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Stock Market Simulation

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An Interactive Qualifying Project Report: submitted to the Faculty of
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Abstract

The team has completed a four-week simulation in the U.S. stock market to accomplish WPI Interactive Qualifying Project. During this simulation, the team was able to obtain skills that would help them in understanding the fundamental elements of stock market in general, and the U.S. stock market specifically. Indeed, the team had enhanced the knowledge, which is required to obtain the essential parts in investing in the stock market. Each member of the team was assigned to a specified trading strategy in which he was able to gather the major components that were needed to invest in the stock market. Investing in stock markets is very important to obtain a good amount of income and increases a person's wealth. The strategy that generated the highest return in the four weeks of simulation was candlestick trading strategy.

Table of Content

Table of Figures

Table of Tables

1. Introduction

In this paper we present results of a four-week long simulation in the U.S stock market in fulfillment for WPI Interactive Qualifying Project. A team of four members will participate in this simulation and present the findings of this project. The project will offer a great learning opportunity for the future. The following section will present the plan, the goals, and the language of stock market.

1.1 Goals, Scope, General Plan

The main goal of this simulation is to gain experience in stock market investment that will provide a powerful tool for future investment. By applying several trading strategies throughout the simulation we will be able to decide the most profitable trading strategy to use. There are several goals for this simulation, first is to learn about the stock market and how it functions. Second is to perform a four-week long simulation of trading in the U.S stock market Third goal is to examine the selected strategies by evaluating the profits generated from each trading strategy. Fourth goal is to gain research skills in the field of stock market.

The scope of this simulation is to invest in the U.S stock market by doing a simulation, using the website WallStreetSurvivor. The team consists of four members; each member will choose a trading strategy to use in the simulation. Each member will also select five to six companies to trade.

The general plan for this Interactive Qualifying Project (IQP) consists of five stages. First, to get accustomed to the U.S stock market by gathering information, learning terminologies, and observing the stock market. Second, each member of the team will choose a trading strategy to use as a guide throughout the simulation. Third, the members of the team will choose 5-10 companies to use for this simulation, which can be changed at any time during the

simulation. Fourth, conducting the simulation that will be four week long, during which the team members will implement their strategies in the U.S stock market; the team members will record and report their transactions weekly. Fifth, at the end of the simulation the team members will be able to choose the most profitable strategy by comparing the return of all the trading strategies with each other.

1.2 Why people should invest in stock market

People have to diversify their source of income throughout their lives. One way to do that is to invest in the stock market, which could be a great wealth maker when supported by profitable trading strategy. Capital gain is one way to make profit in a stock market; it is an increase in the value of a stock ("Investopedia"). Also, people can make profit in stock market by receiving dividends from the company that they have invested in ("Investopedia"). Notwithstanding, stock market is known to have a great amount of risk. Therefor, when people decide to use stock market as one of their wealth makers, they have to be aware of the risk that's associated with stock market. Finally, big risks generate big profits so people should take risk in investing in the stock market in order to gain profits.

1.3 The Language of Stock

In order for new entering investors to understand the culture of stock markets, they should know how to speak the language of stock markets. Learning the language of stock markets required new investors to look for the termenologies that are used in stock market environment. Therefore, in this section some terms that are used in stock market will be intruduced with their difenetion. First, new investors should know that there are two types of

companies, a *private company* and a *public company*. A private company is a company that is usually owned by a small group of private investors, while a public company is a company that is devided into many samll *shares* which the public can own and trade. These shares are called *stocks*. By owning a stock, indivisuals can own a small portion of the company. Amongest stock traders, stocks are genrally devided into four types depndeing on the *market capitalization*.

A stock market, is where investors exachange equity for cash or the oppesite. Market capetalization is a number that shows how much a company worths in the stock market. The way to calculate market capetalization is to multiply the number of outstanding shares the company has by the current price of the company stock. The stocks of compnaies with market cap. greater than $5 billion are called *large-cap stocks*, while those with market cap. between $5 billion and $500 million are called *mid-cap stocks*. Stocks with market cap. between $500 million and $150 million are called *small-cap stocks*. Finally, stocks of companies with market cap. less than $150 million are called *micro-cap stocks* (Fontanills 2002).

A simple representation of stock market is *stock chart*. The stock chart shows how the price of a single share of a specific company changes with time depending on the *buyer power*, and the *seller power*. The sellers power increases when most investors are selling the shares which leads the price of equity to fall, in contrast, buyers have more power when investors are buying the stock aggressively which leads the price of the share to increase. Trend line is an important tool, which is used to identify and confirm a stock price. A trend line is a straight line that crosses two-price point or more. In addition the trend line extend to the future and this line can act as a supporter or a resistance ("Investopedia").

The term *bullish* market or bull market means the stock market is going in an *uptrend*. Whereas, bearish market or bear market means the stock market is going in a downtrend. Also,

the volume is the number of transactions etheir buying or selling that occurs in a certain period of time. Morover, the *bid price* is what buyrs are willing to pay for a particular stock. The *ask price* is what sellers are looking for to sell a stock.

1.4 Types of Stock Market Analysis

When it comes to analyzing stock markets, investors use integrated techniques in order to spot the right stock and predict its future growth. These ways of analyzing stock markets are fundamental analysis and technical analysis.

1.4.1 Fundamental Analysis

When people decide to invest in the stock markets, they have to understand that buying some shares in stock market means they own a small piece of a company. This idea seems to be taken for granted for many investors, which causes investors to lose a great amount of money. When investors want to buy a stock they have to remember that by buying stocks they own a piece of that company. That's why, before buying a stock an investor should do what is called fundamental analysis, which can be done by looking at the type of products this company produce and the revenue they generate. Also, investors should look at the company's balance sheet in order to find the assets and liabilities that are associated with the company in order to decide if this company is able to compete in the near future. At the end, fundamental analysis is the tool that helps investors to decide which company they should be investing in. Investors who are looking for a long-term strategy for trading commonly use fundamental analysis (Fontanills et al. 2002).

1.4.2 Technical Analysis

Technical analysis is a tool for investors to look at the price history of a company that they would like to invest in. There are so many strategies associated with technical analysis and each strategy uses a different set of indicators. Technical indicators are mathematical models that try to predict the future of a stock based on the price history. A technical chart usually consists of a section that shows the price history, and a section that shows the volume (Fontanills et al. 2002). Finally, investors should use fundamental analysis first in order to decide what stock they want to buy, and then use technical analysis to predict the future price of the stock.

2. Trend Trading

The main goal of this simulation is to learn about the various aspects of the U.S stock market, also to have at least a 5 percent profit. In this chapter, trend trading strategy will be used to do a simulation in the U.S stock market for four weeks. During the four weeks the transactions will be recorded and discussed; at the end of the simulation the results section will present the findings of the simulation. Also, this chapter will provide the mechanism of using trend trading for this simulation. Finally, the companies that will be traded are introduced in this chapter with their technical charts.

2.1 Introduction

The Trend trading is an investment strategy that can be used in trading any commodity that has charts to show the price history. It can be used for long-term trading or short term trading. Investors who use trend trading pay attention mainly to technical analysis more than fundamental analysis. Trend traders use technical charts and indicators to spot the up or down trend. In other words, looking at the successively higher highs and higher lows on the price chart can spot an uptrend as shown in Figure 2.1. On the other hand, a downtrend is spotted by looking for the successively lower highs and lower lows as shown in Figure 2.1 ("Investopedia"). Also, trend traders are not looking to capture an uptrend before it begins, they will first spot the going uptrend and use their technical indicators and price history to make sure that the uptrend has a strong momentum to keep driving the trend up, then, they will ride on the trend. Moreover, trend trader will try to speculate the down trend before it begins by using technical indicators.

Figure 2.1: Technical Chart showing the uptrend and downtrend.

The most difficult aspect about trend trading is how to be sure about the momentum of the trend. Trend traders use technical indicators to look for the momentum. There are so many indicators that can be used and there is no single indicator that's guaranteed to do the job perfectly because it is all about speculation.

For this simulation, two technical indicators are used. First, the Relative Strength Index (RSI) will be used to look for the momentum of the trend. RSI is a technical momentum indicator that uses mathematical formula to determine if the stock is oversold or overbought as shown in Figure 2.2, it does that by comparing the recent gain and losses of the stock closing prices.

Figure 2.2: Relative Strength Indicator (RSI) chart.

RSI is a chart that is ranged from 0 to 100. The stock is oversold if the RSI signal is below 30 and overbought if the RSI signal is above 70. Oversold means the stock is undervalued and is about to have and uptrend so that's a buy signal. Overbought means the stock is overvalued and is about to have a pullback from the uptrend to a downtrend so that is a sell signal ("Investopedia"). Also, when the RSI signal is above the 50-line it is a signal for a bullish market. Conversely, when the RSI signal is below the 50-line it is a sign of a bearish market. The parameter for the RSI signal can be chosen depending on the period of trading, so since this simulation is one month the RSI parameter is set to be 10 in order to get more signals that can be seen as a buy or sell signal.

The second technical indicator that will be used in this simulation is the Moving Average Convergence Divergence (MACD) Figure 2.3. It is a trend following momentum that compares the 26-day exponential moving average with the 12-day exponential moving average. Also, a 9-day exponential moving average is plotted on the MACD chart in order to look for the buy and sell signals, and this 9-day exponential moving average is called a signal line, which is the red line in Figure 3 ("Investopedia"). The buy and sell signals can be obtained by looking for the

crossovers of the MACD line and the signal line, MACD line is the black line in Figure 2.3. When the MACD line is above the signal line this indicates a buy signal, whereas, when the MACD line is below the signal line it indicates a sell signal as shown in Figure 2.3. The histograms shown in the MACD chart shows the divergence between the MACD line and the signal line. The MACD and RSI both can indicate a buy or sell signal buy comparing their trend with the price chart to look for divergence from the price. These two technical indicators will be used in this simulation to determine the momentum of the trend and the buy and sell signals.

Figure 2.3: Moving Average Convergence Divergence (MACD) chart.

Finally, it should be taken into account that the price history on the technical chart is just a way of showing results of the supply and demand aspects that are attributed to the behavior of people, which are influenced by many things that is going on around the world, so the RSI and MACD are just ways to speculate the momentum of the trend based on the past which is not always consistent with the behavior of people in the present time. For this reason, this simulation, beside technical analysis, will manifest fundamental analysis by looking at the news of the traded companies in order to predict the upcoming trend.

2.2 Selected Companies

The trend trading strategy in this simulation is implemented on the large caps category. The large caps category represents the companies that have a large market capitalization. Also, the reason for choosing to trade with large caps is because of the low risk that is associated with them, the bigger they are the harder they fall. Moreover, this portfolio is diversified; in other words, the companies that are selected are from different sectors. Warren Buffet, one of the great investors of all times once said "buy what you know", so all the selected companies, which comes to total of 10 companies, that I have here are very well known to me.

ExxonMobile Corporation (NYSE:XOM**)**

Market Capitalization: $431.71B

ExxonMobile is the largest international oil and gas company that is listed in the stock market. Also, this company is the second largest company in the stock market in terms of market capitalization. The company was founded in 1999 after the merge of two large oil companies, Exxon and Mobile, both companies were part of the Standard Oil Company that was founded by John D. Rockefeller in 1870 ("ExxonMobil"). The headquarter of the company is located in Irving, TX. The production of ExxonMobile is all about oil and energy. It is always in search for new sources of energy. The stock of the company has been showing growth in value as shown in the technical chart in Figure 2.4.
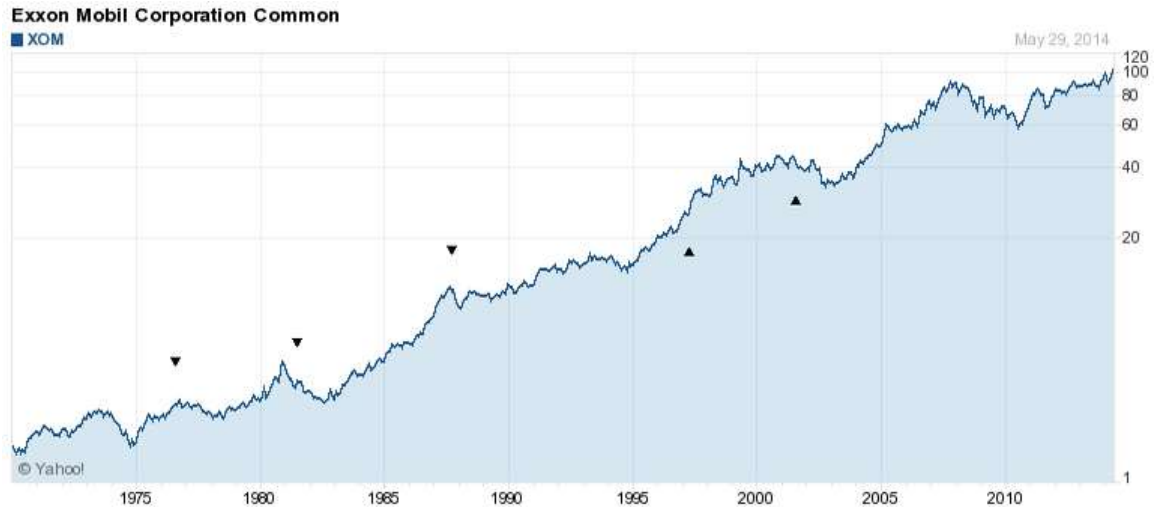
Figure 2.4: ExxonMobile Technical Chart.

Apple, Inc. (NASDAQ**:AAPL)**

Market Capitalization: $547.3B

Apple is the largest company in terms of market capitalization in stock market. It has been known in terms of electronics, software and hardware products. Steve Jobs, Steve Wozniak and Ronald Wayne founded the company in 1976. The headquarter of the company is located in Cupertino, CA. Apple has taken the cellphone industry to a higher level by producing the iPhone, which has broadened the ability of cellphones. Therefore, the company is very competitive when it comes to new ideas and new inventions. The technical chart of Apple stock is shown in Figure 2.5.

Figure 2.5: Apple Technical Chart.

Chipotle Mexican Grill, Inc. (NYSE:CMG**)**

Market Capitalization: $16.95B

Chipotle Mexican Grill is a chain of restaurants that are specialized in tacos and burritos. Steve Ells founded it in 1993. The headquarter is located in Denver, CO. This restaurant is known for the quality of its food and for providing naturally raised meet. The company has shown rapid growth since it went public in 2006 Figure 2.6.

Figure 2.6: Chipotle Technical Chart.

Nike, Inc. (NYSE:NKE**)**

Market Capitalization: $67.54B

Nike is a multinational company that produces footwear, apparel, equipment and accessories and services. Its headquarter is located in the Washington County, OR. The company was founded in 1964 by Bill Bowerman and Phil Knight under the name Blue Ribbon Sports, then it officially have had the name Nike in 1971, which means the Greek goddess of victory. Nike has been known worldwide due to its sponsorship of so many sport clubs. The company has shown its ability to stand in a very competitive market such as the sport market. Also, one big reason to have this company in my portfolio is that the Soccer World Cup will start on Jun, when the simulation will be going, which means the sales of the company will be increased. The technical chart of the company is shown in Figure 2.7.

Figure 2.7: Nike Technical Chart.

AT&T, Inc. (NYSE:T**)**

Market Capitalization: $184.1B

AT&T is involved in the technology industry. The name of the company stands for American Telephone and Telegraph Company. It provides wireless and wireline telecommunication services and equipment. It is a holding company that has subsidiaries to provide its services. It was founded in 1983 and it is headquartered in Dallas, TX. The technical chart is shown in Figure 2.8.

Figure 2.8: AT&T Technical Chart.

The Home Depot, Inc. (NYSE:HD**)**

Market Capitalization: $109.7B

Home Depot is associated with home improvement and constructions products and services. It was founded in 1978; it is headquartered in Atlanta, GA. It is the largest retailer in the United States. It has its distinguishable style of stores, which is called big-box format. The technical chart of the company is shown in Figure 2.9.
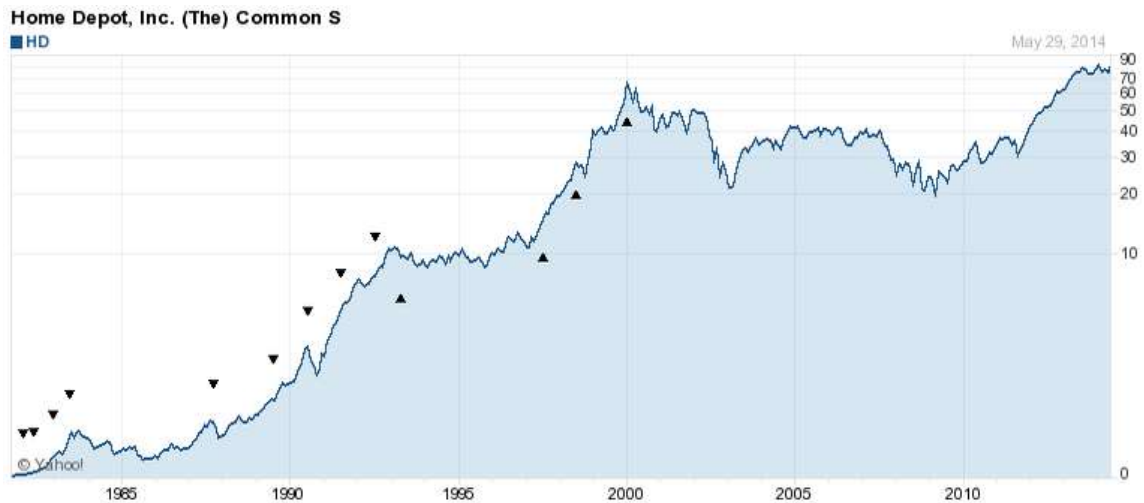
Figure 2.9: The Home Depot Technical Chart.

Amazon.com Inc. (NASDAQ:AMZN**)**

Market Capitalization: $149.97B

Amazon is a very popular company worldwide. It is an online retailer and it is the largest in the world. Its headquarter is located in Seattle, WA. Jeff Bezos founded the company in 1994. Also, Amazon manufactures and sells the Kindle e-reader that has broadened the company business. Moreover, recently the company has released its Amazon Fire Phone which shows the growth aspect of the company. The stock of Amazon has been showing huge growth in the last four years, Figure 2.10.

Figure 2.10: The Amazon Technical Chart.

Whole Foods Market (NASDAQ:WFM**)**

Market Capitalization: $15.69B

WFM is a supermarket company. It is concerned mainly with providing natural and organic food. It was founded in 1980 by Renee Lawson Hardy and John Mackey. The headquarter of the company is located in Austin, TX. It operates a chain of supermarkets in USA, Canada and the UK. The technical chart shows huge growth of the value of the company in the last few years since more people are going toward organic and natural food Figure 2.11.

Figure 2.11: The WFM Technical Chart.

Twitter Inc. (NYSE: TWTR)

Market Capitalization: $22.58B

Twitter is a social media network. The company was founded in 2006. The headquarter of the company is located in San Francisco, CA. The founders of the company are Evan Williams, Noah Glass, Jack Dorsey, and Biz Stone. Twitter can be considered to be the most popular social network around the globe. Also, the company generates profits by offering advertising opportunities.

Figure 2.36: Twitter Technical Chart.

Vertex Pharmaceuticals Incorporated (NASDAQ: VRTX**)**

Market Capitalization: $22.15B

VRTX is a biotechnology company. It is mainly focusing on discovering and developing drugs for the treatment of serious diseases. It was founded in 1989 by Joshua S. Boger. It is located in Boston, MA. The company has shown a great potential to drive the stock up after saying its treatment for cystic fibrosis appeared to work better than a placebo in a late-stage. The technical chart of the company is shown in Figure 2.37.

Figure 2.37: VRTX Technical Chart.

2.3 Simulation

The simulation will implement the trend trading strategy on the selected companies. The simulation activity of each week will be shown including the transactions table. The transactions will be discussed closely in order to elucidate the reason behind each transaction. Also, since trend trading strategy focuses on technical analysis, each transaction will be supported by figures to show the technical chart of the traded stock. The initial value for this simulation is $500,000 and the commission fee induced is $10 per trade.

2.3.1 Week 1 (06/09 – 06/13)

I started the week by spending $112,157.9 on CMG, AAPL and HD. On Tuesday, I bought 243 shares in NKE for a total of $18,613.8. Also, on Wednesday I decided to add AMZN and WFM to my portfolio, so I spent $142,525 to by shares in these two companies. On Thursday, HD and NKE shares were sold with a net loss of $1,185.39. The total amount of cash

that I have now after this week transaction is $268,269.7 and the companies that I own shares in are AAPL, CMG, AMZN and WFM. Table 2.1 shows this week transactions in more detailed.

Table 2.1: The transactions of the first week of simulation.

Date	Symbol	Buy/Sell	Price	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
6/9/14							$500,000.00	
6/9/14	CMG	Buy	$570.38	105	$59,899.90		$440,100.10	
6/9/14	AAPL	Buy	$93.70	300	$28,120.00		$411,980.10	
6/9/14	HD	Buy	$80.76	300	$24,238.00		$387,742.10	
6/10/14	NKE	Buy	$76.60	243	$18,613.80		$369,128.30	
6/11/14	AMZN	Buy	$334.85	300	$100,455.00		$268,673.30	
6/11/14	WFM	Buy	$42.07	1000	$42,070.00		$226,603.30	
6/12/14	HD	Sell	$78.31	300	$23,483.00	$(755.00)	$250,086.30	$(755.00)
6/12/14	NKE	Sell	$74.87	243	$18,183.41	$(430.39)	$268,269.71	$(1,185.39)

Chipotle Mexican Grill, Inc. (NYSE:CMG)

I was watching this stock for a long time and it has been showing a huge growth in value, so as soon as I started the simulation the first stock that I bought was CMG. I bought 105 shares for a price of $570.38 per share. The reasons for buying the stock were because there is an up going trend and the MACD and RSI confirmed the momentum of the trend as shown in Figure 2.12.

Figure 2.12: CMG Technical Chart showing the buy signals.

I bought the stock even though the RSI is above the 70-line which could indicate that the stock is about to pullback, however, the MACD signal is strong enough to convince me that the stock will keep going in an uptrend.

I am still holding the shares since the indicators are still showing a bullish sign as shown in Figure 2.13.

Figure 2.13: CMG Technical Chart showing the holding signals.

I will watch the movement of the stock very carefully next week and my actions will be one of two things either sell the stock or buy more shares and that will depend on the indicators' signals.

Apple, Inc. (NASDAQ:AAPL**)**

Buying AAPL was based on both technical analysis and fundamental analysis. The technical aspect was composed of the going uptrend and the confirmation of both MACD and RSI as show in Figure 2.14.

Figure 2.14: AAPL Technical Chart showing the buy signals.

The company decided in early June to do a 7-for-1 split for its stock and Monday was the first day of trading the stock after the split. Therefore, my fundamental analysis aspect is evolving around this idea of splitting the stock which was the driving reason for buying the stock. Splitting the stock makes the price cheaper for new investors, so that will result in a very high demand that will increase the price. On that basis, I decided to buy 300 shares for $93.70. The price started to fluctuate around $93 and $91 and the closing price for this week was $91.28. Even though the RSI and MACD have been showing a sell signal since Wednesday, the fundamental analysis has convinced me to hold the stock because I expect the stock to hit $100 around the end of the simulation. Figure 2.15 shows the technical chart of the stock on Friday and the sell signal that was given by both RSI and MACD.

Figure 2.15: AAPL Technical Chart showing the sell signals.

The Home Depot, Inc. (NYSE:HD**)**

At the start of the week HD was trending up and both technical indicators RSI and MACD confirmed the buy signal as shown in Figure 2.12. Therefore, I decided to buy 300 shares for $80.76 per share.

Figure 2.16: HD Technical Chart showing the buy signals.

Unfortunately, the time I bought it was the end of the trend. I waited to see if the stock would keep trending up, however, the technical indicators showed that it would turn to a downtrend as shown in Figure 2.13. So I had to stop losing and sell all the shares for $78.31 per share. The loss from this transaction is $755.00.

Figure 2.17: HD Technical Chart showing the sell signals.

Nike, Inc. (NYSE:NKE**)**

On Tuesday, 243 shares of NKE were bought for $76.6. The stock had an uptrend for two days; RSI and MACD confirmed the trend as shown Figure 2.14.

Figure 2.18: NKE Technical Chart showing the Buy signals.

Also, I expected the trend would keep going up since the Soccer World Cup was about to start very soon. Notwithstanding, the stock had a pullback and went to a downtrend and the technical indicators confirmed the downtrend Figure 2.15. Therefore, I had to stop losing and sell all the shares for $74.87. The loss that generated from this transaction is $430.39.

Figure 2.19: NKE Technical Chart showing the Sell signals.

Amazon.com Inc. (NASDAQ:AMZN**)**

AMZN was showing an uptrend and the technical indicators showed that as shown in Figure 2.20.

Figure 2.20: AMZN Technical Chart showing the buy signals.

Therefore, 300 shares were bought for $334.85. The price started to decrease, however, the RSI and MACD didn't confirm a coming downtrend. Also, one reason for buying this stock was because Amazon released its new service which is Amazon music, so this might keep the stock going in an uptrend. The closing price of this week was $326.27, however, I am still holding the shares since the indicators have not shown a downtrend signal yet Figure 2.21. I will be watching the stock very closely next week in order to decide if the decreasing in price will result in a downtrend.

Figure 2.21: AMZN Technical Chart showing the holding signals.

Whole Foods Market (NASDAQ:WFM**)**

The company has been showing a strong uptrend and both the RSI and MACD confirms

that Figure 2.22. Therefore, 1000 shares were bought for $42.07.

Figure 2.22: WFM Technical Chart showing the buy signals.

The stock is maintaining the uptrend. The closing price of the week is $42.12 and the indicators

show that the trend will keep going up that's why I am still holding the stock Figure 2.23.

Figure 2.23: WFM Technical Chart showing the holding signals.

First Week Conclusion

The two companies ExxonMobile and AT&T were not traded this week since their technical chart doesn't show an uptrend and both the RSI and MACD don't give any buy signal. However, these two companies will be watched next week in order to look for an uptrend.

In conclusion, Figure 2.24 from the website that's used to do the simulation, which is WallStreetSurvivor, shows my current portfolio which includes only the stock that I am still holding. Even though AAPL and AMZN are generating big losses, I am still holding them. For AAPL the splitting of stock will be a reason for driving the price up. For AMZN, the RSI and MACD is not showing a downtrend signal so that's why I still have it beside the expectation that the new service Amazon music will drive the price up. For CMG and WFM the indicators are showing a bullish sign. The total asset so far is $497,382.01

COMPANY	QTY	PRICE PAID	MARKET PRICE	MARKET VALUE	LIFETIME RETURN	P&L ▲
CMG › CHIPOTLE MEXICAN G...	105	$570.38	$588.26	$61,767.30	3.13%	$1,877.40
AAPL › APPLE INC	300	$93.70	$91.28	$27,384.00	-2.58%	($726.00)
AMZN › AMAZON.COM INC	300	$334.85	$326.27	$97,881.00	-2.56%	($2,574.00)
WFM › WHOLE FOODS MARKET...	1,000	$42.07	$42.12	$42,120.00	0.12%	$50.00

Figure 2.23: The stock that I still have after the first week of simulation.

2.3.2 Week 2 (06/16 – 06/20)

In this week, $215,471 was dispersed over CMG and TWTR. Both TWTR and CMG were sold this week with a net profit of $4,137.15. The other transaction for this week was selling the WFM with a net loss of $2,920. The total net profit of this week is $1,217.15. The total profit from the simulation so far is $31.76. The total cash that I still have after this week is $371,456.76. The details of this week transaction are shown in Table 2.2.

