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ABSTRACT

This project is an eight-week stock simulation research conducted by a team of four. This study aims to have research participants to analyze the real-time stock market using various trading techniques to gain knowledge and experience in investing in real life. Throughout the simulation period, a starting investment of $500,000 is invested in targeted companies by the chosen of each trading strategy after one week of thorough analysis. The results have shown that short-term-trading is the most profitable of the four. This valuable experience better equipped the team members in future investments.

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Chapter 1: Introduction

1.1 Goals, Scope, General Plan

The objective of this IQP is to develop a fundamental understanding of the stock market through performing stock market simulations. We want to familiarize ourselves with the terms and techniques in the trading world as well as being able to train our ability in gaining insights to beat the market. We also want to compare how different trading methods will affect the outcome of the simulation. To achieve these objectives, we plan to use 4 trading strategies and their respective portfolios to explore the stock market and compare their outcomes.

This project is a thirteen-week stock market research project, including an eight-week stock trading simulation. The four-member group researched the history of the stock market, the background company information of the selected stocks and the different trading strategies for the first two weeks. Based on this information, each team member will choose four companies that they want to trade. Then, an eight-week stock market simulation was conducted, with each member applying the specific trading strategy on four companies that are chosen. The four strategies used in the simulation were swing trading, short-term trading, news trading, and Technical Analysis trading. For the simulation, each manager is allocated with 500,000 dollars to buy and sell stocks. By using a real-time stock simulator, each manager will operate the portfolio solely based on the chosen strategies. The whole simulation will be documented by graphs and analysis in a weekly fashion. After the simulation, these strategies were compared and analyzed to determine their advantages and disadvantages, so that one or more suitable trading method can be concluded, which will be beneficial to future investments.

1.2 Stock Market History

The world first Formal Stock Exchange appeared in 1611, Amsterdam. But the trading way like the Stock Market happened way earlier than that. In 12th Century Europe, some businessman starts to manage and regulate the debts of agricultural community for banks. They also trading with those debts, so those people are also called the first brokers. In the 13th century, Venetian banker start to trading government securities, later in 14th-century bankers in Pisa, Verona, Genoa, and Florence also began to trade the governments securities, since during this period of the time all these City-states are independent. They were not ruled by the duke but the council of the influential citizen which those bankers. In fact, during that period of the time, the form of the government in that city-state is called the Merchant Republic. The history of the stocks is even earlier than that. (Beattie, 2019)

The original concept of stocks shares can retrospect to the Roman Empire, the government of the Roman Empire sold the public severs to Privet Companies and those companies sold their shares to the individual Roman citizens. They can also trade those shares between other Roman citizens. Back at that time, almost every Roman citizen hold some shares in their hand. It also causes the first Stock crisis; the price of the shares is way more valuable than it should be. The first modern Companies shares are issued by those Italian City-states bankers. Sooner England and the Low Land start to flowed it during the 16th century.

In the early 1600s, the Dutch East India Company became the first company that issued modern bonds and shares of stock to the general public. Also, they were the first joint-stock company to get a fixed capital stock. The reason why they start to issue shares is also the reason why all those companies issued the stocks to spread the risk to all the investor. If the business success the investor get the reward from the stock if something happened the investor will take

some part of the lost for the company.(But without any rules and regulation, the companies can issue unlimited shares to the investors, when they failed to pay the dividends back to the investor the bubble burst. Until the first stock exchange with government, regulation appears in London 1773 end the dark age of the early stock market. And world most famous New York Stock Exchange was launched almost two decades later, it quickly became the most important stock exchange. (Beattie, 2019).

1.3 Stock Market Index

1.3.1 Dow Jones Industrial Average (DJIA)

The Dow Jones Industrial Average (DJIA) is the second stock price average index found by Charles Henry Dow in 1885. DJIA is the index that shares priced combination by thirty biggest and most valuable company in the United States. The Dow does not represent the company's market capitalization. Although the index called Industrial Average, the modern thirty company does not all related to the traditional heavy industry. Although the Dows is the index reflect the American big company, the Index performance is not only influenced by the American Economic but also by the domestic, international political and ecological events.

Table 1.1 Thirty companies that include in the DJIA.

Company	Company	Company	Company	Company
3M	American Express	Apple	Boeing	Caterpillar
Chevron	Cisco System	Coca-Cola	Dow Inc	ExxonMobil
Goldman Sachs	The Home Depot	IBM	Intel	Johnsen & Johnsen
JPMorgan Chase	McDonald	Merck & Company	Microsoft	Nike
Pfizer	Procter & Gamble	Travelers	United Technology	UnitedHealth Group
Verizon	VISA	Walmart	Walt Disney	Walgreens boots alliance

Figure 1.1 Summary of DJIA

1.3.2 Nasdaq Composite Index (NASDAQ)

The Nasdaq Composite Index (NASDAQ) is the stock price average index that reflects the change of the Nasdaq stock market. Nasdaq's listed companies cover all high-tech industries, including software, computers, telecommunications, biotechnology, retail and wholesale trade.

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Nasdaq has a wide variety of market makers, and investors trade any listed stock on the Nasdaq market in open competition - using their own capital to buy and sell Nasdaq shares. This kind of competition activity and capital supply activity makes the transaction proceed actively, the broad and orderly market, the prompt execution of the order provides the advantageous condition for the big and small investors to buy and sell the stock (Chen, 2019).

As the main index of Nasdaq, the 100 constituent stocks of Nasdaq are characterized by high technology, high growth and non-financial, which can be said to be the representative of American technology stocks (shown in Table 1.2 below). The Index reflects companies across major industry groups including computer hardware and software, telecommunications, retail/wholesale trade and biotechnology. It does not contain securities of financial companies including investment companies (Nasdaq, 2019).

Table 1.2 Companies included in NASDAQ-100

Companies	Companies	Companies	Companies
Activision Blizzard	Cisco Systems, Inc.	Intuitive Surgical Inc.	Regeneron Pharmaceuticals
Adobe Systems Incorporated	Citrix Systems, Inc.	J.B. Hunt Transport Services	Ross Stores Inc.
Alexion Pharmaceuticals	Cognizant Technology Solutions	JD.com	Seagate Technology Holdings
Align Technology, Inc.	Comcast Corporation	KLA-Tencor Corporation	Shire plc
Alphabet Inc. Class A	Costco Wholesale Corporation	Lam Research, Inc.	Sirius XM Radio, Inc.
Alphabet Inc. Class C	CSX Corporation	Liberty Global plc Ordinary A	Skyworks Solutions, Inc.
Amazon.com, Inc.	CTrip International	Liberty Global plc Ordinary C	Starbucks Corporation
American Airlines Group	Dentsply Sirona	Liberty Interactive	Symantec Corporation
Amgen Inc.	Dish Network, Inc.	Liberty Interactive	Synopsys, Inc.
Analog Devices	Dollar Tree, Inc.	Marriott International, Inc.	T-Mobile US
Apple Inc.	eBay Inc.	Maxim Integrated Products	Take-Two Interactive, Inc.
Applied Materials, Inc.	Electronic Arts	MercadoLibre	Tesla, Inc.
ASML Holding	Expedia, Inc.	Microchip Technology	Texas Instruments, Inc.
Autodesk, Inc.	Express Scripts, Inc.	Micron Technology, Inc.	The Kraft Heinz Company
Automatic Data Processing	Facebook, Inc.	Microsoft Corporation	The Priceline Group
Baidu.com, Inc.	Fastenal Company	Mondelēz International	Twenty-First Century Fox Class A
Biogen, Inc	Fiserv, Inc.	Monster Beverage	Twenty-First Century Fox Class B
BioMarin Pharmaceutical	Gilead Sciences, Inc.	Mylan N.V.	Ulta Beauty

Broadcom Limited	Hasbro, Inc.	NetEase, Inc.	Verisk Analytics
CA Technologies	Henry Schein, Inc.	Netflix	Vertex Pharmaceuticals
Cadence Design Systems	Hologic, Inc.	NVIDIA Corporation	Vodafone Group, plc.
Celgene Corporation	IDEXX Laboratories, Inc.	O'Reilly Automotive, Inc.	Walgreens Boots Alliance
Cerner Corporation	Illumina, Inc.	PACCAR Inc.	Western Digital
Charter Communications, Inc.	Incyte Corporation	Paychex, Inc.	Workday, Inc.
Check Point Software	Intel Corporation	PayPal Holdings, Inc.	Wynn Resorts
Cintas Corporation	Intuit, Inc.	QUALCOMM Incorporated	Xilinx, Inc.

Nasdaq officially separated from the NASD and began to operate as a national securities exchange in 2006. In 2007, it combined with the Scandinavian exchange group OMX to become the Nasdaq OMX group, which is the largest exchange company globally, powering 1 in 10 of the world's securities transactions. Currently NASDAQ-100's market value is $7,671.10, as shown in Figure 1.2. Compared to the beginning of the 21st century, which its value was $2,267.90, NASDAQ-100 has made a 238.25% increase in value.

