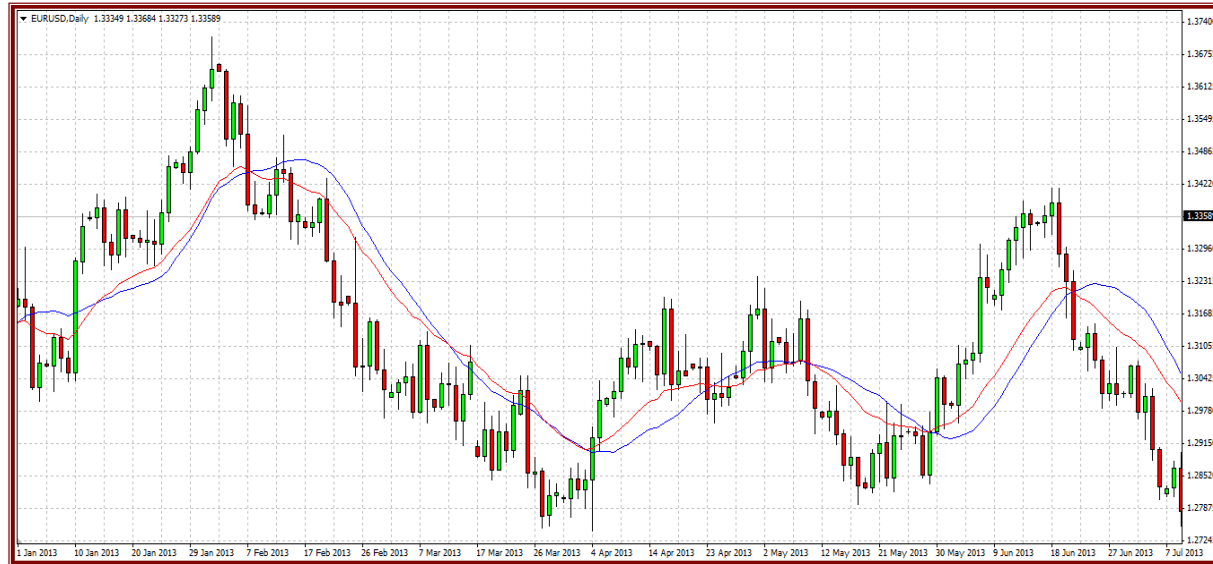
You must use a SMA to get started at the beginning, hence the first EMA is the SMA.

The good news is that you do not actually have to do these calculations in your head every time, as the charting package you use should do this for you.



# 6. Moving Averages

Here is an example of an SMA and an EMA together.



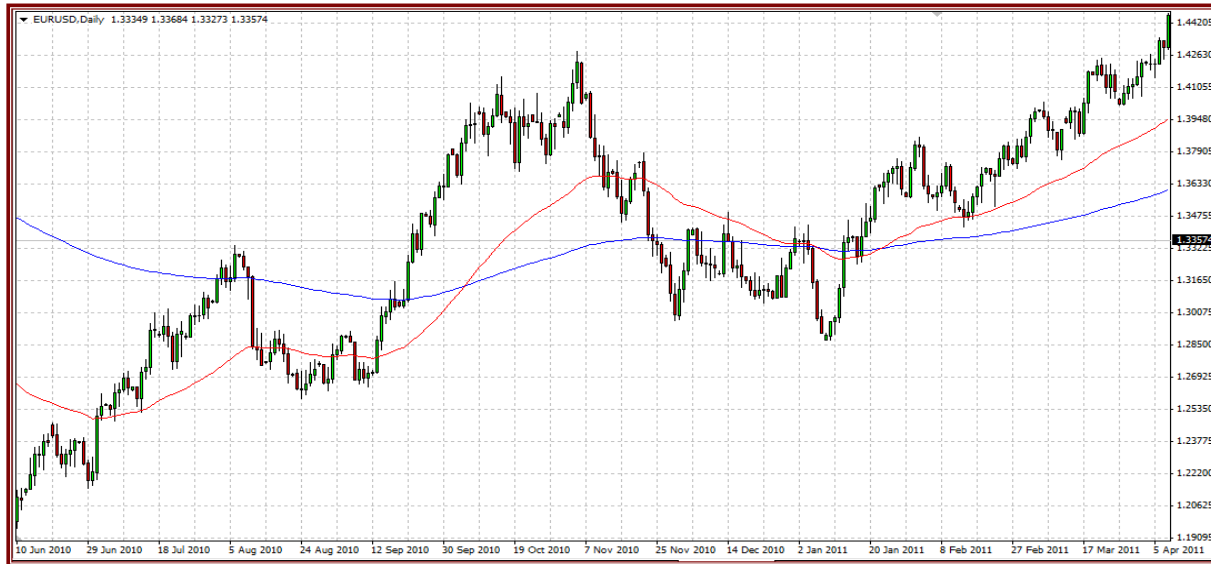
## 6.4.1 Problems with the Exponential Moving Average?

- The EMA is also a lagging indicator and takes time for it to produce a signal, but still provides a quicker signal than the SMA.
- The cross over can sometimes be a consolidation as well and may not provide a good signal as the next page shows but as long as you manage your risk the negative effect of this can be reduced.

# 6. Moving Averages

## 6.4.2 False Signals

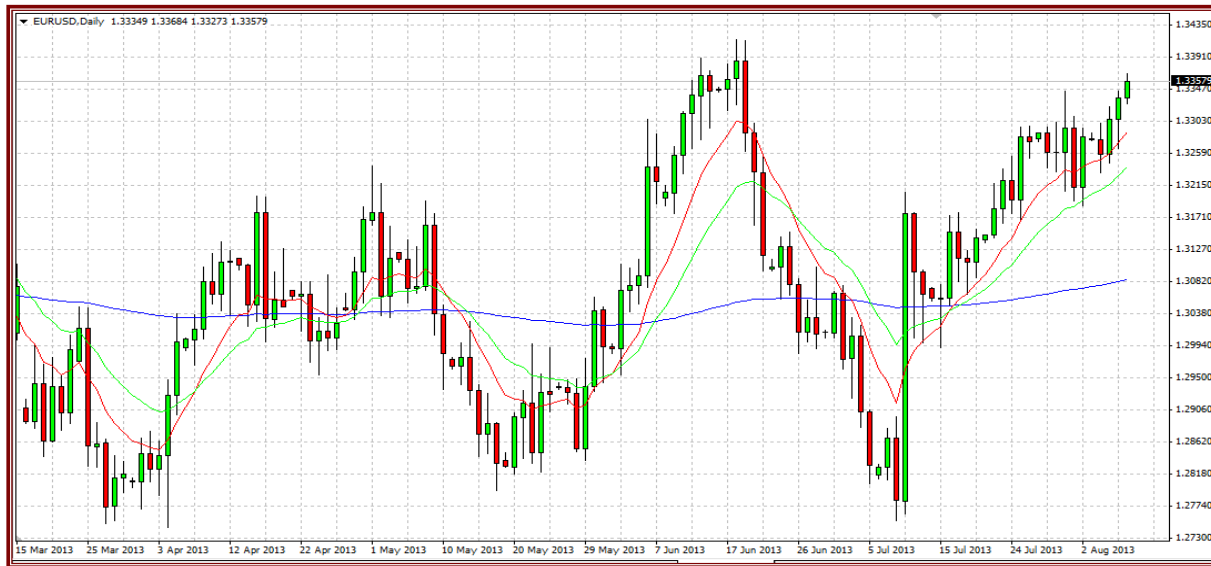
On the below chart you can see that if you sold on the moving average when it had crossed the other moving average this would not have provided a good opportunity to enter the trade and this is why it is important that when you trade you wait for the best entry price to avoid getting in too soon or at a price that does meet your risk reward ratio. So ideally as close to the EMA as possible.