Table 2.2: Showing transactions of the first and second week of simulation

Symbol	Buy/Sell	Price	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
						$500,000.00	
CMG	Buy	$570.38	105	$59,899.90		$440,100.10	
AAPL	Buy	$93.70	300	$28,120.00		$411,980.10	
HD	Buy	$80.76	300	$24,238.00		$387,742.10	
NKE	Buy	$76.60	243	$18,613.80		$369,128.30	
AMZN	Buy	$334.85	300	$100,455.00		$268,673.30	
WFM	Buy	$42.07	1000	$42,070.00		$226,603.30	
HD	Sell	$78.31	300	$23,483.00	$(755.00)	$250,086.30	$(755.00)
NKE	Sell	$74.87	243	$18,183.41	$(430.39)	$268,269.71	$(1,185.39)
CMG	Buy	$594.37	300	$178,321.00		$89,948.71	
TWTR	Buy	$37.14	1000	$37,150.00		$52,798.71	
CMG	Sell	$593.21	105	$62,277.05	$2,377.15	$115,075.76	$1,191.76
TWTR	Sell	$38.82	1000	$38,810.00	$1,660.00	$153,885.76	$2,851.76
CMG	Sell	$594.77	300	$178,421.00	$100.00	$332,306.76	$2,951.76
WFM	Sell	$39.16	1000	$39,150.00	$(2,920.00)	$371,456.76	$31.76

Chipotle Mexican Grill, Inc. (NYSE:CMG)

On Monday, the 105 shares of CMG was sold for $593.21 and $2,377.15 was generated as profit due to this transaction. The reason for selling was because the price had reached $593 and then started to fluctuate between $590 and $594 so I decided to sell the stock and get the profit. In the same day, I decided to buy 300 shares for $594.37 in CMG because the MACD and RSI have given a bullish sign as indicated in Figure 2.25.

Figure 2.25: CMG technical chart showing the buy signal.

On Thursday, the 300 shares were sold for $594.77 and $100 was the net profit from this transaction. The reason for selling the stock was because the momentum of the trend was decreasing and the MACD histogram was diverging from the price trend which was a sign of a coming downtrend, Figure 2.26. Also, the price was fluctuating between $593 and $595 so I decided to sell the stock and generate some profit.

Figure 2.26: CMG technical chart showing the sell signal.

Apple, Inc. (NASDAQ:AAPL**)**

Apple stocks have not been above $93 for the last week, so there was no chance of profiting from selling the stock. The reason for holding the stock is, as indicated in the first week report, the stock did 7-for-1 split and that will be a reason to drive the price up.

Amazon.com Inc. (NASDAQ:AMZN**)**

Amazon shares are still held even though the RSI and MACD are indicating of a coming downtrend. The reason for holding the stock is that the company has the potential to drive the stock up because of the releasing of Amazon Fire Phone and the Amazon music service. Therefore, it is expected that the stock will be going in an uptrend next week.

Whole Foods Market (NASDAQ:WFM**)**

WFM was bought last week for \$42.07 and the stock was trending up. The RSI and MACD were confirming the strong momentum of the trend. This week the price started going down until the RSI and MACD confirmed downtrend Figure 2.27. Therefore, I decided to stop losing and sell the 1000 shares for \$39.16 and the loss that is generated from this transaction is \$2,920. After I bought the stock the price had reached \$42.50 and there was a fair amount of profit generating, unfortunately, I decided to hold the stock for the sake of more profit, that decision was supported by the RSI and MACD. Even though there was loss from this transaction, the lesson that was learned is that don't underestimate any amount of profit as long as it is profit.

Figure 2.27: WFM technical chart showing the sell signal.

Twitter Inc. (NYSE: TWTR)

A going uptrend was spotted for TWTR and both the RSI and MACD confirmed that, Figure 2.28. Therefor, 1000 shares were bought for $37.14.

Figure 2.28: TWTR technical chart showing the buy signal.

The trend kept going up with a strong momentum. On Thursday, I decided to sell the stock because it had generated a good amount of profit and I did not want to risk it. The 1000 shares were sold for $38.82 and the profit was $1,660.

Second Week Conclusion

In conclusion, the profit of this week was generated mainly from two companies TWTR and CMG. WFM generated the loss of this week. NKE, HD, XOM, and T were not traded this week because there was no going uptrend. For T, I expect the stock will increase next week due to the fact that the new Amazon phone is exclusive to AT&T so this might put the stock in an uptrend. AAPL and AMZN are still held as shown in Figure 2.29. The total asset so far is $495,750.76.

COMPANY	QTY	PRICE PAID	MARKET PRICE	MARKET VALUE	LIFETIME RETURN	P&L ▲
AAPL › APPLE INC	300	$93.70	$91.49	$27,447.00	-2.36%	($663.00)
AMZN › AMAZON.COM INC	300	$334.85	$322.89	$96,867.00	-3.57%	($3,588.00)

Figure 2.29: The stock that I still have after the second week of simulation.

2.3.3 Week 3 (06/23 – 06/27)

In this week, TWTR, XOM, CMG, AMZN, and VRTX were bought for a total of $364,575.45. At the end of the week TWTR and some shares of AMZN were sold. The trading of this week resulted in $3,358.55 as profit‹ that is the highest amount of weekly profit since the beginning of the simulation. The total net profit so far is $3,390.31. Table 2.3 shows the transaction of the simulation so far including this week.

Table 2.3: Transaction of the simulation including the third week.

Date	Symbol	Buy/Sell	Price	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
6/9/14							$500,000.00	
6/9/14	CMG	Buy	$570.38	105	$59,899.90		$440,100.10	
6/9/14	AAPL	Buy	$93.70	300	$28,120.00		$411,980.10	
6/9/14	HD	Buy	$80.76	300	$24,238.00		$387,742.10	
6/10/14	NKE	Buy	$76.60	243	$18,613.80		$369,128.30	
6/11/14	AMZN	Buy	$334.85	300	$100,455.00		$268,673.30	
6/11/14	WFM	Buy	$42.07	1000	$42,070.00		$226,603.30	
6/12/14	HD	Sell	$78.31	300	$23,483.00	$(755.00)	$250,086.30	$(755.00)
6/12/14	NKE	Sell	$74.87	243	$18,183.41	$(430.39)	$268,269.71	$(1,185.39)
6/16/14	CMG	Buy	$594.37	300	$178,321.00		$89,948.71	
6/16/14	TWTR	Buy	$37.14	1000	$37,150.00		$52,798.71	
6/16/14	CMG	Sell	$593.21	105	$62,277.05	$2,377.15	$115,075.76	$1,191.76
6/19/14	TWTR	Sell	$38.82	1000	$38,810.00	$1,660.00	$153,885.76	$2,851.76
6/19/14	CMG	Sell	$594.77	300	$178,421.00	$100.00	$332,306.76	$2,951.76
6/20/14	WFM	Sell	$39.16	1000	$39,150.00	$(2,920.00)	$371,456.76	$31.76
6/23/14	TWTR	Buy	$39.42	2000	$78,850.00		$292,606.76	
6/24/14	XOM	Buy	$104.29	500	$52,155.00		$240,451.76	
6/24/14	CMG	Buy	$598.99	150	$89,858.50		$150,593.26	
6/24/14	AMZN	Buy	$323.69	155	$50,181.95		$100,411.31	
6/24/14	VRTX	Buy	$93.52	1000	$93,530.00		$6,881.31	
6/25/14	AMZN	Sell	$325.10	155	$50,380.50	$198.55	$57,261.81	$230.31
6/26/14	TWTR	Sell	$41.01	2000	$82,010.00	$3,160.00	$139,271.81	$3,390.31

Chipotle Mexican Grill, Inc. (NYSE:CMG)

On Tuesday, 150 shares of CMG were bought for $598.99 per share. The stock has been showing an uptrend since the first week of the simulation and both the RSI and MACD have been confirming the momentum of the trend. Also, the stock now is held since the momentum of the trend signaling that the stock has the potential to reach the maximum price ever which is $611.12 as shown in Figure 2.30.

Figure 2.30: CMG technical chart showing the holding signal.

Apple, Inc. (NASDAQ:AAPL**)**

The 300 shares of AAPL that was bought in the first week are still held. The split of the stock have not shown yet its driving force. Therefore, I will wait until the price reaches $93 and sell the stock in order to minimize my loss.

Amazon.com Inc. (NASDAQ:AMZN**)**

The 300 shares that were bought in the first week are still held. These shares are generating losses in my portfolio, so I will wait until the end of next week in order to minimize my loss. Also, in this week I noticed the fluctuating of the price between $320 and 327$ as shown in Figure 2.31. Therefore, I took advantage of that and bought 155 shares for $323.69. I sold the shares for $325.10 generating a net profit of $198.55.

Figure 2.31: AMZN technical chart showing the buy signal due to the fluctuation of the price.

Twitter Inc. (NYSE: TWTR)

The transaction of TWTR generated a net profit of $3,160. The number of shares that were bought and sold was 2000. The reason for buying was because both RSI and MACD gave a bullish signal of the going trend as shown in Figure 2.32. The reason for selling was because the stock had generated a good amount of profit and I didn't want to risk that.

Figure 2.32: TWTR technical chart showing the buy signal.

ExxonMobile Corporation (NYSE:XOM**)**

XOM had shown an uptrend and both RSI and MACD confirmed. Therefore, 500 shares were bought for $104.29. After buying the stock, the price decreased to $101. Now the RSI and MACD are giving a bearish sign indicating a downtrend as shown in Figure 2.33. Therefore, I will try to minimize my loss buy waiting for the stock to get close to $104.

Figure 2.33: XOM technical chart showing the downtrend signal.

Vertex Pharmaceuticals Incorporated (NASDAQ: VRTX**)**

The reason for buying 1000 shares in VRTX is that the stock had jumped 41 percent after saying its treatment for cystic fibrosis appeared to work better than a placebo in a late-stage study. The company now has a very large potential to drive the price up. I am still holding the shares since both the RSI and MACD indicate a bullish sign as shown in Figure 2.34.

53

Figure 2.34: VRTX technical chart showing the buying signal.

Third Week Conclusion

This week is the best week so far in terms of profit. Most of the profit generated from TWTR stock. NKE, HD, T, and WFM were not traded this week since there was no bullish sign. In this week, I applied what I have learned from my experience through the first and second week of simulation which is never underestimate any amount of profit. Also, I think this lesson enabled me to become mature in my trading habit. Table 2.4 shows my performance so far in the simulation. I did beat the S&P 500 in the first and third week. Figure 2.35 shows the stock that I am still holding in my portfolio.

Table 2.4: showing the performance after the third week.

Week #	Total asset	Profit/loss	Weekly % Change	Weekly % S&P 500	Total % Change
0	$500,000				
1	$497,382.01	($1,185.39)	-0.52%	-0.77%	-0.52%
2	$495,750.76	$1,217.15	-0.33%	1.56%	-0.85%
3	$497,982.81	$3,358.55	0.45%	-0.09%	-0.40%

COMPANY	QTY	PRICE PAID	MARKET PRICE	MARKET VALUE	LIFETIME RETURN	P&L ▲
CMG › CHIPOTLE MEXICAN G...	150	$598.99	$596.14	$89,421.00	-0.48%	($427.50)
AAPL › APPLE INC	300	$93.70	$91.98	$27,594.00	-1.84%	($516.00)
AMZN › AMAZON.COM INC	300	$331.05	$324.57	$97,371.00	-1.96%	($1,943.47)
XOM › EXXON MOBIL CORP	500	$104.29	$101.21	$50,605.00	-2.95%	($1,540.00)
VRTX › VERTEX PHARMACEUTL...	1,000	$93.52	$93.77	$93,770.00	0.27%	$250.00

Figure 2.35: showing the stock that I still hold in my portfolio.

2.3.4 Week 4 (06/30 – 07/03)

In this week, there was no buying since the goal was to minimize my losses in the companies that I had in my portfolio. Unexpectedly, this week generated a good amount of profit which is $472.50. All the transaction of this week happened to be on Tuesday since the stock market was showing bullish performance and it was a very good opportunity to minimize the loss. The market closed on Thursday at 1 pm due to the 4th of July holiday. Table 2.5 shows the transactions of the simulation including the fourth week.

Table 2.5: shows the transactions including the fourth week.

Date	Symbol	Buy/Sell	Price	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
6/9/14							$500,000.00	
6/9/14	CMG	Buy	$570.38	105	$59,899.90		$440,100.10	
6/9/14	AAPL	Buy	$93.70	300	$28,120.00		$411,980.10	
6/9/14	HD	Buy	$80.76	300	$24,238.00		$387,742.10	
6/10/14	NKE	Buy	$76.60	243	$18,613.80		$369,128.30	
6/11/14	AMZN	Buy	$334.85	300	$100,455.00		$268,673.30	
6/11/14	WFM	Buy	$42.07	1000	$42,070.00		$226,603.30	
6/12/14	HD	Sell	$78.31	300	$23,483.00	$(755.00)	$250,086.30	$(755.00)
6/12/14	NKE	Sell	$74.87	243	$18,183.41	$(430.39)	$268,269.71	$(1,185.39)
6/16/14	CMG	Buy	$594.37	300	$178,321.00		$89,948.71	
6/16/14	TWTR	Buy	$37.14	1000	$37,150.00		$52,798.71	
6/16/14	CMG	Sell	$593.21	105	$62,277.05	$2,377.15	$115,075.76	$1,191.76
6/19/14	TWTR	Sell	$38.82	1000	$38,810.00	$1,660.00	$153,885.76	$2,851.76
6/19/14	CMG	Sell	$594.77	300	$178,421.00	$100.00	$332,306.76	$2,951.76
6/20/14	WFM	Sell	$39.16	1000	$39,150.00	$(2,920.00)	$371,456.76	$31.76
6/23/14	TWTR	Buy	$39.42	2000	$78,850.00		$292,606.76	
6/24/14	XOM	Buy	$104.29	500	$52,155.00		$240,451.76	
6/24/14	CMG	Buy	$598.99	150	$89,858.50		$150,593.26	
6/24/14	AMZN	Buy	$323.69	155	$50,181.95		$100,411.31	
6/24/14	VRTX	Buy	$93.52	1000	$93,530.00		$6,881.31	
6/25/14	AMZN	Sell	$325.10	155	$50,380.50	$198.55	$57,261.81	$230.31
6/26/14	TWTR	Sell	$41.01	2000	$82,010.00	$3,160.00	$139,271.81	$3,390.31
7/1/14	CMG	Sell	$602.28	150	$90,332.00	$473.50	$229,603.81	$3,863.81
7/1/14	VRTX	Sell	$95.58	1000	$95,570.00	$2,040.00	$325,173.81	$5,903.81
7/1/14	AAPL	Sell	$93.89	300	$28,157.00	$37.00	$353,330.81	$5,940.81
7/1/14	XOM	Sell	$101.40	500	$50,690.00	$(1,465.00)	$404,020.81	$4,475.81
7/1/14	AMZN	Sell	$332.84	300	$99,842.00	$(613.00)	$503,862.81	$3,862.81

Chipotle Mexican Grill, Inc. (NYSE:CMG)

The 150 shares of CMG were sold for a net profit of $473.50. The reason behind selling the stock is that the indicators are showing an upcoming downtrend as shown in Figure 2.38.

Figure 2.38: CMG technical chart showing the sell signal.

Amazon.com Inc. (NASDAQ:AMZN**)**

Amazon shares had reached $332.84 on Tuesday and I wanted to minimize my loss since I bought the shares for $334.85. Also, the RSI and MACD didn't show any hold signal Figure 2.39. Therefore, I sold the stock for a net loss of $613.

Figure 2.39: AMZN technical chart showing the sell signal.

ExxonMobile Corporation (NYSE:XOM**)**

XOM shares were sold for a net loss of $1,465. The indicators had been showing a sign for a coming downtrend so I took advantage of the slight increase in price and sold the shares Figure 2.40.

Figure 2.40: XOM technical chart showing the sell signal.

Vertex Pharmaceuticals Incorporated (NASDAQ: VRTX**)**

VRTX shares were sold for a net profit of $2,040. The reason for selling is that the stock had generated a good amount of profit and I didn't want to risk it.

Apple, Inc. (NASDAQ**:AAPL)**

Apple shares finally had exceeded $93.70. The shares were sold when the price hit $93.89. I bought the stock in the first week and it was generating losses in my portfolio, so that's why I sold the stock. Also, there was no signal about a coming uptrend and that was the big reason behind selling the stock.

Fourth Week Conclusion

The transaction of this week was only selling the stock that I had in my portfolio. Table 2.6 shows the performance of the trend trading strategy including the fourth week. It shows that the fourth week has the highest weekly percent change and I can attribute that to the experience that I have acquired during the simulation.

Table 2.6: shows the performance of the trend trading strategy in the simulation.

Week #	Total asset	Profit/loss	Weekly % Change	Weekly % S&P 500	Total % Change
0	$500,000		0	0	
1	$497,382.01	($1,185.39)	-0.52%	-0.77%	-0.52%
2	$495,750.76	$1,217.15	-0.33%	1.56%	-0.85%
3	$497,982.81	$3,358.55	0.45%	-0.09%	-0.40%
4	$503,862.81	$472.50	1.18%	1.28%	0.77%

2.4 Results

The trend trading strategy was profitable in this simulation. The net profit is $3,862.81. The total percent change is +0.77%. Most of the transactions that generated losses were because the MACD and RSI gave a false signal except the WFM transaction, I was greedy and looked for more profit, however, the stock got in a downtrend. The total asset after the simulation is $503,862.81. The week that generated the highest amount of profit is the third as shown in Figure 2.41.

Figure 2.41: Profit/Loss of the simulation.

Also, Figure 2.42 shows the weekly percent change for each week and it shows that the first and second week have a negative change, the reason is that in the first and second week I had stocks in my portfolio that were generating losses which were AMZN and AAPL, I bought them in the first week.
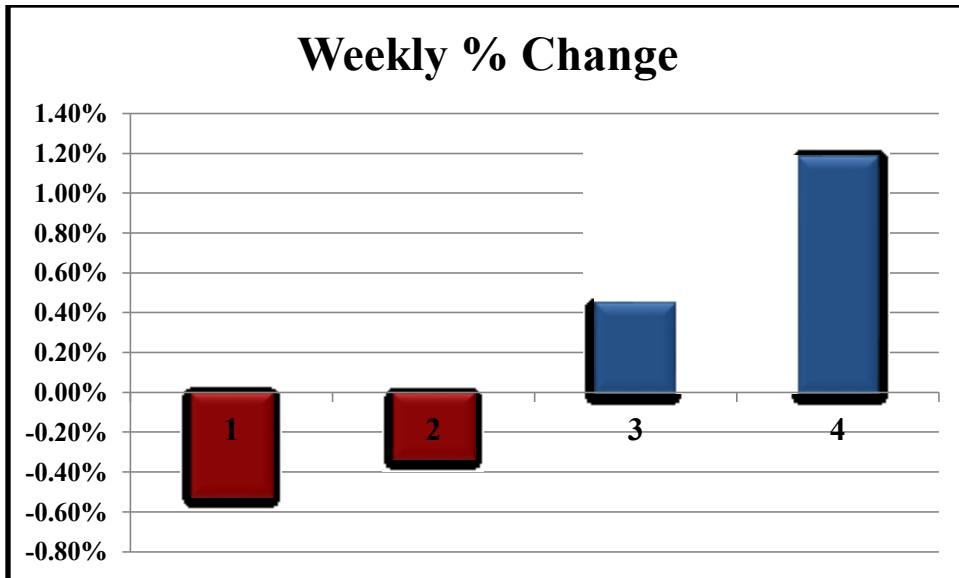
Figure 2.42: Weekly Percent Change of the four weeks.

Moreover, the total amount of profit I have gained from the simulation is $10,046.20. Most of the profit generated from three companies CMG, TWTR, and VRTX. On the other hand, the total amount of loss is $6,183.39 and the loss came from five companies which were AMZN, XOM, WFM, HD, and NKE. The only company that I had selected and didn't trade was T, the reason was that RSI and MACD had not given a buy signal during the simulation. The total percent change had been increasing throughout the simulation, as shown in Figure 2.43, and that's a sign for the experience that I had been gaining during the simulation. Also, the first, second and third week had a negative change due to the fact that the stock that I held in my portfolio was generating losses and in the fourth week I minimized the loss.
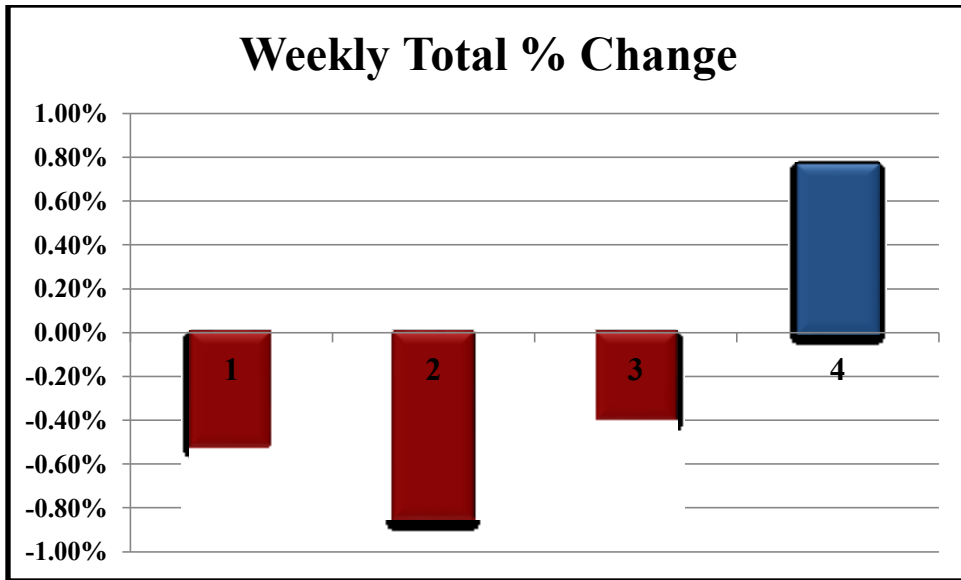
Figure 2.43: Total Percent Change of the four weeks.

In addition, Figure 2.44 shows the total asset after the end of each week.
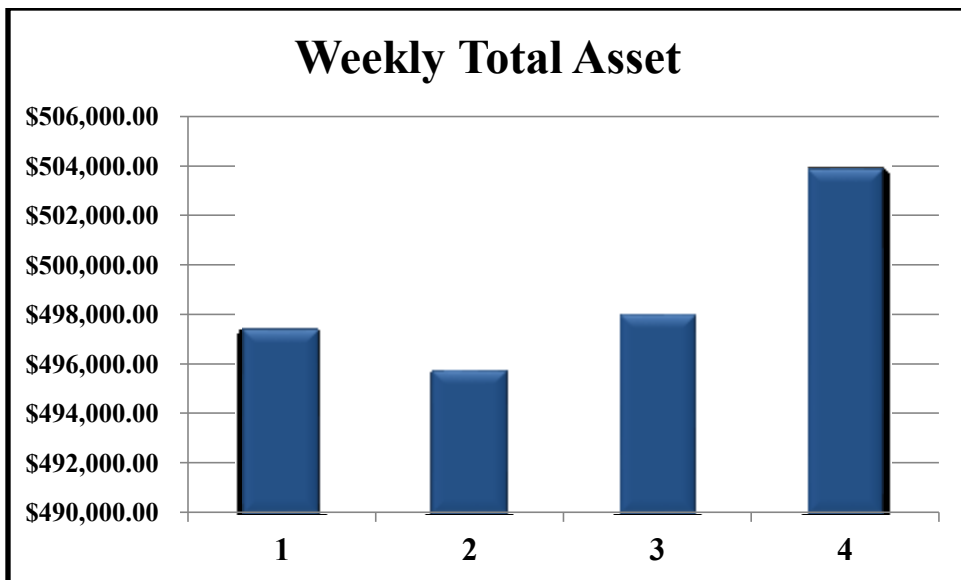
Figure 2.44: Weekly Total Asset.

Finally, in this simulation the benchmark was the S&P 500; therefore, the performance of my strategy in the simulation is compared to the performance of the S&P 500. The criterion for the comparison is the weekly percent change as shown in Figure 2.45. The trend trading strategy had superiority over the S&P 500 in the first and third week, also in the fourth week it was very close to beat the S&P 500. Finally, the total percent change of the trend trading strategy over the four weeks of simulation is +0.77%; whereas, the total percent change of the S&P 500 over the same period is +1.75%.
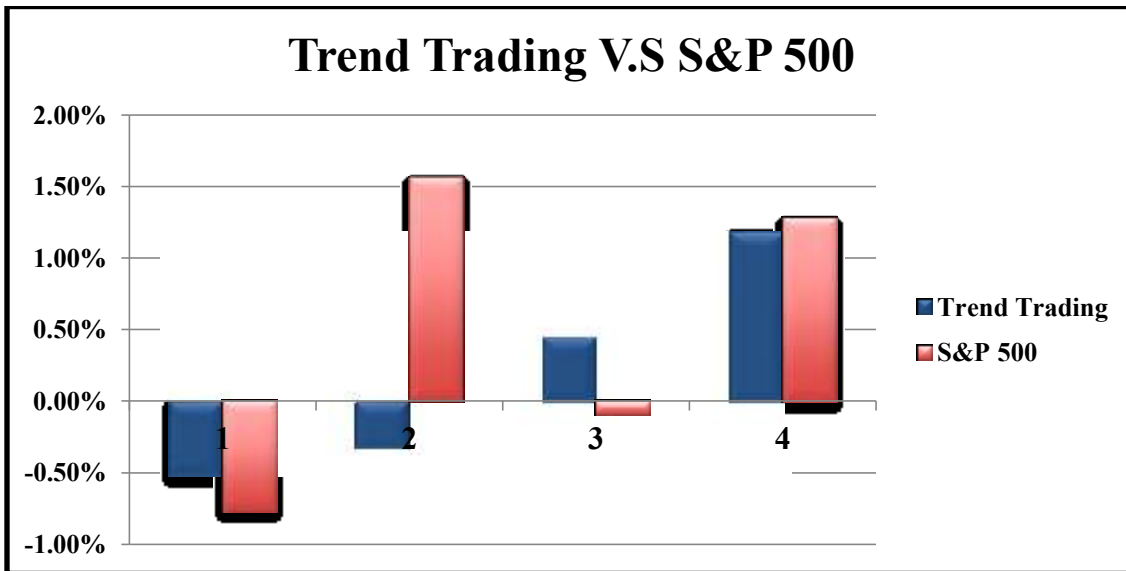
Figure 2.45: Weekly Percent Change of Trend Trading and S&P 500.

2.5 Conclusion

After investigating trend trading strategy throughout a four-week simulation in the U.S stock market, the conclusion that can be drawn is that trend trading works best when the traded company is stable. In other words, the technical indicators, RSI and MACD, give a reliable signal when there is no news about the company that may affect the price. As soon as the media spots the traded company the signals from MACD and RSI start to divert and that's attributed to the uncertain reaction of investors. Moreover, the main lesson that I learned about using technical indicators such as RSI and MACD in trend trading is that never hold the shares because the indicators are not showing a coming downtrend. I learned this aspect after I bought WFM and it was generating profit, at that time I didn't sell the company because RSI and MACD didn't give a sell signal; however, the price went down and the stock started to generate losses before the RSI and MACD gave the sell signal.

