Trading and Investing within the Foreign Exchange Market

An Interactive Qualifying Project Report submitted to the Faculty of WORCESTER POLYTECHNIC INSTITUTE in partial fulfillment of the requirements for the Degree of Bachelor of Science

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ABSTRACT

This Interactive Qualifying Project introduces the audience to the Foreign Exchange Market. Our objective was to learn techniques used to become a successful trader and develop plans for launching a money management company. This report encompasses an in-depth analysis of both technical and fundamental elements associated with the market. Our project team researched various trading strategies and practiced them under real market conditions. The group collectively managed over $300,000.00 in mock capitol and traded it within the market. In addition our report includes our trading journal and methodology used and introduces automated trading.

Acknowledgement

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1 Introduction

1.1 Introduction

People have been engaged in trading since the beginning of civilization. Before the establishment of currencies, people would trade goods for other goods. For example, a farmer who grew corn—or any other type of agricultural product—could trade his corn for another necessary good. Someone who specialized in making pottery could benefit from the corn and vice-versa. These two individuals would then barter, or exchange goods with each other. The traders would have to determine an exchange rate based on the value of their different goods. For example, it could be agreed upon that 12 ears of corn are equal to three medium sized pots. An abundance of corn during a given time period would cause the value of corn to decrease; whereas a shortage of corn would cause the opposite. It could be argued that this type of early trading within an ancient society could be the first signs of exchange rates in economies of scale.

As groups of people began settling down and societies began to form, infant stages of the first economies could be seen. Different groups of people would live together and specialize in making different goods. Within each given society people would gather in a market place and trade with one another to obtain all the necessary goods they needed or wanted to purchase. Various exchange rates would be agreed upon between traders of different goods. Similar to the foreign exchange market of today, the rates would constantly be changing based on many different factors affecting the goods being traded and the peoples involved. (19)

It can be argued that the first forms of banking date back to around 2000 BC when ancient merchants gave loans to farmers and traders to carry goods between cities. It wasn't until the early 13th century however, until modern forms of banking started to occur. The banking industry didn't begin to flourish until the Renaissance Age. One of the most successful banks was established by the entrepreneur Giovanni di Bicci de' Medici. His early banking ventures that lent out money in order to receive profits led to the establishment of the Medici Bank in 1397. (18) As trading and banking began to flourish, trading started to expand across continents as traveling became more convenient.

The first forms of global trade took place through trade routes between the Middle East, northern Africa, India and Asia. Early Arabian traders would trade silk and spices either by traveling to the Far East on camel or through the Red Sea on small ships. These early trading routes were nicknamed the "Silk Road" due to the amount of silk that was traded. These first attempts at global trade can date back to the Han Dynasty in early 200BC. The Silk Road stretched across three contents, spanning from Europe, to Northern Africa, through the Middle East all the way to East Asia. This became a popular trade route that was used by the first explorers of the early 12th century. One of the most famous explorers was Marco Polo, a Venetian explorer who was the first European to travel to China for trading purposes. (17)

It wasn't until the explorations of Christopher Columbus that expanded global trade to the America's. It wasn't until Columbus's famous exploration of 1492 when the America's were discovered and settled. This expanded global trade even further and began the settlement of new lands in the Americas.

As time passed and governing bodies began to form, different currencies were established in order to help regulate trading amongst people. Each individual currency represented value—or how much it is worth to a consumer—people can use currency to buy different goods or services. This way a trader can use currency to determine the value of different goods, this made bartering easier since individuals could use their currency to purchase certain goods rather than having to rely on trading other goods in exchange.

In each country or modern society, there is some form of currency exchange. This act of exchanging currency for goods or services within a nation is part of that nation's economy. In recent years, the amount of international trading has increased exponentially. Various political and economic factors are constantly changing the value of different currencies. For example, a recession in Europe could cause the value of the Euro to decrease, this would impact trading internationally. Since the values of various currencies and commodities are constantly fluctuating, there is a need to constantly monitor the value of each currency and there exchange rates. This type of information is not only useful for currency traders, but anyone who engages in international business.

The increased amount of international trading has created a global economy. As different companies trade with different currencies around the world, it is important for them to understand the constantly changing values of different currencies. These ratios between currency pairs are what affect the various exchange rates between different currencies.

To be able to control these exchange rates, banks all over the world started sending data internationally over a computer system that allowed exchange rates to fluctuate based on current national and global economy. The Foreign Exchange—or FOREX—

market is comprised of the systems that allow for individuals and countries alike to buy and sell currency.

FOREX is a market dedicated to the trade of currency around the world. There are many examples of trading in the FOREX Market. It is important to understand the unique characteristics of the FOREX market before trading. This market is very different in comparison to trading in the more well known New York Stock Exchange. For example, the Foreign Exchange Market has a very high volume that leads to high liquidity. One advantage of another trading in the FOREX market is the leverage. This means that an individual trader can buy up to 100:1. To put more simply, an individual can manage an account with $100,000 with a margin of 1%, so they would only need $1,000 in an account. Due to these specific differences, a trader can enter the market and exit after a short period of time with decent profits. These differences make it easy to gain profit very quickly in this type of market; however it is just as easy to lose money, which is why it is very risky to trade within the FOREX market. Due to the high amounts of risk within the market, traders can develop strategies to help manage the risks by reducing losses during trading. The way the FOREX market works is by trading a currency against another in a pair. The most common pairs include: EUR/USD, USD/JPY, GBP/USD, AUD/USD, USD/CHF and USD/CAD. Since the ratio of these currency pairs is constantly fluctuating, a trader can either buy or sell different volumes of a given currency pair in order to turn a profit as the values of the pairs change.

The exchange rates fluctuate based on the spread. If you were trying to purchase a different type of currency from the bank there are two prices they will quote you; the price that they will buy your currency and the price that they will sell you the new currency at. These prices will always be in slight favor of the bank. Currency traders can make profits of these exchanges by buying lower and selling higher, or selling higher and buying lower. Thus, traders will either enter in a buying or a selling position based on which way they anticipate the value to change.

1.2 Project Description

The purpose of this project is to learn the necessary skills in order to become a successful trader within the Foreign Exchange market. The skills were learned were focused around a technical and fundamental analysis. Our project team practiced the skills we learned by managing mock capitol under real conditions within the FOREX market. Our team developed a trading methodology to minimize our losses as we developed as traders and also developed a business plan to launch a money management company.

2 Background

2.1 History of FOREX

Trading all began because of the creation of currency. Currency was formed because of the need of a form of money in order for people to obtain things from others. Initially, this problem was solved through the use of trading and bartering. This was not efficient enough because sometimes the trades would not be fair or equal so it had to be altered. To solve the problem, the idea came about to utilize coins. Coins solved this problem once standard measure was placed upon them. Each coin had a standard weight and was stamped with symbols from the state that were used to prove its authenticity.

Coins that were determined by standard weight were useful until about the 17th century. This had to be changed because gold's value fluctuated depending on if new gold was discovered or not. If new gold was discovered, the value of gold's price would go down since there was more supply. So, as trade grew, coins were becoming more and more unreasonable. This problem needed to be solved and was once governments made the change of backing their currency with a specific amount of gold. Governments went about changing this by making a specific amount of currency equal to one ounce of gold. The currency was determined by the amount of gold reserve a government had. The difference in the price of an ounce of gold between two different currencies became what is now known as the exchange rate for those two countries. The exchange rate was diverse between different countries. Two separate countries would normally have different rates depending on the gold reserve of those individual governments. This gold standard was the first standardized means for the exchange of currency in the world and was utilized for many years following its creation.

World War I brought the end of the gold standard system. The tension carried by Germany caused the European nations to focus more on their military projects. This caused there to be more printing of currency by the government than there was gold. Because of this, countries stopped using the gold standard system. Although it made a few comebacks, the system was never as big as it was initially and was completely rid of by the start of World War II. This did not stop gold from being the ultimate value of money though.

A void was left behind when the nations gave up using the gold standard system; this had to be filled in order for exchanges to be utilized once again in a fair and equal manner. 700 representatives from the Allies came together in July 1944 in order to discuss this issue and solve the problems that this has caused. They gathered at Bretton Woods, New Hampshire in order to resolve the dilemma and deliberate over what would be called the Bretton Woods system for international monetary management. The Bretton Woods system led to the creation of a method for fixed exchange rates. It made it so that the gold standard was no longer the primary reserve currency and was replaced by the U.S dollar. This was because the U.S. dollar would now be the only money that is backed by gold, which ended up being the fatal flaw in this new system. Also, the Bretton Woods system led to the formation of three international agencies that would oversee intercontinental economic activity. The three agencies that arose from this system were the International Monetary Fund (IMF), International Bank for Reconstruction and Development, and the General Agreement on Tariffs and Trade (GATT).

During the following 25 years, the U.S. had a lot of payment deficits in order to be the reserve currency of the world. By the 1970's, the U.S. had depleted most of its gold reserves which in turn, made it so that the U.S. treasury didn't have enough gold to cover all of the U.S. dollars that the foreign banks had held in reserve. This problem was ended in 1971 when President Nixon announced that the gold window was closed and the U.S. would no longer exchange U.S. dollars in foreign reserves for gold, marking the end of the Bretton Woods system. Bretton Woods was not something that did not leave its traces. Essentially, the system was useful because of its creation of the three agencies that would oversee economic activity worldwide.

After the obliteration of the Bretton Woods system, countries were finally accepting the use of floating foreign exchange rates following the Jamaica agreement of 1976. This agreement completely eliminated the use of the gold standard. Governments now used either one of the three exchange rate systems. These systems are still used to this day and include; dollarization, pegged rate, and managed floating rates. Dollarization is when a country adopts a foreign currency as its own. This makes the country a more stable investment in the eyes of others, but it prevents the country from printing its own money and stops it from creating any kind of monetary policy. If a country is to do this, they would usually change their money into the U.S. dollar or the Euro since they are major international currencies.

Dollarization is beneficial to some countries since it can reduce a country's risk which provides a stable and secure economic and investment climate. If a country is seeking full dollarization, most likely it has a developing or transitional economy with high inflation. When a country decides to use a foreign tender, they are, in all probability, trying to protect against possible devaluation of the local exchange rate. Full dollarization makes it so that the country's economic climate is more credible as the possibility of attacks on the local currency and capital markets nearly completely vanishes. This results in a more stable capital market, sudden capital overflows would no longer occur, and a balance of payments that is no longer susceptible to crises.

Although it has its many benefits, dollarization can be harmful to an economy as well. Countries are no longer able to directly influence their economy, including its right to administer any sort of monetary policy and any form of exchange rate regime. The central bank can no longer collect profits that are gained from issuing coinage. The profit comes from the minting of monies since the cost of minting is less than the actual value of the coin.

The second system that is still used to this day is pegged rates. Pegging happens when a country fixes its exchange rate to another foreign currency so that the country is a little more stable than it is with a normal float. Pegging also makes it so that a country's currency can be exchanged at a fixed rate with a single or a specific amount of foreign currencies. Pegging could be negative if the currency the country's money is pegged against is appreciated, it makes it so that their currency would be appreciated as well and that could be against what the central banks actually want to occur.

Managed floating rates are a type of system that is created when a currency's exchange rate is able to change freely in value according to the market's supply and demand. The government is able to intervene when necessary in order to stabilize extreme fluctuations in exchange rates. For example, when a country's currency has depreciated below a certain level, the government can raise short term interest rates in order for more stabilization. Governments will normally implement other tools in order to aid in reconciliation as well.

2.2 Understanding the FOREX Market

In order to understand the FOREX market, one needs to know who they are working with and who else is involved in FOREX trading. There are many market participants and the main players in the FOREX market include: governments and central banks, hedgers, and speculators. The most influential contributors involved in currency exchange are the governments of different countries, as well as their central banks. Central banks are an extension of the government in most countries. It normally conducts its policies at the same time as the government. Some governments use central banks differently though. These governments feel that the central banks are more effective in balancing the goals of curbing inflation and keeping interest rates low, which usually leads to an increase in economic growth. No matter the relationship between the government and the central bank, government representatives normally have regular consultations with central bank representatives in order to discuss monetary policy. Central banks are frequently involved in changing the reserve volumes so that they can meet certain economic goals. Central banks can use the FOREX market to change their reserve volumes. Since they have so much money, they are able to cause great influence on currency trading.

Another large influence on the FOREX market comes from banks. Most people who need foreign currency for small transactions do this through neighborhood banks. These trades are often done when people go to another country for a vacation or such.

Trades such as these are miniscule in comparison to trades in the interbank market. The interbank market is the market where big banks make transactions with each other and establish the currency prices that individual traders will see on their trading platforms. These trades are made on an electronic brokerage system that is based on credit. Banks with credit relationships can trade with each other while others cannot. Larger banks have ore credit relationships which allows for them to offer better pricing to its customers. Smaller banks have lower priority on the pricing scale since they would most likely have less credit relationships. Banks make money on the FOREX market by exchanging at a premium price to the price they paid to get it. It is common to see separate banks with slightly different exchange rates due to the fact that the FOREX market is a decentralized one.

The FOREX market is made up of mostly speculation. Speculation is traders that buy and sell for short term gains based on minute-to-minute, hour-to-hour, and day-to-day price fluctuations. Estimations suggest that close to 90 percent of the daily trading volume in the FOREX market is a resultant of speculation. This means that commercial or investment based FOREX trades make for less than 10 percent of the daily global volume. The bulk of trading volumes happens in the major currencies which represent the largest and most developed countries in the world. These currencies are the US dollar, the Japanese Yen, and the Euro.

Liquidity is what determines the rate at which prices will move between trades and over time. Highly liquid markets have larger trading volumes transacted at a lower price changes. A low liquidity or illiquid market tends to have prices move more rapidly on relatively lower trading volumes. A market that only trades during certain hours tends to have an illiquid market.

The FOREX market is open 24 hours a day from early Sunday afternoon until Friday evening in North America. At any time during these trading hours, many global financial centers are open and currency trading places in those financial centers are active in the market. Currency trading doesn’t stop for holidays unlike the stock market. Trading volumes in the Asia-Pacific session account for around 21 percent of the total daily volume around the world. News and data reports from New Zealand, Australia, and Japan hit the market throughout this session. Most of the action during this session is focused on the Japanese yen currency pairs.

There are a few currencies in the FOREX market that are the most traded. These are usually currencies paired with the US dollar. The top US dollar currency pairs include; EUR/USD, USD/JPY, GBP/USD, USD/CHF, USD/CAD, AUD/USD, and NZD/USD. Any currency pair that doesn’t include the US Dollar is called a cross-currency pair. These pairs are helpful to traders who want to take advantage of events or news. The top cross pairs include; EUR/CHF, EUR/GBP, EUR/JPY, GBP/JPY, AUD/JPY, and NZD/JPY.

There are a few terms necessary for a trader to understand in order get started in trading. Going long is a term used when a trader decides to buy a currency pair. Going short is a term used when selling a currency pair. When a trader doesn’t have a position in the market, it is referred to as being a square or flat. A rollover is when a transaction with an open position from one settlement date is rolled over into the next settlement date. Rollover rates are determined on the difference in interest rates of the two currencies being traded. The difference between the interest rates of two countries is known as the interest-rate differential. The greater the interest-rate differential, the greater the impact is from rollovers.

Each currency has two prices that it shows on the trading platform; they are the bid and the offer. The bid is the price where a trader can sell the base currency. The offer is the price where a trader can buy the base currency. The bid price is always lower than the offer price. A spread is the distinction between the bid price and the offer price. The more liquid the currency pair, the slimmer the spread and vice versa.

2.3 Choosing a trading platform

Choosing a trading platform is a major component in beginning the trading process. There are a few things to look for when deciding what platform to trade with. First you would want to see if it is free or not and what other charges they may be asking for. One should look to see what technical indicators the platform has available. A trader would want to also look for the types of orders available in the platform and if the platform keeps readily available historical data that could help when trading. Lastly, a trader would want to look to see if the platform has an API (application program interface) that allows for more software or programming. Oanda's MT4 is a very reliable trading platform that is available for most operating systems. It also allows for all the above mentioned qualities including the API which can be extremely useful when trading.