# 6. Moving Averages

## 6.4.3 Using multiple moving averages..

Below you can see how using multiple moving averages can improve the signals and remove some of the consolidation noise that occurs when price pulls back.



# 6. Moving Averages

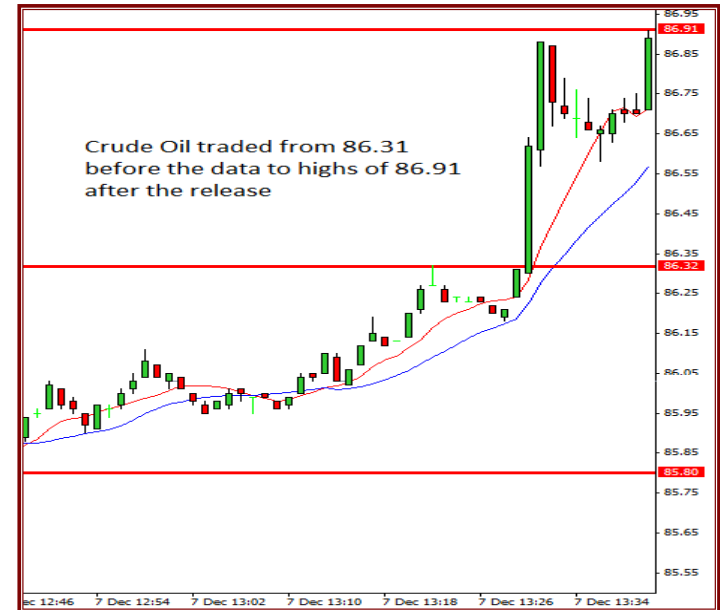
## 6.5 Using Moving Averages after Economic Data

### 6.5.1 Crude Oil after US GDP data is released

The US GDP number has just been announced which came in a lot better than expected. This will cause a rise in the level of risk taking in the market. Therefore you expect equity markets to rally, and safer haven assets such as Gold to fall in price.

Oil is a commodity which should see its price rally. The main reason is, an increase in global growth should see an increase in the demand for commodities such as oil, which are used for production, etc.

When the number is released, you may not be able to get into the market initially. The strategy should be to be patient and look for opportunities to buy. In this case, as we have made a new high, we would look to buy on a dip to the fast moving average (red line), placing a stop below the slow moving average.

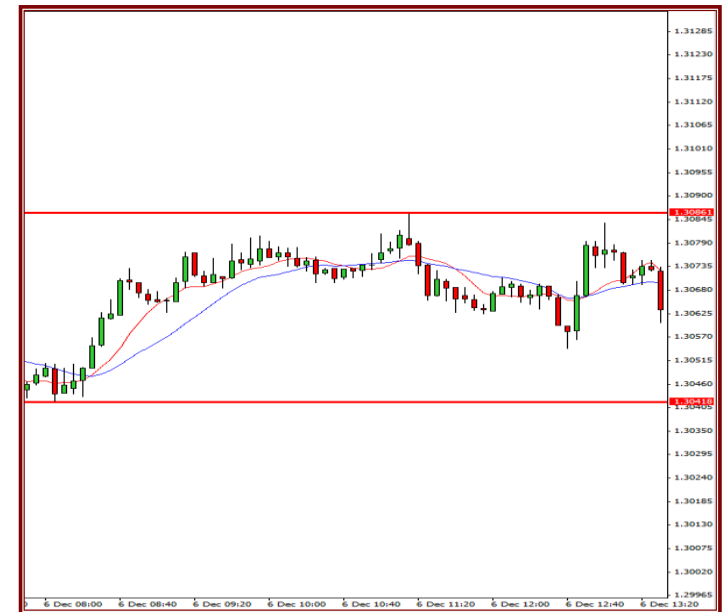


# 6. Moving Averages

## 6.5.2 EUR/USD and the impact of the ECB Press Conference

Looking at the effect of the Mario Draghi press conference on the price of EURUSD. Going into the ECB rate decision consensus was for there to be no change in interest rates. As expected rates were left unchanged at 0.75%. The main focus in the markets was the press conference which was scheduled to start at 13:30pm

- On the right, you have the chart before the press conference started.
- During the conference, you hear negative comments about the Eurozone economy and rates. What would you look to do?

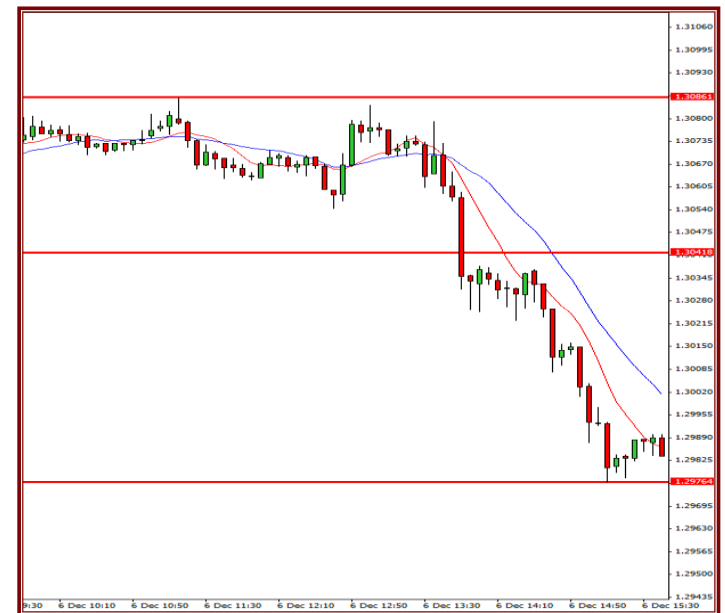


# 6. Moving Averages

## 6.5.2 EUR/USD and the impact of the ECB Press Conference

In this example we can see a strong sell-off in the Euro. The main focus of the press conference centred around Draghi's comments that not all members of the ECB were in agreement about keeping rates unchanged, and that the ECB were talking about negative rates. This sent the Euro tumbling against all other major currency pairs and as noted against the US Dollar. As we can see EURUSD was trading around 1.3063 before the press conference. After Draghi's comments we saw a break of the daily lows at 1.3041 with continued selling pressure down through the 1.30 psychological level to 1.2976. This would have allowed for a potential profit of 80+ pips, showing how market sentiment can be driven by the monetary stance of central bank politicians.

Once Draghi started to speak you saw an initial sharp drop in the value of EUR/USD. One of the main skills to learn to become a good trader is to be patient and to pick your entry and exit levels carefully. In this case here, after we have had the initial move, a good entry would be when the market retraces to the fast moving average. You can sell and place the stop behind the slow moving average.



# DIRECTIONAL MARKET STRATEGIES

# 1. Directional Market Strategies

## 1.1 Strategy 1: Multiple Time Frame Analysis

- Multiple time frame analysis is the process of monitoring the same asset over different time periods.
- You would usually use 3 time periods.
- The first time period should be used for Direction, the second should be used for Confirmation of direction, and the third one should be used to provide entry and exit points.

Getting started:

- The highest time frame (TF1) is used to generate the overriding trend. This is for example, the longer term chart
- The middle time frame (TF2) is the most versatile time frame. The time period is picked based on how long you want to hold onto a trade.
- The smallest time frame (TF3) is used to gain an even more granular insight into the trend

Note – you should by now begin to understand the concept of trends within trends. E.g. the main trend may be down, the second time frame may be flat and the smallest may be up. If you have this case, you have confusing arguments to buy/sell, hence you should not trade.

You should only look to trade when all 3 charts are pointing to the market moving in the same direction.

Examples:

- Longer term traders may choose weekly, daily and 4HR charts
- Shorter term trades might choose 4HR, 1HR and 15min charts.



# 1. Directional Market Strategies

## 1.1.1 Applying the strategy

### Step 1

Which way is the Trend?