Figure 1.2 NASDAQ-100 market summary

1.3.3 Standard & Poor's 500 Index (S&P 500)

The Standard & Poor's 500 Index tracks mainly large capital companies (Amadeo, 2019). The market value is calculated by multiplying the number of shares issued by the stock price, and it represents the total value of all stocks issued by the company. The S&P 500 includes a total market capitalization of $23.5 trillion, which is roughly 80% of the stock market capital. The index is weighted by the floating adjusted market value, and is re-adjusted quarterly (namely March, June, September and December) In order to be selected into the index, a company must have at least 50 percent of its stock available to the public , at least $1 per share, and at least 50 percent of its fixed assets and revenues are within the United States. In this way, comparing to Dows and Nasdaq, S & P 500 includes a relatively higher capital value and less tech companies.
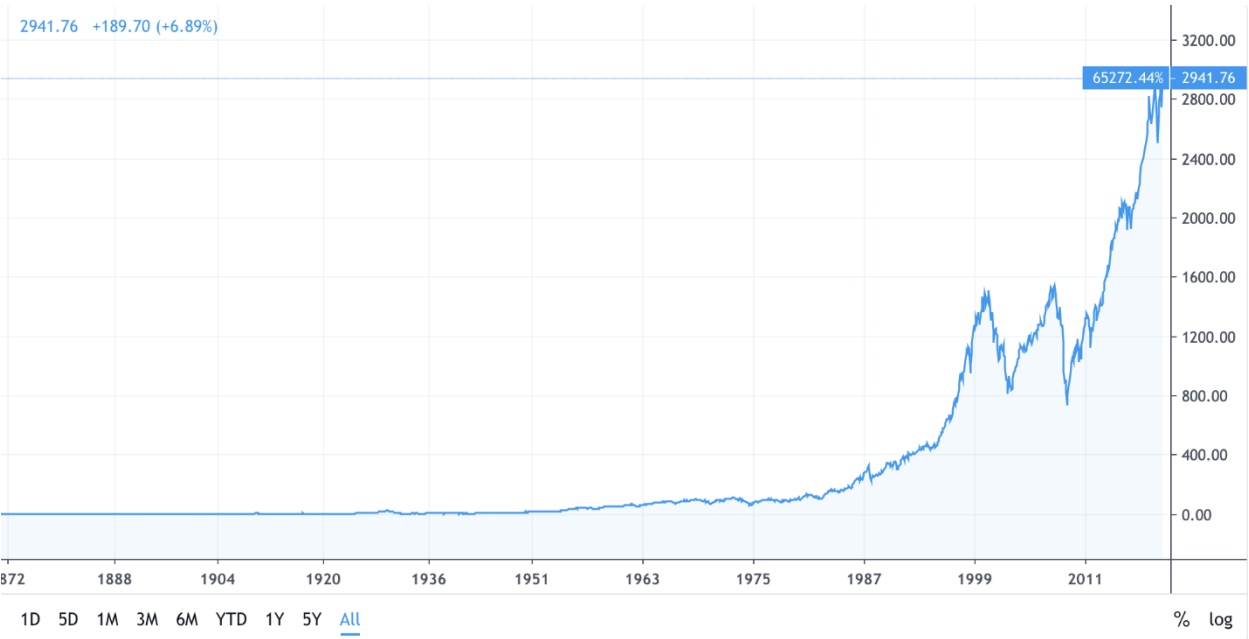
Figure 1.3 S&P 500 market summary

1.3.4 The Russell 2000 Index (RUT)

The Russell 2000 Index was created in 1984 by the Frank Russell Company. It is a stock market index consist of the bottom two-thirds of the Russell 3000 Index. The combination of the 2000 small-capitalization companies are especially useful for all small-cap investors since it reflects the return opportunity presented by the entire sub-section of that market rather than opportunities offered by narrower indices, which may contain biases or more stock-specific risks (Chen, 2019). Unlike the Dow Jones Industrial Average, the Russell 2000 index is weighted by shares outstanding. This means that a member stock's last sale price as well as the number of shares that can be traded influence the index. Russell 2000's current market value is $1566.57 (Chang, 2019). The Russell 2000's market summary is shown in Figure 1.4 below. (Richards, 2012)

Figure 1.4 Russell 2000 market summary from Trading View

Chapter 2: Trading Methodologies

2.1 Short-Term Trading   (Manager: Kunjun Zou)

The Short-Term Trading method is one of the most widely used techniques. This method is high risk and high reward investment technique. Since this technique buys and sells in a short period of time which means investor usually does not hold a stock more than a week. There are other trade methods which can be relayed to the short-term Trading. Like daily trading, which is called an extremely short-term trading method. Due to the risk of the short-term trading method, it's usually not recommended to the small investor to use short term trading method as their main trading method but more of a way to getting the information of the stock their looking into it. And find the signal of the market. And use the short-term Trading to every couple month to get the information either they buy more for the long-term investment or selling their stocks. As figure 2.1 show below is the typical signal on the market (Seabury, 2019).

Figure 2.1 Short-Term Trading method

2.2 Swing Trading   (Manager: Ziqian Zeng)

Swing Trading is an intermediate time frame method that can be used when trading stocks and options. Unlike other trading methods such as Long-Term trading, which traders hold stock for more than half a year, Swing Trading positions typically last a few days to a few weeks, and it varies based on the market trends.

Just as its name "Swing" indicates, this strategy mostly focuses on capture gains from the stock price swinging between low price (buy-in position) to high price (sell position). For Swing Trading, the key is to identify the bearish or bullish trend and look for the inflection point, at which the stock trend turns from bearish to bullish, vice versa. Such points are often referred to as pullbacks or countertrends, and for traders, it is time to pick an entry point once the counter trend is clearly determined.

The goal is to enter a position where the countertrend will quickly reverse, and prices will swing. In order to accomplish that, it is required to study stock charts abortively and looks for its pattern of trends, and ideally looking for an upswing in stocks that mimics those of the recent past pattern. In addition to that, observing trend can help the trader to create a channel composed of approximate maximums and minimums of value. Traders are suggested to buy the stock assuming it will rise back into the channel if a stock is generally rising in value and it drops below or around the channel. Then, after the trend is clearly identified, profit can be gain if the trader sells stocks when it reaches or exceeds the upper boundary of the channel. Although the gain is maximized when a trader buys at the bottom of the downtrend, which it immediately swings to uptrend, it is safer to wait until the uptrend appears a little, just so the trader can be reassured that stock is going to rise again instead of beginning a long term decrease in value. To determine when to enter the market to make the maximum profit, this method will also calculate the Risk/Reward ratio. If the

potential risk is greater than the potential loss (ratio > 1), the trade needed to be monitored closely. Once the stock hits the target price, traders should consider selling a portion of their stocks to lock in some gains. The detail calculation will be elaborated in Chapter 4 with stock trading simulation. The following figure 2.1 demonstrates the timing of buy-in and sells stock in Swing Trading.

Figure 2.2 Swing Trading Demonstration

The blue arrows indicate the entry point of T-Mobile stock in its history stock trend, while the pink arrows point out the place for the trader to sell. It is not difficult to notice that the best buy in point is when the stock's price was at the bottom of its trend, vice versa. However, we cannot conclude such a result of the specific time of these points took place in real time, because of the unknown of future stock behavior. The details of conducting such a method will be demonstrated later in chapter 4.

2.3 News Trading   (Manager: Jerry Xu Assan)

News trading is a strategy to buy or sell a stock according to the news. Usually, the stock price is responsive to whether to a good or bad news. Determining whether news is "good" or "bad" must be determined by the price action of the stock, because the market reaction may not match the tone of the news itself. This is because rumors or estimates of the event (like those issued by market and industry analysts) will already have been circulated before the official release, causing prices to move in anticipation. The price movement caused by the official news will therefore be determined by how good the news is relative to the market's expectations, not how good it is in absolute terms. The key factor in deciding the quality of news is how timely it is being discovered. (Allbee, 2016) Today, news is disseminated worldwide in a fraction of a second, meaning that traders have a much narrower window of opportunity to capitalize on their unique knowledge. Often, the public news are much slower than the movement of stock price, so it is crucial that using news trading method does not necessarily means reacting to the news that is out, but rather, through researching news data to predict a future trend of the stock. News traders tend to rely on short-term reactions to the news, which prompt shifts in the markets. They may look to historical data to predict future market news' impact on stock prices. Then, when a news story hits, they have to react instinctively. Of course, there is a high degree of risk associated with this type of trading, but more experienced news traders who focus on specialized areas of interest can be quite successful.

2.4 Technical Analysis Trading (Manager: Xinzhe Jiang)

Technical analysis is a trading method that identify trading opportunities by analyzing statistical trends gathered from trading activity, such as price movement and volume. It was first

introduced by Charles Dow in the late 1800s and then further developed by several famous researchers. Technical analysts believe past trading activity and price changes can be valuable indicators of the future price movements. (Hayes, 2019) There are two basic assumption that form the basic framework of the technical analysis trading method. First is markets are efficient with values representing factors that influence a security's price. Second is Market price movements are not purely random but move in identifiable patterns and trends that tend to repeat over time. In this simulation the manager is going to focus mainly on the second idea since it is hard to learn everything at a time. The method provides various types of trend that a stock might have and the most basic one is price will rise up high to its peak and then drops to the lowest point. Obviously, the low point is the best buying point and the peak is the best-selling point, but it is hard to identify these points. During the simulation, the manager is going to try his best to identify these points based on the history trend graph. (Seth, 2019)

Chapter 3: Short-Term Trading
(Manager: Kunjun Zou)

This chapter is the record of the trading by using the Short-Term trading technique. In the beginning of this chapter is the introduction of the company that I chose for trading, and why I have chosen them. The second part is the trading record of the 8 weeks trending simulation. At the end of this chapter is the analyze of the result of the 8 weeks simulation and the summary of the simulation.