Another reliable trading platform would be TradeStation. It's better for more advanced traders since it has more options when dealing with trades that one has made. It also allows the trader to end all trades at once, unlike Oanda's MT4.

2.4 Learning how to trade

Knowing how to trade properly comes from experience. The only way to do that is through the use of a practice account which can be downloaded freely online. There are two options when it comes to trading; long term trading and short term trading. Long term trades are trades that are spent over a longer period of time from a day to a week or even weeks. Short term trades are trades that can last up to an hour or even just a couple of minutes.

Knowing when to trade is also an essential part in trading. This can be found out through market analysis such as looking at the news to find out if something has occurred that could alter currency pairs. Current events can be extremely useful when trading so it is necessary for traders to stay up to date with economic news and activity. Technical analysis and fundamental analysis help traders when thinking about when to trade and how to trade in the most beneficial and profitable way.

3 Technical Analysis

A technical analysis is based on There are many technical indicators that can help a trader understand trends and predict where the trend may be heading in the future. Technical indicators are a series of data points that are derived by applying a formula to the price data of a security. Price data includes any combination of the open, high, low or close over a period of time. Some indicators may use only the closing prices, while others incorporate volume and open interest into their formulas. The price data is entered into the formula and a data point is produced. A series of data points over a period of time is required to create valid reference points to enable analysis (14). By creating a time series of data points, a comparison can be made between present and past levels. For analysis purposes, technical indicators are usually shown in a graphical form above or below a security's price chart. Once shown in graphical form, an indicator can then be compared with the corresponding price chart of the security (14).
Sometimes indicators are plotted on top of the price plot for a more direct comparison.

Technical indicators offer a different perspective that help analyze the price action. Some are derived by simple formulas and the mechanics are easy to understand. Others have complex formulas and require more studies to fully understand and utilize. No matter which indicator you choose to use, it can provide a unique perspective on the strength and direction of the underlying price action. Simple moving average indicators calculate the average price of a security over a specified number of periods. For extremely volatile securities, a moving average will help smooth out the data. Applying

10-day simple moving averages to the price action helps smooth the random fluctuations making it much easier to identify a trend (15).

3.1 Price data movement

A technical analysis encompasses the mathematical way of analyzing of past data of a given currency pair over time in order to predict future price data. A technical analysis is based on price data. History can repeat itself, often in regular, fairly predictable patterns. These patterns, generated by price data movements, are called signals. A technical analyst's goal is to uncover a current market's signals by examining past market signals. Prices move in trends. Technical analysts believe price fluctuations are not random and unpredictable. Once an up, down or sideways trend has been established, it usually will continue for a period. Traders rely on price charts, volume charts and other mathematical representations of market data (called studies) to find the ideal entry and exit points for a trade. Some studies help identify a trend, while others help determine the strength and sustainability of that trend over time (16). Technical analysis can add discipline and minimize emotion in your trading plan. It can be hard to screen out fundamental impressions and stick with your entry and exit points as planned. While no system is perfect, technical analysis helps you see your trading plan more objectively and dispassionately through the tracking of patterns within the data of price data movement charts.

There are three major types of price charts. These different charts show price action movements and are generally offered on most trading platforms. Each type of chart has different advantages and disadvantages. The most common type of chart that displays price action is a bar chart. This is a basic representation of the price data displayed over a given period of time. The changes in price data are displayed as histograms or “bars” across the period. Each bar represents a period of time. Bar charts can help predict price data patterns (16).

Candlestick Charts are another popular method for displaying price data. A candlestick chart is similar to a bar chart. Instead of a simple bar however, the candlestick displays the high, low and opening and closing price for that particular period of time (16).This information can be useful to traders because it can help indicate market volatility, can help indicate trend reversal patterns and can provide greater visual detail for traders in the market.

A third option for displaying price data is known as a point and figure chart. Usually a less popular alternative, point and figure charts are similar to bar charts, except X’s and O’s are used to mark changes in price direction (16). Point and Figure charts do not use a time scale to associate a certain time period with a certain price action.

3.2 Price data patterns

Traders often look for patterns within the data in order to help them trade profitability. Since price data often moves in patterns that repeat themselves, traders want to identify these patterns to help them determine the direction of the future price data movement. Traders want to identify old trends and consolidation zones in order to determine breakout points and new trends. The types of price patterns that traders are looking for usually include continuation patterns and reversal patterns. A continuation pattern can tell a trader that the current trend is going to continue in the same direction as the old trend. A reversal pattern tells a trade that the current trend is going to reverse and go in the opposing direction of the old trend. The only difference between a continuation pattern and a reversal pattern is the direction of the new trend. Both types of patterns have an old trend, a consolidation zone, a breakout point and a new trend (17).

These types of patterns are essential for understanding how to trade within the foreign exchange market. By being able to predict these patterns with consistent accuracy, one can become a profitable trader. Some traders use technical indicators to help them identify future trends due to patterns within the price data.

3.3 Trading indicators

A technical analysis is a way that traders can analyze the market. A technical analysis can include, but is not limited to price chart analysis, trend-line analysis and mathematical interpretations of price behavior. A trader can use technical indicators to fixate atop price data. Technical indicators can help traders identify trends, strength of the trend, or indicate price behavior. A technical indicator represents the price action—or a specific aspect of the price action—graphically. Technical Indicators can appear either below chart or on top of the price data movements. There are many indicators that are already created, however traders who are talented in the field of computer programming can create their own customer indicators that are well suited to their own trading methodology. Technical indicators—in addition to other factors—can help traders determine trends, momentum, volume or volatility (16).

3.4 Momentum indicators

Momentum Indicators are a popular indicator used by traders within the Foreign Exchange market. Momentum indicators are used to track the speed or "momentum" of prices over a given time period. These indicators work by using the speeds at which prices fluctuate to determine the strength or weakness of a trend as it progresses over a period of time. The highest momentum is registered at the beginning of a trend and the lowest at the end of a trend. There are many different types of momentum indicators. Some of the popular Momentum Indicators we will be reviewing include the Relative Strength Index and the Stochastic Indicator (11).

3.4a Relative Strength Indicator

Relative Strength Indicator is a momentum indicator developed by Welles Wilder. The indicator can be applied to any time period frame and is displayed below the price data movement. This indicator can be used by traders to determine whether a given currency pair is either overbought or oversold. The RSI indicator determines this by comparing the average of up and down closes for the specific time period. The value of the RSI indicator ranges from 0-100. If it is less than 30 it means that the given currency pair is oversold. If the value is above 70 it means that it is overbought. As the RSI moves above or below the 50 value it can indicate either an uptrend or a downtrend. This 50 value divides the buyers' territory between the sellers' territory. This value can help traders determine whether to buy or sell a given currency (11).

Figure 4.4: The above relative strength indicator displays when a currency is either overbought or oversold.

3.4b Stochastic Indicator

The Stochastic indicator was developed by George Lane. This momentum oscillator consists of two lines—a fast line and a slow line. Similar to the Relative Strength Indicator, The Stochastic is plotted on a scale between 1 and 100. Horizontal lines run across the stochastic indicator at 20 and 80 levels. These lines suggest when the market is oversold or overbought. When using a stochastic indicator traders can use the crossing of the fast and slow stochastic lines to determine entry and exit points. This is often used in combination with overbought/oversold zones to determine strength of the various trends (11).

Figure 4.4b displays a stochastic indicator displaying entry and exit lines below price data.

3.5 Trend Indicators

Trend indicators are used to smooth out data within the price charts. This allows traders to visualize trends within the data easier. Different trends include and upwards trend, downwards trend or horizontal trend. Trend indicators are usually laid over the price data movement charts in order to smooth out data and help traders better visualize different trends. Some popular trend indicators include moving average lines, MACD and others (16).

3.5a Moving Averages

Moving Averages are some of the most common indicators used in the foreign exchange market. Moving averages are laid on top of price data to help “smooth” out patterns within the data and help traders better visualize trends. There are three major types of moving average indicators: simple moving average lines, exponential moving average lines and weighted moving average lines. A simple moving average is calculated by averaging the price over a given period of time. . For example a 15 day moving average is obtained by adding the closing periods for the last 15 closing periods and averaging them out. An exponential moving average is slightly different than the simple moving average. In this type of moving average priority is given to the most recent data, therefore the moving average line reacts quicker to changes in price data. For this reason it is usually preferred over the simple moving average. The weighted moving average puts more emphasis on recent data and less emphasis on older data. This type of moving average reacts faster than the simple moving average, yet not as fast as the exponential moving average. Since traders often like to use multiple moving average lines—some slower and some faster than others—often times traders will use a combination of one or more of the above types of moving average lines in their trading methodology (16).

Many traders prefer to use moving averages that have less lag. A faster moving average line is often better to help a trader visualize trends more accurately. Therefore double and triple exponential moving average lines were developed in order to have a moving average react faster to changes in price data.

There are many strategies traders use when applying moving average lines to their trading methodologies. Some traders use moving average lines to help them clearly visualize a smooth trend line within the data. Others use trend lines as signals to help indicate changes in price movement patterns. One common usage is the moving average crossover strategy. This strategy involves running to moving average lines—one slower and one faster—and use their crossing points to help signal entry/exit points (12). It is recommended that traders use Exponential Moving Average lines to help eliminate lag. This is commonly used with a stochastic indicator and a MACD indicator as well. When experimenting with exponential moving average crossovers our project team often used a 20 EMA and a 50 EMA. IF the 20 EMA would cross above the 50 EMA we would look to enter a long position, if the opposite we would enter short. Our project team experimented with many different periods and types of moving average crossovers. Different members of our team preferred to use different lines depending on the time frame as well as what the individual trader is used to. Below is a picture of how the described crossover strategy can be applied to price data movement.

Figure 4.5a displaying 20 EMA and a 50 EMA crossover.

3.5b Moving Average Convergence Divergence Indicator

MACD- Used to catch trends and spot trend reversals. MACD uses two moving averages lines, one fast and one slow. One line is referred to as the MACD line, is a trigger line. These two lines are laid atop of a series of histograms that are used to measure the distance between the two moving averages. If using the MACD indicator to determine ideal points of entrance and exits a trader could wait for the fast moving average line to cross either under or over the slow moving average line. This could signal a new trend, which case a trader would choose whether to enter in a buy or sell position according to the direction of moving average cross (11).

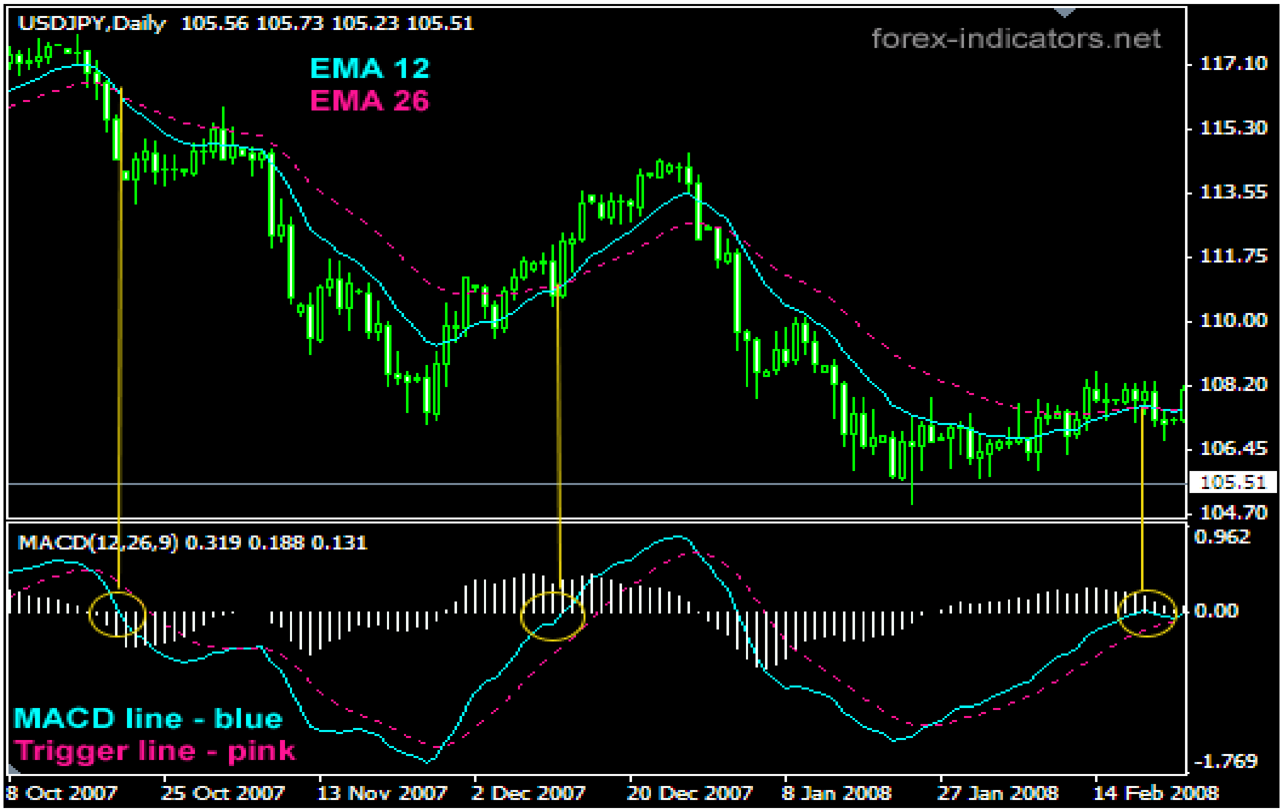

Figure 4.5b displays MACD indicator below price data.

3.6 Volume Indicators

Volume indicators help traders determine the interest in the market from the investors' perspective. Investors can have a huge impact on a market, and the number of quotes during a specific time period causes fluctuations within the price data. High volume in a particular market can suggest a start of a new trend or a trend reversal, whereas low volume can suggest no interest within a given market. Market volume usually changes during the day based on the time of day where traders are actively trading within the market. Increasing volume will signal increasing interests in the market—this can mean that trends will either strengthen or a new trend could start. When volume decreases it means that the interest in the market is also decreasing—this means that a trend reversal may occur or the market may consolidate or trend horizontally. Some popular volume indicators include acceleration bands and Chaikin money flow.

3.6a Acceleration bands

Acceleration bands were developed by Price Headly. They can be used across any time frame. These bands are moving averages lines that are laid on top of price data charts. The middle band is typically a 20 period simple moving average line. There are two lines that run on top of and below the simple moving average and are equal distant apart from each other creating an envelope. The upper and lower bands are created by using the following formula (11).

Upper band = (High * (1 + 2 * ((((High - Low)/((High + Low) / 2)) * 1000) * Factor)));

Lower band = (Low * (1 - 2 * ((((High - Low)/((High + Low) / 2)) * 1000) * Factor)));

Factor=0.001

This "envelope" that is created from by the upper and lower bands is used to determine price acceleration breakouts. The upper and lower lines can be used as levels of support and resistance. Traders can use these bands to help determine entry and exit points for trading. Two consecutive price closes that end outside the acceleration bands suggest an entry point in the direction of the breakout. This position should be kept until the price closes within (11).