Now we will discuss a strategy using moving averages. The first chart is the daily chart which gives us the overall trend. In this case the blue moving average (fast moving average) is above the red moving average (slow moving average), which will tell us that the trend is up. We therefore look for confirmation using a 4 hourly chart.



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# 1. Directional Market Strategies

## Step 2

Confirmation of the Trend..

Now that we know the trend is up, we seek confirmation. We therefore go down a time period (4 Hourly chart). In this case as you can see the fast moving average is above the slow. We have the confirmation we need, so now we look for opportunities to buy. We therefore go down another time period and get our entry on the hourly chart.



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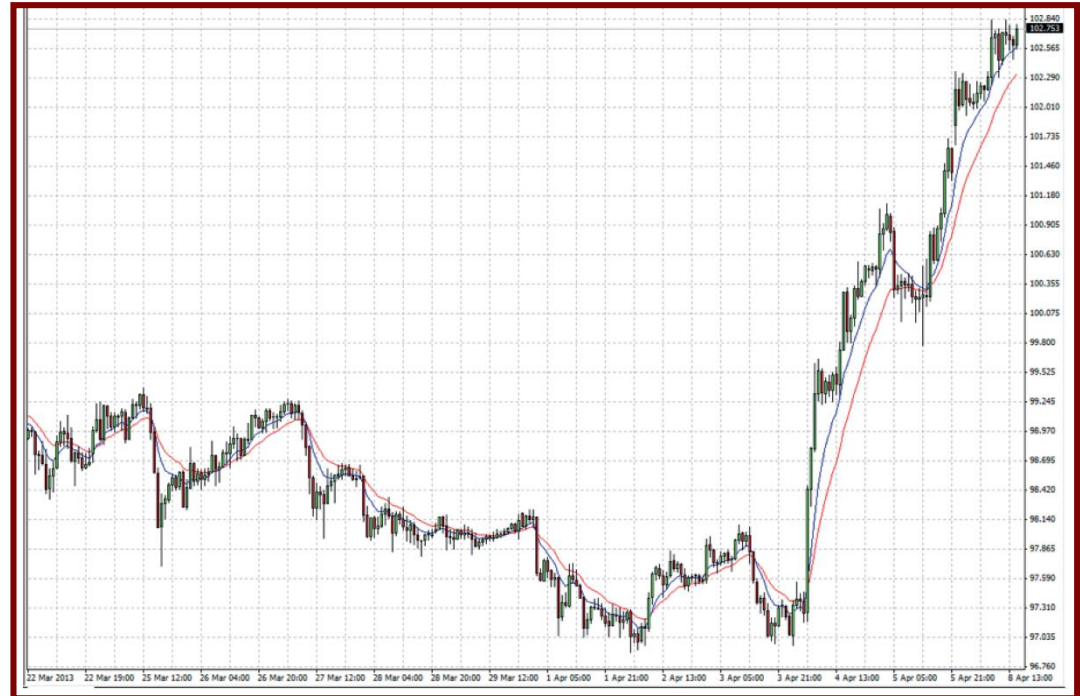
# 1. Directional Market Strategies

## Step 3

Entry and Exit..

As can be seen all the moving averages from the three periods are in the same direction, so now we will look to buy:

- We will look to buy when the market trades at the blue line with the stop loss behind the red line.
- For you to buy at the blue line, you need a new high to have been made before it hits the moving average (blue line). If a new high is not made, it is not a good idea to buy, as the chances are the market may reverse the move, and the moving averages will cross over the other way. Also, a longer term move down will be reflected first on the shorter term chart.



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# 1. Directional Market Strategies



I would have looked to buy at all the green boxes as that is where the market has hit the blue moving average line after making a new high. My stop loss would be below the red line. After I calculate where this is (how many points away from the entry), I can calculate the size I will look to trade and also calculate the take profit. Above, there have been 7 opportunities to buy in the past 3 days, out of which, you would have taken profit on 6 of them (86%).

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# 1. Directional Market Strategies

Risk management in this strategy is key, and sticking to the rules. In this case, I want to risk a maximum of 2% of my trading account on each trade. My balance is \$50,000, hence I will look to risk \$1000 on each trade. This is important to note, as once I have calculated how many pips I am risking on each trade, I can quickly work out how many lots I must trade so the maximum loss is \$1,000.

For example, if I am buying at a level and my stop loss is 20 pips lower, then for each pip, I am risking \$50.

For AUD/JPY, 1 pip move = \$10.40 usd/lot. Hence if I am looking to risk \$50, then I am trading 4.8 lots. The way this is calculated can be seen below:

- 0.0001 of any currency pair if trading 1 lot is worth 10, of the currency which is on the right hand side of the pair. I.e. 1 lot of a 0.0001 move in EUR/USD is worth \$10, whereas of USD/JPY, it is worth 10 Yen.
- USD/JPY is quoted to 2 decimal places; therefore if it moves 0.01, 1 lot is worth 1000 Yen. Hence as the USD/JPY rate is 96.15, this equates to  $(1000/96.15) = \$10.40$

Let's say that on every trade, I try to make the same amount that I am risking, then my profits would be as such:

	Entry	Lots	Stop distance	Stop	Take Profit	P/L
Trade 1	99.34	1.9	0.50	98.84	99.84	+\$1,000
Trade 2	99.78	2.0	0.48	99.30	100.26	+\$1,000
Trade 3	100.35	2.24	0.43	99.92	100.78	+\$1,000
Trade 4	100.58	3.43	0.28	100.30	100.86	-\$1,000
Trade 5	101.33	2.14	0.45	100.88	101.78	+\$1,000
Trade 6	102.05	3.1	0.31	101.74	102.36	+\$1,000
Trade 7	102.45	2.75	0.35	102.10	102.80	+\$1,000
Total						+\$5,000

As can be seen, using this simple strategy, I have made 10% profit on my account. This is a very active strategy, where you micromanage each trade individually. You can also use a momentum strategy using moving averages, which I will talk about next.

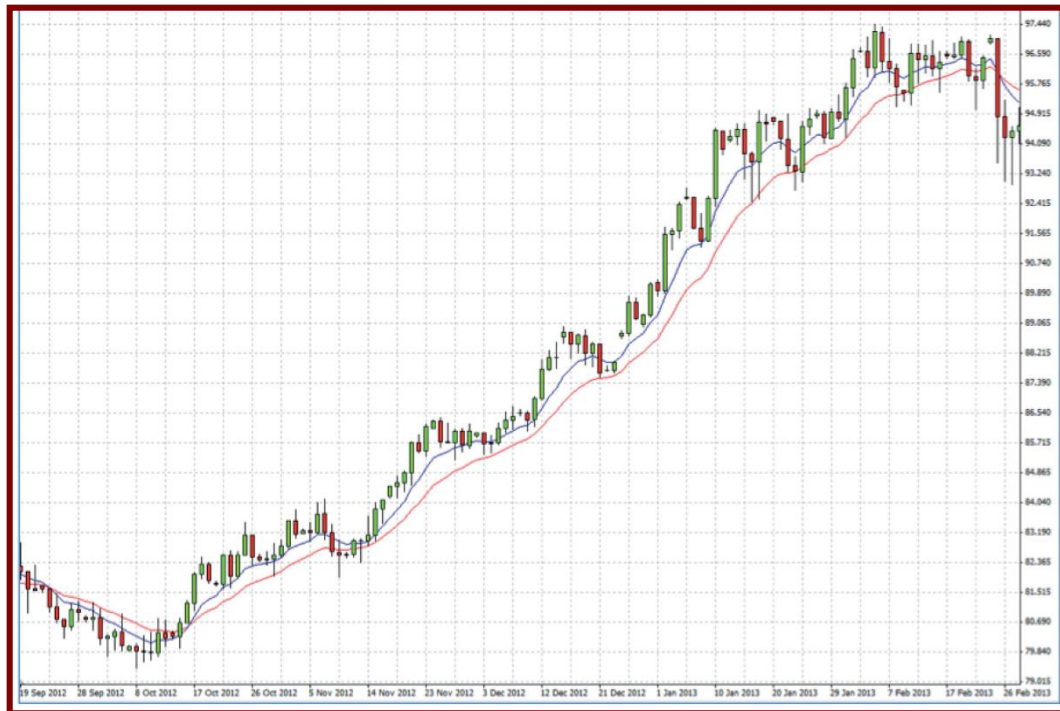
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# 1. Directional Market Strategies

## 1.2 Strategy 2: Momentum

When the market appreciates quickly, the difference between the moving averages also begins to widen (difference between and fast and slow moving average is increasing). If you are trying to assess if the market is trending in a particular direction, you wait until the difference between the 2 moving averages is above a certain amount. When the moving averages are close together, this signals either a change in direction or a range bound market.