3.1 Stocks Chosen

3.1.1 General Motors Company (GM)

The General Motors Company is an automaker founded in 1908 by William Durant. The headquarters located in Detroit, Michigan. It is one of the biggest automakers in the world have sub-brand like Chevleate, Cadillac, Buick and more. After the bankruptcy in 2009, GM gets back to wall Street in 2010. In 2016 Mary T.Barra take the CEO position of the GM. And in 2018 the GM rank 21s at Fortune top 500 company. The Price of GM stock is been stable in long term but has continued drop since April 17th. And base on the news about the new Corvette and the trend of the stock. I predicted it will have a bounce-back in the summer and it will be a good simulation for short-term trading. Figure 3.1 below is the trend for GM stocks in 5 years (Kendra, 2009).

Figure 3.1 General Motors stocks trend in 5 years

3.1.2 NVIDIA Corporation (NVDA)

Nvidia is an Artificial intelligence company. In 1993 Jensen Huang founded this company in Santa Clara. After It invents the GPU in 1999 the Nvidia become the leader in the graphics card business. in 2011 Nvidia bring out the Tegra 3 it's another game-changer it brings the mobile phone into the 4-core time period. In 2014-2017 the stock of Nvidia have huge increases but in December 2018 the stock price of   more than 100% from 292$ per share to 124$ per share s. and now the price of the Nvidia stock is in another bottom. It seems like a very interesting stock to study so this is my second choice of stock. Figure 3.2 below is the trend for NVDA stocks in 5 years (Nvidia, 2019).

Figure 3.2 Nvidia stocks trend in 5 years

3.1.3 Garrett Motion Inc (GTX)

Garrett Motion world biggest turbo maker, the company of Garrett start their business in Los Angeles, California in 1936. In the beginning its produce Turbocharger for the aircraft. In 1961 step into automobile business and start to become the biggest turbo maker in the world. In 1999 Garrett is merged by Honeywell, and in 2018 the company separate from Honeywell and appear on the market again as Garrett Motion. Compare to the NVIDIA and GM, Garrett is a newer and smaller company on the market. it can give a compare with those two bigger companies with short term trading techniques to see which will work better or its all work same. Figure 3.3 below is the trend for GTX stocks at all times (Garrett, 2010).
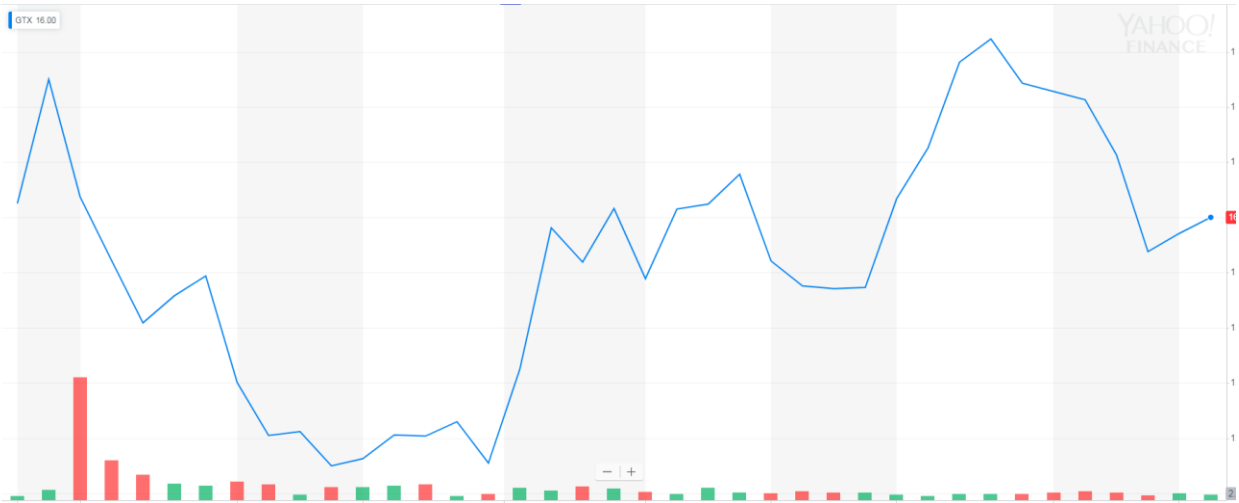
Figure 3.3 Garrett Motion stock trend in all times

3.2 Trading Simulation

On May 30th I put my first investment into these three company. The amount of my initial investment is roughly equal to 83,333 dollars for each company. The total amount of my initial investment is equal to half of my simulation budget of $500,000. Table 3. 1 below shows my first trade in the simulation and for each trade, the commission fees are $4.99. For the rest of the money, I planned to put into the investment when I get some data from the simulation and put into the market by step.

Table 3.1 The initial investment by using short term trading method.

Date	Symbol	Buy/Sell	Price	Shares	Profit/ lose	Total Cash	Total Profit/ Lose
						500,000	
5/30/2019	GM	Buy	34.52	2414		416,663	
5/30/2019	NVDA	Buy	137.64	605		333,385	
5/30/2019	GTX	Buy	16.09	5179		250,049	

3.2.1 Week One (May 28th – May 31st)

For the first week, all those three company has a huge price drop at 5/31/2019. The price of GM drop from $34.52 where I bought this stock to 33.33$ when the trade is closed, the NVDA drop from 137.64 to $135.46 and the GTX have the biggest drop from $16.09 to $15.38. Which GM drop 3.447%, NVDA drop 1.584% and GTX drop 4.412%. Just over a night, the total loss of the arrived $7,911,12 In Week 1.

As we can on Figure 3.2.1 the trend of the GM is very even before May 31st, when the market opens on May 31st the price of GM drop forms $34.82 to $33.30 at open. (4.365%) this is a huge drop and at the close time, the GM only recovered 4 cents. And if we extend the graph to the entire month, we can see the trend of the GM Stock is decreasing and almost approach to the lowest price in 12 months which is 32.00$ at 10/24/2018. According to the trend shown on the graph in Week 2, I may consider putting more attention to this and according to the trading method I am using. I am planning to sell the GTX's stock and focus on this one and NVDA's stock. Figure 3.4 below gives the price of the chart for General Motors in Week One. Figure 3.5 below gives the price of the chart for the NVIDIA Corporation in week one.

Figure 3.4 General Motors stock trend in 1 week
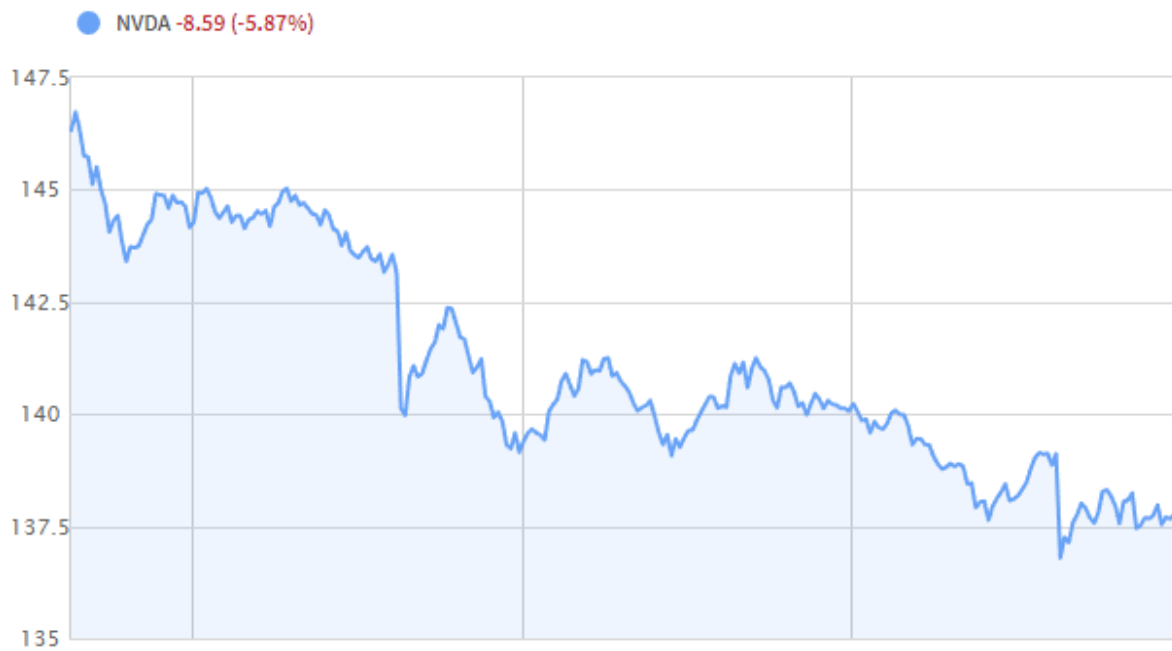
Figure 3.5 Nvidia stocks trend in 1 week