In conclusion, trend trading strategy was profitable in this simulation even though the goal of having 5% profit was not achieved. Notwithstanding, the first goal, which is to learn about the stock market, was achieved. Now, I think I am more knowledgeable about the investing culture in stock market. The knowledge started to grow up as soon as I did research on stock markets and how they function, then, the four weeks of simulation was a very good opportunity to experience the stock market life. The way I traded in the first week was totally different than that of the last week because the experience that I had gained since the first week enabled me to be more mature in my trading strategy.

3. News-Based Trading

My goal of this project is to enhance my ability in analyzing and determining the factors that would lead to a positive investment in stock market business. Also, to reach a good profit percentage by the end of the simulation using one method, which is based on following up news trends. My target in this simulation is to reach good profit earnings by 10 to 15 percent increase.

During the four weeks simulation, the trading method will be examined. Thus, the recent news from the selected companies will be obtained and put into the simulation. This news will be analyzed in which the trading decisions will be made. Performed transactions will be recorded and discussed at the end of the simulation.

3.1 Introduction

In News-Based trading what we tend to focus on is the companies' recent news. News-Based trading is part of the fundamental analysis, which does not rely on the technical indicators. Recent news can give us clear idea about a company's intentions in developing its business. Once a piece of news is released, the intended market would start analyzing the next step of the company and its consequences in which the trader would determine his next steps. If good news has been released about a company, which can be determined by watching closely TV news, newspapers, or Magazines, the first taker to buy some stock would have high chances to turn higher profits than other as most of the market would start (stock fighting) and vice versa. For example, AT&T made a huge deal to buy DIRECTV for $50.00B on May 17th; the stock price has dropped 5.0% within a 5 days. This can be explained that the market who does evaluate such a news whether to be good or bad; thus, the core of the method relies there in determining such that news. News-Based Trading is an effective way to achieve high profits in stock market trading.

3.2 Selected Companies

Apple Inc. (NASDAQ:AAPL**)**

Market Capitalization: $545.25B

Companies have been selected based on their recent activity on the market. Apple is the first company to be selected, which is due to two reasons; first, on May 28, 2014 apple has confirmed that it acquired Beats Corporation ("Apple - Press Info - Apple to Acquire Beats Music & Beats Electronics"). Beats Corporation is very famous on headphones, speakers, and audio software, besides music streaming. This is considered big hit for apple especially it will strengthen apple market on the music industry. Second reason is the recent news about iPhone 6 release. Apple is targeting the smartphone market with a new edition from its essential device with totally new design and screen size. This is in my opinion will sharpen apple profits in the next quarter.

Nike Inc. (NYSE:NKE**)**

Market Capitalization: $67.54B

Second company that is selected is Nike. The world cup will start on June 15th; and, it is expected that the company would turn huge profits in that period. My expectation is very high that the company would have a sharp increase in its stock price by the end of the world cup.

ExxonMobil Co. (NYSE:XOM**)**

Market Capitalization: $431.71B

The third company is Exxon Mobil. The team agreed to select two companies so a comparison will be made in the end of the simulation, and Exxon Mobil is one of them besides Apple. On May 1st, Ernest Schedyer a journalist at Reuters mentioned that Exxon Mobil turned huge profits last quarter due to the increase of natural gas prices by 49%. The net-of-income this quarter was $9.10 billion $2.10 per share compared to $9.50 billion last year with $2.12 per share. The stock scored $1.88 profits per share, which exceeded the analysts' expectations (Ernest 2014). ExxonMobil business seems running very well even though the U.S. economy is still recovering itself; thus, the company could be the leader in helping the economy to get recovered beside other large companies.

Amazon.com Inc. (NASDAQ:AMZN**)**

Market Capitalization: $143.83B

The forth company that was chosen is Amazon. The reason why Amazon was chosen because it is a company that frequently is heard on the news; besides, new products usually released and Amazon is big market for those products to be sold off.

Microsoft Co. (NASDAQ:MSFT**)**

Market Capitalization: $338.18B

Microsoft is one of the largest companies in the software and hardware sectors. On the end of April this year, the company has closed the deal with NOKIA and made its last payment to it,

which costs $7.50B (BBC News 2014). In my view, this is a very important deal to Microsoft, as it will enhance its competition with other companies such as Apple, Samsung, and LG.

Nokia Co. (NYSE:NOK)

Market Capitalization: $28.78B

Nokia was the sixth company to be added to the list. One of the reason is it stock price costs very low; which in some cases if the stock has blown large profit will be obtained. Another reason is that Nokia is making smart decision lately, which reflects its clever act in its industry. On Thursday June/12th Nokia acknowledged that it bought a small company U.S. company Medio Systems "Desti" to enhance its navigation service HERE (Yahoo Finance, Engadget.com). HERE is a very good navigation as I was able to try and use it; especially since Nokia was the first company to add the service to its phones. Another huge news to smartphone followers was the release of Nokia launcher on Android (Engadget.com). This is considered a great deal that Nokia made and it might be a starter where Nokia and Google might have collaboration in the future. RBC Capital mentioned lately that it has increased its goal on Nokia from $9 to $11(Yahoo Finance).

T-Mobile US Inc. (NYSE:TMUS)

Market Capitalization: $26.63B

T-Mobil was the seventh company to be added to the list. T-Mobil tries to come back stronger to wireless competition; as it has released several services lately that was announced by Legere, T-Mobil's CEO. Legere announced that the company would be away from holding contracts with its customer; thus, many fee would not be stood up as its rival company do such as Verizon and AT&T. Another hit news to music lovers was the free and unlimited music

streaming service that the company acknowledged lately with the collaboration of Beats Inc. Beats is now an Apple company which give a good understanding that the two company will have an accompanied work in the future. Another big news was the 7-days phone trials. Customer would have the ability to try new phones for free in the first 7 days (BloombergTV). This is a big step forward for the telecom company and it would attract more customers to join T-Mobil; especially the company does offer wireless services for approx. 40% lower price than its rival ones.

3.3 Simulation

The simulation follow the trend trading strategy in which it will be apply to the selected company. There will be a weekly report that will show the transactions. Transactions will be analyzed carefully and discussed in the weekly report. Recent news will be gathered and analyzed in order to obtain good results. An amount of $500,000.00 the simulation will start with and each transaction has a $10 commission fee.

3.3.1 Week 1 (06/09 – 06/13)

As the week started, I had to be aggressive on buying my stock in order to maximize my profits. On the first day, I spent $108,521.01. I follow the rule that states do not throw your money on one basket, based on that I bought shares on Nike, Apple, Amazon, and Microsoft. On the second day, I spent $343,904.42 on buying Nike, Apple, Amazon, Microsoft, and Exxon Mobil.

Table 3.1: The transactions of the first week of simulation.

Date	Symbol	Buy/Sell	Price	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
6/9/14							$500,000.00	
6/9/14	NKE	Buy	$76.60	605	$46,381.65		$453,618.35	
6/9/14	AAPL	Buy	$93.66	211	$19,772.26		$433,846.09	
6/9/14	AMZN	Buy	$327.31	66	$21,612.46		$412,233.63	
6/9/14	MSFT	Buy	$41.16	504	$20,754.64		$391,478.99	
6/10/14	AAPL	Buy	$94.22	1169	$110,189.97		$281,289.02	
6/10/14	MSFT	Buy	$41.06	432	$17,737.92		$263,551.10	
6/10/14	AMZN	Buy	$332.21	48	$15,946.08		$247,605.02	
6/10/14	XOM	Buy	$101.46	468	$47,480.28		$200,124.74	
6/10/14	NKE	Buy	$76.28	2000	$152,560.00		$47,574.57	

Nike, Inc. (NYSE:NKE**)**

I was betting on Nike very high, in which I spent around 42% on it. The reason behind that was the world cup would start on 06/12/14; thus, based on my analysis that the stock would start turning profits once it starts. In addition, on the second day of the simulation, I bought 2000 shares on Nike that cost $152,560.00. A total of approx. $200,000.00 was spent on Nike. Although the price of the stock dropped to $74.62 (Avg. buying is $76.35), I expect Nike would turn some profit next week. If it reaches a price of 78.00 to 79.00 dollar a selling action would be implied.

Apple, Inc. (NASDAQ**:AAPL)**

On Saturday June 9th, Apple had made stock division in which in divided its stock a seven-to-one. Therefore, on Monday a buying transaction was made for almost $19,000 and on Tuesday a big buying action was made for around $110,000. The share split was big news on the start of the week; hence, on Monday the volume number of shares was higher that Apple average volume (70,222,000 in 3 months) in which 75,415,000 was traded. However, in the next day the

volume dropped to 62,777,000; and on the day after 45,681,000; meanwhile, it closes on Friday with a volume of 54,486,400. It can be seen that investors were scared after the price had its peak ($94.72) since October 2012 when it reached $100.01. My expectation that next week the stock would have some refreshment in which I can turn loses to profits; especially, after the hints that Tim Cook mentioned, Apple's CEO, about revealing iWatch from the company (New York Times 2014). I would keep the stock until the last day of the simulation or if it made a breakthrough in which it scored another peak in the following week.

Amazon.com Inc. (NASDAQ:AMZN**)**

On last week, Amazon had recent news on the media. At first, the fight with the famous book publisher corporation Hachette; in which Amazon is fighting back Hachette to make book orders delayed from the company. Hachette blames Amazon for its inconvenient method in which it drives book publishing companies down while Amazon do its play with selling the book at lower prices (LA Times 2014). Another recent news is the lunching of Amazon music app in addition customers with Amazon prime option would have access to that service. Therefore, a small bid was made on Amazon, with total of 114 shares at avg. price $329.37 a buying action was made on Monday and Tuesday. The stock closes on Friday with a tiny lose at $326.27; however, on Wednesday the stock reached a price of $340.00. It seems I have made wrong decision not on selling the stock at that price; but, I will keep my aim high and finger crossed that the stock would turn higher in the following week.

ExxonMobil Co. (NYSE:XOM**)**

Based on the news collected last week, a decision was made to buy Exxon mobil. However, only $47,000 was invested in the company. The reason that lower bet was made on Exxon Mobil that the market expectation the company would make large jump on its stock was not high. Follow the famous rule in not throwing your money on one basket was pursued. The stock closed on Friday at $102.65 with a profit return 1.17%. As next week starts, I expect selling the shares to obtain that profit before the stock drives down.

Microsoft Co. (NASDAQ:MSFT**)**

Small bet was made on Microsoft as on Amazon. Although the money was put on Microsoft was small ($37,482) compared to other companies. The recent activity of the company is very sustainable. The stock made very good performance last week, and I hope it will keep its good performance next week. As it reaches 2-3% increase, a selling action would be made.

First Week Conclusion

The first two days the market showed very good performance, and my portfolio was making very good implication. However, the next three days the market showed a little bit decrease. Apple and Nike at the start of the week showed good interpretation; however, it turned to the opposite as the week ended.

My major investing is on Nike and Apple; thus, the goal is to score high profits on these two companies. If any of these two companies showed a poor performance, a selling decision will be made and the big money investing would go to another company. The following figure shows my portfolio for the first week.

COMPANY	QTY	PRICE PAID	MARKET PRICE	MARKET VALUE	LIFETIME RETURN	P&L ▲
AMZN › AMAZON.COM INC	114	$329.37	$326.27	$37,194.78	-0.94%	($353.76)
XOM › EXXON MOBIL CORP	468	$101.46	$102.65	$48,040.20	1.17%	$556.92
MSFT › MICROSOFT CORP	936	$41.11	$41.23	$38,591.28	0.28%	$108.72
AAPL › APPLE INC	1,380	$94.14	$91.28	$125,966.40	-3.04%	($3,945.83)
NKE › NIKE INC	2,605	$76.35	$74.62	$194,385.10	-2.27%	($4,516.55)

Figure 3.1: The stock that I still have after the first week of simulation.

3.3.2 Week 2 (06/16 – 06/20)

S&P 500 has jumped from 1930.11 to 1962.87; thus, the market kept going higher and breaking records. It is expected to have a pullback anytime soon; but analyzing the global market it seems there are more money are putting on stocks these days. As gold prices are falling down lately, it seems the S&P would keep increasing this quarter. This week I have added two stocks, which are Nokia and T-Mobile due to great news that might reflects positively in these two stocks.

Table 3.2: The transactions of the second week of simulation.

Date	Symbol	Buy/Sell	Price	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
6/9/14							$500,000.00	
6/9/14	NKE	Buy	$76.60	605	$46,381.65		$453,618.35	
6/9/14	AAPL	Buy	$93.66	211	$19,772.26		$433,846.09	
6/9/14	AMZN	Buy	$327.31	66	$21,612.46		$412,233.63	
6/9/14	MSFT	Buy	$41.16	504	$20,754.64		$391,478.99	
6/10/14	AAPL	Buy	$94.22	1169	$110,189.97		$281,289.02	
6/10/14	MSFT	Buy	$41.06	432	$17,737.92		$263,551.10	
6/10/14	AMZN	Buy	$332.21	48	$15,946.08		$247,605.02	
6/10/14	XOM	Buy	$101.46	468	$47,480.28		$200,124.74	
6/10/14	NKE	Buy	$76.28	2000	$152,560.00		$47,574.57	
6/18/14	XOM	Sell	$102.82	468	$48,119.76	$639.48	$95,694.33	
6/18/14	AMZN	Buy	$327.14	177	$57,903.78		$37,790.55	
6/19/14	AAPL	Sell	$92.06	1380	$127,042.80	$2,850.40	$164,833.35	$2,210.92
6/19/14	TMUS	Buy	$33.04	4000	$132,160.00		$32,673.35	
6/19/14	MSFT	Sell	$41.67	936	$39,003.12	$510.56	$71,676.47	$1700.92
6/20/14	NKE	Sell	$75.43	1302	$98,209.86	$1,210.86	$169,886.33	$2,911.78
6/20/14	NOK	Buy	$7.75	21066	$163,261.50		$6,576.64	

Nike, Inc. (NYSE:NKE**)**

The performance of Nike this week was poor. Although, I expect it to go higher by the end of the world cup, I have sold half of the shares with a loss of $1,210.86. At the same time, I decided to invest that money in another company in which I would be able to turn the losses to profits. The other half of the stocks, which are 1303, will be kept until the end of the simulation or if any it was a chance to sell the stock with 3% increase by next week.

Apple, Inc. (NASDAQ**:**AAPL**)**

This week looked as Apple was struggling to break its maximum price that was scored on 6/10/14. Thus, the price dropped and closed on Friday at $90.91. I had a chance to sell all the stocks I had in apple for $92.06 with total loss of $4,759.63. I expected the price would drop while doing that transaction; especially, after the big news happened to its rival companies where Amazon has released its new phone and Blackberry stock has increased in two days from $8.30 to $9.81 scoring %18.2 increase!

Amazon.com Inc. (NASDAQ:AMZN**)**

It was huge week for Amazon as the CEO of the company Jeff Bezos revealed its new product, Fire phone. However, the company has made it exclusive to AT&T; hence, not all customers would be able to obtain it (Amazon.con). Amazon stock has made sharp increase on Wednesday and Thursday as the phone was unveiled in which the stock went from $325.41 to $338.13. In contrast, the stock dropped very fast after it reached that price and it went to $320.49 at the same day. I was expecting the stock would reach around $345.00; but, my expectation went wrong and my judgment had cost me a possible chance to sell the price at least for $337 and to buy it again for $320.00 or a little more. My craving for higher benefit almost cost me an overall of approx. 15% losses. If the stock was sold for the highest price then it was bought back for the lower one, I would have generated profit from this transaction. This is an important example where news can trick you in the beginning if you did not focus on the details; as Amazon decided to make to phone exclusive on AT&T and investors had fear from this action.

ExxonMobil Co. (NYSE:XOM**)**

On Wednesday Exxon Mobil has evacuated large number of its workers in Iraq due to domestic violent that are happening nowadays in Iraq (Investors.com). The news looked risky and my decision was made to sell the stock and obtain small profit. Thus, I was able to invest the money in another company, which I considered that it was successful action even though the price of the stock closed on Friday at $103.83.

Microsoft Co. (NASDAQ:MSFT**)**

I sold my stocks on Microsoft with a small profit, the transaction made for two reasons. First, the one year highest price for Microsoft was $42.37 and considering that it seemed poor investment for turning huge profit in a short time. The second reason was to use that money in another company; which I did and betted on Nokia.

T-Mobile US Inc. (NYSE:TMUS**)**

After I sold Apple, I had to choose another company to invest in with great news behind it. T-Mobil as I mentioned earlier has made few enhancement to its service. Based on that I have invested on T-Mobil and looking to obtain profit from it in which I can reduce my losses that happened with Apple. 4000 stocks were bought for $33.04, and the stock closed on Friday at $33.16 giving good impression for the next week.

Nokia Co. (NYSE:NOK)

Due to the latest actions that Nokia made and I mentioned earlier I have invested with a large amount at it. 21066 stocks were bought with a total amount $163,261.50. The investment in Nokia looks bright for several reasons that I mentioned earlier.

This Week Conclusion

Several trades were made this week; some losses happened due to poor performance from Nike and Apple. However, it seems good investing was done on T-Mobil and Nokia. Also, the investment on Nike was cut to 50% and the money was invested to another company.

COMPANY	QTY	PRICE PAID	MARKET PRICE	MARKET VALUE	LIFETIME RETURN	P&L ▲	ACTION
AMZN › AMAZON.COM INC	291	$328.01	$324.20	$94,342.20	-1.16%	($1,110.12)	SELL
NKE › NIKE INC	1,303	$76.35	$75.10	$97,855.30	-1.64%	($1,633.70)	SELL
TMUS › T-MOBILE US INC	4,000	$33.04	$33.16	$132,640.00	0.36%	$480.00	SELL
NOK › NOKIA SHS SPONSORE...	21,066	$7.75	$7.75	$163,261.50	0%	$0.00	SELL

Figure 3.2: The stock that I still have after the second week of simulation.

3.3.3 Week 3 (06/23 – 06/27)

Over the last week, S&P 500 was very stable in which it closed on Friday at 1960.96 points; an overall -0.09% decrease. The stability of this week can be interpreted as investors have some fear. The last four weeks investors have pulled a total of $1.5 billion whereas they pushed $42.2 billion in the last five months (WSJ).

Table 3.3: The transactions of the third week of simulation.

Date	Symbol	Buy/Sell	Price	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
6/9/14							$500,000.00	
6/9/14	NKE	Buy	$76.60	605	$46,381.65		$453,618.35	
6/9/14	AAPL	Buy	$93.66	211	$19,772.26		$433,846.09	
6/9/14	AMZN	Buy	$327.31	66	$21,612.46		$412,233.63	
6/9/14	MSFT	Buy	$41.16	504	$20,754.64		$391,478.99	
6/10/14	AAPL	Buy	$94.22	1169	$110,189.97		$281,289.02	
6/10/14	MSFT	Buy	$41.06	432	$17,737.92		$263,551.10	
6/10/14	AMZN	Buy	$332.21	48	$15,946.08		$247,605.02	
6/10/14	XOM	Buy	$101.46	468	$47,480.28		$200,124.74	
6/10/14	NKE	Buy	$76.28	2000	$152,560.00		$47,574.57	
6/18/14	XOM	Sell	$102.82	468	$48,119.76	$639.48	$95,694.33	
6/18/14	AMZN	Buy	$327.14	177	$57,903.78		$37,790.55	
6/19/14	AAPL	Sell	$92.06	1380	$127,042.80	$2,850.40	$164,833.35	$2,210.92
6/19/14	TMUS	Buy	$33.04	4000	$132,160.00		$32,673.35	
6/19/14	MSFT	Sell	$41.67	936	$39,003.12	$510.56	$71,676.47	$1700.92
6/20/14	NKE	Sell	$75.43	1302	$98,209.86	$1,210.86	$169,886.33	$2,911.78
6/20/14	NOK	Buy	$7.75	21066	$163,261.50		$6,576.64	
6/25/14	NKE	Sell	$75.81	1303	$98,780.43	$703.62	$105,357.07	$3,614.78
6/25/14	AAPL	Buy	$89.95	1124	$101,103.80		$4253.27	
6/25/14	AAPL	Sell	$90.35	1124	$101,543.40	$439.6	$105,796.67	$3,175.18
6/25/14	TMUS	Sell	$33.12	4000	$132,490.00	$330.0	$238,286.76	$2,845.18
6/25/14	NOK	Buy	$7.66	9788	$74,986.08		$163,300.68	
6/25/14	TMUS	Buy	$32.79	4783	$156,844.57		$6,456.11	

Nike, Inc. (NYSE:NKE**)**

Nike's stock was sold on Wednesday for 75.81. I had some fear that it would not turn to this price again. A piece of news was released on Wednesday mentioned that Nike's ad cost might hold it profit back, which was my main reason to sell the stock off (seekingalpha.com).

However, the stock closed on Friday at $77.68, which concludes that the news was not consistent with the behavior of investors.

Apple, Inc. (NASDAQ**:**AAPL**)**

On Wednesday while keeping an eye on Apple stock it went down to $89.95, which was very low than its average for the last 3 weeks. I bought 1124 stocks with that price; however, quickly I realized that I have done a wrong action as Apple's big competitor Google has unveiled Android TV. I sold the stock at the same day with very low profit. I decided to push some of that money into Nokia and T-Mobil. .

T-Mobile US Inc. (NYSE:TMUS)

The price of T-Mobil was fluctuating for the last week. I tried to lower my average buying price by selling the stock off then buy it again, which I did. I sold the stock at $33.12 then I returned to by it at $32.79. However, I increased my number of stock from 4000 to 4783. As I mentioned last week, T-Mobil is doing a huge movement in its business and I am betting very high on it. The stock closed on Friday at $33.28.

Nokia Co. (NYSE:NOK)

An additional 9788 stocks were bought in Nokia. On Wednesday Microsoft have lunched its first android phone under Nokia family name. The phone is considered a low-cost device, which mostly will target developing countries. I expect the stock would increase by next week in which it might break the $8.33 barrier that Nokia scored on June/14th.

Third Week Conclusion

This week the market showed very steady performance. Now, I only have three companies in my portfolio, which are Amazon, T-Mobil, and Nokia. I expect next week to be more volatile; however, the stock market might crash anytime soon, which make most investors fear to push money into the market nowadays. Table 3.4 shows my performance so far in the simulation.

COMPANY	QTY	PRICE PAID	MARKET PRICE	MARKET VALUE	LIFETIME RETURN	P&L ▲	ACTION
AMZN › AMAZON.COM INC	291	$328.01	$324.57	$94,449.87	-1.05%	($1,002.45)	SELL
TMUS › T-MOBILE US INC	4,783	$32.79	$33.28	$159,178.24	1.49%	$2,343.67	SELL
NOK › NOKIA SHS SPONSORE...	30,854	$7.72	$7.61	$234,798.94	-1.44%	($3,438.64)	SELL

Figure 3.3: The stock that I still have after the third week of simulation.

Table 3.4: shows my performance so far in the simulation.

Week #	Total asset	Profit/loss	Weekly % Change	Weekly % S&P 500	Total % Change
0	$500,000				
1	$491,702.33	($8,297.67)	-1.66 %	-0.77%	-1.66%
2	$494,675.84	$2,973.51	0.60%	1.56%	-1.05%
3	$494,883.16	$207.32	0.04%	-0.09%	-1.01%

3.3.4 Week 4 (06/30 – 07/03)

This week was shorter one due to a national holiday as the market closed on Thursday at 1:00 p.m. However, S&P 500 made a record jump and it went to 1985.44 points; an increase of 1.3% from last week. Still the market is so vibrate and more money is being pushed into. My transactions for the last week were mostly selling stocks, which I have returned a fair amount of profit.

Table 3.5: The transactions of the forth week of simulation.

Date	Symbol	Buy/Sell	Price	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
6/9/14							$500,000.00	
6/9/14	NKE	Buy	$76.60	605	$46,381.65		$453,618.35	
6/9/14	AAPL	Buy	$93.66	211	$19,772.26		$433,846.09	
6/9/14	AMZN	Buy	$327.31	66	$21,612.46		$412,233.63	
6/9/14	MSFT	Buy	$41.16	504	$20,754.64		$391,478.99	
6/10/14	AAPL	Buy	$94.22	1169	$110,189.97		$281,289.02	
6/10/14	MSFT	Buy	$41.06	432	$17,737.92		$263,551.10	
6/10/14	AMZN	Buy	$332.21	48	$15,946.08		$247,605.02	
6/10/14	XOM	Buy	$101.46	468	$47,480.28		$200,124.74	
6/10/14	NKE	Buy	$76.28	2000	$152,560.00		$47,574.57	
6/18/14	XOM	Sell	$102.82	468	$48,119.76	$639.48	$95,694.33	
6/18/14	AMZN	Buy	$327.14	177	$57,903.78		$37,790.55	
6/19/14	AAPL	Sell	$92.06	1380	$127,042.80	$2,850.40	$164,833.35	$2,210.92
6/19/14	TMUS	Buy	$33.04	4000	$132,160.00		$32,673.35	
6/19/14	MSFT	Sell	$41.67	936	$39,003.12	$510.56	$71,676.47	$1700.92
6/20/14	NKE	Sell	$75.43	1302	$98,209.86	$1,210.86	$169,886.33	$2,911.78
6/20/14	NOK	Buy	$7.75	21066	$163,261.50		$6,576.64	
6/25/14	NKE	Sell	$75.81	1303	$98,780.43	$703.62	$105,357.07	$3,614.78
6/25/14	AAPL	Buy	$89.95	1124	$101,103.80		$4253.27	
6/25/14	AAPL	Sell	$90.35	1124	$101,543.40	$439.6	$105,796.67	$3,175.18
6/25/14	TMUS	Sell	$33.12	4000	$132,490.00	$330.0	$238,286.76	$2,845.18
6/25/14	NOK	Buy	$7.66	9788	$74,986.08		$163,300.68	
6/25/14	TMUS	Buy	$32.79	4783	$156,844.57		$6,456.11	
6/30/14	TMUS	Sell	$33.74	4783	$161,368.57	$4,493.85	$167,844.68	$1,648.67

7/01/14	AMZN	Sell	$331.51	291	$96,459.41	$1,008.50	$264,304.09	$2,657.17
7/01/14	NOK	Buy	$7.63	3409	$26,020.67		$238,283.42	
7/03/14	NOK	Sell	$7.72	34263	$264,500.36	$126.61	$502,783.78	$2,783.28

T-Mobile US Inc. (NYSE:TMUS)

On Monday I was able to sell T-Mobile stock for $33.74; with an approx. 3 percent increase. The next day, bad news was released for T-Mobile. While the Federal Trade Commission sued T-Mobile for unauthorized charges that was made to its customers claiming that millions of dollars were obtained from that action (Yahoo Finance). Apparently that piece of news affects the stock in which it was decreased by 0.70% the next day.

Amazon.com Inc. (NASDAQ:AMZN**)**

Amazon stock was in my portfolio for a long time. Thus, the stock did not pass the price I have bought for until Tuesday. As market got refreshed on that day and S&P 500 was increased. Hence, Amazon stock was sold for $331 in which an approx. 1000 dollars profit was obtained.

Nokia Co. (NYSE:NOK)

T-Mobile along with Nokia confirmed that it will release its new Nokia phone on July/5th (engadget.com). The phone is considered a very low price where customers will be able to obtain for only $99. However, as market closes on early Thursday, I had to sell the stock. I was expecting that stock would break its maximum that it reached 3 weeks ago $8.33. However, it seems Nokia would take longer time in reaching this point, while the simulation period was ended. A very low amount of profit was obtained from Nokia price whereas my highest betting in getting profit was on it.