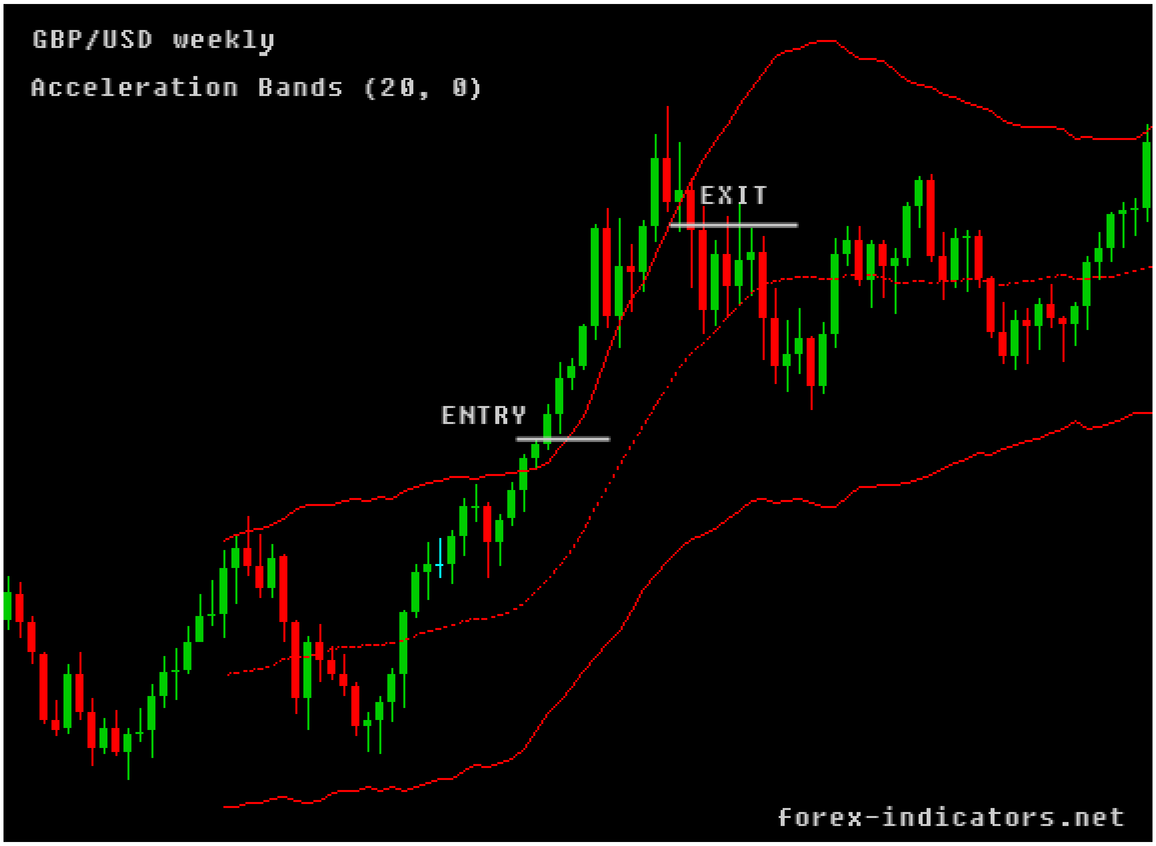

Figure4.6a displays acceleration bands of (20, 0) over price data. These bands are used to determine entry and exit points and can act as support and resistance lines.

3.6b Chaikin Money Flow

The Chaikin Money Flow (CMF) was developed by Marc Chaikin. This measures the amount of money flow volume over a specific time period. Chaikin Money Flow sums up the money flow volume for a specific look-back period, typically for about 20 days. The resulting indicator fluctuates between one and negative one above and below the zero line similar to an oscillator (11).

There are three steps to calculate the Chaikin Money Flow:

1. Money Flow Multiplier = [(Close - Low) - (High - Close)] /(High - Low)
2. Money Flow Volume = Money Flow Multiplier x Volume for the Period

3. 20-period CMF = 20-period Sum of Money Flow Volume / 20 period Sum of Volume

This indicator is most commonly used by traders in the foreign exchange market to define a general buying or selling bias simply with positive or negative values. Generally, buying pressure is stronger when the indicator is positive and selling pressure when the indicator is negative. This can be used to help traders determine ideal points to either sell or buy based on the value of the CMF.

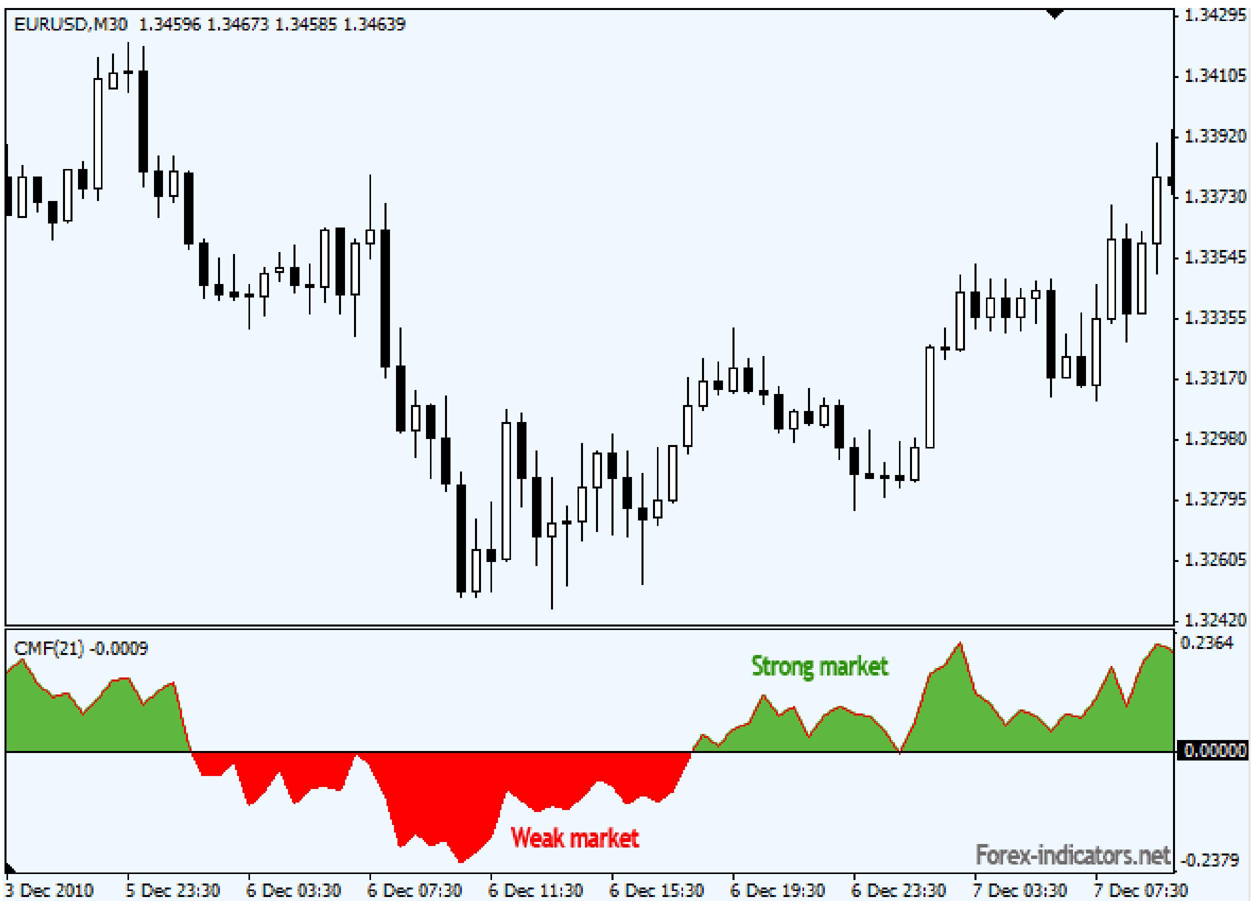

Figure 4.6b displays CMF indicator below price data

3.7 Volatility indicators

Volatility indicators are another popular type of indicator used within the foreign exchange market. These indicators measure the intensity of price fluctuations which gives trades a general idea of the level of market activity. The level of market activity is determined by the size and magnitude of these fluctuations (11). In any market, there are periods of high volatility and low volatility. Some popular volatility indicators include average true range, and Bollinger bands.

3.7a Average True Range

Average true range is a volatility indicator developed by J. Welles Wilder in 1978. This indicator allowed traders to visualize past volatility measures in order to prepare for trading within the market. Currency pairs with low ATR values usually correlate with low market volatility, whereas high values correlate high volatility. Average True Range is used by finding three different "true ranges". This indicator takes the highest value and averages them out over time. The three measures for true range include the difference between the high and low values, the different between the high and previous closing value, and the previous closing value and the low value of a given currency pair (11). These values are then displayed in a moving average line graph that lays below the price data. Below is an image of what an Average True Range indicator looks like over a 14 day time period.

Figure 4.7a displays average true range indicator and how it's falling and rising corresponds to patterns in pattern days.

3.7b Bollinger Bands

Bollinger Bands were created by John Bollinger in the early 1980s. These indicators are widely used by traders within the foreign exchange market to measure market volatility (11). These bands act like mini support and resistance levels. The strategy is based on the fact that trends in the price data movement always return to the middle of the Bollinger bands. For example, if you were planning an entry point for a trade, you would buy when the price hits the lower Bollinger band. Furthermore, when exiting the trade you would then sell when the price hits the upper Bollinger band.

A popular strategy used by traders who Bollinger bands as indicators is a breakout strategy. When the Bollinger bands form narrow channels—or grow closer together—generally this indicates a consolidation period within the price data. When the bands move away from each other—or breakout—this can signal a new trend. The following image depicts how a breakout can happen during consolidation.

Figure 4.7b displays Bollinger bands over price data. The image displays how Bollinger bands can indicate price data consolidation and breakout patterns.

3.8 Support and Resistance Lines

Support and Resistance levels are some of the most widely used concepts by traders within the Foreign Exchange market. These levels and determined by patterns within the price data movement and can help traders determine points of entry and exit when making trades.

When the price data moves upwards and then pulls back, the highest point reached before it pulled back is considered a point of resistance. On the contrast, the lowest point reached before the price data moves back in the upward direction is considered a point of support. These points of resistance and support can be useful tools when analyzing the price data charts.

As price data moves in different patterns or trends, these support and resistance levels can become more and more useful. Often times traders draw lines that intersect through most of the points of resistance. This line is called a resistance line. Traders will also draw a line that cuts through most of the points of support. This line is called a support line. Generally the price data fluctuates within the support and resistance lines while going through a specific trend. This will continue for a given amount of time until the price data either consolidates or the price data breaks through the support or resistance line. By identifying these lines, traders can more accurately determine points of entry and exit.

When plotting support and resistance lines it is important to remember that these levels are not exact numbers. The values of these lines generally fluctuate slightly based on the different closing prices of the data that create the points of resistance or support. The line is usually drawn in manually by traders and is an average of most of the points of support or resistance.

A technical analysis encompasses a wide range of factors to consider when trading. Traders will analyze price data movement, the patterns associated with these movements, and a wide range of indicators that traders can use help visualize the data. By understanding the technical aspects associated with price data, traders can visualize different trends and patterns and hope to predict future values. In addition to a technical analysis many traders rely on a fundamental analysis to help predict future values.

4 Fundamental Analysis

4.1 The importance of fundamental analysis

A Fundamental analysis can be defined as the grouping of news and information that reflects the macroeconomic and political occurrences of the countries whose currencies are traded. Economic fundamentals are based on economic data reports, interest rate levels, monetary policy, international trade flows, and international investment flows. Macroeconomic factors such as interest rates, relative growth rates, and market sentiment normally determine the big picture direction of currency rates. This makes fundamental analysis a great aspect when trading currency pairs.

All of the news that comes out about countries in which their currencies are trading is necessary to know when trading, especially during long term trades. It can determine whether or not a trader should stay in a trade over night and still have a profitable outcome. News reports, economic data, and political events all should be considering when making trades in either the long or short term.

4.2 Macroeconomic Issues

The main difference between trading prior to break and now is that the EUR/USD is now remaining to shift up and down below 1.3 and has yet to go above it except for a few days in December. AUD/USD has not had this problem though it began very low during the initiation of the break but over time has regained strength and is now at 1.03. It has been hovering around this number for most of the month of January so far. The euro has fallen short so badly that trading it against the Aussie means that one would most likely long the Aussie, seeing that there is a trend of the past years that in which the Euro has dramatically fallen and now ranges between 1.30 and 1.42. Enormous price changes are expected to take place throughout this year, just like the movements in the EUR/USD in the past 5 years. The charts from the past indicate drastic changes like one from prior to the recession, where the euro is above 1.8 to a low in 2010 where the euro fell short of 1.2.

Cutting all spending in certain countries and sending signals to businesses that they too should practice austerity are being sent from places where this could end up hurting the economy. These types of practices were common in the U.S during the mid-1930's.

A plan in Japan was made for the better towards the end of last year when the government displayed ideas to increase consumption taxes, but that plan was moved to 2014 if it even happens then. The DPJ disagreed with this idea and several party members had threatened to resign if the consumption tax increased from 5% to 8% or even 10% in the upcoming months.

The US dollar has been decreasing against all major and minor currencies besides the Brazilian Real which was most likely due to the fact that the Real wasn't trading then. This has however kept the EUR/USD trades at about the same and the euro is still not gaining much on the US dollar. On the 23rd, all of Euro-zone's finance ministers will meet in order to discuss budget discipline and austerity. Regarding the British Pound, Prime Minister Cameron had decided that he would take the UK out of any further consideration of becoming part of the European Monetary Union. This has resulted in a movement in the EUR/Sterling in the Sterling's favor since the reaching of this decision. Cameron's decision has increased the Sterling by approximately 3.4%.

The New Year has begun with stronger commodity prices while crude oil prices have risen as well, though the prices for natural gas are still falling. These changes are most likely due to the unseasonably warm weather that has been happening for the past month or so. The New Year has also kept the prices of the US dollar fairly low, with not much change throughout the month. The Euro is seen to be this way as well with trends over the past months that show an increasing decline that seems as though it will not be ceasing in the upcoming few weeks or even months. The Euro's highs have been decreasing as well showing that traders should continue on bearish trades for the next few weeks. All austerity measures taken upon Europe are worrisome and protest-making rather than reassuring, which is want government officials want. Growth is what Europe really needs, although officials want austerity. They should be giving tax cuts and incentives to businesses rather than giving austerity measures and new, more restrictive laws.

The EUR bulls continue to believe that US dollar is looking more and more like it will not continue to be the world's reserve currency in the future. This is not true though because there is evidence that the dollars share of global currency reserves rose 7.5% from that of a year ago when it was at 61.7% of allocated global central bank reserves. The EUR is second to the US dollar with 25.7% so their prediction was very wrong. The beginning of the year continues to be in favor of the commodities as its prices remain to increase throughout the few days. Gold has gone from being completely weak for a few weeks to a much stronger placement simply because of its constant lows in the past.

Italy's problems continue to worsen as the largest bank there is offering more than 40% discounts to existing shareholders in the bank. These actions went and drastically reduced the Euro keeping it below the 1.3 line. The drops in prices only showed that Europe’s troubles are very far from over. All of Italy’s banks are at the point in which they all have to raise capital in order to keep the country from defaulting. The problems with the Euro are also making it so that people have to pay more and more for everything in these European countries. Cocoa, sugar, and coffee have all risen in prices for European importers causing a rise for these products in the economy. Cost for sterling has gone up as well. Last summer it cost 1.100 EURs to buy one Pound Sterling and now it costs 1.2075 to do the same, displaying the rapid loss of value that the EUR is currently undergoing.

The dollar shows no signs of going down for the days to come. It is predicted that later this year the EUR/USD will hover around 1.10-1.15. The ADP was recently released and it showed job increases that have never been seen before in the ADP’s history. 325,000 new private sector jobs were created in the month of December alone. Service industry’s jobs grew 273,000 and the goods-producing industry’s jobs rose 52,000. Although more jobs are being created, it is less than there could be simply because companies would rather have already trained employers just work longer hours. After the release of the Employment Situation Report, The US dollar showed supreme relative to all other currencies. The EUR trend remains downward while the US trend remains upward and will probably remain this way in the upcoming times.