The Stock of Nvidia Corporation is in a Decreasing trend, different than the GM, in this whole week the price of NVDA keeps going down. But we can see the price of this stock is getting warmer after it closed on May 31st. The price of Nvidia also has a huge drop on the December 2018. Just like the GM consider the whole trend the price of Nvidia Corporation is also on one of the low points in the years. Also, the Company of Nvidia is a technology company the price of the stock usually changes quicker than the other two companies that I pick. Which is more fit two the threading method that I pick. The key idea of the short-term trading is to keep the trading period shorter and make more trading. So, I will definitely make some trading of this stock in week 2. Figure 3.6 below give the price of the chart for Garrett Motion Inc in week one
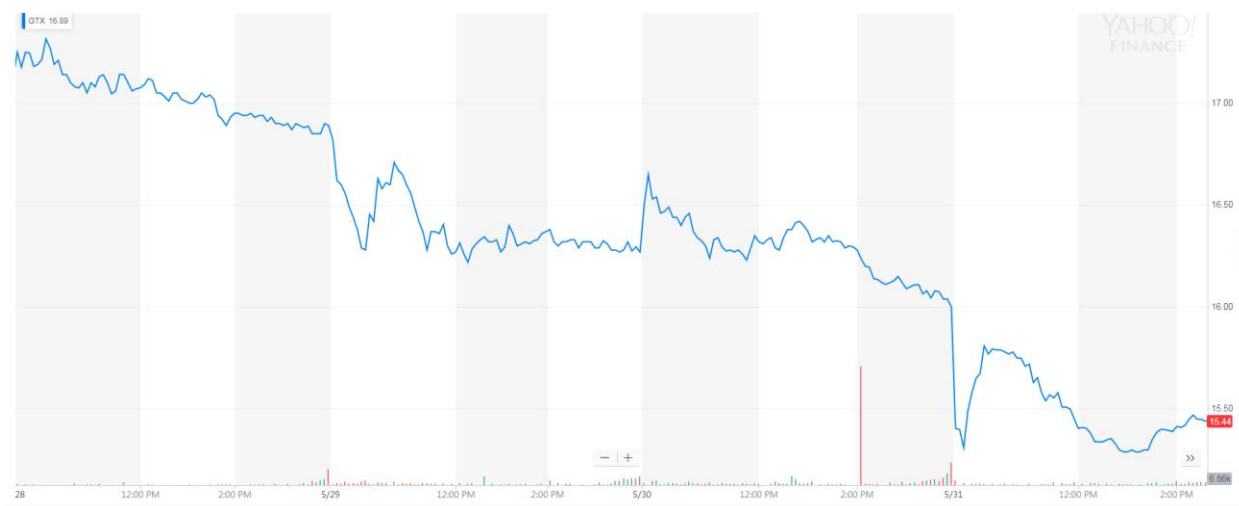
Figure 3.6 Garrett Motion stock trend in first week

The stock of the Garrett Motion also has a hard time this week. On May 31st this stock price   at $15.60 and increase to the peek at $15.77 per share then the price of this stock is going back down again. But consider the whole trend of Garrett Motion in this year the price of this in the middle of the decreasing trend. So, in week two, I planned to sell most of the share I have of Garrett Motion and put that extra cash in two GM and Nvidia.

Table 3.2 Summary of the stock and the cash I have after week one

Symbol	Holding Share	Share Value	Total value	Money Spent	Change in Value
GM	2414	33.34	80,482.76	83,331.28	-2,848.52
NVDA	605	135.35	81,886.75	83,272.2	-1,385.45
GTX	5179	15.38	79,653.02	83,330.17	-3,677.15
Total profit					-7,911.12

3.2.2 Week Two (June 3rd – June 7th)

In this week the profit of the trading is $258.95 for selling all my Garrett Motion's stock at June 4th at $16.14 which just 5 cents over the price when I purchased it in week one but considering its losing $3677 in the first week I make my decision that it may be a good time to sell all of it when it can make some profit. And I sold all my GM stock on June 5th for $36.04. Which makes $3,669.28 profit and I brought it back on June 6th at the price of $34.76 with the money get from trading in earlier this week. And for the stocks I hold for NVDA I didn't make the trade considering the trends show it's on a continued increase. To make the total amount of money in the market close to the initial investment. In general, this week Two of my stocks have a good increasing and just like what I predicted in week one the price of GTX still dropping in week two. Figure 3.7 below gives the price of the chart for General Motors in week two.

Figure 3.7 General Motors stocks trend in the second week

On the open day of this week, June 3rd the price of the General Motors Stocks has a small increase but there's a huge increase during the market closing time between June 3rd and June 4th. Which is a 4.57% increased overnight. And the increase continued until the price arrived at $36.18 on June 5th, which is also the day I decided to sell all the stocks I hold. And it hit the Earth again on June 6th with the lowest price at $34.64. Which I think is a good time to bring it back since GM is a very consistent stock and I bought it in the first time at $34.54 in week one. Next week I may make multiple trading on this stock since I have a pretty heavy load on this stock unless it has a huge increase or drop. Figure 3.8 below the price of the chart for the NVIDIA Corporation in week two.

Figure 3.8 Nvidia stocks trend in the second week

Nvidia continues his drop on June 3rd and arrived at the lowest point in the week at the end of the trading time on June 3rd at $133.09. Just like GM, Nvidia also has quite a big increasing on the second day of the week but consider the price of the single share of the stock is high, the percentage of the increase is not as big as the GM but is also a good trend. And in the rest of the week, Nvidia keeps it increasing trend during this whole week. Which make me make the decision to keep this stock on my hand unless it drops under 140$ per share or the trend getting stable. And for this investment, the potential profit is $4,755.3. Figure 3.9 below gives the price of the chart for Garrett Motion Inc in week two.

Figure 3.9 Garrett Motion stock trend in the second week

For the stock of Garrett Motion Inc. since its the stock that dropped the most in the last week and it on its middle of the decreasing trend by the whole years' trend. right after it passed the price, I bought it to make the decision that I will clean up my hand. At $16.14 which I'm glad that I make this decision. Since the price of the GTX is drop back to $15 range for the rest of the week. But If I only read this trend after June 5th, it's actually increasing a bit not huge, but it increases every day. So, if the price goes this way, after I sold my GM stocks in week three, I may buy this stock back.

Table 3.3 Summary of the transaction in week two.

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit
6/4/2019	GTX	Sell	16.14	5179	84,584.07	253.96	333,633.07	
6/5/2019	GM	Sell	36.04	2414	86,995.57	3,664.29	420,628.64	
6/6/2016	GM	Buy	34.64	4950	171,472.99		249,155.65	
								3918.25

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Table 3.4 Summary of the stock and the cash I have after week two

Symbol	Holding Share	Share Value	Total value	Money Spent	Change in Value
GM	4950	35.49	175,675.5	171,472.99	4202.51
NVDA	605	145.50	88,027.5	83,272.2	4,755.3
					8957.81

3.2.3 Week Three (June 10th – June 14th)

In the third week trading, I sold 2950 shares of GM stock to when the price at 36.30$ on June 11th, and all my GTX stocks on the same day at 150.70$. The total profit for this trading is (4892.01+7896.31) $12,788.32 profit for this trading. And on June 14th I bought 1000 shares of NVDA stocks back 143.84$. I think it's a good time to bring to balance my hand. This week the general market is not going as good as last week. but surprisingly the only stocks I don't really look to bullish GTX is the only stock that not only didn't drop but also increases a bit which I will definitely pay more attention in week four. Due to the technical problem. I can't watch the GTX chart on the new website. So, I will still put the Chart from a different website.   Figure 3.10, 3.11 and 3.12 below are the chart of the price for GM, NVDA, and GTX on week three.

Figure 3.10 General Motors stock trend in the third week

This week the Stock of GM has a very strong opening but doesn't have a follow up increasing. The highest peak of the price is on June 11th at $36.51, and the lowest point was $35.45 at the opening time on June 13th. The most drop happening on June 12th, it drops form $36.25 at the opening to $35.47 when the market closed. Luckily, I sold have of my stock at 11th. And since the trend of this stock is becoming very stable, I will make future decisions either buy in more shares or sells the rest of my shares depends on the opening next week.