Fourth Week Conclusion

This I had made very god transactions, in which I turned, loses to profits. A total of $5628.96 profits were gained. Although it was shorter trading week due to a national holiday; larger profit amount were gained. Because of last week transactions were made effectively, I was able to sell my stocks at higher price this week. Although, some stocks like Nokia did not turn as much profits as I expected. But, the price of Nokia stock I expect it to increase in the following week especially that Nokia mentioned along with Microsoft that it would release a new phone on July/5th. This kind of news was tricky because the simulation was supposed to end sooner than the release date. Perhaps a good lesson was obtained from this part especially. Table 3.6 shows a summery of my performance through out the simulation.

Table 3.6: shows my performance in the simulation.

Week #	Total asset	Profit/loss	Weekly % Change	Weekly % S&P 500	Total % Change
0	$500,000				
1	$491,702.33	($8,297.67)	-1.66 %	-0.77%	-1.66%
2	$494,675.84	$2,973.51	0.60%	1.56%	-1.05%
3	$494,883.16	$207.32	0.04%	-0.09%	-1.01%
4	$502,783.78	$5,628.96	1.60%	0.77%	0.59%

3.4 Results

News Based Trading was an effective method, even though that I could not reach my goal or reach a good amount of profit that is a 10 to 15 percent increase. Few mistakes were made at the first of the simulation prevented me in getting high profits. Especially at the first week when most stocks were bought for a very high price in which large amount of loses were gained. However, by using the same method, I have sold most of the stocks that I had in my first week with loses; then, different stocks were bought in which I was able to change my loses into profits by the end of the simulation. This was a very important skill that I learned from news based trading. Although, you should always consider different factors in buying the stocks even if a piece of news was released. For example, determining how important is that news, and how much time would that piece of news reflect to the stock in which in would make a large increase. Because sometime news can be very tricky; thus, profits would not be gathered as quickly as you expect. Figure 3.4 shows my weekly profit/loss in dollars through out the simulation.
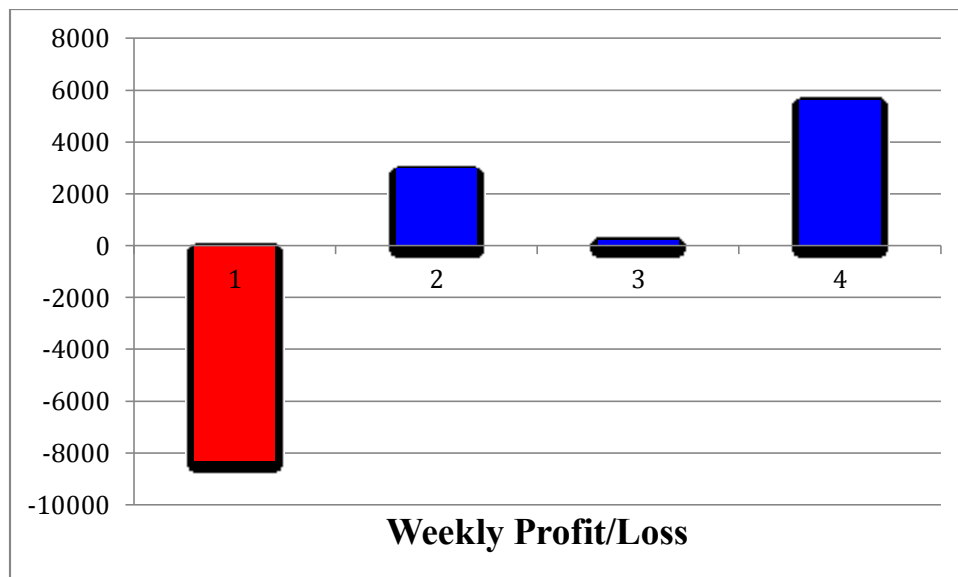
Figure 3.4: Profit/Loss of the simulation

Figure 3.5 shows my weekly percent change through out the simulation. It can be seen that the first week large amount of loses were gained due to wrong interpretations were performed.
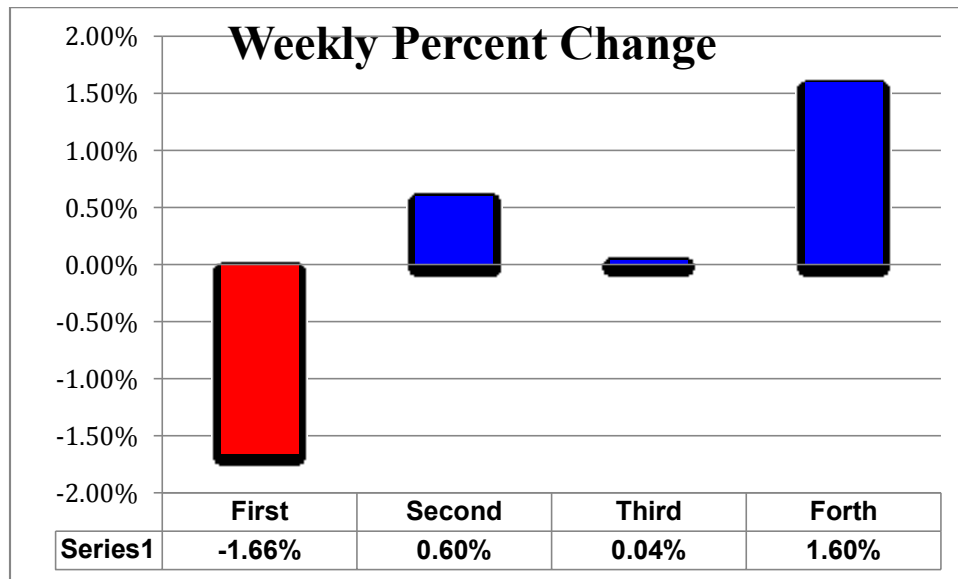
Figure 3.5: Weekly Percent Change of the four weeks simulation

Figure 3.6 shows the total assets I obtained through out the simulation.
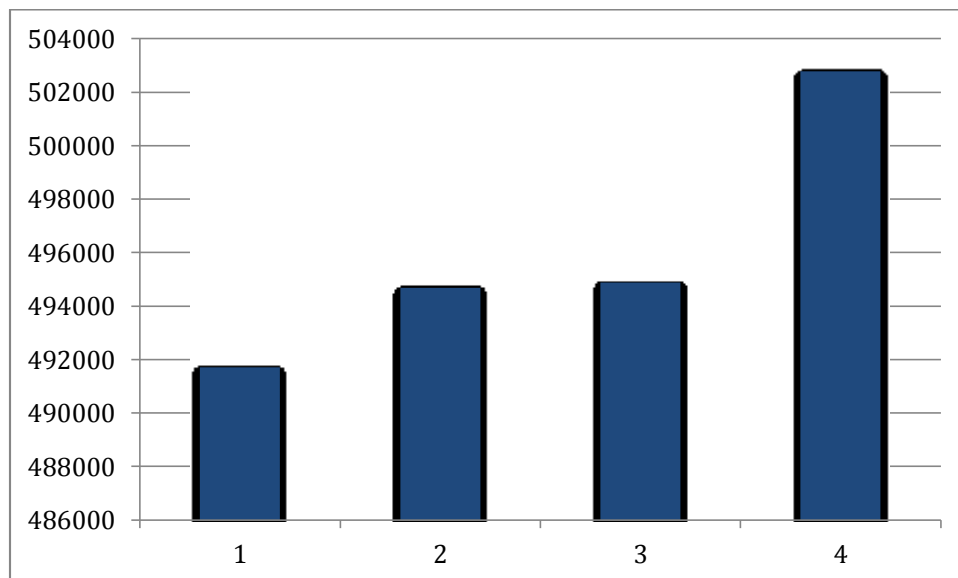
Figure 3.6: Weekly Total Asset.

My performance compared to S&P 500 was fair. The first week S&P 500 was decreased by 0.77 while my loses were around 1.66 percent. That mistake had caused me most of my loses in which I tried to recover them after that. The second week was increased by 1.56% in which my performance only increased by 0.60%. That week I could have made better profit; however, due to selling some stocks with loses; then, obtaining different stocks to lower that lose caused me to have a lower net profit.

Figure 3.7 shows a comparison between News-Based trading method versus S&P 500 performance.
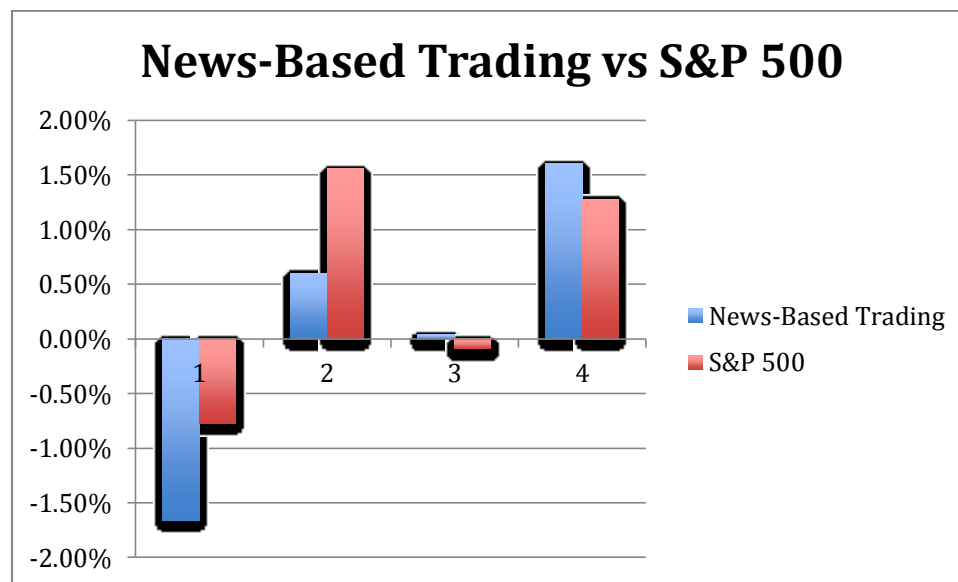
Figure 3.7: Weekly Percent Change of News-Based trading and S&P 500.

Method Analysis:

Using News-Based trading, the main target was to find a piece of news that would trigger a stock. Using this key concept the method was followed. By the first week, two companies were the main target; Apple and Nike. In case of apple, at the beginning of the week June/9th the company decided to split the stock 1-for-7. The stock was bought for an average $94.14.

However that piece of news was negative sign whereas the stock dropped down by 3.00 % by the end of the week closing at $91.28. That Piece of news was a negative sign, as the price of the stock drove down very quickly resulting that loss.

Nike was another stock was bought in first week which caused me large loses too. The stock dropped from $76.35 to $74.62 in one week causing it to decrease by 2.27%. My main analysis is that the World Cup just had started in which the company would be able to turn profit by the end of the month not at the beginning. If the stock were obtained for the closing price of that week, which is $74.62, a 3.00% profit would have gained by the third week. Nike stock was bought in a wrong time that caused me a large amount of loses at the beginning of the simulation.

By the second week I decided to sell my stocks at Apple, and half of the stocks at Nike in order to recover the loss. Their performance was poor throughout that week in which I decided to move that money to another two companies. Nokia and T-Mobile were the target in recovering the loss in which I could turn profit to my portfolio after a they released some news in buying and performing some services to their companies.

The third week was a positive one in which I have made right analysis about T-Mobile, which closed by 1.5% increase by the end of the week. While Nokia stock was going a little negative by the end of the week. However, during the third week I missed a chance in turning a good amount of profit in which the price of the stock increased to $7.89; but I held it in which the stock dropped a little bit to $7.63.

The forth week was a positive one, where my analysis about T-Mobile stock was right. The stock was sold with around $4,500 profit which helped me in recovering the loss. Another stock was Amazon, which I held since the first week. I was able to sell the stock for $331.51.

However, I could have turned more profits where I have missed a chance in selling the stock with $337.00 at the second week.

A main concept that I learned of News-Based trading is that turning a large amount of profit can be gained by obtaining frequent small profits. During the simulation, I missed many chances in selling my stocks with small profit, which caused me to obtain big loses in the long run. If some of these stocks were sold with small profits, I would have been able to use that money in different companies. Thus, the circulation of the money would not stop by holding a stock for a long time; also, larger percentage of profits could be gained by circulating that money.

3.5 Conclusion

During the simulation, I have obtained a vast amount of knowledge in the U.S. stock market. Also, I have enhanced my ability in determining the factors that control the stock market generally. Although, I have not reached my goal in obtaining 10-15 percent increase, I was able to learn from my large loses that I made in the first week in which profits was obtained by the end of the simulation.

The stock market showed very strong performance last month in which it has made new records. Indeed, the market has been scoring large profits in the last months, which gives you the interpretations for two main reasons. The first reason is that Obama administrations' economy plan is working positively; thus, it has begun its harvesting.

Another reason is high trustworthiness by investors that the U.S. economy for the year of 2014 will be a much better year than the two decades it had before. As last May exports were the highest all time for the U.S. economy when it scored 195,465 million of dollars (census.gov). Moreover, more than 288,000 jobs were added in June. In addition, low interest rate pushed investors to push more money into the market. These are very good indicators that the U.S. Market is being refreshed.

4. Candlestick Trading

In this project, I will be performing a four-weeks long simulation of trading in the US stock market. My strategy of choice is called candlesticks trading, which is simple technical analysis method that employees the candlestick charts. Certain shapes of candlesticks have great indication, and can be used to predict the behavior of the stock. I will be using these triggers as a guide to buy and sell. The goal of this simulation is learn how to use candlesticks as a standalone trading strategy to achieve a profit of at least 6%.

4.1 Introduction

Candlesticks were first used by Japanese rice traders in the 18th century. They were foreign to the western world until Steve Nison introduced it in 1991 in his book *Japanese Candlestick Charting Techniques*. Since then, candlesticks have been of interest for many traders in the world, and different strategies have been developed to best utilize the candlesticks charts in order to predict the trend of the market. The main reason behind the significance of candlesticks is its flexibility. Candlesticks can be used as a standalone technical analysis technique but they're more powerful when used in combination with other technical analysis strategies, such as swing trading, in order to exactly pinpoint entries (Nison 2001).

- The Candlestick Chart

Figure 4.1. A typical candlestick chart.

The candlestick chart is a combination of bar chart and line chart. It shows the opening and closing prices for a day. The candlestick line consists of two parts, the real body and the shadows. The real body is the thick part of the candlestick line and it shows the opening price and the closing price. When the real body is filled in, usually in black, it indicates that the closing price is lower than the opening price. However, when the real body is empty, or colored in green, it indicates that closing price is higher than the opening price. The shadows of the candlestick are the thin lines above and below and the real body. The upper shadow represents the highest price during the session, while the lower shadow represents the lowest price during the session Figure 11 shows the general formation of the candlestick line (Stockcharts.com).
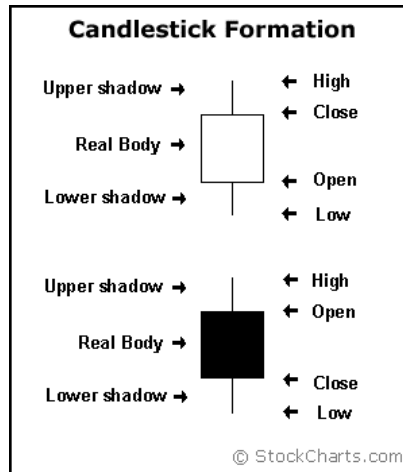
Figure 4.2. Candlestick line formation (Stockcharts.com).

The length of the candlestick is point out the buying and selling pressure. Long candlestick lines are a sign of high buy and selling pressure while short candle are a sign of low buying and selling pressure. The shadows of the candlestick can provide valuable information as well. Candlesticks with long upper shadow and short lower shadow mean that buyers controlled the trade by biding higher prices, but the sellers at the end of the session drove the price down which created a weak close. Candlesticks with short upper shadow and long lower shadow mean that the trade was controlled mainly by sellers which drove the price down, however buyer drove the price back up at the end of the session creating a short upper shadow which indicates a strong close (Stockcharts.com).

The variation of the color, length of the candlestick, size of the body, and the length of the shadows creates many different types of candlesticks. There are more than 50 different types of candlesticks; however, there are 12 types that are more significant than the rest. These are:

1. Doji

The doji is a candlestick with a very small real body meaning that the opening and closing prices are almost the same as shown in figure 12.
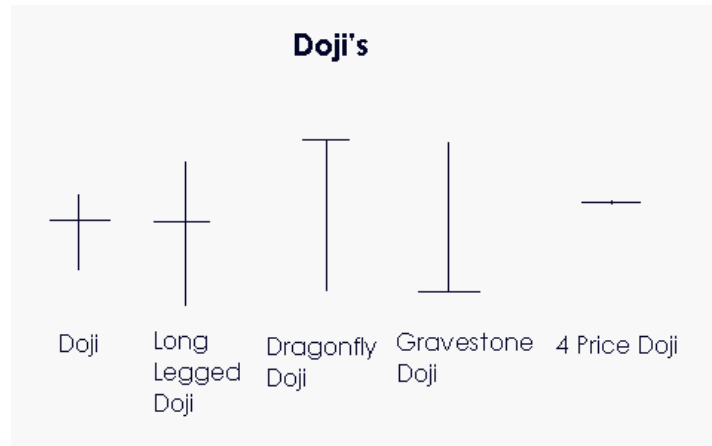
Figure 4.3. Doji (StockTA).

The doji is a very important indicator as it is considered a warning for a reversal point especially when there are only few dogis or candlesticks with small real bodies. In an uptrend, when a doji follows a long white candlestick it is usually considered a sign that the uptrend will not continue (Nison 2001).

2. Bullish and Bearish Engulfing Signals.
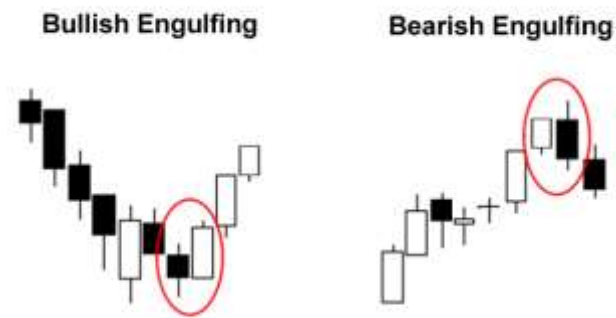
Figure 4.4. Bullish and Bearish engulfing patterns (ikonfx).

Bullish and Bearish engulfing signals are composed of two candlesticks. The first has a small real body, and the second has a larger body that engulfs the first. These signals are considered reversal patterns. When the pattern shows in an uptrend it is called bearish engulfing and when it shows at a downtrend it is called bullish engulfing (stockcharts.com).

3. Hammer and Hanging Man.
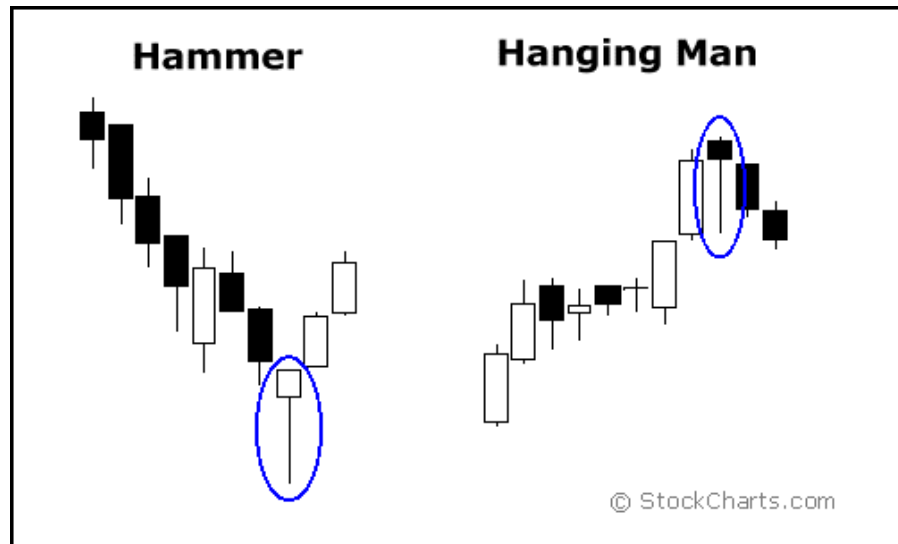
Figure 4.5. Hammer and Hanging Man patterns (stockcharts.com).

Both the hammer and the hanging man have small real bodies and long lower shadows. The hammer signal shows in a downtrend indicating bullish reversal while the hanging man shows in an uptrend indicating a bearish reversal (stockcharts.com).

4. Shooting Star.
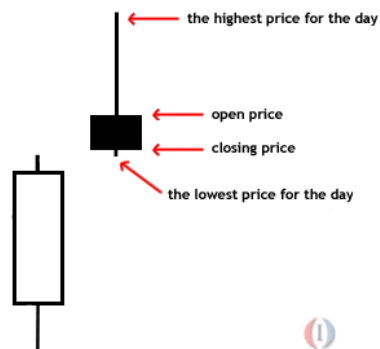
Figure 4.6: The shooting star ("Investopedia").

The shooting star pattern is a bearish reversal pattern. The candlestick line has a small real body and a long tail that resembles and upside-down hammer ("Investopedia").

4.2 Selected Companies

The goal of this simulation is learn how to use candlesticks as a standalone trading strategy to achieve a profit of at least 6%.

3M Co (NYSE:MMM)

Market Capitalization: $ 93.27B.

3M is a conglomerate company that's located Maplewood, Minnesota, U.S. The company was founded in 1902 and the company produces many different chemical products such as adhesives, abrasives and laminates ("Wikipedia").

Caterpillar, Inc (NYSE:CAT).

Market Capitalization: $ 63.94B.

Caterpillar was founded 1925 in California, United States. The company manufactures and sells engines and heavy-duty machinery. Caterpillar is considered the leading manufacture of mining equipment and gas turbines ("Wikipedia").

Apple, Inc. (NASDAQ:AAPL)

Market Capitalization: $ 545.25B.

Apple was founded in 1976, in Cupertino, California. Apple is one of leading companies in manufacturing consumer electronics such as computers, smartphones, and portable music

players. This company was chosen by the team to be a common company between the four of us in order to compare our trading strategies accurately ("Wikipedia").

ExxonMobil Corporation (NYSE:XOM).

Market Capitalization: $ 431.68B.

Exxon Mobil was founded in 1999 in Texas, United Sates. Exxon Mobil is a leading oil and gas corporation. This company was also chosen by the group the to be a common company in order to more accurately compare our strategies ("Wikipedia").

Aspen Technology, Inc. (NASDAQ:AZPN).

Market Capitalization: $ 4.07B.

Aspen Tech. was founded in 1981 in Burlington, MA. The company develops processing engineering software. Some of its software, such as aspen plus, is tough to and used by WPI chemical engineering students ("Wikipedia").

The Home Depot, Inc. (NYSE:HD)

Market Capitalization: $ 110.95B.

Home depot was founded in 1978 in Georgia, US. Home depot is a construction products retail store ("Wikipedia").

AT&T Inc. (NYSE:T)

Market Capitalization: $183.78B.

AT&T stands for American Telephone and Telegraph Company. The company was founded in 1885. The company later on acquired Bell Telephone Company, which was founded by Graham Bell the inventor of telephone. Currently AT&T is one of the largest phone companies in the world ("Wikipedia").

Advanced Micro Devices, Inc. (NYSE:AMD)

Market Capitalization: $3.13B.

AMD is a semiconductors company that was founded in 1969. The company manufactures computer processors and graphic cards. The company is best known for their ATI graphic cards, which are used, in gaming consoles and computers ("Wikipedia").

NVIDIA Corporation (NASDAQ:NVDA)

Market Capitalization: $10.26B

Nvidia was founded in 1993. It's a semiconductors company that is especially known for computer graphic cards. Since 2010, Nvidia started manufacturing smartphones processors, which are know as tegra ("nvidia").

Nokia Corporation (ADR) (NYSE:NOK)

Market Capitalization: $27.63B

Nokia Corporation is one of the largest cell phones manufacturers. The company was founded in 1865 in Finland as a hydropower company. In 1912 the company started manufacturing electronics such as telephones and electrical cables. Microsoft recently acquired Nokia for $7.17B ("Wikipedia").

4.3 Simulation

The weekly results of the simulation will be presented in this chapter. All the transactions will be supported with graphs showing the candlestick patterns and explanations of the behavior of the stock. The initial portfolio value is $500,000 and the commission fee for all transactions, except shorting, is $10.

4.3.1 Week 1 (06/09 – 06/13)

The first week was very slow for me, as most the candlesticks patterns indicated declining market for all the five companies that I will be trading in. So I decided to add a new company to the list, which is Aspen Tech. The first week went without any losses, and I was able to gain a very small profit by shorting. My current overall portfolio value is $502,407.42, which is an increase of only 0.48%, but that is still very far from my target goal of 6%. All the transactions performed during the first week are presented in table 4.1.

Table 4.1: First week transactions.

Date	Symbol	Buy/Sell	Price ($)	Shares	Proceeds ($)	Short Cost ($)	Fee ($)	Short Profit ($)	Profit ($)	Total AC ($)	Total Profit ($)
6/10/14	MMM	Short	144.86	-50	-7,243	-3,621.50	0.00	3621.5	0	503,622	0
6/11/14	MMM	Short	144.22	-200	-28,844	-14,422.00	0.00	14422	0	518,044	0
6/11/14	CAT	Short	108.52	-300	-32,556	-16,278.00	0.00	16278	0	534,322	0
6/12/14	CAT	Cover	107.34	300	32,202	16,101.00	10.00	-15924	354	518,388	354
6/12/14	AZPN	Buy	43.44	1000	43,440	0.00	10.00	0	0	474,938	354
6/12/14	AZPN	Buy	43.32	1000	43,320	0.00	10.00	0	0	431,608	354

3M Co (NYSE:MMM)

The shooting star pattern, which showed one June 9, 2014, indicated that the uptrend form 3M (MMM) might be reversed to a downtrend and for that reason I shorted 50 shares for $144.86 for a total of $7,243.00. As suspected, the trend for the company was bearish, which was confirmed by the doji pattern that showed on June 10, 2014. For that reason, I shorted an additional 200 shares in 3M (MMM) for $144.22 and total of $28,844.00 as shown in figure 4.6.

Figure 4.7: Candlestick chart of 3M Co.

Caterpillar, Inc (NYSE:CAT).

The uptrend for CAT exceeded the resistance created by the doji on May 19, 2014 by a long shot from June 4 to June 10, 2014. There were no clear candlestick patterns that could indicate a bearish reversal pattern, but I expected that trend will eventually start declining, so I shorted 300 shares for $108.52 on June 11, 2014 for a total of $32,556.00. At the end of the day I read in the news that CAT has increased its quarterly dividend by %17, which means that the price could actually increase; the hammer pattern that showed on June 11, 2014 also strengthened by suspicion. On June 12, 2014, I covered the shorted shares for $32,202.00 and I was able to profit $354.00.
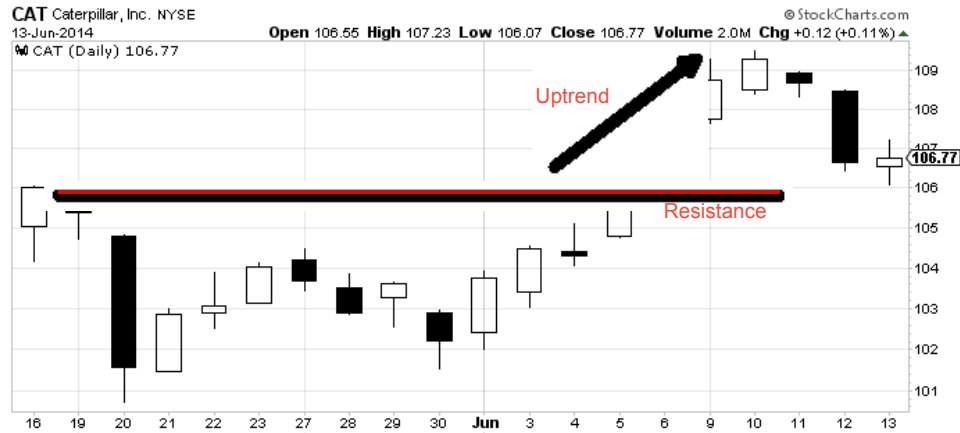
Figure 4.8: Candlestick chart of CAT.