As all know by now, the Euro is in a crisis and is constantly decreasing in value on a daily and weekly basis. Prices for countries of “English speakers” are rising and don’t seem to be slowing down any time soon. European nations are losing their ratings. Now only Finland, Germany, Luxembourg, and the Netherlands still have AAA ratings with France and Austria losing their AAA rating on Friday, January 13. They now both have ratings of AA+. Ratings had also gone down in Slovenia, Slovakia, Spain, Malta, Italy, Cyprus, and Portugal. Greece was left unchanged at a terrible rating of CC. These ratings are currently affecting the Euro and causing it to diminish at a fast rate. These events are affecting the EFSF as well because with the two new drops in credit for France and Austria, the EFSF now may have to reduce its own credit rating from AAA to AA+. Worst of all, France is in danger of another cut due to the fact that the government's debt and budget deficit continue to rise. Ms. Merkel stated that she may propose a legislation that would prohibit German institutions from selling the sovereign bonds of EU member nations whose ratings have been downgraded. If this was to be implemented and institutional money managers don't take action to protect them, then many people would lose their jobs and lots of money would be lost.

International equities and metals markets are strong following the announcement by the government in Beijing that year-on-year GDP growth in the 4th quarter was 8.9%. The AAA rating of the EFSF was reduced to AA+. The largest buyers of the EFSF now have a big problem, which is that their rules of investing preclude them from holding anything with less than an AAA rating. This means they will not only be precluded from buying new paper, but they will also have to sell their holdings. Lawyers will now have to be searching through various investment rule-books in order to allow the holding of less than AAA paper. The value of the Euro compared to Sterling has dramatically changed. Years prior, it would cost 1.03 EURs to buy sterling and now it costs 1.21 EURs to do the same. This displays the dramatic drop in value the EUR has been undergoing for the past few years. People are now finding more security in English-speaking countries such as Canada and Australia.

Even with the security of English-speaking countries, there are still a little bit of problems as they are under a little pressure after days of interrupted strength relative to the Euro. The Euro is becoming oversold in this bearish market. The EFSF's drop in its credit rating has caused an upward pressure to be placed upon interest rates for that funding group. None of the countries with AAA ratings have any intention of putting up more money to the EFSF or the fund that shall eventually replace it. The ZEW index rose the most sharply in one month than it has since 1991. It rose from -54 to -22, which caused the Euro to rise as well.

The Euro is finally making a comeback with a recent bump up after reports that The International Monetary Fund hopes to increase the sum of funds at its disposal that it can use to fend off monetary problems around the world from $400 billion to $1 trillion. Anytime the IMF does something like this, there is fear that the outcome may not turn out well. This is because of the fact that of the twelve nations the IMF has tried to help; only one came out unscathed. Most of the nations would come out worse or far worse, which is not needed for the European nations as of now. The IMF's sole methodologies were to raise taxes, cut spending, and devalue the currency of the home country. African, Asian, and South American nations were all decimated. Only Ghana didn't get worse, but it didn't get any better. The IMF's past history shows that it hasn't been beneficial in anyway but it is still the plan for some officials. As of now, America and Canada are the only ones that know not to put any hope into the IMF and to keep it out of their business altogether. Australia's employment totals this month are far worse than expected with their totals falling 29,300. Sydney's financial district only expected employment to fall 10-15 thousand at the most. This turned out to be false. The unemployment rate there stayed steady since most of the job losses were from people taking themselves out of the job market.

4.3 Political Issues

Many political events have occurred worldwide during the course of our project. It was our duty as money manager in the Foreign Exchange Market to keep up to date with various world politics in order to better understand how they may affect the value of various currencies and commodities worldwide. The political leaders of several different countries have lowered their credit scores and/or gone bankrupt in the past seven months. Germany appears to be staggering back and forth between being in a decent place to being in a bad place politically and economically. Initially, Germany's political leaders were divided in going about how they would handle the debt crisis. Germany is possibly the only European nation that would be able to cover the debts of the nations surrounding it, but Germany's citizens were reluctant to being the source of the bailout.

In September 2011, Germany's Parliament voted to approve an agreement European leaders reached that would expand the euro-zone bailout fund. This helped the crisis a little since Germany couldn't help as much as it could have due to its citizen's opposition to the proposed bill. Germany continues to have prosperity in these hard times while other countries such as Greece and Spain continue to decline. Although this is true, Germany's president Christian Wulff announced his resignation in February of 2012 after prosecutors asked Parliament to strip him of his immunity from prosecution over accusations of indecent ties to business.

Due to mounting public opposition, Germany's Parliament approved the latest European rescue package for Greece. The vote is politically costly for Chancellor Angela Merkel due to the fact that the German citizens opposed aiding other countries.

4.4 Gartman Letters

The Gartman Letter is written daily by Dennis Gartman. He uses recent economic data to help him summarize many macroeconomic issues that are prevalent in the world today. His letter is written daily and provides advice and information that is very useful for FOREX traders. Issues that are usually included are things involving the dollar, as well as, news about the energy prices and the commodities. Metals are talked about also. The Gartman Letter usually begins with a summary of what is happening to the global economy. Focuses recently have been all about Greece and how they are going to default in the near future.

Furthermore, information pertaining to politics is summarized in detail when it is possible that it may affect some markets in the FOREX world. The letters are very useful in guiding people on how to trade during the week too.

The first few Gartman letters that we received at the commencement of the school year spoke mostly of the new jobs/investment/spending program that President Obama announced. As well, in the beginning of September, the dollar was staying pretty strong keeping the Euro at a lower value than it is now. Commodity prices were under pressure at the beginning of September also, but this trend stayed the same for most of the month. This was the same way for energy prices.

The following week has begun with the EUR plummeting downward. Commodity prices are another thing moving in a downward spiral. Gold was strong in non-US dollar terms as well earlier this week. Crude oil and natural gas were weaker. So, all in all, prices went down in almost everything. The FOREX market was quiet the next day with the pip movement very slow. Commodity prices were on a decline for the second day in a row while crude oil remained weak. Share prices in almost every place were lower, so it was another bad day for trading. The former president of Afghanistan was assassinated on Tuesday. He was head of a High Peace Council that was trying to negotiate peace with Taliban insurgents. Wednesday, the FOREX market was quiet before the FOMC meeting and the EUR/USD was at a tight spread all day. Commodity prices were firmer and energy prices were moderately higher. Even share prices increased. This occurrence happened last week when there was an increase of everything towards the middle of the week. The US dollar reigned supreme following the Fed's decision to "twist" the yield curve. Commodity prices became very weak and energy prices lowered as well. Share prices virtually collapsed causing this day to be yet another low-valued day.

Towards the beginning of the following week, the US dollar was reigning supreme over the Euro. The fate of the Greek government still glooms over the market which will change up the direction of the worth of the Euro in the near future. The delay in announcing a Greek default is simply to allow the European banks time to bring up their defenses. The reason this has come about was because the "Troikas" were pushing the Greeks into some sort of horrifying austerity program that clearly lacked the support of even a few percentages of the population which was illogical at best. Commodity and share prices were significantly low at the beginning of the week.

September has ended with a strong dollar and October began the same way. The dollar is overpowering basically every other currency it is up against, causing other values to drastically depreciate. The only currency not losing to the dollar was the Chinese Renminbi, but this was mainly due to the holiday that China has been undergoing throughout the week. This start to the new month has been very poor due to the fact that all commodities have gone down as well as the stocks. Gold has slightly rose but not dramatically so it has potential to go right back down. The US economy is on the brink of a recession if it is not already in one. ECRI's weekly leading index has been used as a guide for the future of the economy, and their index has been turning lower for months already and is now in deeply negative territory as of the end of last week. Europe's problems keep worsening. Greece reported that it is pushing ahead with mass layoffs of public employees, but even so it will fail to meet the promised budget levels it had made to the "troika." Commodity prices were very weak and crops have not been growing as they should due to drought. All crops were very bearish at the beginning of the week and energy prices were weak.

The gold, the dollar, the yen, and the Chinese Renminbi reign supreme. Even though this is true, fears of a globalized recession is looming in the air. Base metals, the grains, the softs, and energy are all on a downward trend as of now. The focus in the FOREX market is the future demise of the European Monetary Union. This is because of the known factor that Greece will default on its debt. The debts in Greece are too severe and its citizens too given not to paying taxes and to expecting the government in Athens to support them with jobs, or subsidies or transfer payments et al. Plus, the level of GDP is not now nor shall it in the future be sufficient to service debts even half as large as they are now. The markets and the authorities are merely using the time now to adjust the banks of Europe and to some extent the banks of North America and of Japan, for they all own some bits and pieces of European sovereign debt, to the reality of a Greek default. J.P. Morgan Securities on Monday, put real fear into the markets when it said that in a near worst-case scenario in a "stress case," the European banks will have a deficit of almost €230 billion and that the EU governments may have no choice but to meet this credit deficit with "a capital injection." Commodity prices are weaker for yet another day, and energy prices are finally stabilizing. The stocks have greatly fallen as the international index has gone down.

The EUR has been on a constant uprising on mid-week days for the past few weeks. It has gone up slightly late last night during North American trading times; it is not known how long it may last. Dr. Bernanke said that the Fed stands ready to take additional steps to aid US economic growth but he made it even clearer that is absolutely necessary that Congress "avoid fiscal actions that could impede the ongoing economic recovery." In terms of Europe, Japan made the surprising announcement that they've pledged support for the ESFS although it is the most indebted of the G-7 nations. On the other hand, something predictable has happened to commodities which are the fact that they are weak once again and precious metals and base are as well. Crude prices are volatile this week, which is different and very uncommon for oils. Stocks have fallen again which isn't anything new since this has been happening for the past few weeks now, with random spikes upward in the market.

The market has now been far more stable than the previous days. Although the EUR has been on a steady rise the past three sessions, it is clear that the EUR will stop this and hit lows lower than the previous days. Simply put, looking at the chart of the EUR in hourly terms going back into mid-August it is clear that every new low for the EUR relative to the US dollar is lower and so too every interim high. The interim highs have decreased every month since August and this only shows that strengths are to be sold greatly while weaknesses are to be bought very cautiously. Looking back at the past few years of the EUR/USD, it is clear to see that the EUR has been topping off at lower places every year for the past few years. The new lows that are happening now are due to the fact that even if Greece is put aside and allowed to default quietly and without fanfare, it shall be but a matter of time until Italy defaults, and/or Portugal defaults, and/or Italy defaults et al. This would cause a major downfall in the Euro causing larger slopes downward in the Euro's value.

The US dollar has started off weak while the Euro is standing strong. President Sarkozy has decided that the better course of action is not to press for the ECB to use its money printing power and to instead rely upon leveraging the funds available thus far to the EFSF. President Sarkozy has apparently chosen to pursue reliance upon China and even Brazil which is the most prominent and clearly the most dominant of the "Emerged" nations, both of which run large and growing trade surpluses that can be mobilized to buy European debt. All is well for the PIIGS and Greece since they are still yet to be at a default. Commodity prices are strong as the dollar is weak; this correlation has yet to change between the two. Crude oil and products are firmer and natural gas is stable as well. The main problem that US wheat prices have at this point is the competition from abroad. Ukraine is returning to the global market, and Australia is prepared to do the same. The Canadians too shall be more and more competitive and the USDA recently cut prospective US exports of wheat from 1.050 billion bushels to 1.000 billion. Equity prices have skyrocketed as well.

Recently, dollars are strong but not the US's because of the increase in commodity currencies. The EUR has found strong resistance at the 1.3950 level that has thus far proven to be quite formidable as it grows more and more certain that Germany and France will indeed publically agree to some sort of compromise regarding bank recapitalization, the bailing-out of Greece and the ring-fencing of the other PIIGS. China and Brazil will be brought directly into the game; with some sort of Special Purpose Vehicles created that will allow those nations to recycle their trade surpluses through Europe in the form of debt issues created especially for them in the names of the PIIGS. Everything was higher again on this day as the dollar remained weak. The correlation still has yet to change.

Towards the end of the last week we experienced a very slow period in the FOREX market as Veteran's Day holidays suspended the larger entities' trading within the U.S. However, there was a rumor that Standard and Poors would downgrade the sovereign debt of France. These allegations were put to rest, but not after some wild fluctuation in favor of the long side of the USDEUR cross.

Mr. Berlusconi has stepped down from his office in Italy last week, to both the applause and surprise of many. Newly appointed Senator Mr. Mario Monti, will vote in favor of the legislation to pass austerity measures that have been imposed upon it by the "Troika". In doing so he argued, similar to Gartman, that the ECB should become the lender of last resort. Despite the ongoing austerity measure vote in Italy, the government was still able to auction off approximately $7 billion USD in one year government notes around 6% down from a previous 7%.

Mr. Papandemos took over control of the government in Greece towards the end of last week. He is to undergo a no-confidence vote almost immediately, which is expected for him to pass given his short time in office already. In addition, Greece is being forced to agree to raise taxes on its citizens and businesses before the euro-zone nations allow for any more bailout money to be dispersed. It seems only a short while till we see this happen as Greece requires yet another loan by the end of this month just to pay the interest on prior loans.

Mr. Gartman compares the forcing of the taxes upon Greece to the fiscal policy of Mr. Mellon, the former U.S. Secretary of Treasury during the Great Depression. He feels that such measures will only worsen the situation in Greece and eventually cause more harm to the euro than is presently suspected by most. He proposes that for the time being that the ECB should step back from its lending practices and become the "lender of last resort." However, this latter strategy is definitely not going to be popular among the more developed economies such as German and France this may be one of their few options which will have a lasting effect.

Mr. Gartman also discussed the recent state of the health of the EUR. The EUR which has been declining in value ever since the beginning of November continues to weaken in recent weeks. Gartman believes that the only way to save the EUR is a significant change in the policies of the European Central Bank that is required by law to purchase sovereign debt directly.

5 Our trading methodology

Trading within the Foreign Exchange Market can be very risky. In order to be a successful trader it is important to understand these risks and know how to manage them. Traders must develop a trading plan in order to be both successful and consistent. A trader who can produce profits consistently is more valued than a trader with high profits and high losses. Our group was responsible for managing over $300,000.00 worth of mock capitol under real market conditions. In order to manage this money successfully we needed develop a trading methodology.

During the beginning phase of our Interactive Qualifying Project we had little knowledge and experience with trading in the foreign exchange market. It was essential for us to first learn about the market and how it works before practicing trading. As our group began to trade individually we learned firsthand what strategies were effective and attempted to understand the reasons behind them. In contrast to this we learned what aspects we unsuccessful as well. As individual traders our project team experimented with different indicators, risk management strategies and kept up to date with macroeconomic developments. Each time we made a trade we recorded it in our trading journal and presented it in front of each group and professor Hakim. The purpose of this was to record what strategies we used during the trading process and to document our logic behind entering and exiting the trade.

Documenting different trading strategies was an essential aspect in forming our trading methodology. A trading methodology is a defined template of rules to follow when trading. It can be argued that a trading methodology can be one of the most effective tools a money manager can use when trading currency in the foreign exchange.

Our group developed the following trading methodology based on our successes as traders. This methodology was improved upon continually as we gained new knowledge and experience.

Before beginning a trading session, making sure we are up to date on any current news will be of utmost importance. We are not allowed to trade until we have read the Gartman Letter for that day. In addition, we must check on ForexFactory.com for any news times which are scheduled. For any currency pairs involved in scheduled news, we will not allow any open orders during a one-hour block centered at the scheduled time. In addition, we will only trade major pairs which at least one belongs to the current trading session's region.

Multiple time frame charts will be brought up for the currency pairs in question. If any pair exhibits similar trends on the 5-min, 15-min, 30-min, and hour timeframes, they will be considered for trades in the following steps; if not, they will not be traded.

Every pair which has made it to this stage will be charted on the 5-minute time scale in conjunction with two exponential moving averages of periods 5 and 15 respectively. In addition a 50-period simple moving average will be used as a signal line. Only buy orders will be placed if the ask price lies above the signal line and only sell orders if the bid price lies below the signal line.