Figure 3.11 Nvidia stocks trend in the third week

The same story happened in the NVDA too, it's even more miserable, even with the slightly increased at the end of this week the total amount of the NVDA stocks dropped 4.1%. But When I see the huge drop in the opening of the 14th of June. I decided to put my money in there since there is usually an increase after the huge drop. It is a risky decision I make but high risk usually means high reward just like short term trading methods.
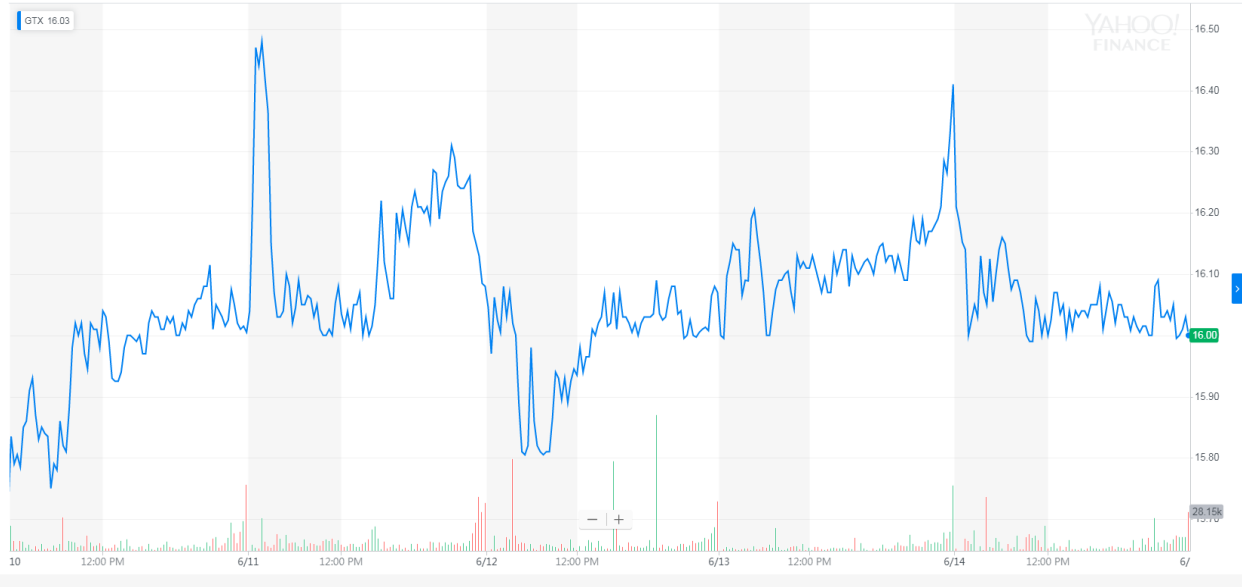
Figure 3.12 Garrett Motion stock trend in the third week

In week three I don't have any shares of GTX stocks in my hand, but the trend of GTX stocks shows that I am wrong. This week the GTX has three outstanding peeks and one bottom which means a lot of opportunities. So, in week four, I will put more attention in this stock. Since it has a totally different trend than the other two, I have. In fact, I think due to the special trend method these stocks show it may be really suiting the short-term trading method.

Table 3.5 Summary of the transaction in the week three

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit
6/11/2019	GM	Sell	36.30	2950	107,080.01	4892.01	356,235.66	
6/11/2019	NVDA	Sell	150.70	605	91,173.5	7896.31	447,409.14	
6/14/2016	NVDA	Buy	143.84	1000	-143,844.99		303,564.15	
								12788.32

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Table 3.6 Summary of the stock and the cash I have after week three

Symbol	Holding Share	Share Value	Total value	Money Spent	Change in Value
GM	2000	35.66	71,320	69,284.99	2035.01
NVDA	1000	144.64	144,640	143,843.99	796.01
					2831.02

3.2.4 Week Four (June 17th – June 21st)

In the fourth week, I sold 2000 shares of GM stocks at 37.20$ on June 19th and 1000 shares of NVDA stocks at 155.10$ on June 21st, totally make (5130.02+ 11255.01) $16385.03 profit. At this moment I don't hold any stocks in my hand. Which I decide since this week is the midpoint of the simulation, It is time to put my money out and put all I got into the market in week five. For the summary of this four-week the short-term trading method really depends on the whole market trend. since the short trading period is hard to use multiple trading to make a profit. it's more about when to put money into the market and when to pull it back out.   For this week trading the GM and the NVDA have a great start it's both have a very strong start and stable finished. And just like what I predicted in Week 3, the price of GTX price is always different than the other two stocks I have, this week when the general market was in cress like crazy the GTX drop almost 10 %. And for each company trend is shown by Figure 3.13, 3.14 and 3.15 below.

Figure 3.13 General Motors stock trend in the fourth week

In this week's trading, GM has a very good trend. It has a great start of the week and a very stable continued increase at the end of the week. The highest point of the week at Jun 19th with 47.45$ price per share. I don't catch that point of the peak, but I make the trade on that day. And by the four weeks trading, I think this stock responded to the market trend pretty very well. If the whole market keeps this bullish trend, then I think I will buy a heavy load of the GM stock.

Figure 3.14 Nvidia stocks trend in the fourth week

Just like GM, NVDA also has a very strong opening of the week, but in the rest of the week, it's even more stable in the mid and end of the week. The peak of the week happened on Jun 20th with 156.86$ per share. I sold all my stocks on the 21st, it's the second peak of the week. This week NVDA keeps holding on 152.5 marks for a long time, I will make a guess that either NVDA will have a huge bounce next week either drop a huge bit or go up like a rocket to the sky.
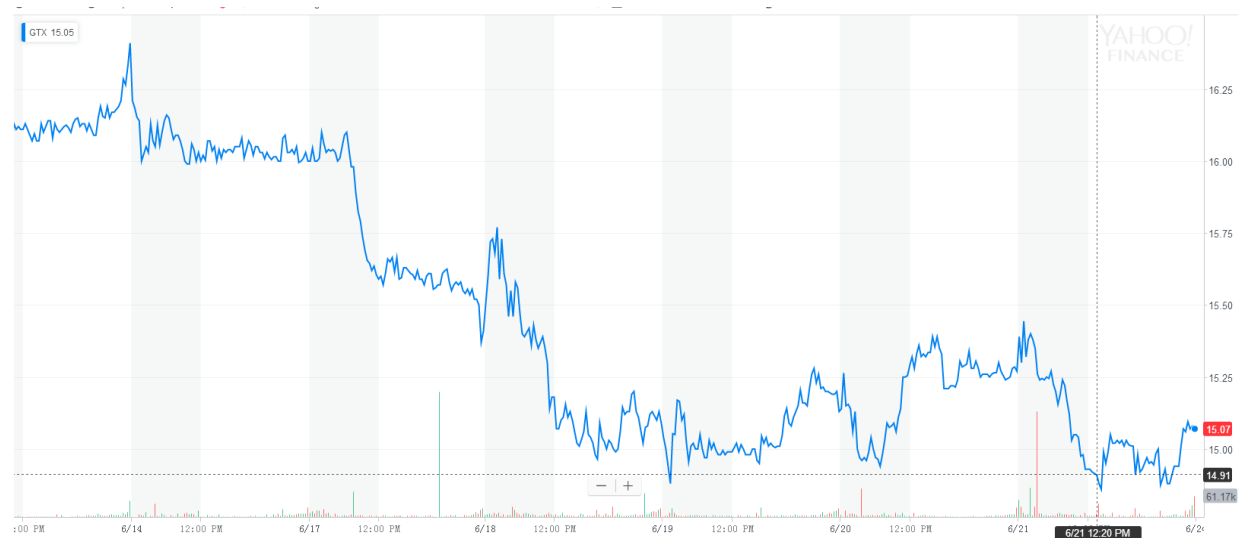
Figure 3.15 Garrett Motion stock trend in the fourth week

GTX always plays a different style like the other two stocks I pick, when everyone else is increased the whole week, GTX is dropped and continued dropping until everybody else   their increase. It's not a bad thing if the market is not going well next week, I will definitely put a lot of investment into GTX stock since usually, this stock is playing differently than others.

Table 3.7 below is the summary of the transaction in week four.

Table 3.7 Summary of transactions in week four

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit
6/19/2019	GM	Sell	37.20	2000	74,395.01	5130.02	377,959.16	
6/21/2019	NVDA	Sell	155.10	1000	155,095.01	11255.01	533054.17	
								16385.03

3.2.5 Week Five (June 24th – June 28th)

This week is the beginning of the second half of the simulation, I decide to equally put all my money into these three stocks I chose. Which is about $177,666 per share. So, I bought in 4841

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shares of GM stock at $36.7, 1168 shares of NVDA stocks at $152.0 and 12252 shares of GTX stocks at $14.5. End of this week's all these three stocks gives me about $33936.62 profit (9,197.9+14,202+10,536.72). This week the whole stock market is super bullish, all stocks I bought got extremely high increase rate, I don't know why but it's a good thing to our investor. As we can see from Figure 3.16, 3.17 and 3.18 below. The big increase happened on mid of the week June 26th. On that day NVDA has the biggest increase, the GT has the increase a little bit late on the 27th.

Figure 3.16 General Motors stock trend in the fifth week

The stock of GM has a very stable increase trend this week, the most increase on 25th and the opening 26th. After I purchase this stock the price increased 5% which makes me very satisfied, although it's the least profitable stock this week, the consistency of these stocks is what I am looking for. It will not give me a heart attack that is important.