Aspen Technology, Inc. (NASDAQ:AZPN).

On June 12, 2014, I bought 1000 shares in Aspen Tech. for $43.44 each, and later in the day, I bought an additional 1000 shares for $43.32 each, which adds up to $86,760.00. The behavior of the stock chart showed a textbook example for a bullish reversal behavior. A supported hammer pattern showed on June 11, 2014 in a downtrend, which strongly indicated that the downtrend would not continue as shown in figure 4.8. As expected, the stock did indeed become bullish and it was valued at $44.18, 1.84% increase, at market closing on Friday June 13, 2014.
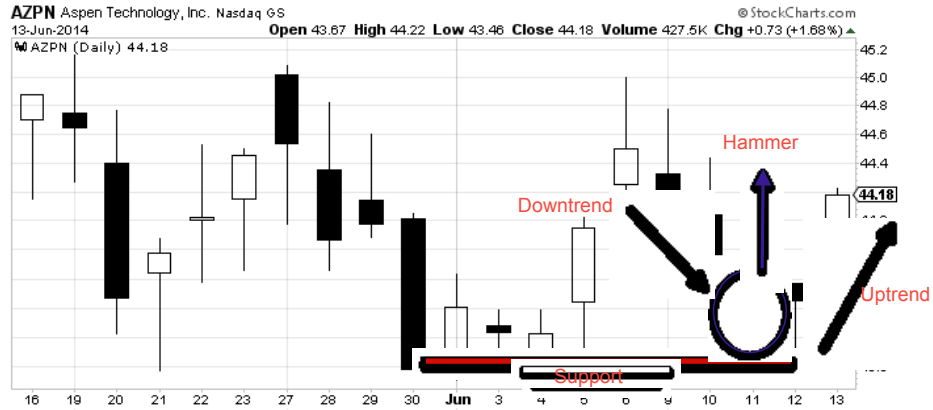
Figure 4.9: Candlestick chart of Aspen Tech.

First Week Conclusion

The first week was very slow, as the market was showing a bearish behavior. If the bearish pattern dominates next week, I will add more companies to my list. Also, I will trade with more money in ordered to accelerate my return percent. The figure below shows the stocks that I'm still holding. The minus sign points out that the shares are shorted and haven't been covered yet.

COMPANY	QTY	PRICE PAID	MARKET PRICE	MARKET VALUE	LIFETIME RETURN	P&L ▲
MMM › 3M CO	-250	$144.35	$143.36	$35,840.00	0.68%	$247.00
AZPN › ASPEN TECHNOLOGY I...	2,000	$43.38	$44.18	$88,360.00	1.84%	$1,600.00

Figure 4.10: Stock holdings of the first week of simulation.

105

4.3.2 Week 2 (06/16 – 06/20)

In this week, two companies were added to my portfolio, AT&T and Home Depot, in order accelerate my profit. In this week, there was more movement than the previous week. My current total assets are valued at $505,163, which is %1.03 increase. All the transactions for this week are summarized in table 4.2.

Table 4.2: Second week transactions.

Date	Symbol	Buy/Sell	Price ($)	Shares	Proceeds ($)	Short Cost ($)	Fee ($)	Short Profit ($)	Profit ($)	Total AC ($)	Total Profit ($)
6/16/14	T	Buy	34.96	4000	139840	0.00	10.00	0	0	291758	354
6/16/14	HD	Buy	78.77	300	23,631	0.00	10.00	0	0	268117	354
6/17/14	T	Sell	35.09	-4000	-140360	0.00	10.00	0	520	408467	874
6/17/14	MMM	Cover	143.59	250	35897.5	17,948.75	10.00	-17854	189.5	390603	1,064
6/17/14	CAT	Buy	106.79	1000	106790	0.00	10.00	0	0	283803	1,064
6/17/14	AZPN	Sell	44.69	-1000	-44690	0.00	10.00	0	1310	328483	2,374
6/18/14	AZPN	Sell	44.73	-1000	-44730	0.00	10.00	0	1350	373203	3,724
6/19/14	AAPL	Buy	91.98	1500	137970	0.00	10	0	0	235223	3,724
6/20/14	T	Buy	35.32	2500	88,300	0.00	10	0	0	146913	3,724
6/20/14	CAT	Sell	108.99	-1000	-108990	0.00	10	0	2200	255893	5,924
6/20/14	HD	Sell	80.08	-300	-24024	0.00	10	0	393	279907	6,317

3M Co (NYSE:MMM)

On June 16, 2014, a bullish engulfing pattern showed, which indicated that the downtrend will not continue, so on June 17, 2014 I covered the shorted shares for $143.59 each and was able to gain $189.5.
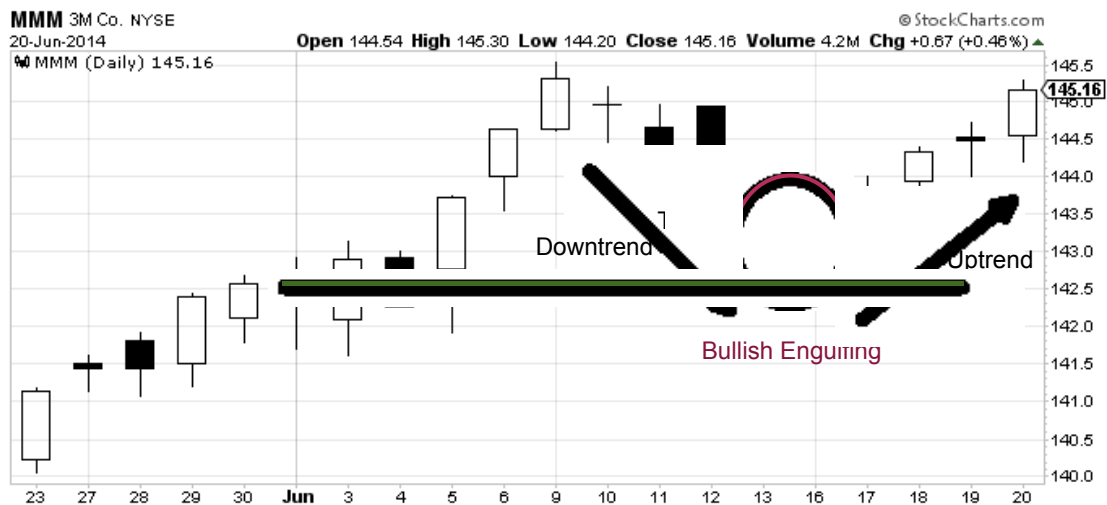
Figure 4.11: Candlestick chart of 3M Co.

Caterpillar, Inc (NYSE:CAT)

On June 16, 2014, a hammer pattern showed, which indicated that the market will become bullish, so on June 17, 2014, I bought 1000 shares for $106.79 each. On June 20, 2014, there was a gap in the price caused by a sudden increase. Even though there were not any bearish patterns, the price was very good so I decided to sell all 1000 for $108.99 each, and was able to profit $2200.

Figure 4.12: Candlestick chart of CAT.

Aspen Technology, Inc. (NASDAQ:AZPN)

On June 17, 2014, I sold 1000 of my 2000 shares for $44.69 and profited $1310. On June 18, 2014, I sold the remaining 1000 shares for $44.73 and profited $1350. In both cases there weren't any bearish patterns. However. The price was good, and also the price exceeded the resistance created by the shooting star pattern on June 6, 2014.
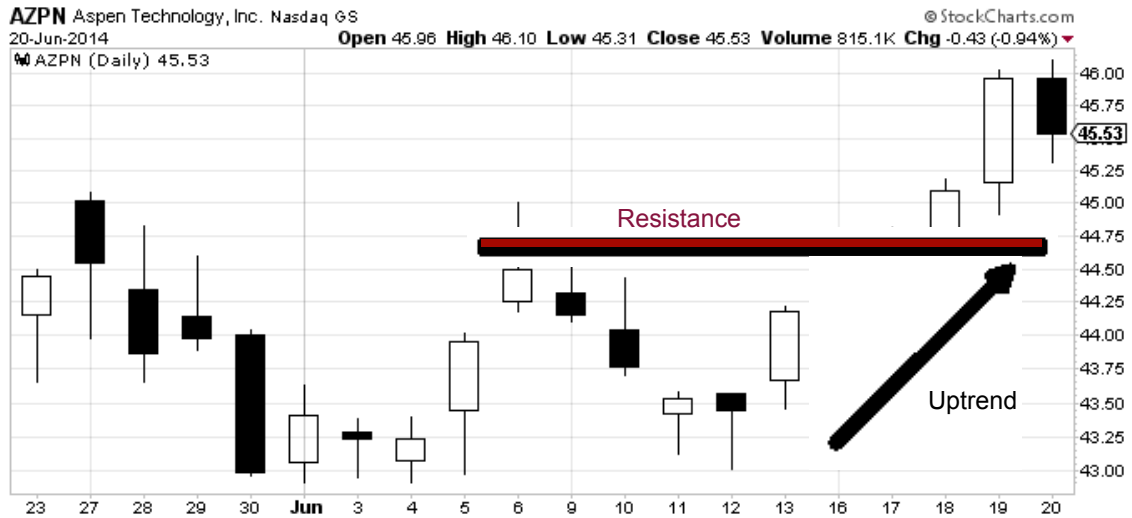
Figure 4.13: Candlestick chart of Aspen Tech.

AT&T Inc. (NYSE:T)

AT&T is one of the companies that I decided to add to my portfolio this week. On June 12, 2014, there was a hammer pattern indicating that the stock will be bullish. Since there weren't any reversal signals between June 12 and June 16 o on June 16, 2014 I decided to buy 4000 shares for $34.96 each. However, a doji pattern showed on June 16, 2014, which I though is a reversal signal. On June 17, 2014 I sold all 4000 shares for $35.09, in which I gained $520. The market did not turn bearish as I predicted but continued to rise after that. On June 19, 2014 there was a small gap, the recently announced Amazon phone that is exclusive to AT&T was probably the cause. Since there weren't any bearish reversal signals, I decided to buy 2500 $35.32 each.
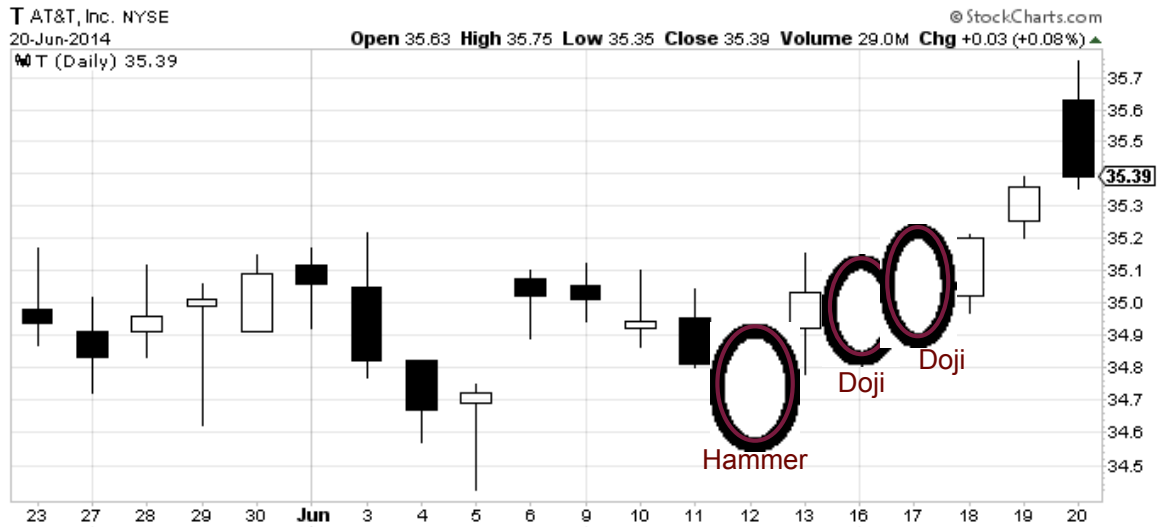
Figure 4.14: Candlestick chart of AT&T.

The Home Depot, Inc. (NYSE:HD)

Home Depot is the second company that I decided to add to my portfolio this week.

On June 13, 2014, there was a non-complete hammer pattern, which is a bullish reversal pattern.

On June 16, 2014, I bought 300 shares for $78.77. On June 19, 2014, the price approached the resistance and there was a hanging man pattern, indicating a bearish reversal. So I sold all 300 shares for $80.08 and gained $393.
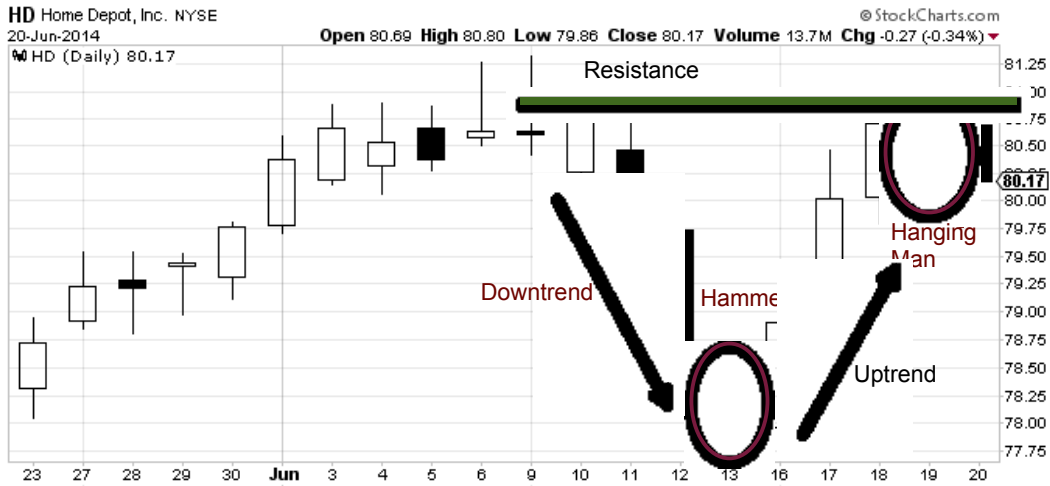
Figure 4.15: Candlestick chart of Home Depot.

Apple, Inc. (NASDAQ:AAPL)

On June 18, 2014, there was a hanging man pattern that I misinterpreted as a hammer pattern. The small uptrend between June 16 and June 18 was not clear on the large stock chart that I was using. The trend is currently bearish.
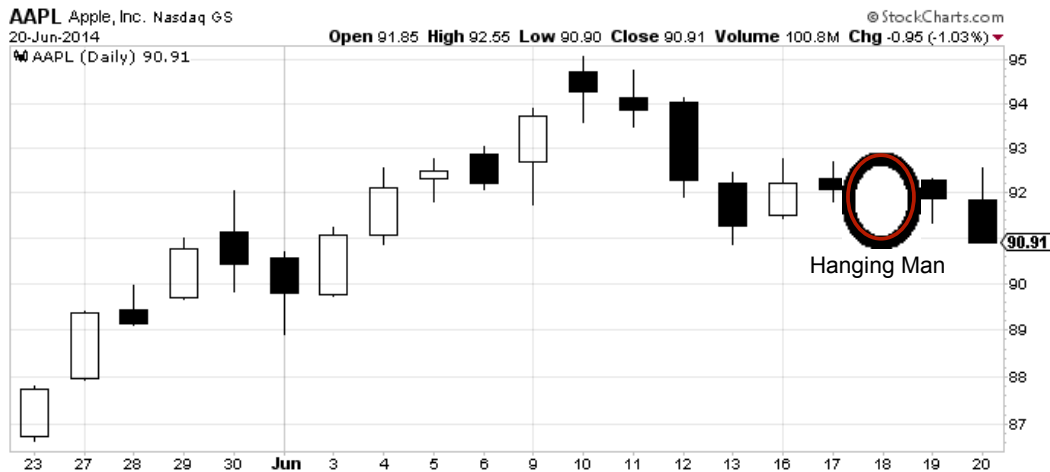
Figure 4.16: Candlestick chart of Apple.

111

Second Week Conclusion

Overall, there was a bigger market movement in this week than the first. Adding new companies to my portfolio was a good move and I will add more companies next week. The figure below shows the stocks that I'm still holding.

COMPANY	QTY	PRICE PAID	MARKET PRICE	MARKET VALUE	LIFETIME RETURN	P&L ▲
AAPL › APPLE INC	1,500	$91.98	$90.91	$136,365.00	-1.16%	($1,605.00)
T › AT&T INC	2,500	$35.32	$35.39	$88,475.00	0.2%	$175.00

Figure 4.17: Stock holdings of the second week of simulation.

4.3.3 Week 3 (06/23 – 06/27)

This week had the smallest over all of the first three weeks of the simulation. As it was only 0.3% compared to 0.44% in the first week and 0.52% in the second week. The market was bearish for the first three days of the week, but luckily there was a bullish movement at the end of the week. All the transactions for this week are shown in table 4.3.

Table 4.3: Third week transactions.

Date	Symbol	Buy/Sell	Price ($)	Shares	Proceeds ($)	Short Cost ($)	Fee ($)	Short Profit ($)	Profit ($)	Total AC ($)	Total Profit ($)
6/23/14	T	Sell	35.33	-2500	-88325	0.00	10	0.00	25	368222	6,342
6/24/14	NVDA	Buy	18.73	7000	131110	0.00	10	0.00	0	237102	6,342
6/24/14	AMD	Buy	3.99	30000	119700	0.00	10	0.00	0	117392	6,342
6/26/14	AMD	Sell	4.06	-30000	-121800	0.00	10	0.00	2100	239182	8,441
6/27/14	AMD	Buy	4.08	20000	81600	0.00	10	0.00	0	157572	8,441
6/27/14	MMM	Buy	143.81	1000	143810	0.00	10	0.00	0	13752	8,441

AT&T Inc. (NYSE:T)

On June 23, 2014 I sold 2500 shares in AT&T for $35.33 each, and I was able to profit $25. As see on the figure below, there was a bearish engulfing signal, which is a bearish reversal signal. The signal reversed to a downtrend as I predicted.
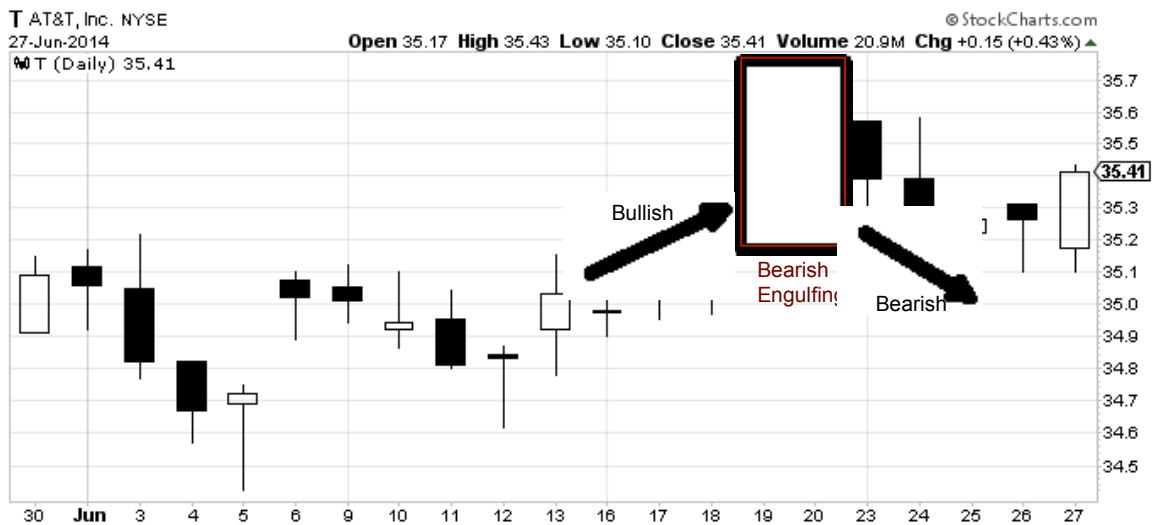
Figure 4.18: Candlestick chart of AT&T.

NVIDIA Corporation (NASDAQ:NVDA)

Nvidia is one of the companies that I added to my portfolio this week. On June 23, 2014 there was a hammer pattern, which accompanied a downtrend. I interoperated the signal as a bullish reversal signal. On June 24, 2014 I bought 7000 shares for $18.73 each. However, the market didn't turn bullish as I expected and the price continued to decline.

Figure 4.19: Candlestick chart of Nvidia.

Advanced Micro Devices, Inc. (NYSE:AMD)

AMD is another company that I added to my portfolio this week. On June 23, 2014, a hammer pattern showed in a downtrend, which indicated a bullish reversal. On June 24, 2014 I bought 30000 shares for $3.99 each. The market however, didn't revers and continued to decrease on June 25, 2014. On June 26, 2014, the market started to increase, so I decided to sell all 30000 shares for $4.06 each, and I was able to profit $2100. On the next day, June 27, 2014, I decided to buy 20000 shares for, $4.08 each, since there weren't any bearish reversal signals.
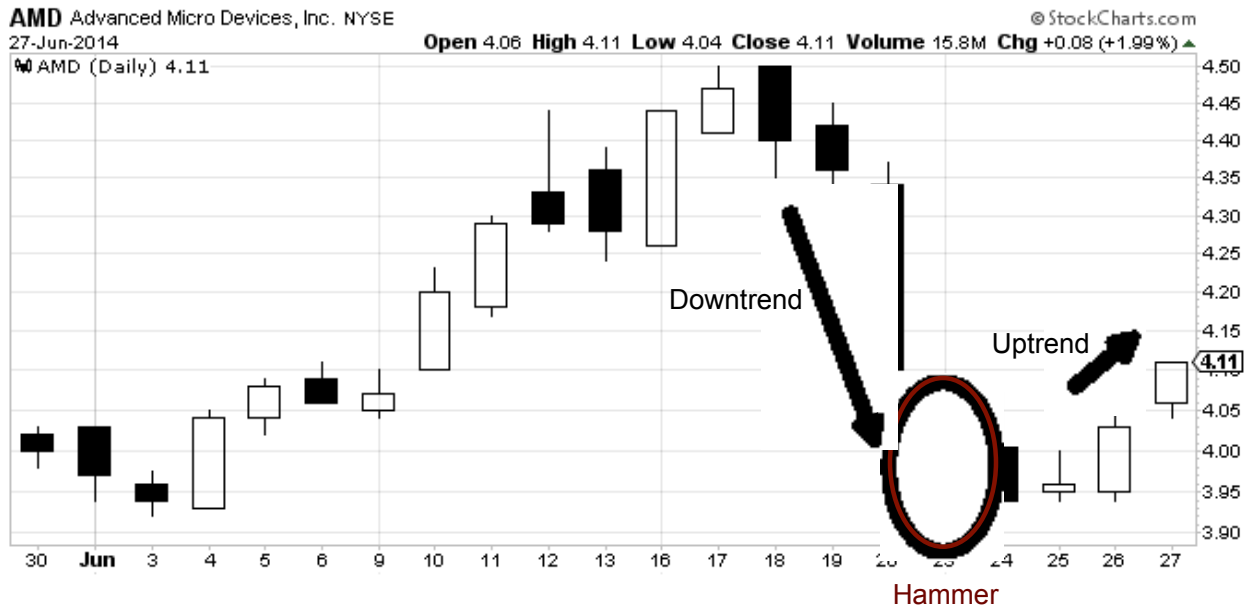
Figure 4.20: Candlestick chart of AMD.

3M Co (NYSE:MMM)

On June 26, 2014, a doji signal showed in downtrend, which could indicate a bullish reversal. On June 27, 2014, I bought 1000 shares for $143.81 each.
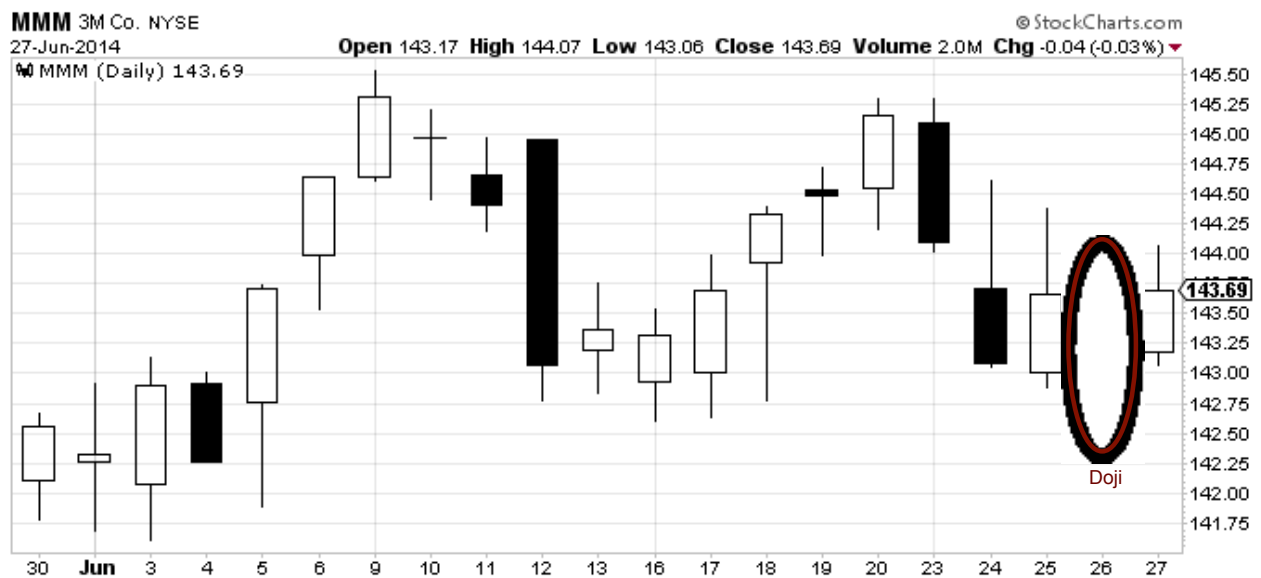
Figure 4.21: Candlestick chart of 3M.

115

Third Week Conclusion

This week had the smallest overall change so far, but it was the most volatile week. The trend was mostly bearish in the first three days of the week and bullish in the last two. By the end of this week I was able to increase my total profit to $8441. My overall return is currently 1.25%, which is still far from my goal of 6%. Figure 4.22 shows the shares that I'm still holding. Table 4.4 shows my performance during the first three weeks compared to S&P 500.

Figure 4.22: Stock holdings of the third week of simulation.

Table 4.4: Performance during the first three weeks.