Since we are trading only pairs which have a general trend our next step is to create pivot and support/resistance lines for the past 12 hours of trading. Emphasis will be placed on the most recent pivot lines through the use of line thickness, while support/resistance lines which have been broken during this period will be broken lines.

We now have an indicator which creates these lines for us, which looks only at the current window, thus we will have to manually enter any support resistance prior to this.

We will then begin looking for entry positions both based on our EMA cross and signal lines, as well as the resistance lines and candlestick patterns. We will not sell close to the lowest support line and will not buy near the highest resistance level, unless they have been broken.

If a currency pair meets the entry position criteria then determining lot size will be our next step. Our base lot size will be 2 standard lots. Originally we had stated a value of 1 standard lot, which we will continue to use on our personal accounts; however the profits we wish to make dictate the need for a larger base. If the chart incorporates candlestick patterns (i.e. reversal/continuation patterns) favorable to our intended position this base lot size will increase to 3 lots.

For long positions a stop loss will be placed below the next support line which lies below our entry position. For short positions this s/l order will be placed above the next resistance line which is above our entry position. The actual numerical value will be calculate/approximated as 10-15% the distance between that line and the next, below for long positions and above for short. Similarly our take profit orders will be placed in a similar fashion using a distancing factor of 10-15%. These t/p values will lie above the next resistance line for long positions and below the next support line for shorts.

If we are in a long position and that price crosses the resistance line which has t/p 10-15% above it, we will update our s/l and take profit orders. This will be done by using our same calculations and adjusting them up to the next pivot point. In a similar fashion we will do this with short positions. If a second update is made to any of our positions we will repeat all of the previous analysis steps. If the pair still meets all of our criteria an additional lot may be added at the discretion of the trader. This extra lot will be treated in the same manner as all other trades.

If at any point there is indication (i.e. candlestick reversal) that a currency pair will not continue in the direction of our trade we will exit immediately.

5.1 Implementing our trading plan

In order to be a successful trader within the foreign exchange market, one must develop a detailed trading methodology and make a dedicated commitment to follow every detail of the trading plan. Most trading plans consist of both a technical and a fundamental analysis. We implemented both these types of analysis' into our plan in order to ensure that it will well-rounded and no aspects of the market would be overlooked.

Our project team researched various aspects of both the technical and fundamental analysis. For our technical analysis we focused on analyzing price data movement over time in order to determine patterns within the data. In order to help us better determine price data patterns as well as points of entry and exit, our project team experimented with different indicator set ups that we researched through many of the FOREX trading resources available online.

In order to ensure that our trading plan is followed we documented the specific details of the plan and made adjustments accordingly based on different trading style. For example, one project member may prefer to use one indicator whereas another may prefer an entirely different set up. Also we made sure to not to multi-task during trading. We believe it is important for our traders to be solely focused on trading and not distracted by other information. Also our traders were instructed to only trade during specific times of day based on what market they are trading in, and not trade when under emotional or physical stress.

5.2 Choosing indicators

Choosing indicators can be difficult. Different traders often use different set ups. In order to learn more about the different indicators and how they are used we followed the simply theory that Worcester Polytechnic Institute was founded upon—theory and practice. No one indicator is the best indicator. Often times indicators can be more effective if used in combination with other indicators. Even so, there is no specific indicator set up that has proven to be better than another. Over the course of the year our project team researched almost every indicator available to use and the different strategies associated with them.

Our project team practiced many different indicator set ups. Although some of our basic trading principles remained the same, we experimented with different indicator combinations until we developed a system that we were comfortable trading with. During our weekly meetings each group would present trades and their rationale for entering and exiting those trades. It was valuable to compare our results with the results of other groups whose trading methodologies differed from ours.

5.3 Risk Management

In a market where one unwatched position can result in the loss of an entire account, risk management is an essential aspect of being a successful trader in the foreign exchange market. It is evident that Risk Management should also be an integral aspect of any trading plan or trading methodology. There are many measures that one can take in order to manage risks associated with trading; some are more obvious than others. First off no trader should trade when he or she is experiencing any emotional stress. Emotions play a major role in the success of many trades and an emotionally unstable trader adds increased risk to the trade. Also it is risky to trade certain currency pairs during certain times of the day. The Foreign Exchange market is one of high volatility and liquidity, especially during peak trading hours. For smaller traders, trading these times can increase risk. Also the size of the trade can help reduce risks. If a particular trader does not want to risk a large percentage of their account, they can lower there lot size and buy and sell less units of the given currency pair. Although this does increase the risks associated with trading in the market, it equally affects the possible rewards in terms of profits. Regardless of the emotions of the trader, time of day that the trader is trading or the lot size associated with the trade, there are many other measures that one can do to minimize risks of trading within the foreign exchange market. Some of these measures include setting stop losses, take profits and trailing stop orders. These operations limit orders by closing trades under certain conditions.

5.3a Stop Losses

A stop loss, or a stop order is a method in which traders use to protect themselves from enduring large losses. The trader sets a stop loss at a certain location to minimize the loss. For example, if a trader enters a trade long and anticipates the price to increase, he would set a stop loss below the bid price. This way, if the price was to drop rapidly, the stop loss would automatically exit the trade after a predetermined amount of pips were lost. As part of our risk management policy we never wanted to risk more than 2% of our total capitol. Since this was sometimes difficult to determine, we set a standard of setting a stop loss 20 pips below the asking price.

5.3b Take Profits

A take profit operates conversely to a stop loss. While the purpose of a stop loss is to minimize losses, the purpose of the take profit is to save profits. A trader would set his or her take profit or limit at a certain value, this is usually a level of profit that traders would like to collect on a consistent basis. Our project team determined that we would like to average about 20 pips for each profitable trade.

7 Launching a money management company

7.1 Location and legal structure

There are many ways to legally structure a money management company. Some of the options include forming an offshore limited partnership, and offshore limited liability company, and offshore protected cell company or an offshore specialty company. Offshore Limited Partnerships function similar to regulator partnerships; however, they reap the taxation and other benefits of being located offshore. Offshore limited liability companies include the simplicity of a limited partnership, however they have limited liability and members of the party have more protections. Offshore protected cell companies operate similar to a corporation and are ideal for investment purposes. In an offshore protected cell company the assets of the company are divided into different cells. The assets and liabilities of each cell are separate from every other cell. Also the ownership and even management of each cell is different from every other cell. This provides obvious benefits for a company like our money management company since we could hire many different trades who can manage many different accounts.

There are a lot of onshore options to creating a money management companies as well. Onshore companies may see offshore as a better option since there are many benefits to it. Some benefits include favorable tax rates, asset protection, flexible accounts, better exchange rates, diversification and less government regulation. These benefits make it easier to establish a company offshore.

In the United States all money management companies that trade within the Foreign Exchange market are subject to strict regulations set by the Commodity Futures Trading Commission and the National Futures Association. These regulations include amount of Net Capitalization minimum capital requirements, accurate disclose record keeping, as well as reporting all transactions to the federal government. It is for these reasons that many smaller brokers have moved to countries outside of the United States.

These benefits, although they may move small businesses, it is not efficient because most other countries have money that is less than the US dollar. As well, the government has recently come up with the Dodd-Frank Act which requires that the FOREX brokerage company must first be registered with both the Commodity Futures Trading Commission (CFTC) and National Futures Association (NFA) in order to do business with US citizens. This process requires a lot of paperwork that most companies do not have the time to do, so most have decided to stop accepting US citizens altogether. Offshore companies who do accept US citizens still have to make changes when accepting them. These changes include; minimum account trading, spread levels, and leverage.

7.2 Laws and regulations

There are a few U.S. agencies and organizations that oversee the regulation of the operation of companies that manage money through the trading of currencies. The United States has two principal organizations which oversee and regulate the retail FOREX market. One is the Commodities Futures Trading Commission, or the CFTC. The other isn't necessarily run by the government, although the government does use them. This organization is called the National Futures Association, or the NFA, which operates as an independent self-regulatory agency. In 1982, the National Futures Association was formed. This independent agency has served as a watchdog for the futures industry ever since. The NFA is based in Chicago and operates another office located in New York City.

The NFA operates extensive programs to monitor and supervise its members to safeguard the integrity of the financial markets that it oversees. These programs include; arbitration and mediation services, audits, anti-money laundering programs, enhanced supervision, disclosure documents for CPOs and CTAs, NFA investor alerts, and ongoing educational resources for members and investors. The difference between the NFA and the CFTC is that, the CFTC has within its jurisdiction the ability to regulate and oversee futures markets and exchanges. On the other hand, the NFA regulates every individual or firm which conducts futures trading business with the investing public. The NFA works to ensure that the investing public that participates in the FOREX market is treated fairly and that their funds are safeguarded from fraud and other forms of misappropriation or unfair withholding.

7.3 Steps needed to start the company

To begin a money management company, the company has to file some paperwork. The Articles of Organization paperwork must be filed. This is usually done with a lawyer but can also be done by oneself. The filing fees will have to be taken care of as well. The fees vary from state to state so local laws will need to be understood before completing this action. To form an LLC in Massachusetts, you must first check the availability of a name for your small business. The name must contain the words “limited liability company,” “limited company,” or the abbreviation “L.L.C.,” “L.C.,” “LLC,” or “LC”. The business name cannot be the same as, or deceptively similar to, the name of any foreign or domestic limited partnership, corporation, or LLC on file with the Secretary of the Commonwealth. After this, you have to prepare and file a certificate of organization with the Secretary of the Commonwealth. The filing fee is $500 and can be done online at the online filing system of the Secretary of the Commonwealth. Lastly, you would need to obtain any required local licenses.

Once that's done registrations are in need of being taken care of. The company needs to request an Employer Identification Number (EIN). If the company has employees, it will need to register for Massachusetts withholding-payroll taxes using their registration page. Whenever the company hires an employee in Massachusetts, it must inform both the IRS and the Commonwealth of Massachusetts. The company has to carry workers' compensation insurance since the business is located in Massachusetts. Lastly, as a tip for the business owner, he or she should create a bank account just for the company because it would be harder to handle of the money was in personal accounts.

To become a FOREX broker, you have to become certified as a FOREX broker in your country of residence. For our company that would mean that we would have to obtain a Series 7, Series 63, and a Series 65 (or sometimes a 66) license. You will also need to pass the National Association of Securities Dealers Series 3 test. The final thing the company owners would have to do is create an operating agreement which would state the format and function of the company. Most people choose to have a lawyer during this part in order for there not to be any problems that could potentially harm the company. These papers are drawn up, and then sent to be filed with the Secretary of State office. These papers cover issues regarding management powers, payment to owners, and split up of the company in a partnership. This process isn't legally necessary in some states but it is extremely beneficial to the company, especially if it's owned by more than one person.

7.4 Marketing our company

Initially, our choice of placement for our FOREX Company was off shore, but with more research, we were able to figure out that this would not be the best choice. There are a lot of parameters for commencing a company. A main one would be that you would need a license in your country of operation to legally work. So if one were to start a company off-shore, there is already a problem that would have to be taken care of, and a lot of extra work would be necessary in order to start the business.

For a company, one would first need to create a name for that said company. The company name cannot promise any guarantees because it could jeopardize the company and produce an overabundance of lawsuits against the company's promises. When advertising for a money management company, word choice is must be well thought out. The risks associated with trading in the FOREX market should be clearly displayed in the form of a disclaimer and word such as safe and reliable should not be used since they would give the company's buyers a false sense of security. This feeling that the company gives the buyer could be used against it.

To market a company successfully, one would need to first create a track record of consistent winners. The company should show trades of the past 6 months or even a year with wins and losses that are very consistent so that the investors would know that they can trust you with their money. There is a website that can audit your trades, it is called greencompany.com. There are other websites that can be used for marketing a company and warriorforum.com has a list of ways that it can help you in doing so.

8 Proposed Programming Project

Many traders choose to write programs to help assist traders. Traders can use a wide range of programs for a variety of purposes. Often times these programs can help identify aspects of a particular strategy. A program can indicate to a trader when certain conditions are present that may be an ideal time to enter or exit a trade. Programs can automate trades based on conditions, rather than send a signal to the trader; they can buy and send automatically. Also traders can program their own indicators to better predict future trends.

There are many different trading languages that traders use to write programs with. Two of the most popular languages are EasyLanguage and MetaQuotesLanguage4. These programs are built-in language editors that traders can use to write programs for themselves. These features can help traders customize and automate their trading experience. There are many competitions for traders to enter their programs. Traders can win prize money for winning programs or can copyright and sell their individual programs. Many traders utilize MQL4 or Easy Language to create Expert Advisors, Custom Indicators and Scripts.

8.1 Expert Advisors

Expert Advisors are used for automating trade plans and sending signals to traders. These expert advisors are essentially a mechanical trading system that is linked up to a specific price chart. This mechanical trading system is based on a set of conditions. These conditions can be specified by the programmer; as an expert advisor can be programmed to perform a wide range of executions. The advisor can inform a trader about an opportunity to enter a trade by sending signals or can enter automatically based on given conditions. This strategy can be supported by testing the conditions on previous data displaying points of entry and exit based on conditions.

An expert advisor is run based on ticks. For example, an advisor starts to run with every incoming tick for a given symbol. The advisor will not run again until the previous action is still being processed.

One example of an expert advisor used during the course of this project was the Adjustable MA FOREX expert advisor. This expert advisor that allows each individual trader to customize the 2-MA cross strategy within their own trading plans. Through the use of this advisor, traders can set different MA periods, MA types, minimum difference stop-loss, take-profit, trailing stop and slippage. (14)