Figure 3.17 Nvidia stocks trend in the fifth week

When we are talking about the Technology stock, we usually can predict it will be changing the price overnight, just like what happened on 26th for NVDA. The price of stock almost increased by 8 %. And that is why the High-Tech company stocks have so many people interested in it. The magic to gain a lot of rewards overnight, but it also could make   nothing overnight too.
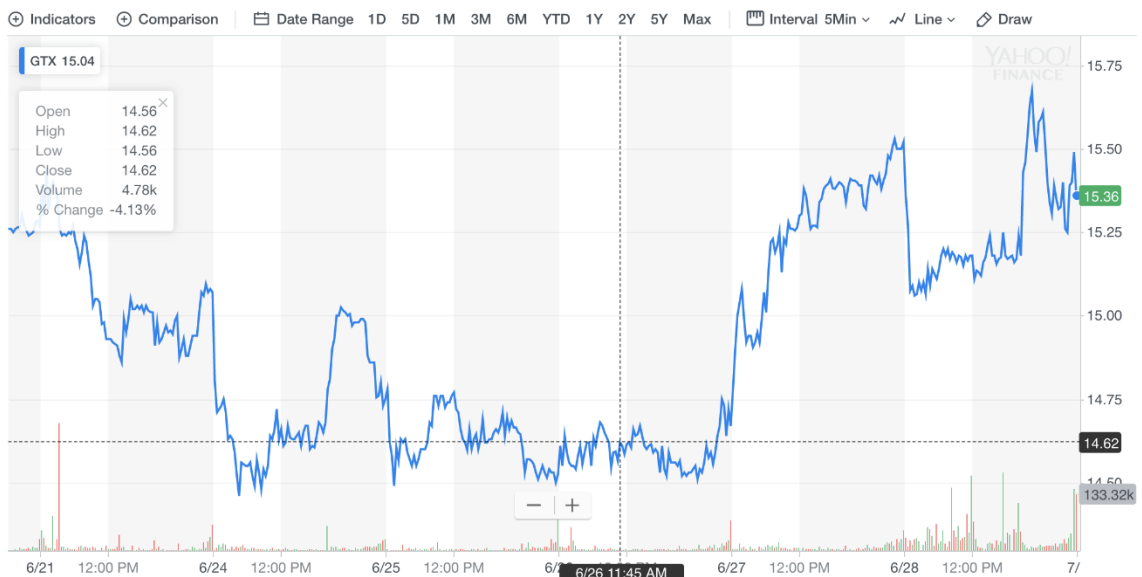
Figure 3.18 Garrett Motion stock trend in the fifth week

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The stock price of the GTX is like a roller coaster. For me, it's hard to predict, the only thing I know is If I was a long-term investor I will never choose this stock as my major investment, it is so unpredictable that it can make some miracle happened but most of the time the miracle is not a good one. But luckily this week although it still looks very dangerous it still makes a lot of profit in this week.

Table 3.8 Summary of week five.

Symbol	Holding Share	Share Value	Total value	Money Spent	Change in Value
GM	4841	38.6	186,862.6	177,669.69	9,197.9
NVDA	1168	164.16	191,738.88	177,541.87	14,202
GTX	12252	15.36	188,190.72	177,654.99	10,536.72
					33936.62

3.2.6 Week Six (July 1st– July 5th)

This week is not going as good as last week, the whole market didn't it bullish. All the stocks have a very rough start. I sold all my NVDA stocks when it arrived $170 mark on July 1st. And bought it back after the market rest on Independence Day at a price of $159. This trade gives me a profit of $21,014.02. For the other stocks, I didn't make the trade that I should. In fact, if the NVDA didn't go that crazy in the opening I may lose way more profit than I have now. The July 4TH Independence Day didn't make a positive impact on the market as I thought. That is the lesson I learned. The national holiday doesn't always make market bullish. The figure 3.19 3.20 and 3.21 below are the trend of the stocks I chose this week.

Figure 3.19 General Motors stock trend in the sixth week

This week, GM has a very rough time in the mid of the week, especially during the Independence Day. The price of the stocks drops under $38, luckily the stock bound back on the last day of the week, I didn't make any trade during this week cause my target price of this trading is $40. And the bottom line for it is $36 as we can see in the chart this week GM has two very obviously buying signal and there are many people make the purchase so I have the confidence that this stock can go up next week.

Figure 3.20 Nvidia stocks trend in the sixth week

This week NVDA opening at a high point which arrived over $170 mark. I decided to sell all of the shares in my hand and make $21,014.02 profit from this trade. And after that, the whole stocks going down like a roller coaster, lucky I avoid this horrible drop. After I saw the sells signal, I decided to buy 1200 shares back and here I used a different strategy than what I used for the GM stocks. So I can compare these two opposite trading strategies.

Figure 3.21 Garrett Motion stock trend in the sixth week

GTX stock performed so bad this week and I always I will bounce back some time I didn't sell it at \$15.8 which is a total mistake, so in week seven if the price up to \$15.5 I will sell my shares in my hand. And for the trend of GTX, I can't find any special trading signal which I am quite confused about the trend of this stock in the seventh week. I don't know how to set a predicate goal for it so I decided to go for the safe

Table 3.9 Summary of the transaction in week six

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit
7/1/2019	NVDA	Sell	170	1168	198,555.01	21,014.02	198,589.01	
7/5/2019	NVDA	buy	159	1200	190,804.99		7,784.02	
								21,014.02

Table 3.10 Summary of week six.

Symbol	Holding Share	Share Value	Total value	Money Spent	Change in Value
GM	4841	38.5	186,378.5	177,669.69	8708.81
NVDA	1200	160.33	192,396	190,804.99	1,591.01
GTX	12252	15.09	184,882,68	177,654.99	7,227.69
					17527.51

3.2.7 Week Seven (July 8th– July 12th)

In week seventh trading, I sold my GTX stocks at \$15 mark. Sell the NVDA at \$170 and keep the money in my hand didn't do further investment. The GM starts slow but has a huge increase on the last day of the week, NVDA continued its a super-strong upward trend, and the GTX gives no confidence at all. During this week the total profit I get is \$19,310.04 (6,120+13,190.02) thanks to the GTX strong start at week five, even the total trend is going down

for two entire weeks I can still get some profit from it. And after the price of GTX touch to the $14 mark, I decided to buy it back at $13.8 which is a very good decision I thought. Next week if the GM goes up to $40, I will clear my hand for NVDA and GTX I will act after I see next week's trend. Figure 3.22, 3.23 and 3.24 below is the chart of the trend.

Figure 3.22 General Motors stock trend in the seventh week

After a small low spot on the 9th, the trend of GM keeps rising seems and ends up on a very high point at the end of the week. the chart looks dangerous if the trend didn't increase at the opening of the week eight, I will definitely sell my stocks. Since it's almost increased by 10 % in one week, I'm already very happy about it. And due to the contact Ford sign with VW, it will also make me feels keep holding a lot of GM stocks is a very dangerous thing.

Figure 3.23 Nvidia stocks trend in the seventh week

Nvidia makes it back to the $170 mark this week although it didn't stay there till the end

of the week. I sold mine when it touches $170 again and I may have bought it back when it touches

the low point. I think the News about the 2080ti super is becoming the best card in the market and

left a huge gap to the second place is making a lot of effort to boost the trend. And next week I

think it will still have a very big chance to continue its bullish trend.

Figure 3.24 Garrett Motion stock trend in the seventh week

The indeterminacy of the GTX trend is what makes it become a very interesting stock to investment, even though in general the whole price of the GTX is keep dropping but in almost every trading week there's a chance to get a fair amount of profit from this stock. And due to its unique character, it's a very good object to understand the short-term trading technique. This week GTX shows its character again with a huge drop on the opening, it also comes with a huge bounce back at the end and I am confident that it will probably drop again next week but I will see.

Table 3.11 Summary of the transaction in week seven

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit
7/8/2019	GTX	Sell	15	12252	183,775.01	6120.02	191,559.03	
7/10/2019	GTX	Buy	13.8	13880	191,544.99		14.04	
7/12/2019	NVDA	Sell	170	1200	203,995.01	13,190.02	204,009.05	
								19,310.04

Table 3.12 Summary of week seven.

Symbol	Holding Share	Share Value	Total value	Money Spent	Change in Value
GM	4841	39.21	189,815.61	177,669.69	12,145.92
GTX	13880	14.55	201,954	191,544.99	10,409.01
					22,554.93

3.2.8 Week Eight (July 15th– July 19th)

Since week eight is our last trading simulator week I didn't buy in any stocks, and I sold all the stocks I hold. This week the market has fluctuated, both stocks I hold have some rough time during the mid of the week. Lucky both of them find their way back at the end of the week.