Week #	Total Assets	Profit/Loss	Weekly % Change	Total % Change	Weekly % S&P
1	$502,171.00	$354	0.43%	0.43%	-0.77%
2	$504,746.50	$5,988	0.51%	0.95%	1.56%
3	$506,271.50	$2,100	0.30%	1.25%	-0.09%

4.3.4 Week 4 (06/30 – 07/3)

The week had the largest positive movement so far. In this week my return increased by %2.11.

The bullish trend had continued from the previous week resulting in large profit. In this week I

added Nokia Corporation to my portfolio. All the transactions of the fourth week are in table 4.5.

Table 4.5: Fourth week transactions.

Date	Symbol	Buy/Sell	Price ($)	Shares	Proceeds ($)	Short Cost ($)	Fee ($)	Short Profit ($)	Profit ($)	Total AC ($)	Total Profit ($)
6/30/14	T	Buy	35.44	380	13,467.2	0.0	10	0	0	274	8,441
6/30/14	T	Sell	35.43	-380	-13,463.4	0.0	10	0	-3.80	13,728	8,438
7/2/14	AAPL	Sell	93.48	-1500	-140,220	0.0	10	0	2,250.00	153,938	10,688
7/2/14	NOK	Buy	7.66	10000	76,600.0	0.0	10	0	0	77,328	10,688
7/2/14	AAPL	Short	93.46	-700	-65,422.0	-32,711	0	32,711.0	0	110,039	10,688
7/2/14	AMD	Sell	4.33	-20000	-86,600.0	0.0	10	0	5,000.00	196,629	15,688
7/3/14	MMM	Sell	145.04	-1000	-145040	0.0	10	0.0	1,230.00	341,659	16,918
7/3/14	NVDA	Sell	18.71	-7000	-130970	0.0	10	0.0	-140.00	472,619	16,778
7/3/14	AAPL	Cover	93.56	700	65,492	32,746.0	10	-32746	-70.00	439,828	16,708
7/3/14	NOK	Sell	7.71	-10000	-77,100	0.0	10	0.0	500.00	516,918	17,208

AT&T Inc. (NYSE:T)

On June 26, 2014, a hammer pattern showed in a downtrend indicating a bullish reversal. Since

the trend was mostly bearish during that week, I decided to wait an additional ay before buying

to confirm the bullish trend. The price closed higher on the next day and the overall trend seemed

pointing towered a bullish reversal as expected. So on June 30 I bought 380 shares in At&t for

$35.44 per share. However, at the end of the day, the pattern started to resemble a shooting star,

which is a bearish reversal pattern. Fearing that the trend will reverse to a bearish trend, I sold all

380 shares for $35.43 per shares, in which I lost $3.8.

Figure 4.23: Candlestick chart of At&t.

Apple, Inc. (NASDAQ:AAPL)

On July 1, 2014 a doji pattern showed in an uptrend indicating a bearish reversal. So on the next day I decided to sell all 1500 shares, which I was holding previously, for $93.48 each, and I was able to gain $2,250. Knowing that trend will reverse to a bearish trend, I decided to short 700 shares for $93.46 per share. However, the price continued to rise, so on July 3 I covered all 700 shares for $93.56 each, and I lost $70.
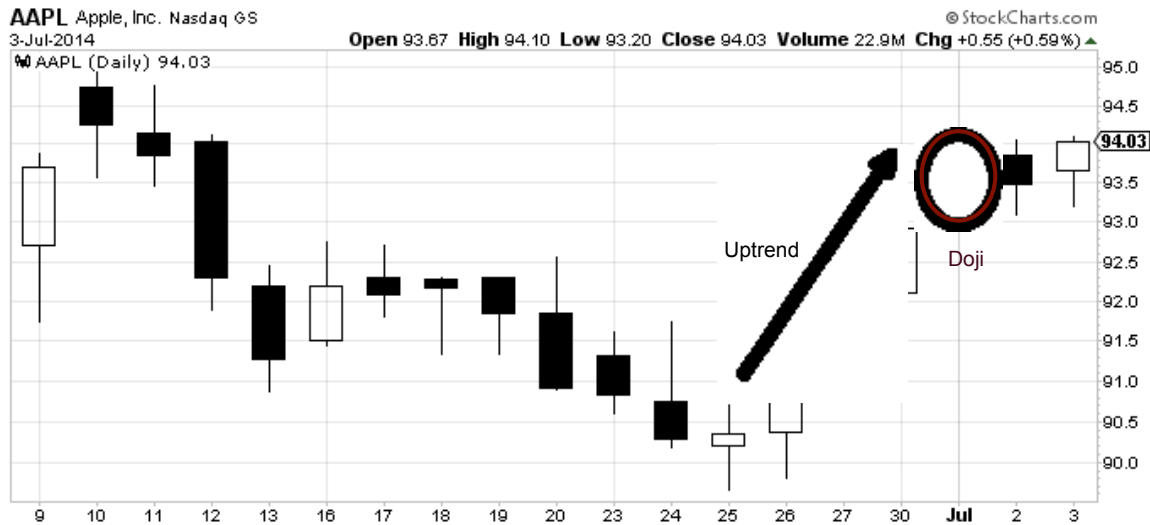
Figure 4.24: Candlestick chart of Apple.

Advanced Micro Devices, Inc. (NYSE:AMD)

On July 1, 2014, a doji pattern showed in a uptrend indicating a bearish reversal. On the next day however, the price continued to rise. After it had reached $4.33, I decided to sell all 20000 shares, that I have holding previously, in which I gained $5000.
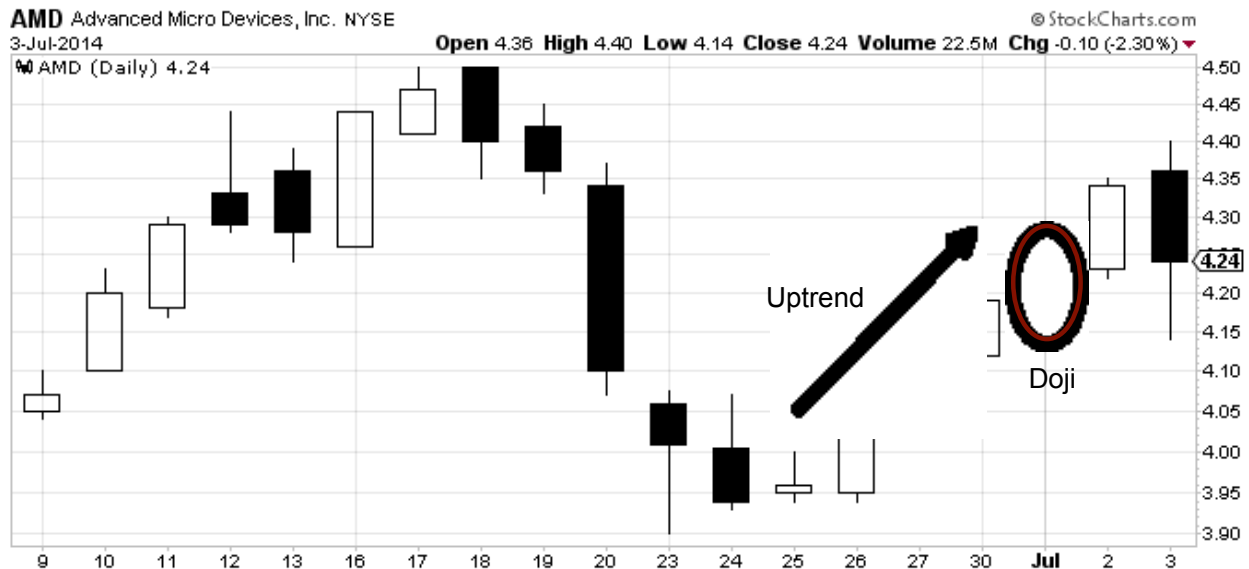
Figure 4.25: Candlestick chart of AMD.

119

3M Co (NYSE:MMM)

During this week, the trend was bullish, and there weren't any bearish reversal signals. However, the market was closing early on July 3, 2014 due to the 4th of July holiday, so I sold all 1000 shares that I owned in 3M for $145.04 per shares, in which I gained $1230.

Figure 4.26: Candlestick chart of 3M

NVIDIA Corporation (NASDAQ:NVDA)

On July 2, 2014, a doji pattern showed in an uptrend, indicating a bearish reversal. So on July 3, 2014, I sold all 7000 shares in NVidia for $18.71 per share, in which I lost $140.

Figure 4.27: Candlestick chart of NVidia.

Nokia Corporation (NYSE:NOK)

Nokia is a new company that I added to my portfolio this week. On June 27, 2014, a doji pattern showed in a downtrend indicating a bullish reversal. However, I waited for two additional days before buying any stock to make sure that there is a bullish reversal. On July 1, 2014 there was hammer pattern, which also indicates a bullish reversal, so on July 2, I bought 10000 shares fir $7.66 per share. On July 3, 2014, I sold all 10000 shares for $7.71 per share before the market closes, in which I gained $500.

Figure 4.28: Candlestick chart of Nokia.

Fourth Week Conclusion

Overall, this week had the biggest positive movement. The trend was mostly bullish throughout

the week. However, due the 4th of July holiday, I had to sell all my shares a day early, otherwise

I think I would have achieved more profit. My retune for this week was %2.11, which was higher

than S&P 500 at %0.77. By the end of the week, I was able to increase my total profit to $17208.

My performance compared to S&P 500 during the four week of simulation is shown in table 4.6.

Table 4.6: Performance during the four weeks of simulation.

Week #	Total Assets	Profit/Loss	Weekly % Change	Total % Change	Weekly % S&P
1	502,171	354	0.4342	0.4342	-0.77
2	504,746.50	5,988	0.512873105	0.947073105	1.56
3	506,247.70	2,100	0.297416624	1.244489729	-0.09
4	516,917.70	8,770	2.107663897	3.352153626	1.28

4.4 Results

Using candlestick charts, and special candlestick patterns I was able to profit through all four weeks of the simulations as shown in figure 4.29.
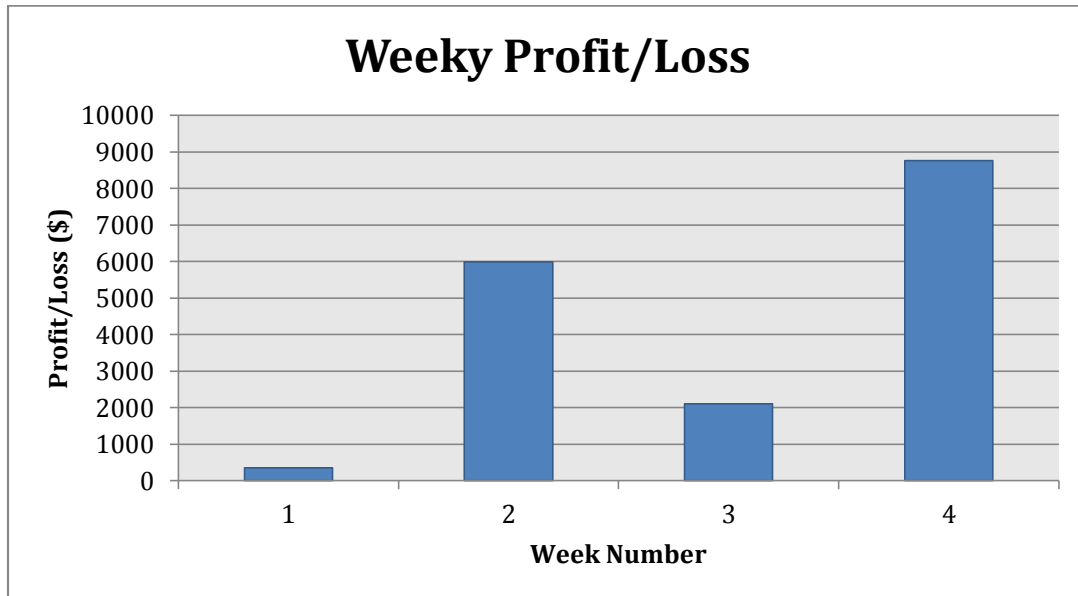
Figure 4.29: Weekly Profit/Loss

The method is not risky and therefore, very high returns are not expected in short term trading. The candlestick trading method is very effective in selecting exact points of entries, and could be even more effective when it is used with other technical indicators to understand the overall trend. During the four weeks of the simulation I had steady positive return as shown in figure 4.30.
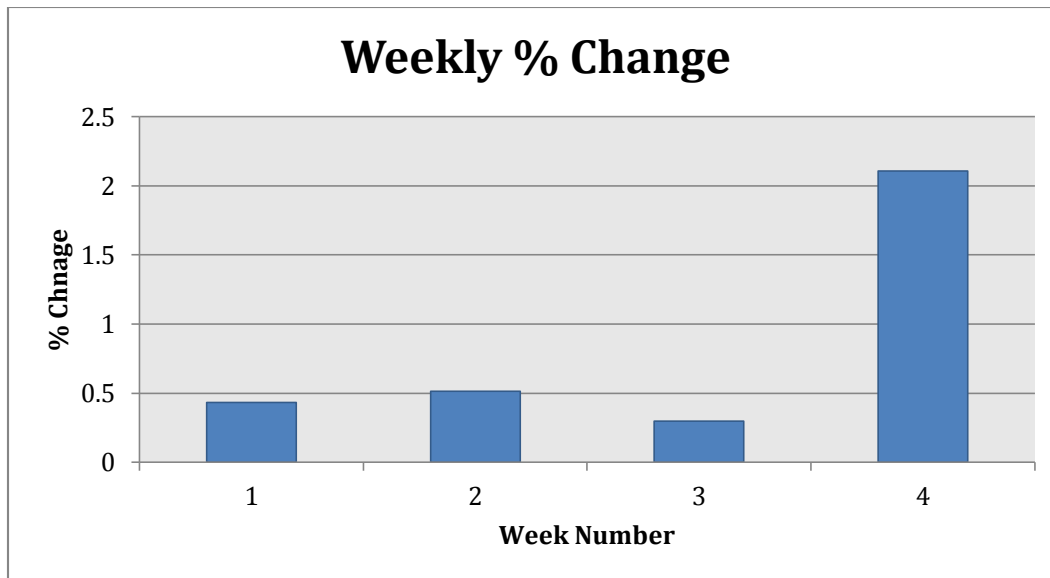
Figure 4.30: Weekly % change.

The first two weeks of the simulation were very slow, as the market was mostly bearish. Additionally, I used those two weeks to learn which of the candlestick patterns are powerful reversal signals. The third week was very volatile, as there were many trend reversals, so in this week I had the lowest profit; even though I broke the %1 return mark in the third week. The fourth week was the most profitable week in the simulation. By this week, I had already learned how to best utilize the candlestick patterns, and so I was able to take more risk and therefore was able to generate more profit. Figure 4.31 shows the total percent change for each week, while figure 4.32 shows the total assets for each week.
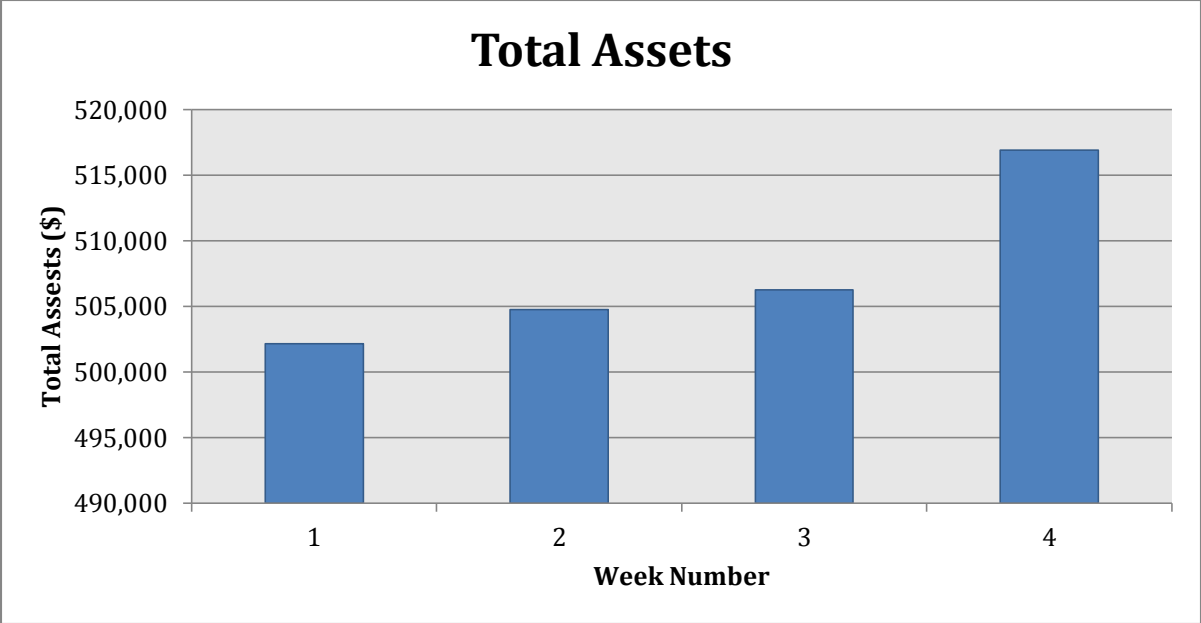
Figure 4.31: Total Assets.
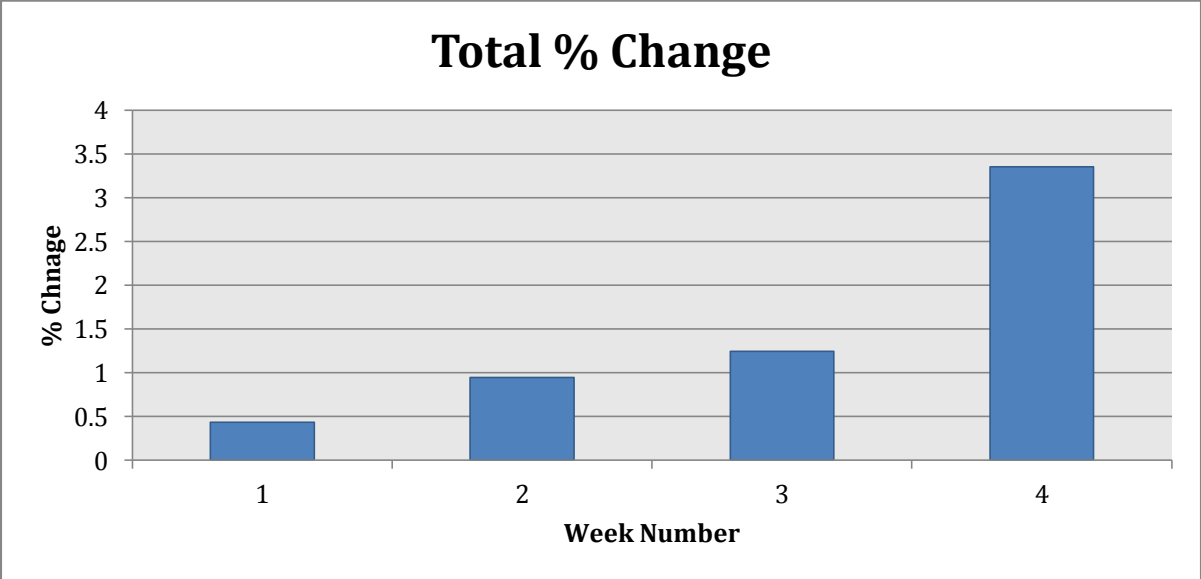
Figure 4.32: Total % change.

In the first and the third week of the simulation, the weekly percent change of S&P 500 was negative, while I had a positive change, and so I was able to beat the S&P 500 in those two weeks. In the second week of the simulation I was beaten by S&P 500, but in the fourth week I was able to beat S&P 500 as shown in figure 4.33.
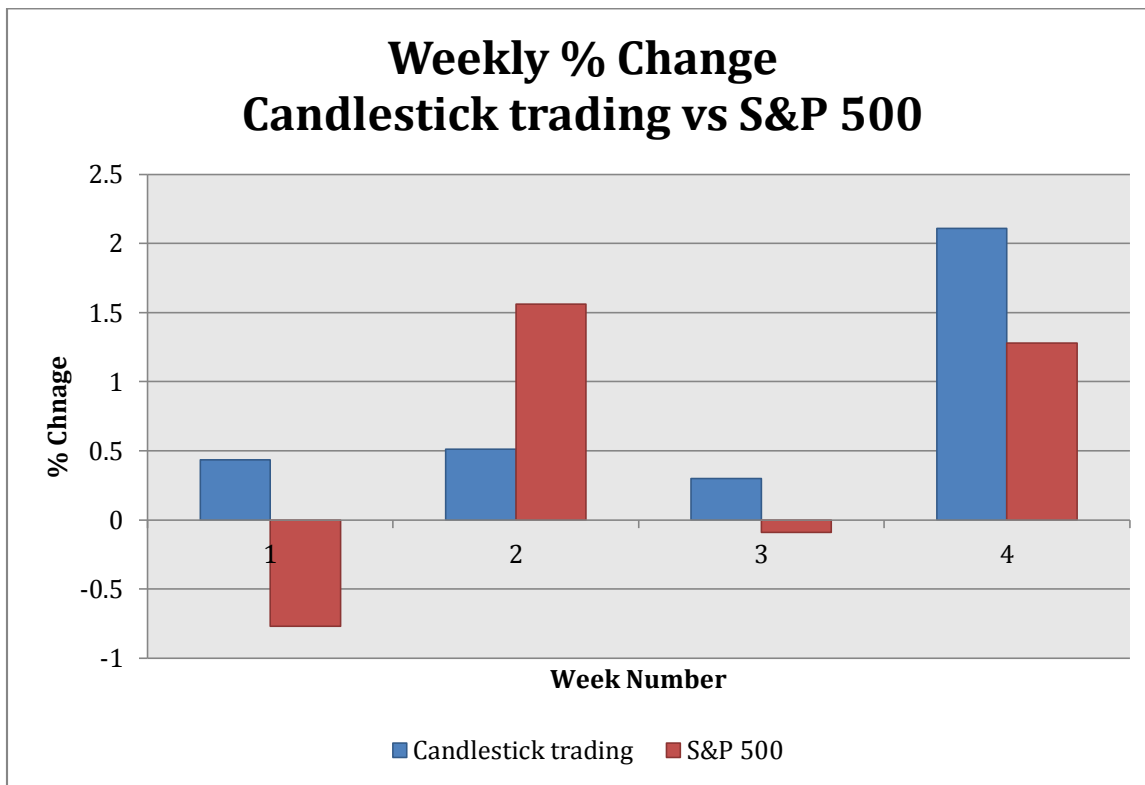
Figure 4.33: Weekly % change: Candlestick trading vs S&P 500.

I started the simulation with five companies, 3M, CAT, Aspen Tech, Apple, and Exxon Mobile, but I added new companies to my portfolio each week of the simulation to reach a total of 10 companies, which are Home Depot, AMD, NVidia, AT&T, and Nokia, in addition the five initial companies. Not all companies performed equally. In fact, I was not able to trade in Exxon Mobile at all, because it had too many doji signals, which indicates that the reversal signals are

not strong and that the candlestick trading strategy shouldn't be used with this company. The most profitable company was AMD. The main reason was the low stock price, which allowed me to buy a large number of shares. The total profit/loss from each company is shown in figure 4.34.
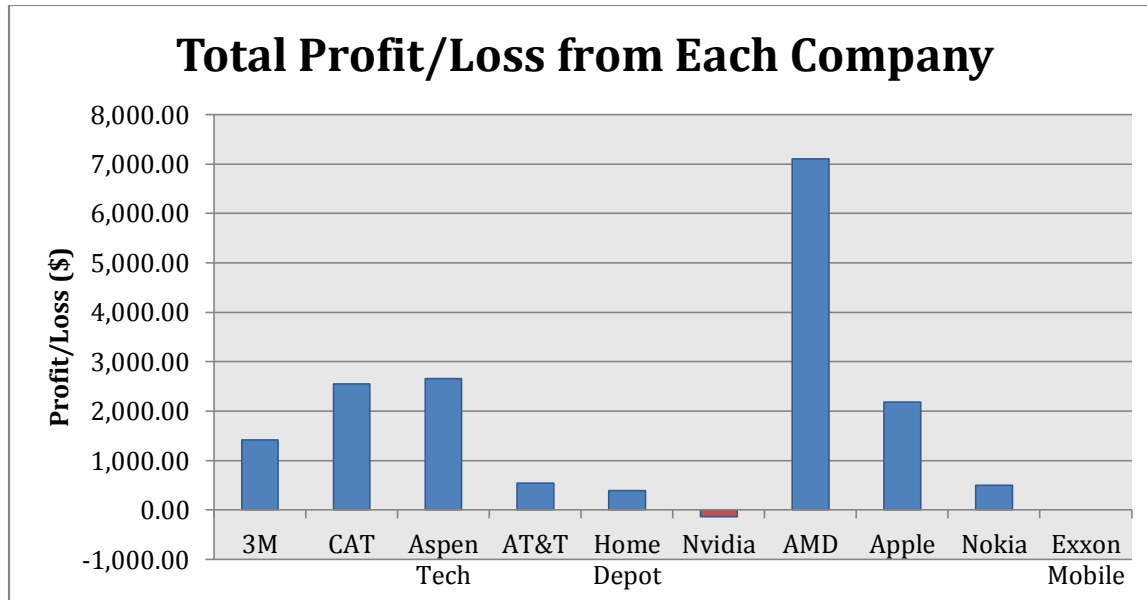
Figure 4.34: Total Profit/Loss from Each Company.

4.5 Conclusion

The candlestick trading method was an effective trading strategy. It is useful in identifying exact points of entry. The main reason the method is effective is its simplicity. It is generally easier to see the trend and see reversal signals when the stock chart is stripped from all other technical indicators. However, sometimes it is necessary to look at other technical indicators, especially when the reversal signal is week, or there are many doji's present in the chart. I learned from this simulation that high short-term profit is associated with high risk, while steady low profit can be achieved easily without risk. Although, I was not able to achieve my goal of 6% return, I was able to achieve 3.35%.

5. Swing Trading

My main goal for this project is to grasp fundamental understanding of how equity is being traded in real environment, discover if stock market is worth to investing in for future reference, comparing my strategy with my colleague, developing method and intuition concerning stocks trading.

In the following section, an introduction of Swing Trading strategy will be presented in order to understand the simulation structure and reason behind the sell or buying action. The simulation will be shown after the introduction, and the selected stock.

5.1 Introduction

Swing trading is branch of the technical analysis strategy that attempts to capture gain in stock within a short period of time using trends and patterns. The use of such strategy allows trader to acquire profits in short-time frame, investment usually ranges from 1 to 5 days. Hence, swing trading provides realistic choice for our project time period.
Swing traders believe that any stock that is being trade goes through four main stages, where each stage can be identified by its stock pattern.

These stages or cycles occurs in order and repeat, therefore, they are able to forecast future price using technical indicators, which rises potential extraordinary investment. We can think of swing traders as wave surfer, if they act quickly by entering and exiting the wave at the right time they will enjoy it the most. The notion of the four main stages was market by Stain Weinstein in his book *Secrets of Profiting in Bull and Bear markets* (Weinstein 1988). The four stages are showing below in figure 15. While his method is used for long-term investment, Swing traders use similar logic to invest in short term investment.

Figure 5.1: shows an example of the main four stages in stock market trend.

The first stage is the accumulation stage shown in red in the figure above. The start of this trend marks the end of stage four which will be explained later. At the first stage the price of the asset moves sideways, buyers and sellers have equal power of the equity without clear trend.