Based on different conditions set by the individual user the advisor is programmed to open position upon the cross of two moving average lines and close the position at the following moving average cross. Our project team used the code provided to us by, earnforex.com and customized it to fit within our trading methodology. The coding for the expert advisor is expressed below.

```
#property copyright "Copyright © 2009-2012, EarnForex"
#property link      "http://www.earnforex.com"

extern double Lots      = 0.1;
extern int StopLoss     = 100;
extern int TakeProfit   = 70;
extern int TrailingStop = 0;
extern int Slippage     = 3;

extern int Period_1  = 20;
```

```
extern int Period_2  = 17;
//0 - SMA, 1 - EMA, 2 - SMMA, 3 - LWMA
extern int MA_Method    = 1;
//The minimum difference between MAs for Cross to count
extern int MinDiff      = 3;
// Money management
extern bool UseMM = false;
// Amount of lots per every 10,000 of free margin
extern double LotsPer10000 = 1;

extern bool ECN_Mode = false; // In ECN mode, SL and TP aren't applied on
OrderSend() but are added later with OrderModify()

int Magic;
//Depend on broker's quotes
double Poin;
int Deviation;

int LastBars = 0;

//0 - undefined, 1 - bullish cross (fast MA above slow MA), -1 - bearish cross (fast MA
below slow MA)
int PrevCross = 0;

int SlowMA;
int FastMA;

//+------------------------------------------------------------------+
//| Initialization                                                   |
//+------------------------------------------------------------------+
int init()
{
   FastMA = MathMin(Period_1, Period_2);
   SlowMA = MathMax(Period_1, Period_2);

         Poin = Point;
         Deviation = Slippage;
         //Checking for unconvetional Point digits number
   if ((Point == 0.00001) || (Point == 0.001))
   {
      Poin *= 10;
      Deviation *= 10;
   }

   Magic = Period()+19472394;
   return(0);
```

```
}

//+------------------------------------------------------------------+
//| Start function                                                   |
//+------------------------------------------------------------------+
void start()
{
  if (FastMA == SlowMA)
  {
    Print("MA periods should differ.");
    return;
  }

  if (TrailingStop > 0) DoTrailing();

  //Wait for the new Bar in a chart.
        if (LastBars == Bars) return;
        else LastBars = Bars;

  if ((Bars < SlowMA) || (IsTradeAllowed() == false)) return;

  CheckCross();
}

//+------------------------------------------------------------------+
//| Check for cross and open/close the positions respectively        |
//+------------------------------------------------------------------+
void CheckCross()
{
  double FMA_Current = iMA(NULL, 0, FastMA, 0, MA_Method, PRICE_CLOSE, 0);
  double SMA_Current = iMA(NULL, 0, SlowMA, 0, MA_Method, PRICE_CLOSE, 0);

  if (PrevCross == 0) //Was undefined
  {
    if ((FMA_Current - SMA_Current) >= MinDiff * Poin) PrevCross = 1; //Bullish state
    else if ((SMA_Current - FMA_Current) >= MinDiff * Poin) PrevCross = -1; //Bearish
state
    return;
  }
  else if (PrevCross == 1) //Was bullish
  {
    if ((SMA_Current - FMA_Current) >= MinDiff * Poin) //Became bearish
    {
      ClosePrev();
      fSell();
      PrevCross = -1;
```

```
    }
  }
  else if (PrevCross == -1) //Was bearish
  {
    if ((FMA_Current - SMA_Current) >= MinDiff * Poin) //Became bullish
    {
      ClosePrev();
      fBuy();
      PrevCross = 1;
    }
  }
}

//+------------------------------------------------------------------+
//| Close previous position                                          |
//+------------------------------------------------------------------+
void ClosePrev()
{
  int total = OrdersTotal();
  for (int i = 0; i < total; i++)
  {
    if (OrderSelect(i, SELECT_BY_POS) == false) continue;
    if ((OrderSymbol() == Symbol()) && (OrderMagicNumber() == Magic))
    {
      if (OrderType() == OP_BUY)
      {
        RefreshRates();
        OrderClose(OrderTicket(), OrderLots(), Bid, Deviation);
      }
      else if (OrderType() == OP_SELL)
      {
        RefreshRates();
        OrderClose(OrderTicket(), OrderLots(), Ask, Deviation);
      }
    }
  }
}

//+------------------------------------------------------------------+
//| Sell                                                             |
//+------------------------------------------------------------------+
int fSell()
{
        double SL = 0, TP = 0;
        RefreshRates();
```

```
        if (!ECN_Mode)
        {
    if (StopLoss > 0) SL = Bid + StopLoss * Poin;
    if (TakeProfit > 0) TP = Bid - TakeProfit * Poin;
  }
        int result = OrderSend(Symbol(), OP_SELL, LotsOptimized(), Bid, Deviation,
SL, TP, "Adjustable MA", Magic);

        if (result == -1)
        {
                int e = GetLastError();
                Print(e);
        }
        else
        {
    if (ECN_Mode)
    {
        RefreshRates();
      OrderSelect(result, SELECT_BY_TICKET);
      if (StopLoss > 0) SL = OrderOpenPrice() + StopLoss * Poin;
      if (TakeProfit > 0) TP = OrderOpenPrice() - TakeProfit * Poin;
      if ((SL != 0) || (TP != 0)) OrderModify(result, OrderOpenPrice(), SL, TP, 0);
    }
    return(result);
        }
}

//+------------------------------------------------------------------+
//| Buy                                                              |
//+------------------------------------------------------------------+
int fBuy()
{
        double SL = 0, TP = 0;
        RefreshRates();

        if (!ECN_Mode)
        {
    if (StopLoss > 0) SL = Ask - StopLoss * Poin;
    if (TakeProfit > 0) TP = Ask + TakeProfit * Poin;
  }
        int result = OrderSend(Symbol(), OP_BUY, LotsOptimized(), Ask, Deviation,
SL, TP, "Adjustable MA", Magic);

        if (result == -1)
        {
                int e = GetLastError();
```

```
                Print(e);
        }
        else
        {
    if (ECN_Mode)
    {
        RefreshRates();
      OrderSelect(result, SELECT_BY_TICKET);
      if (StopLoss > 0) SL = OrderOpenPrice() - StopLoss * Poin;
      if (TakeProfit > 0) TP = OrderOpenPrice() + TakeProfit * Poin;
      if ((SL != 0) || (TP != 0)) OrderModify(result, OrderOpenPrice(), SL, TP, 0);
    }
    return(result);
  }
}

void DoTrailing()
{
  int total = OrdersTotal();
  for (int pos = 0; pos < total; pos++)
  {
    if (OrderSelect(pos, SELECT_BY_POS) == false) continue;
    if ((OrderMagicNumber() == Magic) && (OrderSymbol() == Symbol()))
    {
      if (OrderType() == OP_BUY)
      {
        RefreshRates();
        if (Bid - OrderOpenPrice() >= TrailingStop * Poin) //If profit is greater or equal to
the desired Trailing Stop value
        {
          if (OrderStopLoss() < (Bid - TrailingStop * Poin)) //If the current stop-loss is
below the desired trailing stop level
            OrderModify(OrderTicket(), OrderOpenPrice(), Bid - TrailingStop * Poin,
OrderTakeProfit(), 0);
        }
      }
      else if (OrderType() == OP_SELL)
      {
        RefreshRates();
        if (OrderOpenPrice() - Ask >= TrailingStop * Poin) //If profit is greater or equal
to the desired Trailing Stop value
        {
                  if ((OrderStopLoss() > (Ask + TrailingStop * Poin)) || (OrderStopLoss()
== 0)) //If the current stop-loss is below the desired trailing stop level
            OrderModify(OrderTicket(), OrderOpenPrice(), Ask + TrailingStop * Poin,
OrderTakeProfit(), 0);
```

```
            }
         }
      }
   }
}

double LotsOptimized()
{
   if (!UseMM) return(Lots);
   double vol = NormalizeDouble((AccountFreeMargin() / 10000) * LotsPer10000, 1);
   if (vol <= 0) return(0.1);
   return(vol);
}

//+------------------------------------------------------------------+
```
(14)

Additionally our project team developed an autostop expert advisor. This is an autostop expert advisor that automatically sets stops (take profit, stop loss or both) on open trades. This saves you time when you are opening multiple trades in that you won't have to set stop levels before or after opening each trade. The EA scans an unlimited number of trades and sets stops with preset values to those that lack the stop you have allowed the EA to monitor. For pending orders, they will be modified once they open.

```
extern string    Product="Autostop v2";

extern string    AboutAutostop="Automatically sets take profit and stop loss.";

extern bool      MonitorTakeProfit=true;

extern bool      MonitorStopLoss=true;

extern double    TakeProfit=30;

extern double    StopLoss=30;


//+------------------------------------------------------------------+

//| expert start function                                            |
```

```
//+----------------------------------------------------------------+
int start()
 {

   int StopMultd=10;
   double TP=NormalizeDouble(TakeProfit*StopMultd,Digits);
   double SL=NormalizeDouble(StopLoss*StopMultd,Digits);


 //--------------------------------------------------------------+
//Check open orders
//---------------------------------------------------------------+
if(OrdersTotal()>0){
  for(int i=1; i<=OrdersTotal(); i++)          // Cycle searching in orders
    {
     if (OrderSelect(i-1,SELECT_BY_POS)==true) // If the next is available
       {
         if((MonitorTakeProfit==true)&&(TakeProfit>0)&&(OrderMagicNumber()==0)){ // monitor
tp

             // Calculate take profit
             double tpb=NormalizeDouble(OrderOpenPrice()+TP*Point,Digits);
             double tps=NormalizeDouble(OrderOpenPrice()-TP*Point,Digits);


             Comment("Modifying take profit");
             if((OrderType()==OP_BUY)&&(OrderTakeProfit()==0)&&(OrderSymbol()==Symbol())){
OrderModify(OrderTicket(),0,OrderStopLoss(),tpb,0,CLR_NONE); }
```

```
            if((OrderType()==OP_SELL)&&(OrderTakeProfit()==0)&&(OrderSymbol()==Symbol())){
OrderModify(OrderTicket(),0,OrderStopLoss(),tps,0,CLR_NONE); }

        } // monitor tp

        if((MonitorStopLoss==true)&&(StopLoss>0)&&(OrderMagicNumber()==0)){ // monitor sl

              // Calculate stop loss
              double slb=NormalizeDouble(OrderOpenPrice()-SL*Point,Digits);
              double sls=NormalizeDouble(OrderOpenPrice()+SL*Point,Digits);

              Comment("Modifying stop loss");
              if((OrderType()==OP_BUY)&&(OrderStopLoss()==0)&&(OrderSymbol()==Symbol())){
OrderModify(OrderTicket(),0,slb,OrderTakeProfit(),0,CLR_NONE); }
              if((OrderType()==OP_SELL)&&(OrderStopLoss()==0)&&(OrderSymbol()==Symbol())){
OrderModify(OrderTicket(),0,sls,OrderTakeProfit(),0,CLR_NONE); }

        }// monitor sl
        Comment("");
      }
    }
}
//----
int Error=GetLastError();
  if(Error==130){Alert("Wrong stops. Retrying."); RefreshRates();}
  if(Error==133){Alert("Trading prohibited.");}
  if(Error==2){Alert("Common error.");}
```

```
 if(Error==146){Alert("Trading subsystem is busy. Retrying."); Sleep(500); RefreshRates();}


//----------
  return(0);
 }
```

8.2 Scripts

A script is type of program very similar to an expert advisor. The major difference between an expert advisor and a script is that the script is intended for a single execution of some actions. Unlike an expert advisor this does not run based upon tickets, however by the request of the programmer. The conditions of a script can be defined by the programmer.

8.3 Custom Indicators

A custom indicator is a technical indicator written by a programmer. Custom indicators can be used in addition to the indicators already available through the terminal on the trading platform. Similar to built-in indicators, custom indicators cannot trade automatically and are used to help analyze and interpret price data. Custom indicators are usually laid on top of the price data, but can also be seen at the bottom, top, sides, or corners of the screen.

9 Forming a trading club on campus

In order to increase interest in trading and investing on campus our group coordinated the reactivation of the trading and investment club. We had to first attract a group of motivated students who would be interested in either being an active member or to take on a leadership role within the club. Next we had to gain support from knowledgeable faculty advisors.

Upon forming the group of interested members and advisors, we had to recreate a description of the organization, revise the old constitution of the club, and revise the club waiver that needed to be signed by all members of the club. In order to ensure that the documents were recreated effectively, we obtained a copy of the documents of the previously inactive investment club and made changes to the documents as a group during group meetings.

After recreating the essential documents to reactive the club under its new name, we had to elect officers of the club until reelection next year during A term. Brendan McLaughlin was appointed as club president\, Michael Demarco was appointed as Vice President, Hairan Li was appointed as Treasurer and Chenchen Zhang was appointed as Secretary of the club.

Some of the goals and issues discussed in club meetings included obtaining professional traders or investors to come in and give speeches to the club members, ways to recruit new students to join the club, obtaining demo accounts for students to use to trade and invest play money under real market conditions, encourage students to compete in trading and investing competitions around the world and starting a third party account in which students could practice trading and investing with real money.

Upon conclusion of the term, our team was successful reactivating the investment club and legally changing its name to The Trading and Investment Club.

10 Conclusions and Recommendations

10.1 Conclusion

In order to become successful traders within the Foreign Exchange Market our project team first had to research the market. It was crucial that we understood all aspects of the market, including: the jargon associated with trading, key differences between the FOREX market other markets, the different currency pairs and commodities that are traded, as well as the different types of trading platforms and how they operate. Once we were familiar with the key terms, understanding of the market and the trading platform we were ready to begin practicing trading.

Once we began practicing trading it was essential that we understood both the technical and fundamental analysis associated with the Foreign Exchange Market. A technical analysis encompassed a wide range of technical indicators that were used to track patterns within price data movement. It was concluded that the use of different indicators can help traders better visualize trends and patterns within the data, making it easier to predict future values. Our fundamental analysis encompassed a wide range of knowledge of political and macroeconomic occurrences. Our project team concluded that understanding how fundamental factors can impact the market is an essential aspect of becoming a successful trader. Furthermore, it is necessary to include a combination of both a technical analysis as well as fundamental knowledge in order to optimize success.

After practicing with different indicator set ups our project team developed a trading methodology. This methodology proved to be one of the most essential tools that a trader can use. Our methodology was constantly changing as we learned and experimented with new strategies. Our group concluded that the use of technical indicators improves the outcome of our trades; additionally, that each individual trader within the group tends to prefer a slightly different indicator set-up. Furthermore, our group concluded that a simple set-up is better than an over-complicated one. Too many indicators can tend to confuse the trader and remove focus from the price data. The most common indicator set-up for our trading group included the use of moving averages, support and resistance levels as well as keeping up to date on fundamental knowledge. It was mandated that each member of our project team read the current issue of The Gartman Letter before entering a position on that specific date. A trading methodology is the most effective tool that a trader can use. If followed correctly this can help a trader reduce mistakes and minimize emotional bias in his or her trades.

10.2 Recommendations

Our project team thoroughly enjoyed our experience during this Interactive Qualifying Project. The knowledge that we learned over the course of this project will help us become better money managers, help us understand trading and investments and it provided us with the necessary skills and information to either trade personal funds as a hobby or to trade professionally.

At the beginning of this project we expected to learn more about different types of markets like stocks, bonds and mutual funds rather than focus solely on the Foreign Exchange Market. Once we learned more about FOREX we very interested and glad that we focused on this type of market since it is not as well-known as other markets and provides uncapped opportunities for traders. We did not expect to learn how to create automated trading programs or to develop the plans to set up a money management company, this was a good thing to learn since it is an important aspect that many novice traders do not consider.

Automated trading is an important aspect of trading. I believe it would be beneficial to advertise this in the project description. This way it would attract more CS and ECE majors who are passionate about creating coding programs. Our project team had little experience with programming and large aspect of the project focused on this aspect of trading. If it was advertised that this project had a significant concentration with coding projects, we may have considered other alternatives since we did not have a strong interest in this subject. Automated trading was definitely our main challenge. Since we did not have enough experience with writing in code, we had to use help from classmates and the internet in order to understand how coding projects work.

Some recommendations for next year's project could be to create a competition between each of member of the project. If there was an incentive for those who earned more money it could create a friendly competition that would make the project more exciting and would provide rewards and incentives to get students more active in their individual trades.

Also I would recommend implementing an alternative for students who are not interested in coding projects. Many businessmen and money managers who need to utilize coding for automated programs can often hire someone with more experience to do the code work for them. The project could be divided into groups one that focused more heavily on coding and coding competitions and another that focused more on trading and trading competitions.