Compare to the end of last week both stocks I hold only have some very minimums increases the total profit I made is $25,122.94 (11,094.02+14,028.92) Figure 3.25 and 3.26 below is the chart of the trend in the last week of trading.
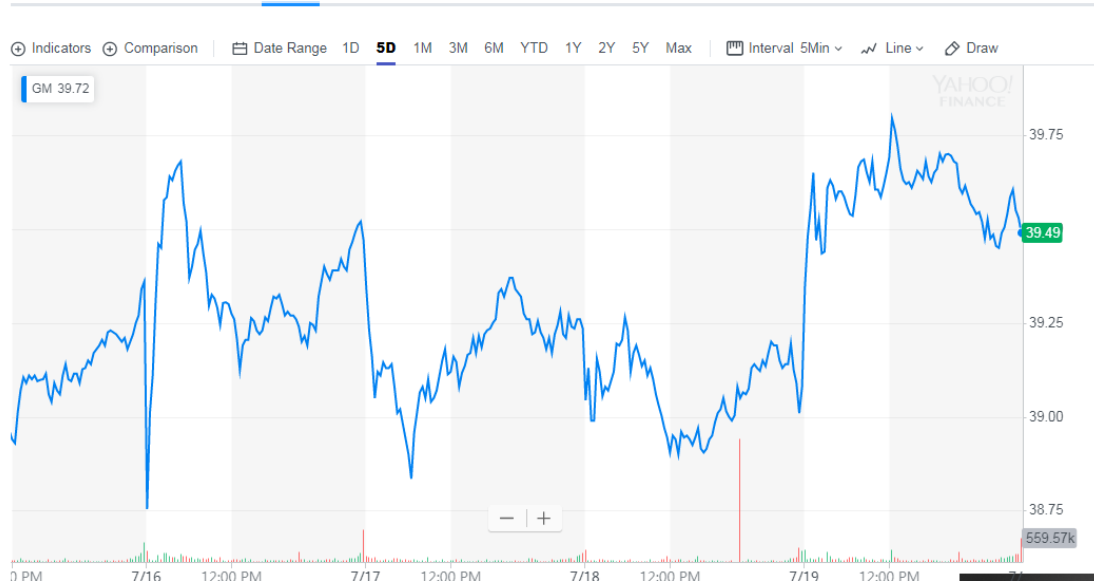
Figure 3.25 General Motors stock trend in the sixth week

This week the GM has a rough start and a very strong following day, but during the mid of the week, this stock starts to struggle again. Although during this week GM release the new Corvette(c8) but this big news seems didn't help the stock price a lot but we can see there is a lot of people buy in this stock at 18th when the new corvette released I can be predicted that next week this stock will defiantly have a huge increases but this is the last trading week so at sold all of the stock I have at the 19th witch give me $14,028.92 profit.

Figure 3.26 Garrett Motion stock trend in the sixth week

This week, in the beginning, two-day GTX has a strong start during the mid of the week the performance of the stocks starts to get poor. It luckily GTX also bounced back on Friday just like what GM does. And in the end, it also gives me $11,094.02 profit in a week which is fair enough to me.

Table 3.13 Summary of the transaction in week eight

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit
7/19/2019	GTX	Sell	14.6	13880	202,643.01	11,094.02	406,652.06	
7/19/2019	GM	Sell	39.6	4841	191,698.61	14,028.92	598,350.67	
								25,122.94

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3.3 Trading Result

After an eight-week stock simulation by using short term trading method, I get $98,350.67 profit by using my $500,000 initial investment. Figure 3.3.1 below shows total profit per week.

Total Profit
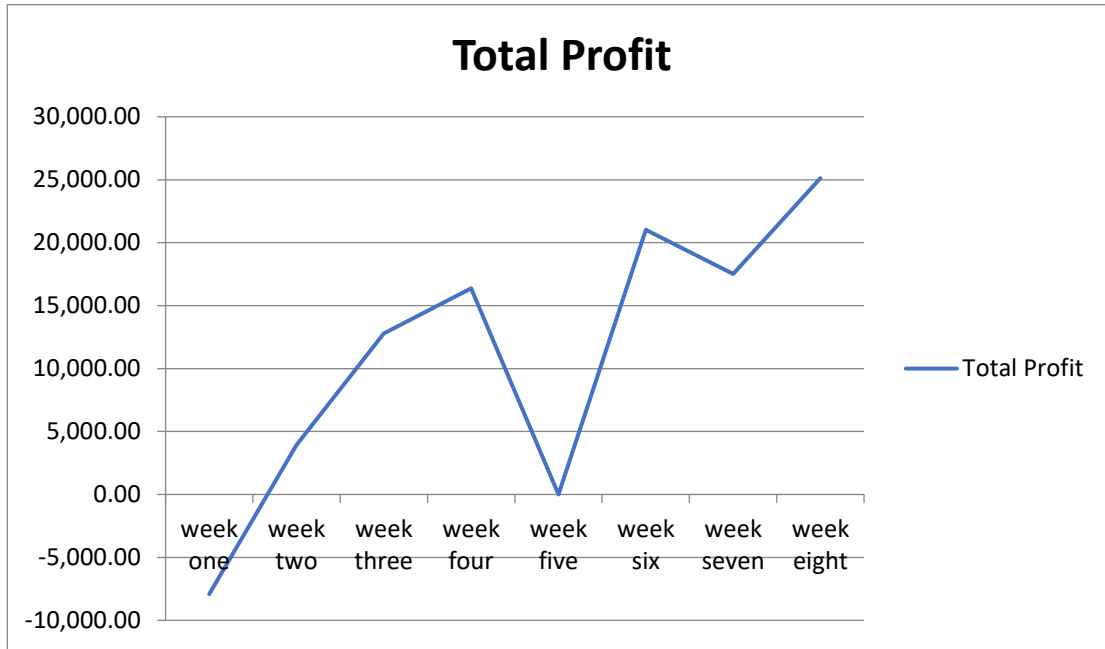
Figure 3.27 Profit per week by using short term trading method

As we can see in the Figure in the first week my profit is negative which means I lose my money in the trading, the main reason is I am new to the trading and the market isn't going that well like it goes in the rest of the trading period, also in the first four weeks by the amount I put in to the investment is only half of $500,000 initial investment. And the reason why I didn't get any profit is that during week five I didn't make any trading due to the market trend. As a result, the short-term trading method depends on market fluctuations. And Figure 3.3.2 is the profit gain by each different stock I chose.
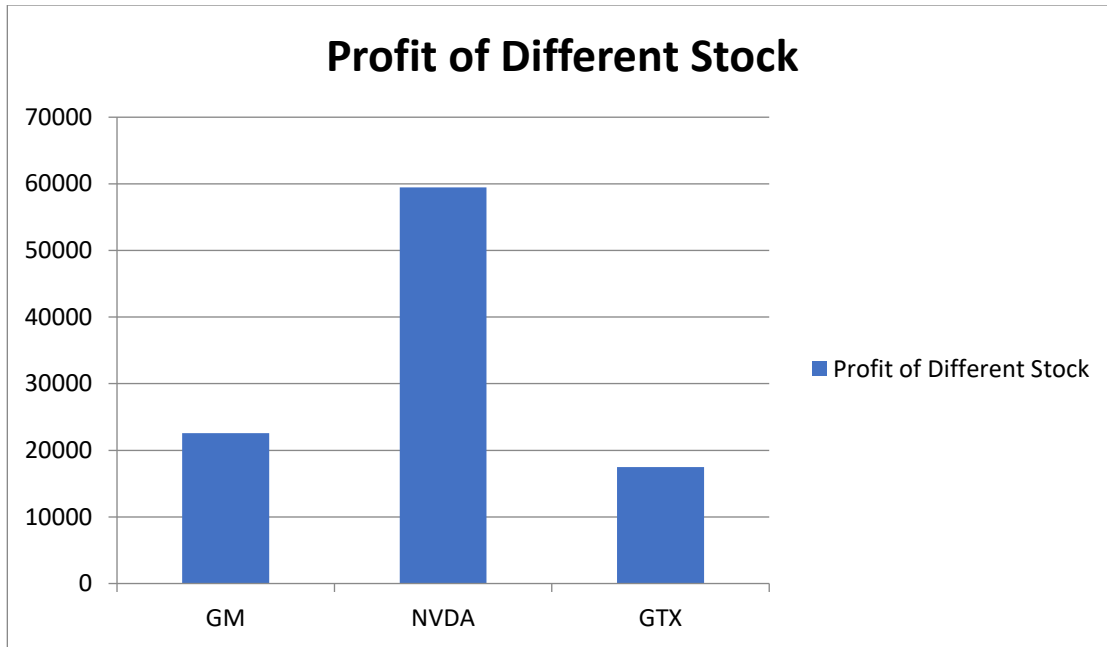
Figure 3.3.2 Profit Gain by Each Different Stock

As we can see in the figure for sure the most profitable stocks are NVDA and it gains more profit than the rest two combined. The most satiable stock is GM. The GTX is a real challenging one which is hard to predicate but if trade it smarts it can be a valuable stock. The Table 3.14 is the summary of the all trading transaction.

Table 3.14 Summary of All Trading Transactions

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit /Loss
5/30/2019	GM	Buy	34.52	2414	83,331.28		416,663	
5/30/2019	NVDA	Buy	137.64	605	83,272.2		333,385	
5/30/2019	GTX	Buy	16.09	5179	83,330.11		250,049	
6/4/2019	GTX	Sell	16.14	5179	84,584.07	253.96	333,633.07	
6/5/2019	GM	Sell	36.04	2414	86,995.57	3,664.29	420,628.64	
6/6/2016	GM	Buy	34.64	4950	-171,472.99		249,155.65	
6/11/2019	GM	Sell	36.30	2950	107,080.01	4892.01	356,235.66	
6/11/2019	NVDA	Sell	150.70	605	91,173.5	7896.31	447,409.14	
6/14/2016	NVDA	Buy	143.84	1000	-143,844.99		303,564.15	
6/19/2019	GM	Sell	37.20	2000	74,395.01	5130.02	377,959.16	
6/21/2019	NVDA	Sell	155.10	1000	155,095.01	11255.01	533054.17	
7/1/2019	NVDA	Sell	170	1168	198,555.01	21,014.02	198,589.01	
7/5/2019	NVDA	buy	159	1200	190,804.99		7,784.02	
7/8/2019	GTX	Sell	15	12252	183,775.01	6120.02	191,559.03	
7/10/2019	GTX	buy	13.8	13880	191,544.99		14.04	
7/12/2019	NVDA	sell	170	1200	203,995.01	13,190.02	204,009.05	
7/19/2019	GTX	Sell	14.6	13880	202,643.01	11,094.02	406,652.06	
7/19/2019	GM	Sell	39.6	4841	191,698.61	14,028.92	598,350.67	
								25,122.94

In the table we can see I make a lot of trading on NVDA since and almost didn't make any trading on GTX. The reason is the trend of the GTX is way harder to predicted compare to the trend of the NVDA's. The reason why I didn't make a lot of trading on GM is the GM is usually performantly more stable than rest of them. Making a lot of trading will not make it more profitable than play it slow. So, it also means that the GM is not a very good simulation target with Short-term trading method.