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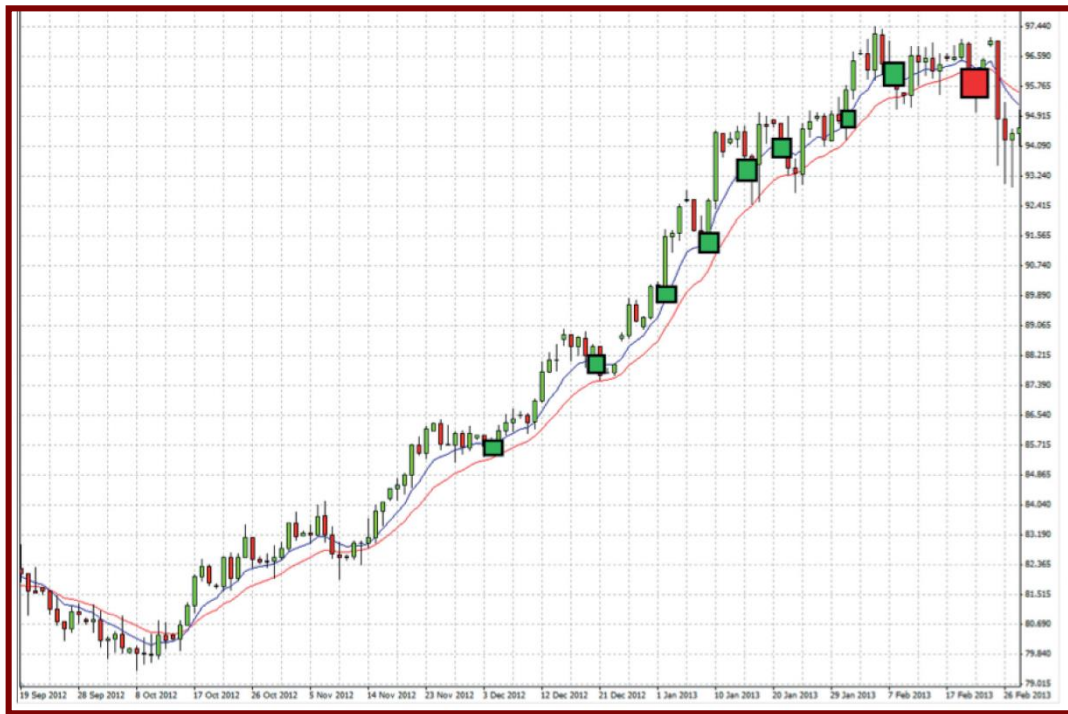


# 1. Directional Market Strategies

It is also worth building a fundamental view when you are looking to place a long term directional trade. In the above case, the move started when the Bank of Japan announced they will look to increase Quantitative Easing, hence devaluing the value of the Yen. We therefore look for levels to buy AUD/JPY.

The momentum strategy which can be used to reflect your view is to buy every time we hit the fast moving average once we have made a new high. You will close all your positions on a close below the red (slow) moving average. This means you will get longer as the markets trends higher, but when it looks like the trend will end, you will exit all positions.

On the chart, you will buy AUD/JPY at all the green boxes, accumulating more of it as the trend carries on and exit all these positions at the red box.



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# 1. Directional Market Strategies

So let's say in this case, we buy 1 lot every time we trade at the green box, and sell everything when we trade at the red box, our profit/loss would be thus:

	Entry	Exit	P/L
Trade 1	85.72	95.80	\$10,080
Trade 2	88.22	95.80	\$7,580
Trade 3	89.89	95.80	\$5,910
Trade 4	91.40	95.80	\$4,400
Trade 5	93.75	95.80	\$2,050
Trade 6	94.10	95.80	\$1,700
Trade 7	94.90	95.80	\$900
Trade 8	96.20	95.80	-\$400
Total			+\$32,220

This is a very good tool to use, especially if an asset is trending very strongly in one direction. The main rule to adhere to here is to make sure you get out of all your trades even if the close below the slow moving average is straight after you place the very first trade. The reason for this is that you cannot be 100% sure when the market will reverse and change direction. Having a view on the market is also very helpful for you to establish when the trend is beginning, but as a rule of thumb, as soon as the difference between the slow and fast moving average is above a certain amount, you can begin to place the momentum trade.



# 1. Directional Market Strategies

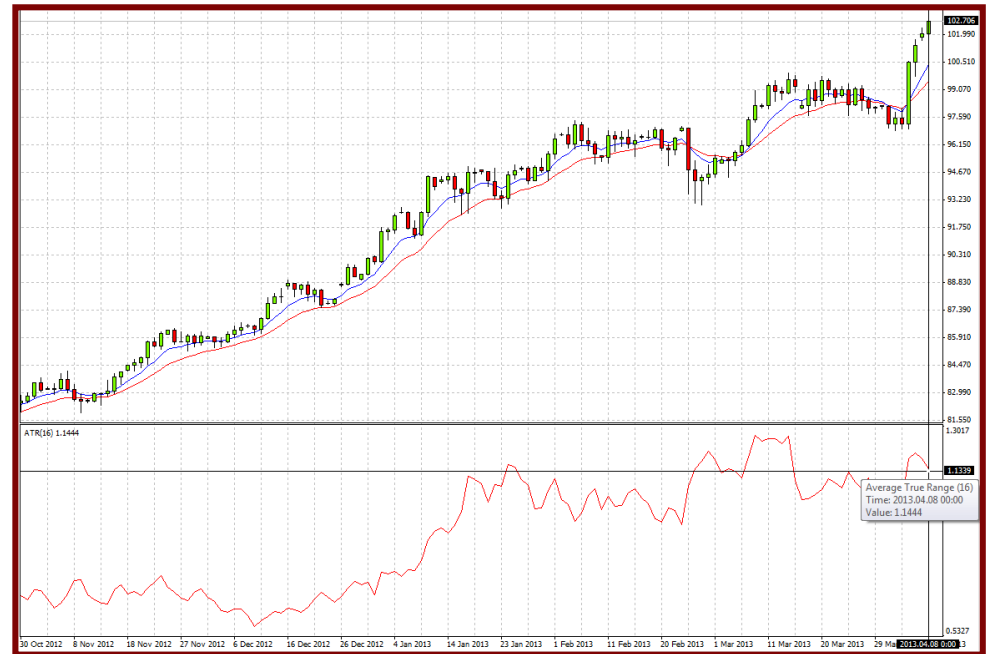
## 1.2.1 When to establish we are going into a trend..

You can calculate the distance which you require the moving averages to differ by using simple logic, but this should differ according to which timeframe chart you are analysing. For example if you are trading using hourly charts, you may require the difference to be 20 points, whereas on the daily charts you may require it to be 100 points. I like to use the Average True Range (ATR) to calculate when the distance is the right amount.

If the difference between the 2 moving averages is greater than 75% of the ATR (slow periods), then I will look to trading the trend. In the above example, I would look for the difference between the fast and slow moving averages to be greater than 75% of ATR (16).

The ATR (16) is 1.1444. 75% of it equals 85 pips. The 8 EMA is 100.40 and the 16 is 99.51, meaning the difference is 89 pips, hence I feel we are in a trend higher so I will look to buy if it dips to the fast moving average.