The second stage is the makeup stage, investors get more interested in the stock, the majority of investors are buyers. The trend in this stage stops to move in sideways and starts to move in uptrend fashion. Swing traders longing stocks at this stage. See figure 15 orange line.

The third stage is where price movement changes to sideways manner. Buyers and sellers have equal power again. At this stage buyers trend to be losing their power. See figure 15 green curve.

Stage four is down trend where most investors are selling their shares. This where price falls. See figure 15 yellow curve. Moreover, these four stages repeats in order, as a results swing traders make profit from this concept of market being oscillating at the mentioned cycle, using technical indicators. In the Swing Trading simulation, we will be using the following technical tools to spot the stages; trends and patterns, moving averages, resistance and support points,

breaking news, and volume. Stock that are in uptrend will have pullbacks offering an opportunity to long, and stock in downtrend will have pullbacks which is an opportunity to sell.

5.2 Selected Companies

1-Apple, INC (NASDAQ:AAPL)

Market Capitalization: $545.25B

Apple is manufacturer of media devices, personal and portable computers. The company was founded on April 1978 and the headquarters of the company is in Cupertino California. APPLE now is the world's second largest information and technology company. Moreover, the dividend of the company is relatively low, which predict a possible growth in the company value.

2-Exxon Mobil Corp (NYSE:XOM)

Market Capitalization: $434.9B

Exxon mobil is Multinational oil and Gas Corporation headquarter in Irving Texas and was found on November 1999. The corporation is the world largest refiner, and oil producer. The current stock price of the corporation is in uptrend, which rises potential investment.

3-Amazon, INC (NASDAQ:AMZN)

Market Capitalization: $143.83B

Amazon is international electronic commerce company headquartered in Seattle Washington. It is the world's largest online retailer. The company was founded in July 1994, and the CEO of the company is Jeff Bezos. The company showed high expanding rate throughout the

recent years. Knowing the position in the market, and the attractive swing of price of the company show potential profit.

4-YAHOO, INC (NASDAQ:YHOO)

Market Capitalization: $34.89B

Yahoo is Internet Corporation headquartered in Sunnyvale California and was founded on January 1994. The company is known for its search engine, and other relative services. The share price of the company is undervalued, and the price of a share is relatively inexpensive. For the company brand, position, the given reason investing in YAHOO was chosen.

5-Sony Corp (NYSE:SNE)

Market Capitalization: $16.82B

Sony Corporation is Japanese conglomerate Multinational Corporation headquartered in Tokyo Japan. The company is leading in manufacturing in electronic products. Sony is engaged in four business segments, Electronics, Motion pictures, Music, and Financial services. The company is facing downtrend in NYSE market. Moreover, for the given reasons, this stock was chosen.

6-IBM (NYSE:IBM)

Market Capitalization: $184.78B

International Business Machines Corporation IBM is multinational technology corporation with headquarters in New York. IBM has three core segments; service, software, and hardware. On 2012 the company was ranked number 4 in terms of its market capitalization.

6-MSFT (NASDAQ:MSFT**)**

Market Capitalization: $340.58B

Microsoft is multinational technology corporation with headquarters in Washington. MSFT develops and sells computers software, consumers' electronics, personal computers, and services. It is the world's largest software maker.

7-TPX (NYSE:TPX**)**

Market Capitalization: $4.09B

Tempur-Pedic TPX is international manufacturer of mattress and pillows. The company headquarters is in Lexington KY. The reason we choose this company is that its ideal for Swing Trading, and the firm is the second stage.

8-F (NYSE:F**)**

Market Capitalization: $69.03B

Ford motor is an American cars company headquartered in Dearborn, Michigan, It was founded by Henry Ford and incorporated on June 16, 1903. The reason why we chose this firm to invest in the great history of the firm, and for the reason that the firm in uptrend.

5.3 Simulation

In the following we will present the simulation on the USA stock market from 6/9/2014 to 07/06/2014 by investing in the chosen companies with capital investment of $500,000. Weekly table will be shown at the first of each week of simulation. The table indicates Swing Trading transactions followed by the reasoning for each transaction.

5.3.1 Week 1 (06/09 – 06/13)

The following table shows our transaction for this week. We invested on, SNE, YHOO, APPL, AMZN,IBM, and MSFT. A profit of $658.86 was made on the first week.

Table.5.1: shows the transaction for week 1. Not sold row, indicating stock that are not being sold. The prices that are used are the close day prices. Moreover, the total Weekly Cash profit, and Weekly profit percentage do not include Not Sold stocks (holding). **10$ commission is included in every transaction**

						2	
						-42	
						-10	
						-56	
						754.86	
NoT	AMZN	In-stock	326.27	70	22828.9	-435.1	469133.76
Sold	APPL	In-stock	91.28	200	18246	-512	487379.76
Yet	MSFT	In-stock	41.23	300	12359	37	499738.76
	648.86			0.29%			

SNE transactions

On the 10 of June, we bought 200 shares at price of $16.18, and sold these shares at price of $16.07. We also bought 2000 shares at price of $16.16 and 1000 share at price of $16.17.Moreover, on the 13 of June, We sold 3000 shares at price of $16.17. The reason for the multiple entries in SNE is due to reason that there was no available share to buy at the price We were asking for, and the quantity that we were allowed to buy was limited. This limitation on the website that we are using was fix after this incident.

We decided to invest in SNE for the reason that it is undervalued, the price of the share is in a stage accumulation stage, and the MACD/ RSI are indicating future raise of the price. We were waiting for the increasing wave, however, the price of the share oscillating at fast rate and for this reason we choose to step back and wait for the price to increase in clear trend.

Figure 5.2: Shows the stage number of SNE stock and the MACD and the IRS

According to my analysis the price of the share will increase in the future. We can see from the above figure that the stock is in stage one, and we can see from the MACD and the RSI that the stock is undervalued. When we can spot pullbacks, we will invest.

YHOO transactions

On the 10 of June, we invested in YHOO by buying 300 shares at price of $35.99, and made another order of 502 shares at price of $36.12. On the 13 of June, we sold 802 share at price of $37.05.

The reason of the investment in YHOO is that the price is in upper trend and the IRS and the MACD confirms that. Moreover, the On-Balance Volume shows large number of buyers. In addition I decided to sell YHOO to make sure that the price will break the last resistance line shown in the Figure 5.4. Finally according to my analysis the price of the shares is in the makeup stage.

Figure 5.3: Shows stage 2, the resistance line, RSI, and the On Balance Volume

APPL transactions

On the 10 of June, I shorted 100 stock at price of $94.5, and covered the stocks at price of $94.38. We choose to short and cover for the reason that the stock price was overvalued according to RSI as seen in Figure 5.5. On the 12 of June, we bought 200 share of APPL at price of $93.74, we are holding 200 shares at a market closing value of $91.28. We decided to invest in the stock again for the reason that APPL stock was splits 7-for-1, which according to the news will attract more buyers. In addition, we will hold APPL stocks until we get profit.

Figure 5.4: shows AAPL RSI indicating overbought

AMZN transactions

On the 10 of June we invested in 70 stock of AMZN at price of a share of $332.2. The reason we invested on AMZN is that the trend of the price is in stage two, the stock is undervalued, MACD is lines are diverged, and news are indicating that AMZN is launching new music platform. See the following figure. Moreover, we am holding the stocks until future increase.

Figure 5.5: shows all the technical indicator showing strong buy for AMZN

IBM transactions

On the 13 of June we Bought 400 share of IBM at price of $182.49, and sold the 400 shares at a price of 182.40 at the end of the market time. The reason for this investment is that shares are in a start of the makeup stage, and the price of the shares was not undervalued. However, later on the day the price was oscillating at fast rate, and the stock was moving sideways instead of in upper trend fashion. See the next figure for illustration.

Figure 5.6: shows IBM is undervalued

MSFT transactions

On the 13 of June, We bought 300 shares of MSFT at a price of $41.23. The reason for this is that the stocks are in upper trend, MACD is diverged, and the On Balance Volume is increasing. As a result, our analysis indicates a strong buy for this shares. Furthermore, we are holding the stock until we reach the resistance point. See the below figure for illustration.

Figure 5.7: shows buying reasons

First Week Conclusion

In conclusion, on this week, we tried to buy and sell hoping to ride a pullback wave, but the market in general was in decline. On the next week we try the option of invest for a long period, and will enter the market at large investment. we will focus on AMZN, and MSFT, and YHOO, for the reason that these companies showed steady uptrend. We try to sell APPL as the price cover our lost. However, we will buy more stocks in AMZN and in MSFT if the prices break the resistance lines. Figure 5.9 shows the remaining stock in or portfolio. . Table 5.2 and 5.3 shows our performance for this week.

COMPANY	QTY	PRICE PAID	MARKET PRICE	MARKET VALUE	LIFETIME RETURN	P&L ▲	ACTION
AMZN › AMAZON.COM INC	70	$332.20	$326.27	$22,838.90	-1.79%	($415.10)	SELL
AAPL › APPLE INC	200	$93.74	$91.28	$18,256.00	-2.62%	($492.00)	SELL
MSFT › MICROSOFT CORP	300	$41.04	$41.23	$12,369.00	0.46%	$57.00	SELL

Figure 5.8: stocks that are being held

Table 5.2 shows this week performance. It uses the profit that was made, and the amount of cash that was used to generate this profit.

648.86		0.29%	

Table 5.3 shows this week performance. It uses the total assets in general and it includes the cash in hand, and the stock that is owned.

		261.24			

5.3.2 Week 2 (06/16 – 06/20)

The following table shows my transaction for this week. We invested in, SNE, YHOO, APPL, AMZN,IBM, and MSFT. A profit of $6000.3 was made.

Table.5.4: shows the transaction until week 2. Note that the yellow highlighted cells on top represent the past week transactions. The orange cells, indicating stock that are not being sold. The prices that are used are the close day prices. Moreover, the total Weekly Cash profit, and Weekly profit percentage do not include Not Sold stocks (holding). 10$ commission is included in every transaction.

Date	Symbol	Buy/Sell	Price	Shares	Cost/Proceed	Profit/Loss	TC Available
10-Jun	SNE	Buy	16.18	200	3246		496754.00
10-Jun	YHOO	Buy	35.99	300	10807		485947.00
10-Jun	APPL	Short	94.5	100	9450		490672.00
10-Jun	APPL	Cover	94.38	100	9438	2	485949.00
10-Jun	SNE	Sell	16.07	200	3204	-42	489153.00
10-Jun	YHOO	Buy	36.12	502	18142.24		471010.76
10-Jun	AMZN	Buy	332.2	70	23264		447746.76
10-Jun	SNE	Buy	16.17	1000	16180		431566.76
10-Jun	SNE	Buy	16.16	2000	32330		399236.76
12-Jun	APPL	Buy	93.74	200	18758		380478.76
13-Jun	IBM	Buy	182.49	400	73006		307472.76
13-Jun	MSFT	Buy	41.04	300	12322		295150.76
13-Jun	SNE	Sell	16.17	3000	48500	-10	343650.76
13-Jun	IBM	Sell	182.4	400	72950	-56	416600.76
13-Jun	YHOO	Sell	37.05	802	29704.1	754.86	446304.86
						181	
						3784.3	
						255	
						1780	
Not	APPL	In-stock	90.91	200	18192	-566	341618.16
Sold	AMZN	In-stock	324.2	500	162100	-2365	503718.16
	648.86			0.29%			
	6000.3			1.20%			

143

MSFT transactions

On the 17 of June we sold 300 shares at price of $41.71. These shares were bought at price of $40.07 and profit of 181 was made. We decided to sell for the reason that market S&P reached 1962.9 points, which make us caution. As a result we were careful, and change the plan for this week to make a quick profit. Another reason why we sold MSFT is that the price was starting to decline, which we expect to raise after that fourth pullback, the MACD short period indicator (black line) seems not being able to diverge from the long period line indicator (red line) see figure 5.9. In addition, figure 5.9 shows for price pullbacks; and the fourth price pullback the price had small jump, which is a selling signal.

Figure 5.9 Shows how four pullbacks, and after each pullback there is a price jump. And the MACD indicator.

AMZN transactions

On the 17 of June we invested in AMZN by buying 500 shares at price of $327.41. In addition we sold 570 shares at price of $334.69. These stocks includes 500 shares what was bought at price of $327.14 and 70 shares at price of $332.2. A total profit of $3784.3 was made from this transaction. Moreover, as the price fall again to $328.91 we decided to buy 500 shares. The reasons of the investment in AMZN are, to do Swing Trading investing strategy with the oscillating price, the stock is in upper trend (as S&P500), and AMZN was releasing new phone on the 18 of June. we sold after the price jumped (see figure 5.10) for the reason that the shares might be in stage number three. Furthermore, it is Important to note that we need to be careful from any market crisis, due the war in Iraq and the overall increase in S&P500.

Figure 5.10: Shows a stock stage 2, the resistance line, and the price jump of AMZN

TPX transactions

On the 17 of June, we invested in TPX by buying 500 shares at price of $58. Moreover, the shares were sold on the 19 of June at price of $58.55. A total profit of $255 was made from this transaction. The reason of investing in TPX is primarily for the upper trend of the stock as seen in figure 5.11. This indicate that the shares are in the second stage. Moreover, at the end of the week the price seems to go down, and then we decided to sell.

Figure 5.4: shows TPX upper trend

SNE transactions

On the 19 of June, we invested in 9000 shares of SNE at price of $16.75. Moreover, on the same day the price reached $16.95 at the end of the day. At this point, we choose to sell all the shares. $1780 profit was made. The reason we invested in SNE, the earlier break out of the price of the share of the market as seen in figure 12. This breakout might be a reason of the last Sony gaming conference in California, where they announce new games, and new product, which everyone was talking about. Unlike AMZN, their cellphone got a bad review which might be a reason for the declined price of AMZN. The main lesson learn here, is that we need to speculate the news more carefully to determine a potential increase in the market share price. The reason for our selling is that we are not very confident that the price of the share will increase next week. Moreover, we are using Swing Trading Strategy, so when the price go blew the real price of the share and starts again at the makeup stage, we will enter the market. We also believe that the best trading strategy is the Swing day-to-day method, however, it is not easy for everyone to watch the stock market every day from 9 am to 4pm.

Figure 5.11 shows the price breakout of SNE

Second Week Conclusion

In conclusion, on this week, we tried to buy and sell more effectively by paying more attention to the news, hoping to prevent market crisis from destroying our investment and to face quick increase in the price. We also noted that it is very risky to invest in the stock market at the current situation, due the Iraq war and the possible crash of the market, however, when there is a risk there are rewards, but we need to be carefully by acting quickly. We are still holding apple stocks, but if the price and the technical indicators show a possible crash of the market, we will sell. In addition, we are still holding on AMZN stock, but if the price keep fall below $ 320, I will exit the market.Figure 5.12 shows the remaining stock in my portfolio. Table 5.5 and 5.6 shows my performance for this week.

COMPANY	QTY	PRICE PAID	MARKET PRICE	MARKET VALUE	LIFETIME RETURN	P&L ▲
AAPL › APPLE INC	200	$93.74	$90.91	$18,182.00	-3.02%	($566.00)
AMZN › AMAZON.COM INC	500	$328.91	$324.20	$162,100.00	-1.43%	($2,355.00)

Figure 5.12: stocks that are being held

Table 5.5 shows this week performance compared to last week. It uses the profit that was made, and the amount of cash that was used to generate this profit.

	648.86		0.29%		
	6000.3		1.20%		

148

Table 5.6 shows this week performance compared to last week. It uses the total assets in general and it includes the cash in hand, and the stock that is owned.

		-261.24			
		3979.4			

5.3.3 Week 3 (06/23 – 06/29)

The following, a table is showing the cumulative transaction of Swing Trading for this week. We invested on, SNE, YHOO, XOM, AMZN, and F. In addition we made a profit of $614.95.

Table.5.7 shows this week transactions. The orange cells, indicating stock that are not being sold. The prices that are used are the close day prices. Moreover, the total Weekly Cash profit, and Weekly profit percentage do not include Not Sold stocks (holding). 10$ commission is included in every transaction.

Date	Symbol	Buy/Sell	Price	Shares	Cost/Proceed	Profit/Loss	TC Available
10-Jun	SNE	Buy	16.18	200	3246		496754.00
10-Jun	YHOO	Buy	35.99	300	10807		485947.00
10-Jun	APPL	Short	94.5	100	9450		490672.00
10-Jun	APPL	Cover	94.38	100	9438	2	485949.00
10-Jun	SNE	Sell	16.07	200	3204	-42	489153.00
10-Jun	YHOO	Buy	36.12	502	18142.24		471010.76
10-Jun	AMZN	Buy	332.2	70	23264		447746.76
10-Jun	SNE	Buy	16.17	1000	16180		431566.76
10-Jun	SNE	Buy	16.16	2000	32330		399236.76
12-Jun	APPL	Buy	93.74	200	18758		380478.76
13-Jun	IBM	Buy	182.49	400	73006		307472.76
13-Jun	MSFT	Buy	41.04	300	12322		295150.76
13-Jun	SNE	Sell	16.17	3000	48500	-10	343650.76
13-Jun	IBM	Sell	182.4	400	72950	-56	416600.76
13-Jun	YHOO	Sell	37.05	802	29704.1	754.86	446304.86
17-Jun	MSFT	Sell	41.71	300	12503	181	458807.86
17-Jun	AMZN	Buy	327.41	500	163715		295092.86
17-Jun	TPX	Buy	58	500	29010		266082.86
18-Jun	AMZN	Sell	334.69	570	190763.3	3784.3	456846.16
19-Jun	AMZN	Buy	328.91	500	164465		292381.16
19-Jun	SNE	Buy	16.75	9000	150760		141621.16
19-Jun	TPX	Sell	58.55	500	29265	255	170886.16
19-Jun	SNE	Sell	16.95	9000	152540	1780	323426.16
24-Jun	AMZN	Sell	328.56	500	164270	-195	487696.16
25-Jun	SNE	Buy	16.9	9999	168993.1		318703.06
25-Jun	XOM	Buy	101.99	1000	102000		216703.06
25-Jun	F	Buy	17.21	9999	172092.79		44610.27
25-Jun	MSFT	Buy	41.75	1000	41760		2850.27
25-Jun	XOM	Sell	102	1000	101990	-10	104840.27
25-Jun	F	Sell	17.23	9999	172272.77	179.98	277113.04
25-Jun	SNE	Sell	16.9	9999	168973.1	-20	446086.14
25-Jun	MSFT	Sell	41.9	1000	41890	130	487976.14
26-Jun	YHOO	Buy	33.75	1000	33760		454216.14
26-Jun	AMZN	Buy	324.7	500	162360		291856.14
26-Jun	SNE	Buy	16.86	9000	151750		140106.14
26-Jun	F	Buy	17.17	1000	17180		122926.14
27-Jun	YHOO	Sell	34.28	1000	34290	530	157216.14
Not	APPL	In-stock	91.98	200	18386		175602.14
Sold	AMZN	In-stock	324.57	500	162275		337877.14
	YHOO	In-stock	17.28	1000	17270		355147.14
	SNE	In-stock	16.76	9000	150830		505977.14

Week	Total Weekly Cash profit			Weekly profit percentage %		S&P Weekly profit
1	648.86			0.29%	0.298335709	-0.77%
2	6000.3			1.20%	1.181277685	1.12%
3	614.98			0.08%	0.072359451	-0.09%

150

AMZN transactions

On the 24 June we sold 500 shares of AMZN at price of $328.56. These shares were bought at price of $328.91 and the loss was $195. We exited the market for the reason that the price drop low quickly. In addition on 26 of June, we bought 500 shares of AMZN at a price of $324.7, we believed that the price will swing in uptrend fashion, but that did not happened. We are still holding to these 500 shares, and they currently are valued at $324.57.

The reason for investing AMZN had a repeating cycle approximately each day. The beginning of the day the price opens at high then the stock closes at another high. After this reputation, we decided to use this pattern in our favor. However, this pattern did not repeat on the day that we did decide to enter the market.

Figure 5.13 shows AMZN liner averages indicating that the price pattern repeats

SNE transactions

On the 25 of June, we invested in 9999 shares of SNE at price of $16.9. Moreover, on the same day the price reached a low price of $16.77 and then the price came back to reach $16.9 at the end of the day. Furthermore, we sold all of our shares at the end of the day. $20 loss was the result of this investment. Moreover, on 26 of June, we bought 9000 shares at price of $16.86 and we will did not sold these shares yet.We choose to invest in SNE due to the reason that the company shares is relatively low priced, according alpha news, the target price is $17 and any positive change in the price could generate large profit. Moreover, the RSI and the MACD shows that SNE is a strong buy.

Figure 5.14 shows SNE positive MACD and RSI

XOM transactions

On the 25 of June we decided to buy 1000 shares of XOM, and sold these shares on the same day. The reason for this investment is that the price of the shares seems to move around $101 and then reaches $102. And then repeats this cycle. Furthermore, we invested in XOM, for the reason that the simulation teammates want to have a common stock that we can compare each other with. In addition, we believe that the war in Iraq might cause investors to oversold, so for this investment we did quick investment.

F transactions

On the 25 of June we bought 9999 shares of Ford at price of $17.21, and choose to sell these assets at price of $17.23. a profit of $80 was made from this transaction. Moreover, on the 27 of June we bought 1000 shares at price of $17.17, and we are still holding to these shares. We choose it invest in F for the reason that the price is in uptrend and the MACD, and the RSI are positive, and are indicating a buy for this share.

Figure 5.15 shows F positive MACD and RSI

MSFT transactions

On the 25 of June we invested in 1000 shares of MSFT at price of $41.75. Moreover, on the same day we choose to sell all the shares at price of $41.9, and a $130 profit was made. The reason we invested in MSFT, are that the MACD, and the RSI and the trend showing a buy for this stocks. Moreover, it is in the second stage according to our analysis.

Figure 5.16 shows MSFT positive MACD and RSI

YHOO

On the 26 of June we choose to invest in YHOO by 1000 shares at a price of $33.75 In addition, we sold these shares of price of $34.28. a profit of $530 was generated. The reason for investing in YHOO is the increase in balance on volume and the upper trend of the price. Furthermore, the price of the shares resembles stocks in the second stage, so it is buy signal.

Figure 5.17: Shows a increase on balance volume after price decline of YHOO

Third Week Conclusion

In conclusion, in this week, we tried to buy and sell at faster rate. In addition XOM is a company that I will stop following and studying for the reason that the situation in the Middle East is not very stable. In addition, we are still holding on APPL, AMZN, F, SNE stocks. We are noting that the stock market this we is not positive. We will pay more attention to news next week and will invest in F and in MSFT. These shares seems to work more with the Swing trading method. Figure 5.18 shows the remaining stock in my portfolio. Table 5.5 and 5.6 shows my performance for this week.

COMPANY	QTY	PRICE PAID	MARKET PRICE	MARKET VALUE	LIFETIME RETURN	P&L ▲
AAPL › APPLE INC	200	$93.74	$91.98	$18,396.00	-1.88%	($352.00)
AMZN › AMAZON.COM INC	500	$324.70	$324.57	$162,285.00	-0.04%	($65.00)
F › FORD MOTOR CO	1,000	$17.17	$17.28	$17,280.00	0.64%	$110.00
SNE › SONY CORP SHS SPON...	9,000	$16.86	$16.76	$150,840.00	-0.59%	($900.00)

Figure 5.18: stocks that are being held

Table 5.8 shows this week performance compared to last week. It uses the profit that was made, and the amount of cash that was used to generate this profit.

	648.86			0.29%		
	6000.3			1.20%		
	614.98			0.08%		

Table 5.9 shows this week performance compared to last week. It uses the total assets in general and it includes the cash in hand, and the stock that is owned.

		-261.24			
		3979.4			
		2258.98			

5.3.3 Week 4 (06/30 – 06/4)

The following table shows my transaction for this week. We invested on, SNE, AAPL, TPX, AMZN, and F. In addition we made a profit of $7099.39. As this was the last week and the stock market will close early for the holiday, we tried to trade at faster rate. In addition, the complete table for this week is shown in the final results section. Moreover, we sold all of the shares that we have on our portfolio for the reason that this is the final week for the simulation.

Table.5.10: shows the transaction for week 4. 10$ commission is included in every transaction.

					3185	
					2940	
					20	
					60	
					30	
					-160.66	
					1025.05	
648.86			0.29%			
6000.3			1.20%			
614.98			0.08%			
7099.39			2.40%			

SNE transactions

On the 1 June, we bought 3000 shares of SNE at price of $16.91. In addition, we sold 12000 share of SNE at price of $17.12. The remaining shares were invested in week 3, on the 26 of June at price of $16.86. A total profit of $2940 was made. We invested in SNE, for the reason that the share prices had a repeated pattern over the past two days, and we successfully were able to benefit from this pattern. We used the Swing method to ride the a wave of the second stage, moreover, the RSI, and MACD for the share where positive, indicating long decision. We exited the market on the third stage. After we exited the market the price failed. So it was a successful decisions that made this amount of profit.

Figure 5.19 shows SNE repeating cycles, and the swing positions

F transactions

On the 1 of June we invested in 2785 shares of F at price of $17.3. Moreover, on the same day the price reached a price of $ 17.17 very quickly and the technical indicators was showing that the price of the asset will increase, as a result we bought another 20000 at $17.17. On the third of July, we sold 23785 shares of F at price of $17.23. Moreover, a profit of $1025 was made from this transaction. We decided to enter F at great value for the reason that, the shares are at up trend, second stage, there is a repeating cycle, and RSI is very positive indicating strong buy.

Figure 5.20 shows F positive RSI, and F in upper trend

MSFT transactions

On the 1 of July we invested in 1000 shares of MSFT at price of $41.99. Moreover, on the same day we choose to sell all the shares at price of $42.07. $60 profit was made from this transaction. Moreover, on the same day the price was swinging, and we bought 511 shares at price $41.95, and 2000 shares at price of $41.94. We sold all these shares at a price of $41.89. we lost $160.66 from this investment. We chose to invest in MSFT for the reason that we identified a swinging cycle, however, the cycle did not occur.

AAPL transactions

On the 1 of July, AAPL stock price reached $93.94, and then we decided to sell all the shares that we have from the first week of the simulation. The profit from this transaction was $20. We sold AAPL for the reason that this is the last week of the simulation, however, the RSI for APPL indicating longing decision. On the contrary the shares did not break the last resistance point. In addition, we learned that if someone is losing in a share, the person need to evaluate his or her position. If he or she needs the money for better investment, he or she can exits the market. But, if the do not need the cash, they can leave the stuck, until the price reach back to their initial investment. And for all of these reasons we chose to exit from AAPL.

Figure 5.21 shows AAPL positive RSI, and AAPL recent Resistance line

TPX transactions

On the 1 of July, we invested in 5000 at TPX for a price of 59.91, and at the end of the day we chose to sell these shares at price of 59.92. A profit of $30 was made. We chose to make a quick profit as long as there is profit. TPX technical indicators shows a very strong buy however, TPX price always swing at fast rate. As a result I chose to exit the market.

Figure 5.23 shows TPX positive RSI and OBV

Fourth Week Conclusion

In conclusion, in this week, we tried to buy and sell at very faster rate. In addition, we spent more time in front of the Stock screen, and the result of this was 2.4% profit. I found out that the more time is spent in front of the stock screen the more likely profit made be made. In addition, I learned that holidays can stop the market. In addition, we know that the stock will close for the fourth of July so we planned to sell all the stocks before then.

Table 5.11 shows this week performance compared to last weeks. It uses the profit that was made, and the amount of cash that was used to generate this profit.