11 List of Figures

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13 Appendices

Appendix A: Example of Oanda's MT4 program

Appendix B: Example of TradeStation's MT4

Appendix C: Group Account Trading Journal

Trades for the Months of November, December and January

Date	Type	Size	Symbol	Price	S/L	T/P	Price	*Profit*

1-Nov	Sell	1	eur/usd	1.38447	0	0	1.38359	*88*
9-Nov	Sell	1	aud/usd	1.01144	1.01185	1.0107	1.01187	*-43*
9-Nov	Sell	1	aud/usd	1.01311	1.0279	1.0116	1.01282	*29*
10-Nov	Sell	1	eur/usd	1.36095	1.395	1.3574	1.35902	*193*
10-Nov	Sell	1	eur/usd	1.36126	1.36115	0	1.36116	*10*
11-Nov	Sell	1	aud/usd	1.02016	1.017	1.0144	1.027	*316*
15-Nov	Sell	1	aud/usd	1.01336	1.0126	1.0115	1.01147	*189*
15-Nov	Sell	1	eur/usd	1.35046	1.351	1.3495	1.3495	*96*
15-Nov	Sell	0.5	aud/usd	1.01242	1.0126	1.0126	1.01147	*47.5*
15-Nov	buy	1	usd/jpn	77.125	77.08	77.2		*150.43*
15-Nov	sell	1	aud/usd	1.00878	1.00917	1.00637		*-131*
15-Nov	buy	1.5	usd/cad	1.02602	1.0255	1.02705	77.102	*-29.83*
15-Nov	sell	1.5	usd/cad	1.00856	1.0095	1.02705	1.02705	*150.43*
15-Nov	Sell	1.5	aud/usd	1.02602	1.0255		1.00847	*13.5*
17-Nov	Buy	1	aud/usd	1.0098	0	1.01	1.01003	*100*
17-Nov	Buy	1	aud/usd	1.00873	0	1.01	1.01003	*130*
17-Nov	buy	1	aud/usd	1.0098	0	1.01	1.003	*23*
18-Nov	buy	2	eur/usd	1.35119	1.35086		1.35032	*-64*
18-Nov	buy	1	eur/usd	1.35151	1.35289	1.35493	1.35287	*125*
18-Nov	buy	1	eur/usd	1.35162	1.35289	1.35293	1.35287	*136*
28-Nov	sell	2	eur/usd	1.33687	1.33669	1.33501	1.3369	*36*
28-Nov	buy	2	eur/usd	1.33539	1.33465	1.33659	1.33462	*-154*

28-Nov	sell	3	eur/usd	1.3343	1.3343	1.33271	1.3343	*-6*
28-Nov	Sell	2	eur/usd	1.33926	1.33755	1.3351	1.33756	*340*
28-Nov	sell	2	eur/usd	1.33172	1.3315	1.33085	1.33231	*40*
29-Nov	Sell	3	eur/usd	1.33588	trailing	0	1.33152	*1,071*
29-Nov	Sell	1	aud/usd	1.00017	1.01133	0	0.99869	*148*
29-Nov	Sell	0.01	aud/usd	1.00066	0	0	0.099851	*2.15*
4-Dec	Sell	1	eur/usd	1.34053	1.35053	0	1.33924	*129*
5-Dec	Sell	3	aud/usd	1.02676	trailing	0	1.02674	*6*
6-Dec	Sell	3	eur/usd	1.34103	trailing	0	1.34114	*-33*
7-Dec	Sell	1	aud/usd	1.02824	trailing	1.0275	1.02749	*75*
7-Dec	Sell	3	eur/usd	1.33884	trailing	0	1.33461	*1,269*
26-Dec	Sell	3	usd/cad	1.02224	1.02167	0	1.0201	*629.35*
27-Dec	Sell	3	aud/usd	1.01523	trailing	1.01352	1.01511	*36*
17-Jan	buy	3	aud/usd	1.0402	trailing	1.04053	1.04024	*12*
17-Jan	Sell	3	aud/jpy	76.691	trailing	79.529	79.633	*226.8*
18-Jan	Sell	3	eur/usd	1.28574	trailing	0	1.28571	*9*

Appendix D: Example of a Gartman Letter

THE GARTMAN LETTER L.C.

Monday, March 26th, 2012

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OVERNIGHT NEWS:

THE FX MARKET IS UNCOMMONLY trading between 82.60-82.75 through the entire trading sessions. And not only is the forex market quiet, but so too the equities markets; so too the debt markets and so too energy and commodities. For example, as we begin writing at 01:00 EDT here in the US, the S&P futures have traded over a mere 200 point range; the long bond futures have traded within a 6/32 point range and nearby WTI crude has traded within a miniscule 15 "tick" range. Spring fever has struck in N. America apparently, and with it the urge to trade.

Further, we are pressed to note any material news worthy of commenting upon this morning. Of course there are the continued problems in Europe, with the markets looking toward with some modest sense of trepidation what may eventually happen to Spain now that Greece has effectively defaulted and the market wants to move on to something new, and there is some concern about the strength of the centre-right People's Party and it tenuous hold upon the reins of power there following a disappointing showing in the election yesterday in the autonomous region of Andalusia. We shall comment upon that at length in our "political discussion" below, but suffice it to say that ahead of the election it was widely thought that

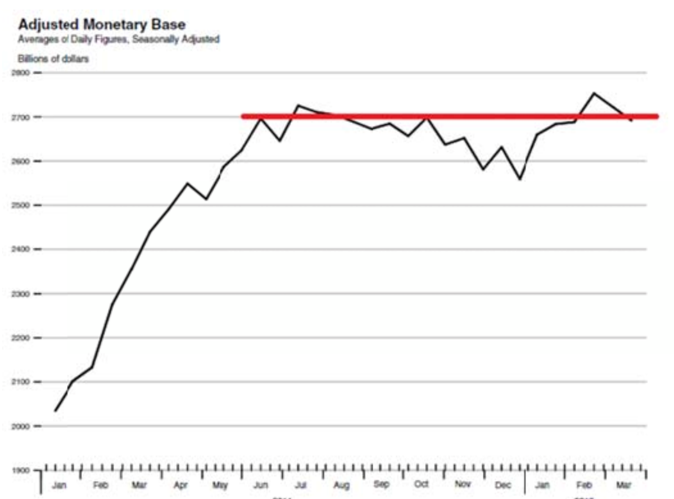
> **THE YEN/CANADIAN DOLLAR CROSS:** ***The trend line has held, and so too The Box, which we drew on this chart Friday, and so long as they continue to hold we shall hold the positions we have had on for quite some long while... but the trend line must hold and so too 82.00.***

QUIET THIS MORNING as the ranges that the various currencies have traded within and/or over in Asia

the centre-right would finally gain control of the government there. It has not, although the power of the Socialist Worker's Party has been dulled materially in the process.

THE FED ST. LOUIS ADJUSTED MONETARY BASE: ***This is "THE" most important of the monetary aggregates as far as we are concerned, and once QE II ended at the end of June of last year growth in the base stopped abruptly.***

We draw attention then to the chart of the Yen/Canadian dollar cross this page at the upper left, with which we have been actively and even aggressively involved for several weeks, and with which we remain involved this morning. Firstly, rest very, very much assured that we were fearful last Thursday and Friday that our



position was doing to be taken from us; that the hard fought, and at times enormous profits accruing to us, were going to turn swiftly into losses. Fortunately that did not happen, for Friday, out of virtually nowhere, a bid came into the Canadian… and into the Aussie and Kiwi dollars too we might add… while offers came into the Yen, pushing the cross back sharply away from its lows. The trend line drawn here has held. Further, "The Box"… that point on the chart that marks the 50-62% retracement and which we drew on this same chart Friday between 82.00-82.75 has held, but not without a very real "fight."

There is talk in the markets that more selling shall come into the Yen in the days and weeks ahead as the Yen once again becomes the selling or funding leg of the "carry trade once again," and we shall not argue with that thesis. Of course there will be borrowing in Yen and investment in other currencies and/instruments, for to borrow at what is very effectively 0.0% and to "lend" at anything higher than that shall prove to be tempting to hedge funds and any other investment operations capable of making that transaction. Too, as equity markets continue to move generally "from the lower left to the upper right," the propensity on the part of investors to fun equity investments almost anywhere around the world with Yen borrowings shall be high and rising.

Add to this the demographic problems that plague and shall continue to plague Japan for years and even decades into the future and one has the clear recipe for a steadily weakening currency, of which we are already aggressively short.

Good trading technique requires that we try our best to sit very tight with our current positions, but since our last addition to the trade is now at a loss… while the entire trade is still nicely profitably… we cannot add to the position on this correction. Our rule, as it always is, is to add only when the last position we have on is profitable, and perhaps even waiting until that last position is insulated from random market noise. That may take some while then. We hope to be… we hope we can be… patient:

Mkt	03/23 Current	03/23 Prev	US$Change	
Japan	82.75	82.65	+ .10	Yen
EC	1.3260	1.3270	+ .10	Cents
CHf	.9090	.9080	+ .10	CHf
UK	1.5845	1.5875	+ .30	Pence
C$	.9980	.9985	- .05	Cents
A $	1.0455	1.0435	- .20	Cents
NZ$	.8165	.8150	- .15	Cents
Mexico	12.77	12.78	- .01	Centavos
Brazil	1.8090	1.8200	- 1.10	Centavos
Russia	29.19	29.29	- .10	Rubles
India	51.27	51.10	+ .17	Rupees
China	6.3040	6.3040	unch	Renminbi

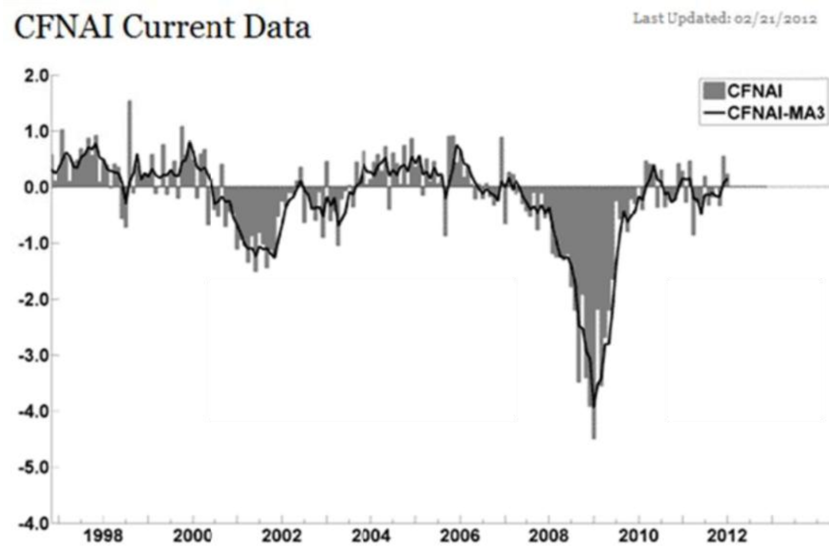
This then brings us to the chart at the bottom left of p.1: of the Fed St. Louis Adjusted Monetary Base. As our long standing clients know, this is the aggregate we pay the most attention to for it is the base where the Fed's footprints are left behind most clearly. As we are wont to say, the adjusted monetary base is the "stock" from which the broader soups of the monetary aggregates are derived. If the base is not rising, it shall be difficult… although not impossible… for M2 and the others to rise. Interesting, amongst all of the talk that the Fed is continuing to expand its balance sheet, the adjusted monetary base does not support that thesis.

The base has not risen even slightly since the end of June of last year when QE II officially ended. The Fed has been, if anything, tight since then, although it is difficult to write or to believe that given the enormity of the increase in the base in '08 and '09 and into early '10. But in the course of the past nine months, since QE II ended, the base has gone absolutely sideways. That does not mean that the Base cannot leap higher in the months ahead, and indeed it may well do so; but what it does mean is that all of the talk of expansive Fed policy in the past several months is wrong. The Fed has gone to ground after expanding the base aggressively in the two years previous to June of '11. It is now waiting to see the effects of its expansionary policy, and thus far the effects have been expansive for equity investment and modestly… very, very modestly expansive for plant, equipment and labour.

Turning to the economic news of the day, at 8:30 a.m.

this morning we shall see one of our favourite economic indicators: the Chicago Fed's National Activity Index. The

CFNAI, as it is now referred to, is a broad compendium of various indices from which the Fed Chicago derives an index of broad economic trends. Indeed, there are 85 various inputs into the CNFAI and the index does look a bit confusing at first glance, but it does show how severe was the last recession… as if anyone really needs to be reminded of that fact… and how tepid has been the rebound.



Because of the complexity of this report, we do not forecast it. We've other things to do; however, we do expect to see it positive yet again and for now that is the best we can "forecast." We leave it to others far wiser than we to speculate on this report. We simply await its release and take it into serious consideration ahead of other reports due out later this week and early next.

The Fed Dallas also gets into the act today with the release of its monthly general business activity index for March. This index is rather like the ISM indices except that for the ISM's the supposed "break-even" level is 50 and for the Dallas Fed Index it is zero; a number above zero indicates economic growth whilst a number below 50 indicates economic weakness. Last month… February… the Index rose to 17.8; it had been 15.3 in January and it was -0.3 in December of last year. The consensus has today's Dallas' report somewhere either side of 15.5 and we'll not arg e with that; it seems quite reasonable.

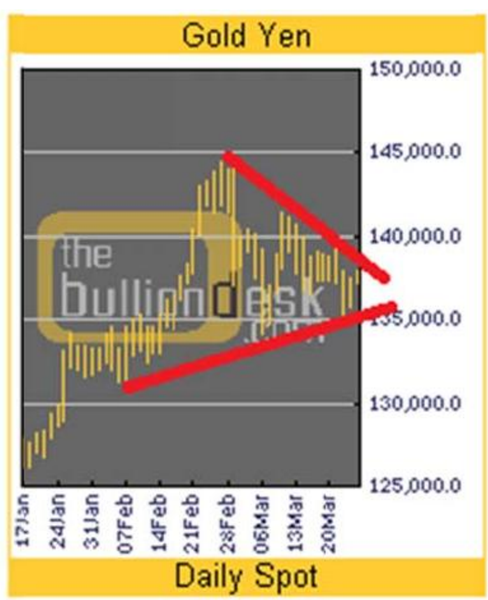
Finally, the Fed has its spokespeople out today, with Mr. Charles Plosser, the President of the Federal Reserve Bank of Philadelphia (and not a voting member this year on the FOMC) appearing on a panel in Paris at a symposium organized by the Bank of France. He will Mr. Christian Noyer and we are told they will field questions. This shall take place at approximately 12:00 GMT.

Dr. Bernanke will be speaking this morning at 8:00 a.m. EDT to the National Association of Business Economics, but we are not certain whether he will field questions.

COMMODITIES PRICES ARE FIRMER,

but we'll not call them materially so. Rather like the quiet demeanor that seems to have swept across the forex and equity markets this morning, there is a quiet that has descended upon the commodities markets. It may end, however, at any time.

Turning firstly to the gold market, much was made in the Gold Bug community of our decision last week to cut our gold position by 1/4th, forgetting it seems that we are still quite long of gold in Yen terms as we have been for a rather long while. It was disconcerting Thursday and again on Friday when gold weakened and the Yen strengthened, sending gold in Yen terms from near ¥140,000/oz. to something closer to ¥135,00, or a 3.6% decline. Others may not find 3-4% movements material, but we do, and action… especially defensive



action… will
appear along with former Bundesbank President Axel
Weber and the current President of the Bank of France,

almost

always be taken by us on such movements. We've learned the hardest of ways that discretion is the far better part of trading valour and that living to fight another day is the preferred method of operation. Thus we are still long of a reasonable sum of gold, in Yen terms, and the question is, shall we replace that which we sold last week to bring our position back to where it way, and the answer is "Yes, we probably should, and therefore yes we shall… upon receipt of this commentary." Note then from the chart the page previous of gold in Yen terms and note how the range is being constricted, tighter and tighter, with the highs in recent days progressively lower while the lows are progressively higher. The battle lines are being drawn and for now we've thrown in with the bullish army.

We know that the Gold Bugs shall laugh that we are buying ¼ of our gold back at a higher price than, but we care not a whit. We retained the other ¾'s and our "defense" served us well. Certainly in retrospect we wish we'd have done nothing and wish that we'd have turned out quote screens off, but that is not our manner of trading and that is nonsense anyway, for that is the path to bankruptcy [Ed. Note: While on the topic of bankruptcy, we came across a wonderful quote by one of Ernest Hemingway's characters in The Sun Also Rises. When asked how it was that he had gone bankrupt in the past, the character in question said, "Two ways; gradually and then suddenly." How true is that?!!]

	03/24	**03/23**	
Gold	1657.7	1651.2	+ 6.50
Silver	32.05	32.79	+ .26
Palladium	654.00	651.00	+ 3.00
Platinum	1629.0	1627.0	+ 2.00
Gold/silver	51.65	52.25	- .60%
Reuters/CRB	314.47	312.27	+0.7%
DJ/UBS	144.06	142.94	**+1.1%**

As for the grains, planting has continued across much of the Midwest and the crop… and certainly that shall mean the corn crop especially… will be in the ground as early as any crop we've seen in the past two decades. We have seen pictures sent to us… thanks Charles… of corn having broken through the topsoil in downstate Illinois… in March!!! There have been crop years in the past when the corn crop was not completed until sometime in early June; this time the corn crop will be fully planted by mid-

April if the weather holds. In the process, acreage that might have gone to soybeans will instead be planted to corn, provided that the seed and fertiliser are available.