Even if the moving averages tighten once you have established the view, you keep trading it until the market closes below the slow moving average. Using this strategy also decreases the probability that you begin to build a false view on the beginning of a trend.



# OSCILLATORS

# 2. Oscillators

## 2.1 What are Oscillators?

Oscillators are indicators found on most charting packages and provide information on the movement of the market. They are generally used when trading range bound markets (markets which do not have a set direction).

We will discuss various oscillators in this section. Generally Oscillators will provide you with points when the market is overbought/oversold. When this is the case, you have an opportunity to sell/buy, especially if the market is stuck within a range.

The most popular Oscillator is the Relative Strength Index (RSI) which I will explain now.

## 2.2 Relative Strength Index

The Relative Strength Index is used to calculate the strength/weakness of an asset based on its closing prices over a recent trading period.

It is known as a momentum oscillator, measuring the velocity and magnitude of the move of an assets price.

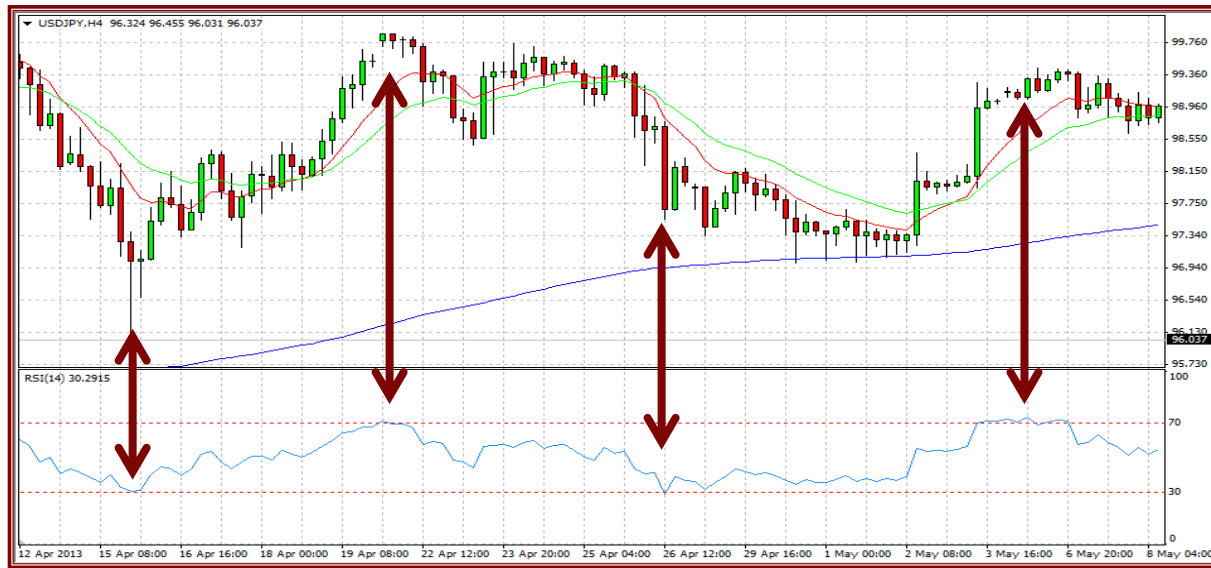
It is typically used on a 14 period time frame, giving readings between 0 and 100. The closer the reading is to 100, the more overbought the asset is. The closer the reading is to 0, the more oversold the asset is. This will therefore provide you with areas to buy or sell. When the asset is within a range and overbought, this tells you the asset is nearing the top of the range and we are approaching an area to sell. Generally readings above 70 provide overbought areas, and areas under 30 provide oversold areas.



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## 2. Oscillators

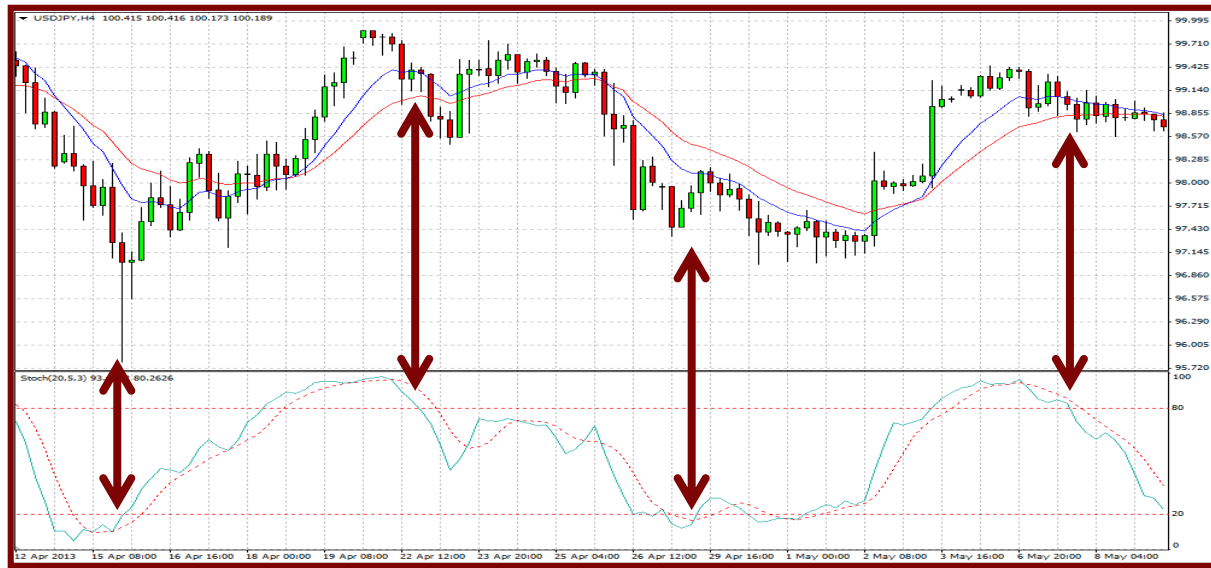


The above market is within a range. In the next section, we will show you how to identify it. The overbought/oversold readings on the RSI (displayed with the use of arrows) are also accompanied with the market trading at or near the end of a directional cycle, and is expected to reverse.

### 2.3 Stochastic Oscillator

The Stochastic Oscillator is another momentum indicator which shows the location of the closing price of an asset relative to the high/low range over a set number of periods. It purely follows the momentum and speed of the price rather than looking at volume etc. This indicator should also be used in the same way as the RSI.

## 2. Oscillators



The stochastic oscillator is displayed in the bottom window. The default setting is 14 periods (%K), although I like using 20. The calculation will take the most recent close, the highest high in the last 14 periods, and the low over the same period. %D is a 3-Day simple moving average of %K. The lines are plotted together on the same chart to provide trigger points. The oscillator is above 50 when we are in the upper half of the range, and below when we are in the lower half of the range.

### 2.3.1 When to use the Stochastic Oscillator

When the Stochastic Oscillator provides a reading above 80, that tells me the market is approaching the top of a range. When below 20, that tells me we are near the bottom of the range. Once the oscillators are above/below 80/20, you wait for %K and %D to cross and the %K (blue line) to return back into the range 20-80. The closer the signals printed to 0/100, the stronger the signal is when it returns back into the 20-80 range.

# NON-DIRECTIONAL MARKET STRATEGIES

# 3. Non-Directional Market Strategies

## 3.1 What is a range bound market and how to spot it?

There are times when the market is not trending, but is in a range bound situation. In other words the market has no direction. Profits can still be made in this scenario. In this section we will show how, and also bring some of the concepts which you have learnt so far today to establish and strengthen your strategy.