		-261.24			
		3979.4			
		2258.98			
		8386.39			

Table 5.12 shows this week performance compared to last weeks. It uses the total assets in general and it includes the cash in hand, and the stock that is owned.

	648.86		0.29%		
	6000.3		1.20%		
	614.98		0.08%		
	7099.39		2.40%		

5.4 Results

In this section, the result of or stock market simulation the United States stock market from 06/09 to 07/06 using Swing Trading method will be presented. First result is table that shows all my transactions.

Table 5.13 shows all the transaction that was made throughout the simulation.

Date	Symbol	Buy/Sell	Price	Shares	Cost/Proceed	Profit/Loss	TC Available
10-Jun	SNE	Buy	16.18	200	3246		496754
10-Jun	YHOO	Buy	35.99	300	10807		485947
10-Jun	APPL	Short	94.5	100	9450		490672
10-Jun	APPL	Cover	94.38	100	9438	2	485949
10-Jun	SNE	Sell	16.07	200	3204	-42	489153
10-Jun	YHOO	Buy	36.12	502	18142.24		471010.76
10-Jun	AMZN	Buy	332.2	70	23264		447746.76
10-Jun	SNE	Buy	16.17	1000	16180		431566.76
10-Jun	SNE	Buy	16.16	2000	32330		399236.76
12-Jun	APPL	Buy	93.74	200	18758		380478.76
13-Jun	IBM	Buy	182.49	400	73006		307472.76
13-Jun	MSFT	Buy	41.04	300	12322		295150.76
13-Jun	SNE	Sell	16.17	3000	48500	-10	343650.76
13-Jun	IBM	Sell	182.4	400	72950	-56	416600.76
13-Jun	YHOO	Sell	37.05	802	29704.1	754.86	446304.86
17-Jun	MSFT	Sell	41.71	300	12503	181	458807.86
17-Jun	AMZN	Buy	327.41	500	163715		295092.86
17-Jun	TPX	Buy	58	500	29010		266082.86
18-Jun	AMZN	Sell	334.69	570	190763.3	3784.3	456846.16
19-Jun	AMZN	Buy	328.91	500	164465		292381.16
19-Jun	SNE	Buy	16.75	9000	150760		141621.16
19-Jun	TPX	Sell	58.55	500	29265	255	170886.16
19-Jun	SNE	Sell	16.95	9000	152540	1780	323426.16
24-Jun	AMZN	Sell	328.56	500	164270	-195	487696.16
25-Jun	SNE	Buy	16.9	9999	168993.1		318703.06
25-Jun	XOM	Buy	101.99	1000	102000		216703.06
25-Jun	F	Buy	17.21	9999	172092.79		44610.27
25-Jun	MSFT	Buy	41.75	1000	41760		2850.27
25-Jun	XOM	Sell	102	1000	101990	-10	104840.27
25-Jun	F	Sell	17.23	9999	172272.77	179.98	277113.04
25-Jun	SNE	Sell	16.9	9999	168973.1	-20	446086.14

25-Jun	MSFT	Sell	41.9	1000	41890	130	487976.14
26-Jun	YHOO	Buy	33.75	1000	33760		454216.14
26-Jun	AMZN	Buy	324.7	500	162360		291856.14
26-Jun	SNE	Buy	16.86	9000	151750		140106.14
26-Jun	F	Buy	17.17	1000	17180		122926.14
27-Jun	YHOO	Sell	34.28	1000	34290	530	157216.14
1-Jul	SNE	Buy	16.91	3000	50740		106476.14
1-Jul	F	Buy	17.3	2785	48190.5		58285.64
1-Jul	MSFT	Buy	41.99	1000	42000		16285.64
1-Jul	AMZN	Sell	331.11	500	165545	3185	181830.64
1-Jul	SNE	Sell	17.12	12000	205430	2940	387260.64
1-Jul	AAPL	Sell	93.94	200	18778	20	406038.64
1-Jul	MSFT	Sell	42.07	1000	42060	60	448098.64
1-Jul	TPX	Buy	59.91	5000	299560		148538.64
1-Jul	TPX	Sell	59.92	5000	299590	30	448128.64
1-Jul	F	Buy	17.17	20000	343410		104718.64
1-Jul	MSFT	Buy	41.94	2000	83890		20828.64
1-Jul	MSFT	Buy	41.95	511	21446.45		-617.81
1-Jul	MSFT	Sell	41.89	2511	105175.79	-160.66	104557.98
3-Jul	F	Sell	17.23	23785	409805.55	1025.05	514363.53

We need to note that a 10$ commission was included in every transactions either buy or sell order. In addition, an interest on our total asset is ignored for the simulation proposes. And for this reason table 5.13 have $-617.81 total assets since the website that we use for our simulation was indicating that we have sufficient funds, however, if we ignore the interest, we will find that my available cash was a negative number. For the short and cover transaction which was done on the first week, $10 commission was included for the cover only.

To evaluate Swing Trading method we used the total assets change, and the weekly cash profit. For the weekly assets change see table 5.14, and for the weekly cash profit see table 5.15.

Table 5.14 shows the total assets change on weekly basis.

Week #	Total asset	Profit/loss	Weekly % Change	Total Change	% Weekly % S&P 500
0	500000		0.00%	0.00%	
1	499738.76	-261.24	-0.05%	-0.05%	-0.77%
2	503718.16	3979.4	0.80%	0.74%	1.56%
3	505977.14	2258.98	0.45%	1.19%	-0.09%
4	514363.53	8386.39	1.66%	2.85%	1.28%

The total assets table was calculated based on the total value of the Swing Trading portfolio at the end of the each simulation week. This include all the cash that we own at the end of the week, and the stocks that were owned. The prices that were used were the prices at closing day of each week. The first column, total assets, shows the weekly assets. The second column, shows the cash flow into the total assets. The third column, shows the change in the total assets. Each change is calculated based on the change from the previous week until the current week. The fourth column, shows the change in the total assets, with respect to the initial investment. The change on the asset value was compared to S&P 500 on the fifth column. Moreover, the total change in the assets, and the weekly change of S&P 500 was interested in figure 5.24.
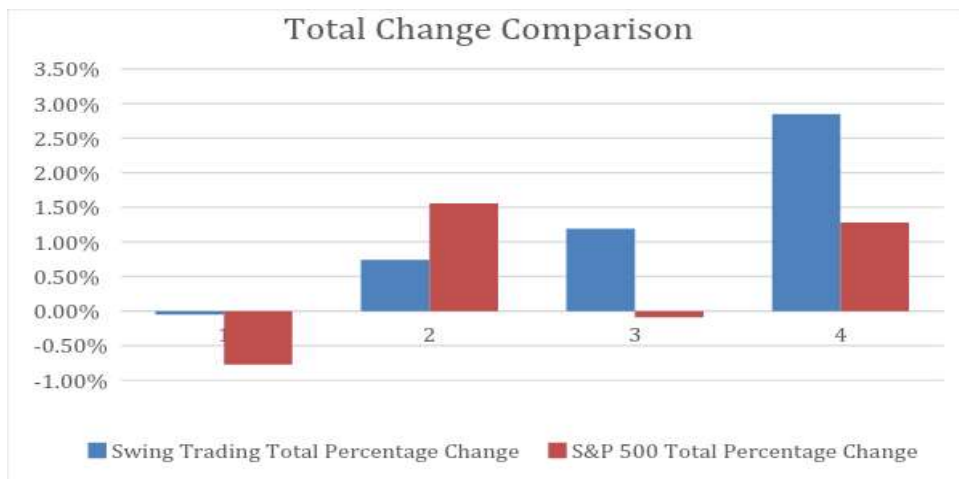

Figure 5.24 shows the weekly total assets plot with mathematical mode for the total assets change.

166

The first week we did not have positive total assets; however, we had positive cash flowing, based on the sold stocks. The next table will show this, and explains the method, which was used. Moreover, the first week was not very successful, however, we were able to generate profit in the second week for the reason that the market was at high and we was able to trade at a higher rate . The third week was good for us, but we were more careful in our investment for the reason that conflicts rose in the Middle East. The last week was very successful for the reason that the market in general was at high and we traded at large amounts for small amount of time, using stocks that we believe is fit for Swing Trading, such as Ford. In addition, in the last week we tried to enter the market with large volume and with diversification. In addition, we need to note that the S&P 500 was at high most of the month of the simulation. In fact, on 3 of July 12, 2014 S&P 500 reached a the highest point which was ever recorded trading at 1,985.59 index. Next, The following figure shows the weekly total assets.
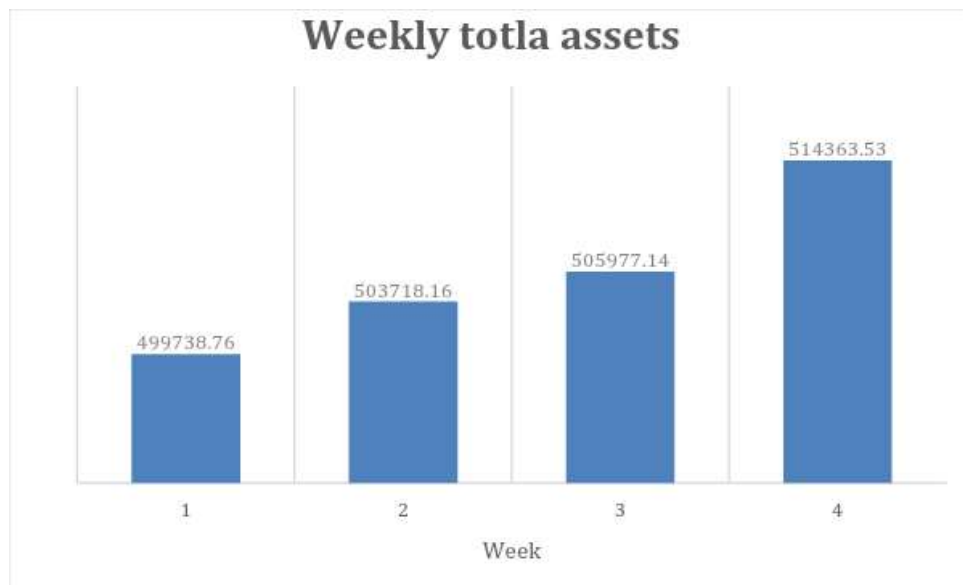

Figure 5.23 shows the weekly total assets plot with mathematical mode for the total assets change.

Another result that was obtained from the simulation, was the weekly profit percentage. For this method of evaluation, we added all the value that was generated from any selling order, a profit or loss, and then divide that by all the buying order value.

So if I hold shares in my portfolio it will not be included. The weekly profit percentage used the cash generated over the total initial investment to come up with the percentage.

Table 5.15 shows the Weekly profit percentage change

Week	Total Weekly Cash profit		Weekly profit percentage %		S&P 500 Weekly profit
1	648.86		0.29%	0.298335709	-0.77%
2	6000.3		1.20%	1.181277685	1.12%
3	614.98		0.08%	0.265794908	-0.09%
4	7099.39		2.40%	0.798368759	0.73%

In addition, in the last week we tried to enter the market with large volume and with diversification. In addition, we need to note that the S&P 500 was at high most of the month of the simulation. In fact, on 3 of July 12, 2014 S&P 500 reached the highest point which was ever recorded trading at 1,985.59. The stock

5.4 Conclusion

My main goal for this project is to grasp fundamental understanding of how equity is being traded in real environment, discover if stock market is worth to investing in for future reference, comparing my strategy with my colleague, developing method and intuition concerning stocks trading. We were able to recognize how the stock market works in general. In addition, we were able to generate a future investment plan using Swing Trading method. We developed method using what we have learned and observed in in this simulation. We learned that events could have an impact on the market. Moreover, we learned that day trading using Swing Trading could lead to higher profit than long time term trading. Furthermore, we learned that using Swing Trading, where investors buy when the stocks are up trend or if the shares have high interest in the stocks market, could bring profit. Also, investors need to spend more time before starting to invest in the stock market. They need to choose stocks that they believe in, and then observe these shares. Furthermore, investors need to look for trends that prices go through in the chosen stocks and try to predict similar patterns in the future. Furthermore, in the real stock market, we need large amount of cash to capture noticeable profit in the short term. However, people must not put large percentage of their money in the stocks. Investors, should take some time to review firm, develop an intuition about the real price of the share, try to look for trends, and try to speculate the news. Fourth to third of the person savings can be invested in the stock market. Money that is needed in the next month or two cannot be invested in the stock market. At the end we need to understand that in stock market someone might lose all of his/ her investment, but when there is a risk, there will be rewards.

6. Comparisons and Analysis

After the four weeks of simulation the results were plotted on graphs in order to show the comparison aspect. During the four weeks of simulation the group was able to outperform S&P 500 in the first, third and fourth week. The weekly percent change was used in order to compare the trading strategies in a weekly basis. In the first week, the news-based trading method saw the smallest percent change at -1.66%, followed by the trend trading method at -0.52%, then the swing trading method at -0.05%, while the candlestick trading method achieved the only positive change at 0.43% as seen in figure 6.1.
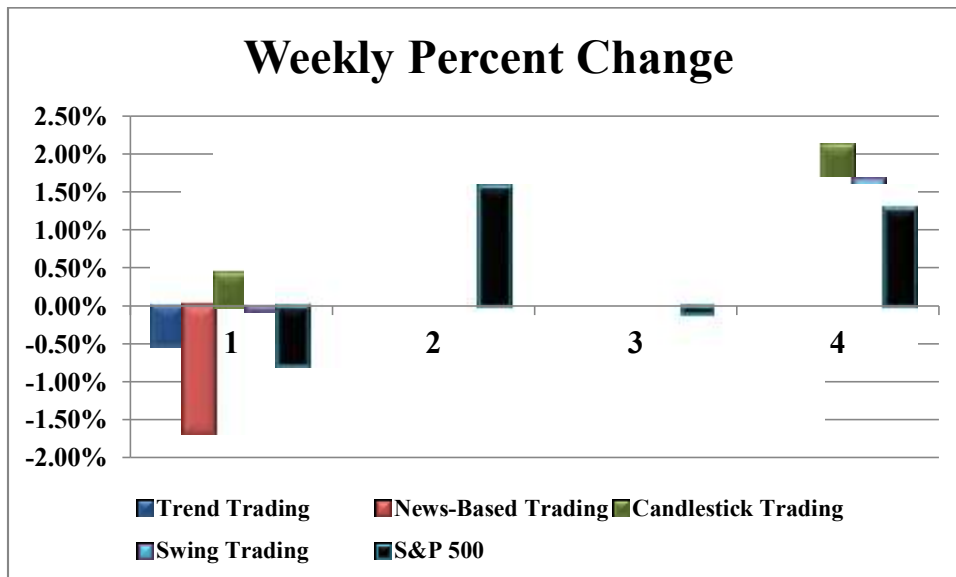
Figure 6.1: Weekly percent change.

The average performance of the group for the first week was -0.45%, thus outperforming S&P 500 which showed a large negative change at -0.77% as seen in figure 6.2. In the second week, the trend trading method saw the smallest change at -0.33%, while the other three trading method had positive change; the highest being the swing trading method at 0.80%, followed by

the news-based trading method at 0.60% and finally the candlestick trading method at 0.51%. However, S&P 500, which had a change percent of 1.56%, outperformed the group, which had an average of 0.40%, in the second week. The second week is the only week that S&P 500 outperformed the group; this could be interpreted as a sign that the trading skills of the group had improved over time as seen in figure 6.2.
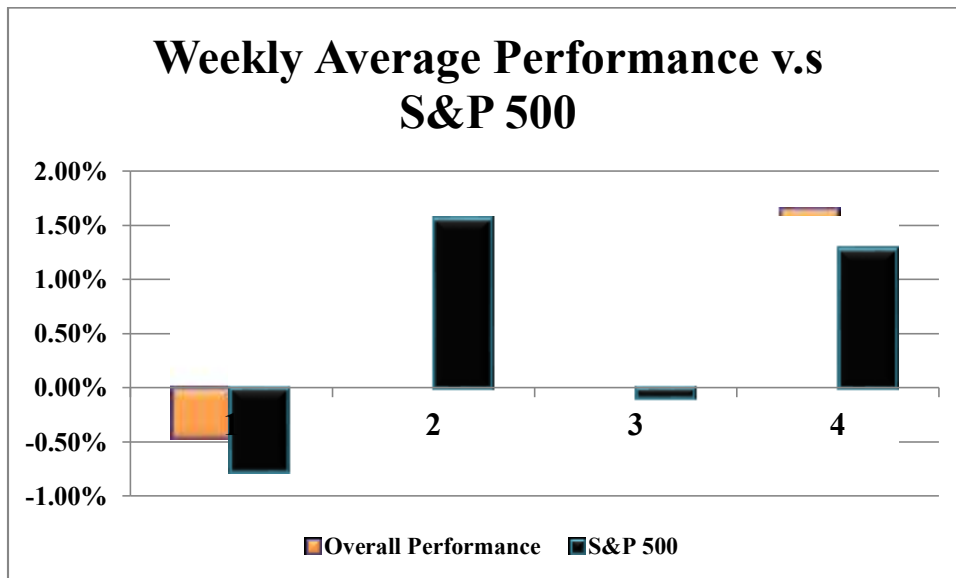

Figure 6.2: Weekly average performance vs. S&P 500.

In the third week, all four strategies had positive change, with highest being the swing trading strategy at 0.47% followed by trend trading at 0.45%, then candlestick trading at 0.30%, and finally news-based trading at 0.04%. The group average was 0.31%, thus outperforming S&P 500, which had a negative change of -0.09%. In the last week, each strategy saw the largest positive change in the simulation. All four trading strategies performed very well, and were able to outperform S&P 500, which had a change of 1.28%. The group average for this week was

1.64%, with highest trading strategy being candlestick trading at 2.11%, followed by swing trading at 1.66%, then news-based trading at 1.60%, and finally trend trading at 1.18%.

Over the four weeks, the trading skills of the group have improved over time. In some cases, the group was able to avoid very large loses, when the market was mostly bearish, and were able to optimize their profit, when the market was bullish as seen in figure 6.3.
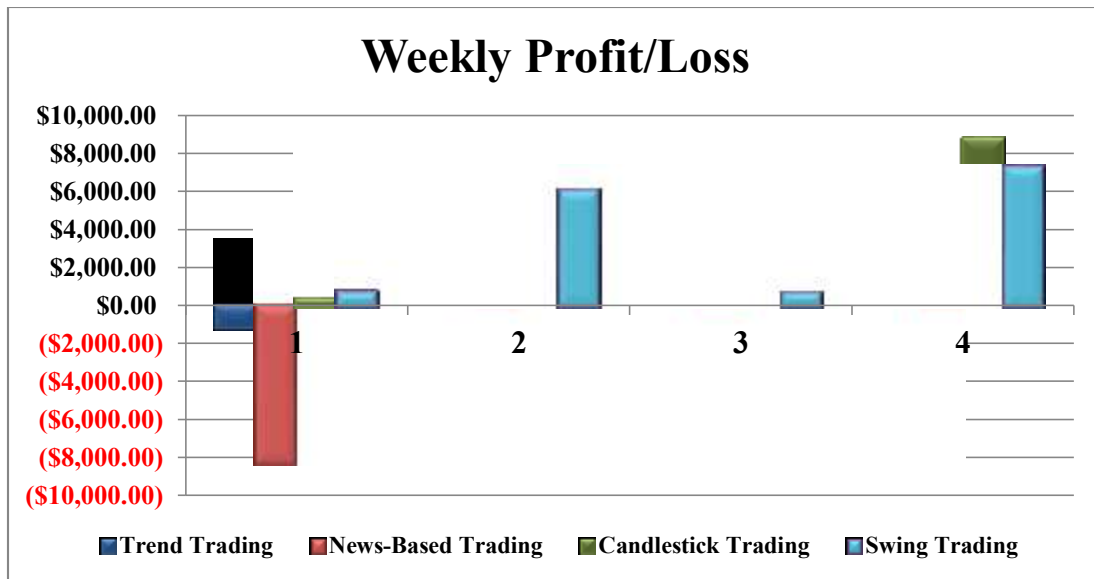

Figure 6.3: Weekly profit/loss.

From the figure, it can be seen that the first week was the only week that the group encountered losses. The losses during the first week made it difficult for some of the group members to recover. For example, both the trend trading strategy and the news-based trading strategy weren't able to recover from their losses until the last week, as seen in figure 6.4.
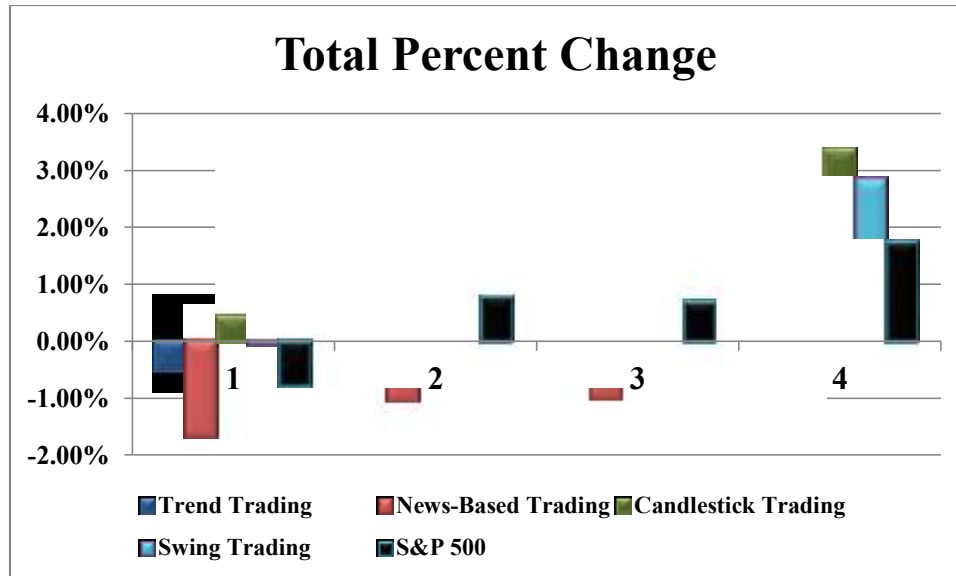
Figure 6.4: Total percent change.

On the other hand, both the swing trading strategy and the candlestick trading, were able to profit, through all four weeks of the simulation, hence they both had large positive change by the end of the simulation at 2.85% and 3.35% respectively, thereby outperforming S&P 500, which had a total change of 1.75%. These changes can be reflected on the total assets for each strategy as shown in figure 6.5. In the first week, both trend trading and new-based trading fill below their initial cash, which was $500,000, and were not able to recover until the fourth week of the simulation. However, they were still able to increase their cash by 0.77% and 0.59% receptively.
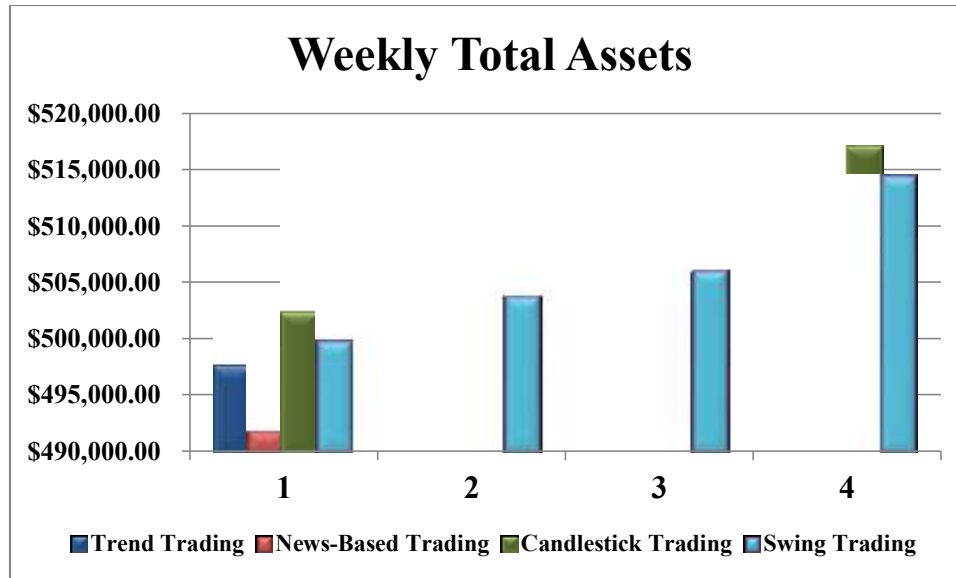
Figure 6.5: Weekly total assets

In order to more accurately assess which trading strategy is better, two companies, Exxon Mobile and Apple, were chosen as the benchmark for all four trading strategies. The total profit/loss from each company is shown in figure 6.6 for each trading strategy. For Apple, the candlestick trading strategy achieved the highest profit, which was $2,180 followed by swing trading at $82, then trend trading at $37, while news-based trading lost $2410.8. In the case of Exxon Mobile, only the news-based trading strategy was able to generate profit from Exxon Mobile, while the trend trading strategy generated loss. Both the candlestick trading strategy and the swing trading strategy failed to generate any profit or loss. The technical indicators of Exxon Mobile gave unreliable signals through the simulation, so to avoid any losses, both the swing trading strategy and the candlestick strategy were not used with Exxon Mobile.
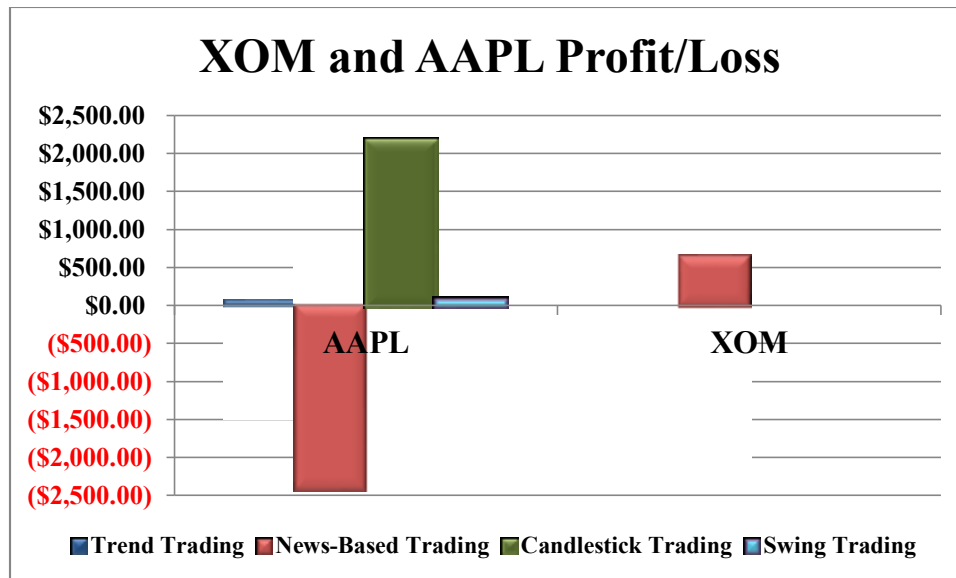
Figure 6.6: XOM and AAPL profit/loss.

7. Conclusion

Throughout this simulation, each member was able to obtain the skills that qualify him to have a positive investment. The strategies that generated the highest return in the four-week simulation were candlestick trading, with 3.35 percent and swing trading, with 2.85 percent. In these four weeks the market had achieved records in terms of the market indices. The performance of the group members had shown an evolution in terms of understanding the market behavior. The lesson that we all acquired from this simulation can be summarized in Warren Buffett quotation "Be Fearful When Others Are Greedy and Greedy When Others Are Fearful."

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