If we have a concern about the corn crop it is regarding fertiliser availability, for if there is more corn acreage planted this spring than had been thought… and there will be because once farmers are in their fields in modern equipment they plant, plant and plant some more as long as the weather cooperates… then the sums of nitrogen forecast to be used will prove to have been small and more shall be needed at the margin. And it always at the margin that prices are made.

CRUDE AND PRODUCTS ARE MARGINALLY HIGHER; NAT-GAS IS STEADY but as has been the case in so many markets thus far today the trading activity has been light and the ranges virtually nonexistent. WTI crude oil has in fact traded within a 30 tick range thus far today and that is giving the market the very benefit of the trading doubt, for in reality the range is really something closer to 15 "ticks."

Before we move on, this morning, finally, we are adding Brent crude to our matrix of prices here each day for the very simple reason that WTI has been on the path to losing its position as the "marker" crude for the past year or more and that tend is becoming more and more certain. We have read where Vitol… an important and long standing and we might add "a fully paid up subscriber" to TGL… now believes that only 10% of its crude trades are done relative to WTI. Speaking at a seminar in Geneva last week, Mr. David Fransen, one of Vitol's Managing Directors said, mincing few words, that the physicals

> ***Market is clearly saying 'We do not like that [WTI] benchmark [for] WTI is no longer reflecting the global reality.***

According to Mr. Fransen, Brent accounted for 53% of the company's transactions last year, up from 45% three years ago, and that Dubai is now the "marker" for 31% of its transactions.

We note then that the May Brent/WTI spread is trading Brent +18.30/barrel premium to WTI. Early in March, the spread had narrowed to the point where Brent was, for day or two or three, less than $10/barrel premium to WTI, but since then it has been relentlessly widening its premium over WTI. The sanctions that are already going into effect against Iran are having some effect, but soon Iranian crude will not be at all available to European buyers save through circuitous, and illegal means, driving the Brent premium even higher. The widest nearby Brent has been relative to WTI was $27/barrel, touched for a matter of panicked moments back in mid-February. It may see those highs… and a bit more… in the days and weeks and months ahead as the Iran sanctions take hold and as Europe bids aggressively for the crude oil it needs, along with China, Japan, S. Korea et al:

MayWTI	up	61	106.50-55
Jun WTI	up	63	106.98-03
JulyWTI	up	62	107.42-47
AugWTI	up	61	107.73-78
MayBrent	n.a.		124.86-91
JunBrent	n.a.		124.12-17
JulBrent	n.a.		123.48-53
AugBrent	n.a.		122.76-81

OPEC Basket $121.79 03/22
Henry Hub Nat-gas: $2.19

SHARE PRICES ARE MARGINALLY STRONGER as seven of the ten markets that comprise our International Index have risen while three have fallen, but all have moved very, very modest, with only the market in Canada moving “triple digits.” Even then, its movement was less than 1% while most of the markets had moved only 0.2 or 0.3%. There is an utter and complete sense of enthusiasm, but neither is there a sense of bearishness. It is as if both camps have left the market to the other to take the to do so.

We are, as we have been, neutral of shares generally and indeed the only positions we have on for ourselves… for we cannot and we will not make individual equity recommendations in TGL…is to be long of oil tankers; long of dry bulk carriers and long of a LNG exporter, but all of those positions are hedged to their beta equivalents via S&P futures. Clearly we’ve no great enthusiasm for the market, nor against it and we are reasonably comfortable in that position:

S&P	up	4	1,397
CanS&P/TSX	up	104	12,466
FTSE	up	8	5,854
CAC	up	4	3,476
DAX	up	15	6,996
NIKKEI	up	33	10,032
HangSeng	up	8	20,653
AusSP/ASX	down	7	4,263
Shanghai	down	7	2,350
Brazil	down	15	65,813
TGL INDEX	**up**	**0.2%**	**7,996**

ON THE POLITICAL FRONT, the upcoming Presidential election in France took a decided turn in Mr. Sarkozy’s favour last week with the radical Muslim’s attack upon the citizenry of Toulouse, ending eventually in his death. Some shall argue that the Far Right candidate, Ms. LePen, will gain the most in the polls given her strong and consistent anti-immigrant philosophies of the past, but instead we suspect it shall be President Sarkozy who will gain the most. We expect to see his polling numbers shoot up sharply while those of Mr. Hollande, his bland, Socialist opponent… who has been surprisingly quite during this situation and its aftermath… fall sharply. Elections rise and fall on surprises such as this, and Mr. Sarkozy almost certainly will see his ratings draw up to and then surpass Mr. Hollande’s…

SPAIN’S AUTONOMOUS REGIONS AND PROVINCES:

reins of, and the other refused

especially in France’s non-urban and quintessentially agriculturally oriented countryside.

In Spain, the Conservatives are on the rise as they won the most seats in the regional election yesterday in Andalusia; however, the Spanish Socialist Workers Party and the United Left won enough between them to retain control of the government there. The Socialists have controlled the government in Andalusia since 1982 when the region was given the right to govern itself, and have lost for the first time then in 30 years. The centre-right People's Party as it is known has seen its fortunes increase in recent months, with the Party now owning the Prime Minister's post… Mr. Mariano Rajoy… and with regional governor's posts going to it also. Sadly, in the days ahead of the election it did appear that the centre-right was likely to win a majority of seats, with the surprising shift to the United Left Party in the waning days.

The unemployment rate in Andalusia is a shocking 31% and the per capita income there is 25% lower than that of the average Spanish worker. However, before we suggest that Spain may eventually turn to the right philosophically and away from Socialism and the Left perhaps we should heed the words of 39 year old Andalusian who said in interview with The Wall Street Journal,

> ***I don't think it would be a bad thing of the Socialists lost; they've been in power here for too long.***

Perhaps rather than enthusiasm for the conservative cause the vote yesterday was simply a vote against stasis and the Socialists, with the People's Party and the United Left the viable alternatives.

Here in the US, Mr. Santorum won the primary in Louisiana, to absolutely no one's surprise, and he did so rather easily. Louisiana's delegates are allotted in a rather confusing manner, but they are not winner-take-call, and the few more than Mr. Santorum picked up relative to Mr. Romney did very little narrow's Romney's formidable lead. Realclearpolitics.com has the delegate count, after Louisiana's delegates were allotted as follows… and remember, 1144 are needed to win the nomination:

Romney	**565**
Santorum	**256**
Gingrich	**141**
Paul	**66**

With each passing day, the odds of Mr. Romney winning the nomination grown smaller while the odds of Mr. Santorum doing so grow larger and are swiftly approaching the impossible.

COMMENTS ON THE CAPITAL MARKETS

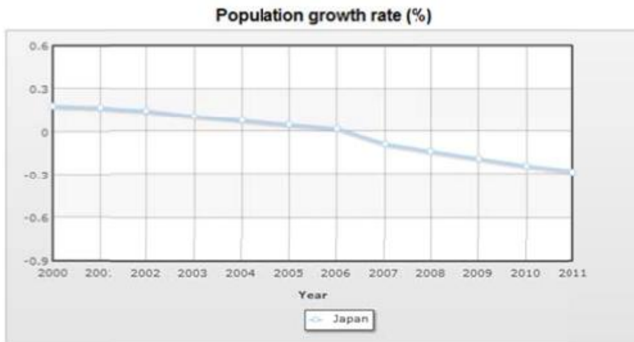
ON US, EUROPEAN ASIAN (CHINESE) MILITARY SPENDING AND BASES:

Europe has ceased being an important military power, relying instead upon the US... as does Canada and as do most other nations under the NATO umbrella. What bothers us, however, is how swift has been the decline in military spending in Europe and how swift has been the increase in "Asian" and especially Chinese military expenditures. As the International Institute for Strategic Studies wrote recently, in its annual publication, "The Military Balance"... a publication we at TGL has subscribed to for several decades and which we find invaluable....

Since the finance crisis in 2008, here has been a convergence in European and Asian defense spending levels.... While per capital spending levels in Asia remain significantly lower than those in Europe, on the current trend, Asian defense spending is likely to exceed that of Europe, in nominal terms, during 2012.

Last year, the Asian nations, with the exception of Australian and New Zealand, spent $262 billion, while the European NATO nations spent $270 billion. The US, at the same time, spent just under $700 billion. China's share of the Asian total was approximately 30%, according to the IISS. IISS also notes that China has been spending increasingly more on new defense weaponry, while Europe has been allowing its spending to decline.

Further, on military expenditures comparing what is happening in China and what's happening in the US, we note that comparing one nation's spending to the others where what was spent in '00 = 100, in 2010 the US spent 175 and China spent 280.



Further, in '10, the US spent $698 billion; China spent "only" $119 billion; at the same time, the US had "only" 1.56 million men and women in the armed forces; China, with an obvious population edge, had 1.28 million.

Finally, regarding the US and Asian military spending, it is worth noting that the US has several important bases in Asia. There is the huge base at Futenma, Japan; there is the base in Guam; there is the base in Daegu, S. Korea... and now the US has reached an agreement with Australian to have a base in Darwin, on Australia's far northern border, where 2,500 Marines and their attendant ships and aircraft will be stationed. Clearly China shall be uncomfortable with this new base in southeast Asia, but at the same time, the US is unhappy with China's recent expansion of its influence in the South China Sea and wants to make certain that it has "assets" in position should China do something untoward, however, unlikely that may seem at the moment.

A STATISTIC OR TWO ON JAPAN'S DEMOGRAPHICS: We have written about this many, many times in the past and we are writing about it again this morning: Japan is slipping into a demographic black hole from which it may be impossible in the future to extricate itself. Indeed, we believe japan has already slipped over that edge, but we are willing to give the government the benefit of the doubt and that into demographic oblivion. Immigration would do the job, but the Japanese have never… and will likely never… open their borders to immigrants of size and consequence. It is not in the Japanese culture to do that; it has not been in their culture and it is unlikely to be in the Japanese culture in the future.

That said, yet again, the Japanese fertility rate has fallen to a stunning 1.35:1 and it is generally thought that a nation needs a fertility rate of 2.1 to keep itself growing. Anything below 1.75 is dangerous; 1.35 is "terminal." Worse, by 2060… and yes, we know that is quite some long time into the future but it is important nonetheless… 40$ of the Japanese population will be over 60 years old and that shall be of a population that is 30% smaller than it is today. Presently, Japan's population is 127.5 million and by 2060 it shall be down to a mere 86.8 million. IN the industrialised world nothing of this sort has ever happened before, but it is happening now and it is intractable.

Simply put, old and small will be defeated by young and large every time. The US and China are young and large; Japan is old and growing small. This is not a pleasant picture and yet Japan seems oblivious to the shipwreck that its demographics have become.

RECOMMENDATIONS

1. Long of Four Units of the Canadian dollar and Three Units of the Aussie dollar/short of Seven Units of the Yen: We have remained long of Canada and Aussie/short of Yen for quite some while and we are still very comfortable as the crosses moved rather nicely in our favour. For example, in the past four weeks the Aussie/Yen cross has moved violently, trading to 88.35 as of Friday afternoon.

~~**The Fisher-Gartman Risk Index (FGRISK):**~~
Yesterday's close price: **101.30 vs. 100.19**

The Fisher-Gartman Indices are calculated by Dow Jones Index, the marketing name and a license trademark of CME Group Index Services LLC ("CME Indexes"). "Dow Jones Indexes" is a service mark of Dow Jones Trademark Holdings LLC ("Dow Jones") Investment product[s] base on The Fisher-Gartman Indices are not sponsored, endorsed, sold or promoted by CME Indexes, Dow Jones or their respective affiliates, and CME Indexes Dow Jones and their respective affiliates make no representation regarding the advisability of investing in such product[s].

it will come up with some means to reverse this slide

Closing price: ONN (Risk "ON"): $28.56 + .24
Closing Price: OFF (Risk "OFF"): $21.23 - .20

Three days ago, and obviously to our dismay, the Yen/C$ cross traded to and above

84.75 for more than an hour, and on that we added to the trade. In retrospect obviously we wish that we hadn't, but we did. **The cross is trading 82.80 as we write, and as noted above, the 82.00 level in the Yen/C$ cross shall serve as our defense point for the entire position… using our usual "hour or so" approach to the market; that is the cross must trade downward through that stop for an hour or so before we shall exit the trade. Those not yet in the trade would do well to use this correction to get into it.**

2. Long of Three Units of Gold/short of Three Units of the Yen: Given our antipathy toward the Yen, it seemed a reasonable risk/reward to buy gold in Yen terms, swapping out of gold/EUR several weeks ago to focus solely on Gold/Yen. It is this morning ¥137,360/oz. Better trading technique forced us to cut this position by half several days ago, and **the same is bringing us back to the market, adding back that which we had sold… one unit of gold vs. one unit of the Yen upon receipt of this commentary.**

3. Short of Three Units of the US long bond: We ventured in a month ago as a seller of the Ten year notes for the first time in a very, very long while a month ago. Two weeks ago we rolled those positions over into the June Notes and then into the June long bond future Friday of two weeks ago. We'd been lucky…. Until two days ago when the inevitable correction takes form… and it has.

Thursday, March 15th we added a third unit to the. Now we shall try our very best to sit tight, weathering what has become a rather more severe storm than we had thought likely, but expecting to see prices fall a very, very long way before this bear market has run its course. Rallies are to be sold; weakness is only to be bought if one is a bit too short… but this rally has been a bit more severe than we would have preferred seeing.

As of this morning, the storm seems to have passed and we seem to have survived.

4. Short of One Unit of May Copper: Having reconsidered our thesis on copper, we thought it is reasonable and wise to sell the rally Friday morning following the break of the trend line noted in our commentary then. One unit shall be sufficient to begin and we'll sell May copper on the COMEX anywhere above 3.8100, and our stop shall be 3.8350. We'll add to the trade, and do so quite readily should May copper trade lower on the day today and take our Friday's lows. That, however, is not likely to happen.

The following is not a recommendation, a solicitation or an offer to sell the securities and reflects publicly available pricing information provided for informational purposes only. The Gartman Letter L.C. serves as a sub adviser to the products mentioned below. Investors in the CIBC Gartman Global Allocation Deposit Notes should go to:

https://cibcppn.com/ScreensCA/CANProductUnderlyings.aspx?ProductID=221&N umFixings=3 Existing investors in HAG should go to: http://jovian.transmissionmedia.ca/fundprofile_hap.aspx?f=HAG&c=&l

The following positions are "indications" only of what we hold in our ETF in Canada, the Horizon's AlphaPro Gartman Fund, at the end of the previous trading day. We reserve the right to take positions opposite of what maybe in our "Notes" and ETF from time to time as market conditions warrant.

Long: We own an "Asian" short term government bond fund, corn, soybeans, the C$, the A$, gold, copper, and the S&P 500 Index.

Short: We are short the Euro, Swiss Franc, and Yen.

The CIBC Gartman Global Allocation Notes portfolio for March is as follows:

Long: *10% Canadian Dollars; 10% Australian Dollars; 20% Gold; 5% Corn; 5% Soybeans; 5% S&P 500 Index; 5% Copper*

Short: *20% Euro; 5% Swiss Franc; 15% Japanese Yen*

Horizons Gartman Fund (TSX: HAG): Yesterday's Closing Price on the TSX: $7.89 vs. $7.87 Yesterday's Closing NAV: $7.93 vs. $7.91

CIBC Gartman Global Allocation Deposit Notes Series 1-4; The Gartman Index: 132.72 vs. 132.72 previously. The Gartman Index II: 109.88 vs. 109.88 previously.

For the year-to-date, the NAV on our ETF is 1.8% while the value on our notes series 1-4 is up 2.4%.

Good luck and good trading, Dennis Gartman