Range bound markets are markets which lack direction. An example is below:



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# 3. Non-Directional Market Strategies

As can be seen, the market bounces between support 1 and resistance 1. The difference between the 2 is known as the range. During non-directional markets, one thing to note is also the lack of direction shown from the moving averages too. Generally, when the market is in a range bound scenario, the moving averages are close together and they keep twisting, as you can see in the example on the previous page and below.

In one of the previous strategies, we noted that we would look for the moving averages to be greater than 75% of the ATR, before we establish that the market is in a trend. Therefore, if the difference is less than 75%, then we are in a range bound, or trendless market.

The main thing to remember about trading a range bound market is to use strict risk management techniques. The reason for this is that the market can break out of the range, and breakouts are often met with significant moves up or down.

In the chart here, you see the move once the market has broken down. This is also met by the moving averages widening, signalling the potential start of a trend lower.





# 3. Non-Directional Market Strategies

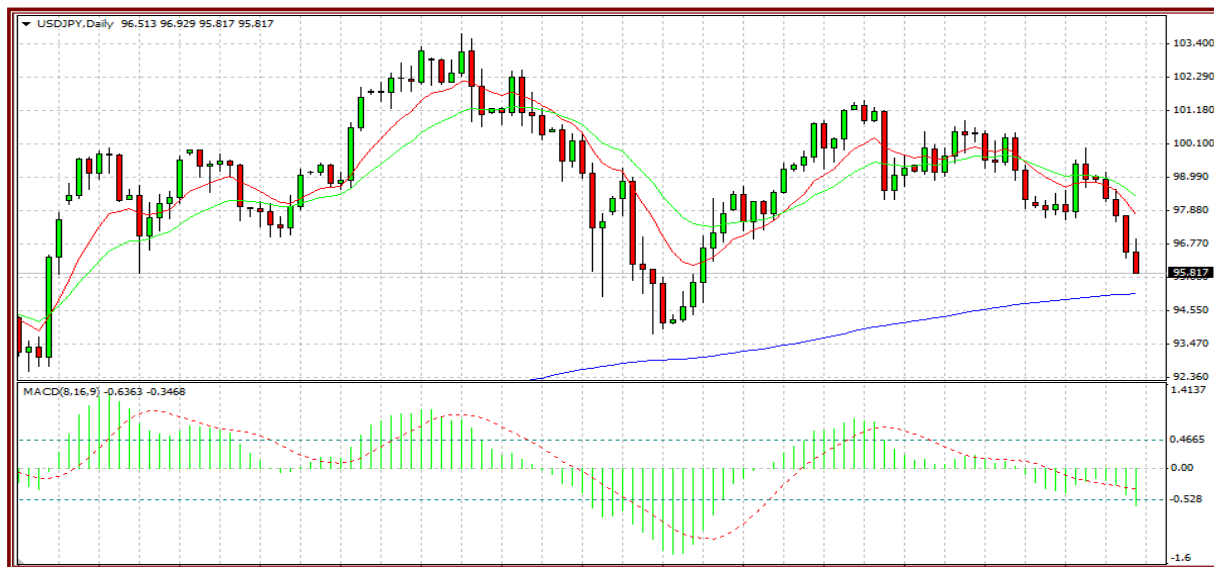
## 3.2 Using MACD's when identifying Range Bound Markets

Firstly, we must determine if we are in a range. For this we use a higher time frame. In this case we will use the Daily chart.

To do this, I use the MACD (Moving Average Convergence/Divergence) line which is the difference between the Fast and the Slow moving average. The closer this number is to 0, the more of a range the market is in. You can draw Levels in as well which can make it easier to spot when we are in a range. As a rough rule of thumb, it should be 33% of the high MACD line, and 33% of the low MACD line. Below is an example:

In this case here, The high is 1.4137, hence the level drawn is 0.4665. The lower level is -0.5280, as the low is -1.6. When the MACD is between these levels, that tells me we are in a range.

Although the higher time frame tells you that you are in a range, a lower time frame should be used to find areas to buy or sell. It is useful to use an oscillator to tell us if we are trading at the right level to enter



# 3. Non-Directional Market Strategies

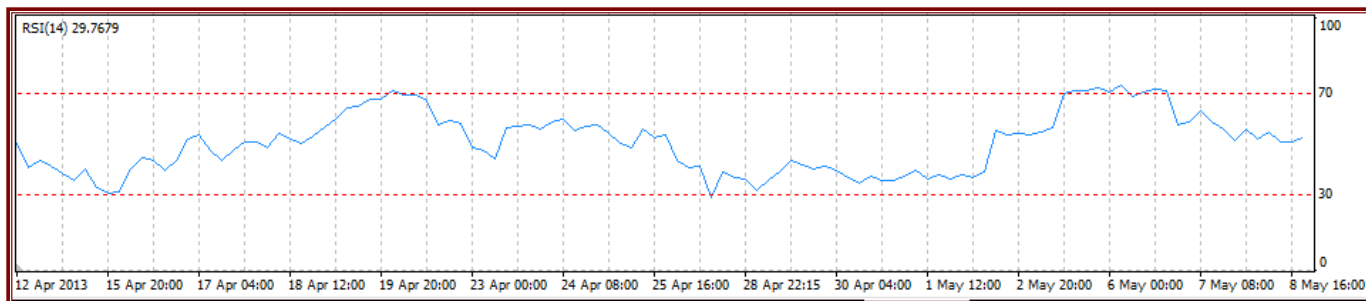
## 3.3 What to do once you are in a range

Once we have determined we are in a range, we go down one time frame to find areas to sell and areas to buy. We used the daily chart to determine the range, so now we use the 4 hourly chart to find areas to buy/sell.

For us to determine areas to buy/sell, we use an oscillator called the Relative Strength Index (RSI).

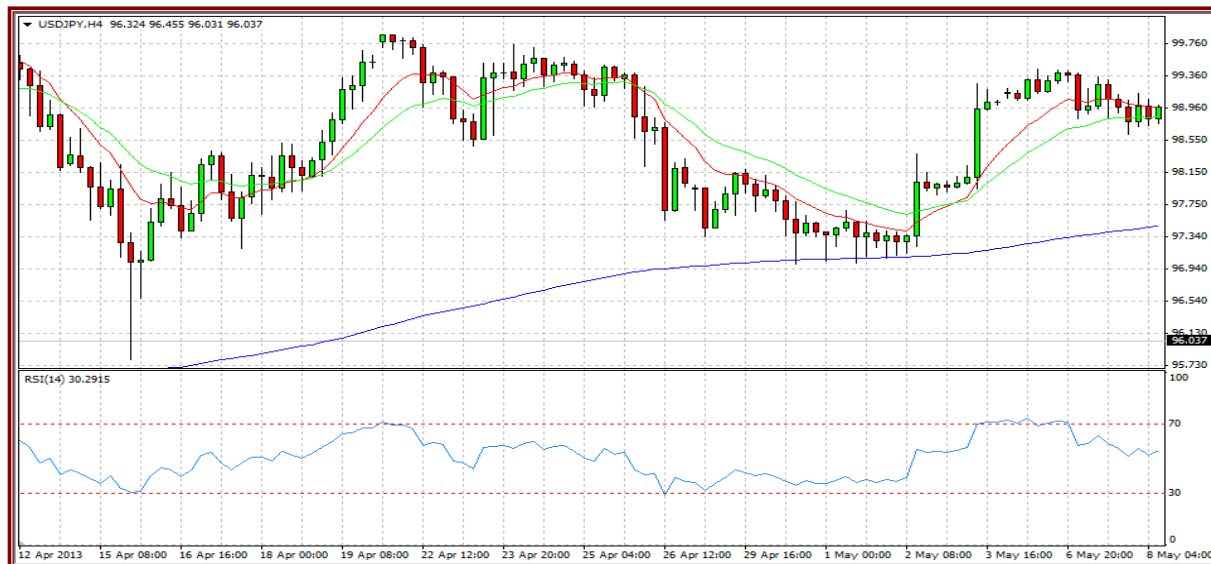
### 3.3.1 What is the RSI?

RSI is an oscillator which helps you to determine when an asset is overbought/oversold. When the asset is overbought, it provides an opportunity to sell, and when the asset is oversold you have an opportunity to buy. Below is an example of what the RSI looks like. The standard setting is 14.



# 3. Non-Directional Market Strategies

Generally, when the RSI is at or above 70, the market is overbought. When it is at or below 30, the market is oversold. So the higher time frame (Daily) has told us we are in a range. The lower time frame (4 Hourly), tells us when to sell/buy:



When the RSI trades at 70, we should sell as we know by looking at the longer term chart that we are in a range. The stop-loss should be placed above the recent high, or it can be a maximum loss per trade stop. At the same time, if the RSI trades at 30, we will buy, and place the stop below the recent low or wherever the maximum loss per trade is.

**An important factor of any strategy is risk management what we will cover in the next section.**

# 3. Non-Directional Market Strategies

## 3.4 Intra Day range trading

The trading range during the day is denoted by the difference between the high and low. The market only moves a certain amount of points each day unless there are extreme circumstances, and this is a very valuable tool to use, in all types of trading and will help you to avoid buying at the highs or selling at the lows. This also provides you with a high probability/low risk strategy.

The tool we like to use for this is the ATR. The average true range is an N-day EMA of the true range values.

The true range is the largest of the:

- Most recent period's high minus the most recent period's low
- Absolute value of the most recent period's high minus the previous close
- Absolute value of the most recent period's low minus the previous close

This helps to provide us with an expected maximum range for the day.

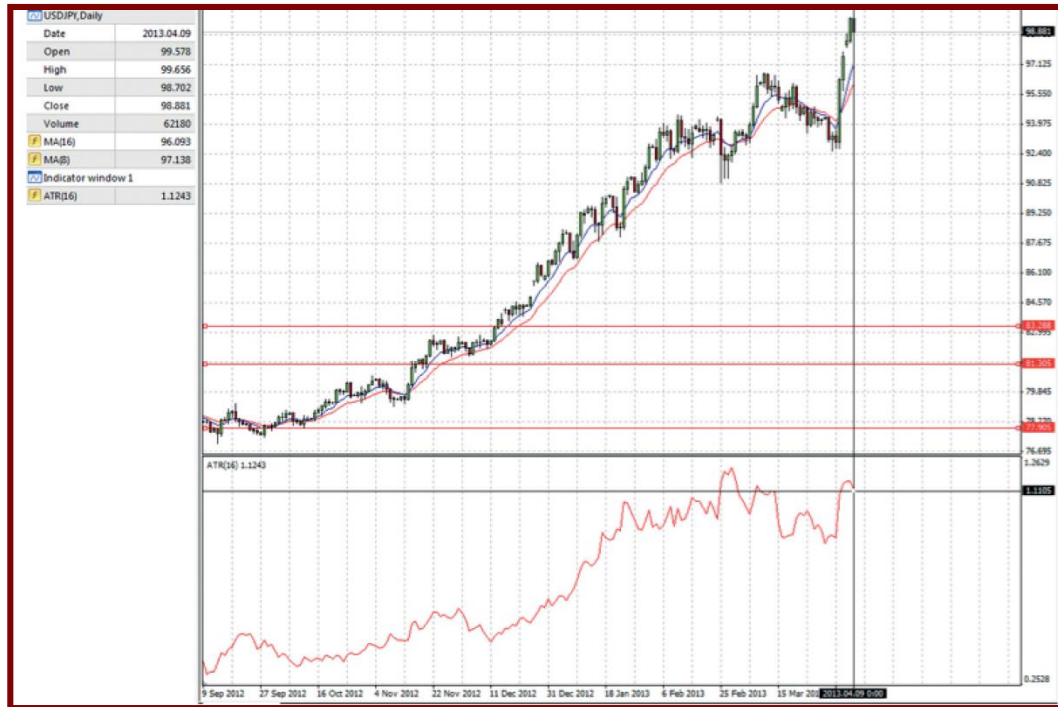
### 3.4.1 How to use the ATR with intraday trading

If we know the ATR value is 150 points, and we are trading 120 points lower than the high for the current day, then we know that the expected maximum drop further for the market is around 30 points. We would therefore not look to sell at this point, as the chances are it will bounce soon. If your view is that the market will drop, you will wait for the bounce before you sell it. On the flip side, if your view is that the market will go higher; this is a good opportunity to try and find a point to buy with a stop below the expected low for the day. The ATR for the daily should be used.

Reasons why there is a high probability that the market will bounce:

- New buyers will come in expecting this to be the low of the range, hence more demand than supply will signal a higher price
- People who are short will be buying back, expecting the range to come to respect the expected low
- New shorts will wait for better levels to sell, hence low supply at this level, thus the market will bounce. If the level breaks, new sellers may come in.

# 3. Non-Directional Market Strategies



As can be seen, the ATR is 1.1243. The high for the day so far is 99.66, and the low is 98.70. We are currently trading at 98.81. From where we are, if the market continues to drop, I would expect the maximum expected low to be 98.48. As my strategy is that I am looking to buy, I would look for any area around 98.50-98.70 area to get Long with my stop loss below 98.35. This is a relatively short term trade using my overall view and also the average expected range helping me to pick where I want to buy.

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# RISK MANAGEMENT

# 4. Risk Management

## 4.1 What is Risk Management?

Risk management is a key component in trading. It can be the difference between making money and losing money.

The basic idea, despite what most people think, is very simple. The purpose of good risk management is to ensure longevity and consistency in trading. At the end of the day, successful trading is a marathon and not a sprint.

## 4.2 Risk/Reward Ratios

In order to ensure good risk management you need to ensure a good risk reward of at least 1:2 but preferably higher.

Let's assume you keep a consistent risk reward of 1:3.

This is to say risk 1% to make 3%.

If you have an account with \$100,000 in it, and you trade 100 times a week.

You risk \$1,000 to make \$3,000.

Lets look at the different success rates:

Success rate	Profitable trades	Losing trades	Profit/Loss
50%	50 x \$3,000 = \$150,000	50 x -\$1,000 = -\$50,000	+\$100,000
70%	70 x \$3,000 = \$210,000	30 x -\$1,000 = -\$30,000	+\$180,000
25%	25 x \$3,000 = \$75,000	75 x -\$1,000 = -\$75,000	0

# 4. Risk Management

## 4.3 Leverage

- Leverage is used to increase the amounts one can trade. This is provided to the trader by the broker. Brokers can provide up to 400 times leverage, but typically most traders use 100:1, meaning that for every trade they place, they have to put down 1% as margin.
- For example, say I want to buy 100,000 GBP/USD, and I have an account with 100 times leverage, I have to place 1000 GBP as margin. Now let's say GBP/USD moves from 1.5100 to 1.5200, then I have made 1000 USD or 658 GBP. Hence I have made 66% of my margin from one trade.
- It must be noted that in the same way one can make 66%, they can also lose the same, if GBP/USD was to move from 1.5100 to 1.5000.
- Leverage should be used very **carefully** and strict trading parameters must be used to avoid large losses.





# 4. Risk Management

## 4.4 Using Leverage as a Hedging Tool

If used correctly, leverage can also be used as a hedging tool. I will explain how this is the case.

Let's say you have \$20,000 in a trading account and have no leverage, so for example, you can only place 1 trade where the value of the underlying instrument is \$20,000. Now if the trade goes in the right direction and you profit, that is great, but if in the wrong direction, you will be making a loss. This leads to some traders hedging their trades, so that if the original trade moves in the wrong direction, then the trader can minimise their losses.

So, in this case, say the broker offers you 2 times leverage, you have twice as much buying power as you did before when you had no leverage, meaning you can place trades worth \$40,000 now, instead of \$20,000.

If we have a scenario where I am bullish on Company A shares, as I feel there is value in the company. I am worried however that the technology sector may be overvalued, and a correction will lead to a lowering in the price of Company A shares. In this scenario, I may buy \$20,000 worth of Company A shares and sell \$20,000 worth of Company B shares. The total value of my trades is \$40,000. If the technology sector did drop then both companies shares should do. But in this case, as long as Company A shares drop by less or equal to Company B shares as a percentage, I will still make money or not make a loss. If the market rallies, my expected move would be that Company A rallies 10% whereas Company B will rally 5%. If the market falls, my expectation is that Company A will drop 5%, whereas Company B will drop 10%

Share	Net Position (value of shares)	Market Rallies	Market Falls
Company A	+\$20,000	+\$1,000	-\$500
Company B	-\$20,000	-\$500	+\$1,000
<b>Net gain</b>		<b>+\$500</b>	<b>+\$500</b>

As can be seen, if leverage is used correctly, it can be a very powerful tool.

# 4. Risk Management

## 4.5 Account Management

Now that you understand when and how to trade, a very important factor of trading is making sure you control your account properly.

The most important part of your trading account is the current balance, hence this is what you must control. Everything you should do should be a function of your account balance. All of the below should be a function of your account balance:

- Maximum daily stop loss (daily/per trade). Profits should be a function of what you are willing to risk (risk/reward ratio)
- Maximum trade size (at risk)

The idea behind this is that, as your account increases, you will be growing the risk and potential rewards you place on trades, etc. with it. If your account shrinks, you will also reduce the risk etc. with it. Following these simple rules will mean that you are not ever risking too much, and should lead to longevity. You only increase your risk per trade when you have increased your account size.

The functions which people use depends on the regularity of their trades, account balance and also personal circumstances. Someone who places a lot of trades per day may place a lower risk level on each one. One other thing to think about is personal circumstances. For example if someone is trading with their life savings, they will be trading and risk managing in a different manner as someone who is just trading with spare cash which they don't mind losing.

# Psychology

# 5. Psychology

## 5.1 What is Psychology?

Psychology has become so widely discussed and promoted through books and consultants that it has become a very convenient rationalization and excuse for losing. Trading psychology is 'something' that a trader creates from existing personality traits that are not initially related to trading, but surface from trading without method understanding. The outcome is fear, but wouldn't this be the case when doing anything that was perceived as 'dangerous', and which was being done without the necessary understanding and skills? Trading, with its inherent characteristic of accepting financial risk while participating in unknown outcomes, is certainly something most people consider 'dangerous', especially without knowledge or understanding, and thus more preparation and understanding that is needed.

## 5.2 What is Discipline?

There is one thing that is most important in our minds regarding whether you become a successful trader or not. That is discipline. There are 2 types of discipline that will affect you day to day, trade to trade. We refer to them as intra-day discipline and intra-trade discipline.

### 5.2.1 Intra-day discipline

Intra-day discipline is when you look at your trading day as a whole. It is important to remember that when you are trading you are ideally trying to set yourself onto a long-term profitable path. Not every trade will be a winner. It is important not to let frustration boil over and get the better of you. This is especially important on days when your trading is not going as well as you would have liked. You should have specific stop-loss parameters in place. These are there to protect you and you should make sure you stick to them at all times. It is important that when you hit your pre-determined stop loss for the day, that you stop for that day, in order to make sure a bad day does not turn into a disaster. It is better to start fresh the next day than try and make it back when your mind frame is not right. On the other hand, you should also have targets for the day, and whilst you should try and always push on, these targets are there as a safeguard. Once hit, you should change your risk/reward to make sure that further trades being placed do not mean you risk all the profits made.

# 5. Psychology

## 5.2.2 Intra-trade discipline

Intra-trade discipline is the discipline you show when you are in a trade. It is important that when you enter a trade, to have a plan in mind. This plan should include why you should enter (economic data, level of Support/Resistance (SR), etc), where you should enter (level of SR, trend line, etc), where your stop should be (behind level of SR, behind trend line, etc) and where your exit point should be (ahead of SR, ahead of trend line, etc). It is also important to look at possible smaller SR levels, and using them as points to move your stop loss up in order to at least bank something from a trade.

## 5.3 Applying discipline to trade setups

We carry out analysis on the market and find Support and Resistance (SR) levels at 121.20, 121.60, 122.60 and 122.90. The market is currently trading at 122.00. Our view is that the market will go up through 122.90 to the resistance levels above, hence we are looking for levels to buy it.

Example:

Resistance Level 2 (D)	122.90
Resistance Level 1 (C)	122.60
Current Price	122.00
Support Level 1 (B)	121.60
Support Level 2 (A)	121.20

# 5. Psychology



## Option 1

Buy the market now at 122.00 (**current price**), and place your stop below 121.60 (**B**).



It is important to not get involved between levels as that is just 'bad trading'. As you can see, by buying at the current price, you have a 50% chance of going up or down.

In this case you would get stopped out. So you should be patient and wait for the key levels to get in, placing your stops below other levels.

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## Option 2

Wait for the market to get down to 121.60 **(B)** to buy.

In this case, I would place my stop below the next support level, which is at 121.20 **(A)**, and place my target in front of the next resistance level at 122.60 **(C)**.

RISK:REWARD RATIO IS 1 : 2.5.



As can be seen, by using this strategy, you have the right risk/reward, and also, your stop is in the correct place to give you the highest probability you will profit from the trade.

We have taken profit here at 122.60 **(C)**

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## Option 3

Wait for the market to break through 122.60 (C) to buy. The problem here is by using the S/R levels, your stops, at 121.60 (B) would be too far in relation to your potential target at 122.90 (D). I would still buy here, but maybe use the moving average strategy, placing the stop below the Blue moving average.

As I am waiting for a break of a S/R level with the correct risk reward, I would buy through 122.90 (D) with a stop through 122.60 (C). My target would be 123.65. Here I am using a 1 : 2.5 risk/reward.

As can be seen, you will take profit here at 123.65.

Remember to always be patient. Pick the right levels and keep operating the correct Risk/Reward ratios.

THE MARKET ALWAYS GIVES YOU A SECOND CHANCE!

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# 5. Psychology

## 5.4 Eight Points which should be followed when trading:

Trading is time consuming and can be stressful, but provides opportunity for growth, both financially and personally, not found in any other arena. It therefore makes sense to give yourself every chance to be successful by incorporating the below in your strategy.

1. **Discipline** - Like most things in life, without it you won't succeed. Discipline is sticking to your plan, including your "stops" and entry points. It is the hardest, but most important rule of all.
2. **Stick to your plan** - You can and should make minor adjustments throughout the trading period, but don't let the ups and downs of the market affect your overall game plan. Unless the market conditions that led you to place your trade change, don't abandon your original objective.
3. **Admit That You Are Wrong** - Don't fall in love with a losing position. If you get it wrong, admit it, get out, conserve your equity and wait for another opportunity. Honour your stop.
4. **Accept That The Market Is Always Right** - The market cannot be controlled by one person so it has to be accepted that it will move regardless of what you want it to do. Fear, greed and hope can cloud your vision of the market and can cause emotional responses detrimental to your trading. The market will go where it wants to go. Sometimes it is only your timing that may be wrong.
5. **Trade With Definite Goals In Mind** - Profits belong to those who make decisions and act, not those who react. Your trading plan should not only focus on the best time to get in but also when to get out. This involves setting a view for profit taking or loss minimisation.
6. **Walk Before You Can Run** - Knowledge, understanding and practical experience in the markets are the best teachers in the longer term.
7. **Let Profits Run Until You Have A Reason To Cash In** - Let profits run until you are given a reason to cash in, whether that is a trading system signal, a fundamental factor or your initial objective.
8. **Be Careful When Placing "Stop Loss" Orders** - It is smart to use stops so that losses can be limited if the market moves against you. Avoid setting them at fixed amounts, too close to the current price, or on obvious support and resistance levels.