Chapter 4: Swing Trading (Manager: Ziqian Zeng)

This chapter records the process of trading stocks by using Swing Trading. First, this chapter introduces four selected companies, and the reason why they are chosen for investment. Second, this chapter will present the initial investment record, and analysis of stock trends in each company in the next eight weeks. As it was elaborated in chapter two, risk-to-reward ratio will be calculated and considered of the move of investment under this trading method. The trading data will be documented at the end of each week's report. Finally, this chapter will analyze and display the results of the total gain or loss after eight-week simulation.

4.1 Stocks Chosen

4.1.1 Microsoft Corporation (MSFT)

Microsoft Corporation is an American multinational technology company with headquarters in Redmond, Washington. It develops, manufactures, licenses, supports and sells computer software, consumer electronics, personal computers, and services. Its best-known software products are the Microsoft Windows line of operating systems, the Microsoft Office suite, and the Internet Explorer. Its flagship hardware products are the Xbox video game consoles and the Microsoft Surface lineup of touchscreen personal computers. The most valuable finding of the changing tendency of Microsoft Corporation Stock Price is that since Satya Nadella took charge of Microsoft's CEO in 2014. As shown in Figure 4.1 the stock price of Microsoft has increased about 200% during these 4 years. Until May 24, 2019, the stock price was $126.24, and it keeps increasing (Forbes, 2017).

Figure 4.1 Microsoft Corporation stock trend in 5 years

4.1.2 T-Mobile US, Inc (TMUS)

T-Mobile US, Inc., commonly shortened to T-Mobile, is a United States-based wireless network operator whose majority shareholder is the German telecommunications company Deutsche Telekom (DT). T-Mobile is the third largest wireless carrier in the United States with 81.3 million customers as of Q1 2019. T-Mobile US provides wireless voice and data services in the United States, Puerto Rico and the U.S. Virgin Islands under the T-Mobile and Metro by T-Mobile brands (which it acquired in a reverse takeover in 2013, resulting in the company going public on the NASDAQ stock exchange), and also serves as the host network for many mobile virtual network operators. The company has annual revenues of over $40 billion. Between 2015 and 2017, Figure 4.2 shows that T-Mobile stock shows a significant trend of increase, and it appears to increase overall through the years (Wikipedia, 2019).

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Figure 4.2 T-Mobile US, Inc. stock trend in 5 years

4.1.3 Walmart Inc. (WMT)

Walmart Inc. is an American multinational retail corporation that operates a chain of hypermarkets, discount department stores, and grocery stores founded by Sam Walton in 1962 and incorporated on October 31, 1969. Walmart has 11,368 stores and clubs in 27 countries, it is the world's largest company by revenue—over US$500 billion, according to Fortune Global 500 list in 2018—as well as the largest private employer in the world with 2.2 million employees. It is a publicly traded family-owned business, as the company is controlled by the Walton family. Sam Walton's heirs own over 50 percent of Walmart through their holding company, Walton Enterprises, and through their individual holdings. Figure 4.3 gives the five-years trend of Walmart stock. In November 2015, Walmart stock hit the floor with $56.39 in the last five years, then, it enters the upward trend all the way to the start of 2018. After a couple of price bounce, it seems to go back to its upward trend in January 2019 (Wikipedia, 2019).

Figure 4.3 Walmart Inc. stock trend in 5 years

4.1.4 PayPal Holdings, Inc. (PYPL)

PayPal Holdings, Inc. is an American company operating a worldwide online payments system that supports online money transfers and serves as an electronic alternative to traditional paper methods like checks and money orders. The company operates as a payment processor for online vendors, auction sites, and many other commercial users, for which it charges a fee in exchange for benefits such as one-click transactions and password memory. The company ranked 222nd on the 2018 Fortune 500 of the largest United States corporations by revenue. For the fiscal year 2017, PayPal reported earnings of US$1.795 billion, with annual revenue of US$13.094 billion, an increase of 20.8% over the previous fiscal cycle. PayPal's shares traded at over $55 per share (shown in Figure 4.4), and its market capitalization was valued at over US$98.2 billion in October 2018. In April 2019 PayPal also announced it's going to invest $500 million in Uber

describing it like the intention to work on the "future commercial payment collaborations, including the development of Uber's digital wallet." (Wikipedia, 2019).

Figure 4.4 PayPal Holdings, Inc. stock trend in 5 years

4.2 Trading Simulation

On May 29th, I put my intimal investment in for all these four companies, with the amount of roughly $65,500 for each company. Such number is calculated by equally divided half of my initial money of $500,000 by four, which are the number of companies I plan to invest in this simulation ((500,000 / 2 / 4 = 62,500). The second half of the initial money will be put into investment in the middle of the eight-week trading period—the fifth week of this simulation. Due to the disparity of the companies' net profit margin and its historical trends that were demonstrated in chapter 4.1, the total value of the investment on each stock might be various

Table 4.1 below shows the data of the initial investment. There is a $4.99 commission fee on each transaction.

Table 4.1 Initial investment on stocks by using Swing trading method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit
							500,000.00	
5/29/19	MSFT	Buy	124.58	334	41,739.29	0	458,260.71	0
5/29/19	TMUS	Buy	75.93	546	41,462.77	0	416,797.94	0
5/29/19	WMT	Buy	102.02	816	83,253.31	0	333,544.63	0
5/29/19	PYPL	Buy	110.19	757	83,418.82	0	250,125.81	0

4.2.1 Week One (May 28th – May 31st)

Over the first week, the total gain by the stock transaction is $61.00 for the investment on Microsoft, T-Mobile, Walmart, and PayPal. The major movement in this week was the sold of TMUS stocks to lock gain and stop potential loss most importantly. Overall, all four stock has the similarities of high weekly opening price and a price gap between the market close and open on May 30th and May 31st.

T-Mobile's stock shows a decreasing trend of the stock price in the first week (Figure 4.5), although it is still in the middle of an increasing trend by the point of view of a larger scale. The highest point of the stock price appeared right after the market opened on May 28th with the value of $77.35 per share (+0.06%). The lowest point of the downtrend hit $73.38 per share (-5.07%) at 3:40 PM on May 31st. There is a significant gap in the graph between the closing price of May 30th and the opening price of May 31st, from $76.03 to $74.62 (-1.85%).

Figure 4.5 T-Mobile US, Inc. stock trend during week one simulation

By observing the first week stock trend of T-Mobile, I begin to think that maybe it is not the best time to buy in stocks for this company. Although overall it may be increasing, it is safer to sell the stocks and wait for another opportunity. The drop of price on May 30th reinforced such an idea, so I decided to sell all my T-Mobile stock as soon as the stock price rise above my initial investment of $75.93. So, the SELL transaction took place at 3:40 PM on May 30th when TMUS reached $76.06 per share.

As shown in Figure 4.6, PayPal's stock shows a decreasing trend on the first day, then an increasing trend followed by the next two days. At the end of May 30th, the closing price reached $111.41 per share, yet the price dropped 1.37% to $109.88 as the opening price on May 31st. After that, PayPal's stock swings in the range between $109 and $111, until it reached the closing price of week one as $109.74 per share. Compared to the beginning of the week, PayPal's stock drops $1.76 (-1.58%).

Figure 4.6 PayPal Holdings, Inc. stock trend during week one simulation

In the first week, the highest point of PayPal's stock price is $113.11, which appeared at 10:00 AM on May 28th. The lowest point of the stock is at 9:55 AM on May 31st with a value of $109.00. Since I bought the stock at the price of $110.19, the Risk/Reward ratio is 0.98. To calculate the risk/reward ratio, I set the highest point of an uptrend as the target of profit, then set the lowest point of the downtrend as the stop-out point. The equation to calculate the risk to reward ratio is shown below:

$$($110.19 - $109.00) / ($113.11 - $110.19) = 0.41$$

The ratio is less than 1.0, which indicates that the profit potential is greater than the risk potential of this stock. Considering this information, I decided to buy in more PayPal's stock.

As shown in Figure 4.7 and the two other graphs of TMUS and PYPL above, Microsoft's stock also has a high opening price of $127.52 on May 28th. There are two price gaps in week one

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graph of MSFT. The first gap took the stock price from $126.05 per share on May 28th to $125.27 per share on May 29th. Then, Microsoft's stock value oscillating between $124 to $126 for the next two days, until the second gap brings its value down to 123.85 on May 31st.
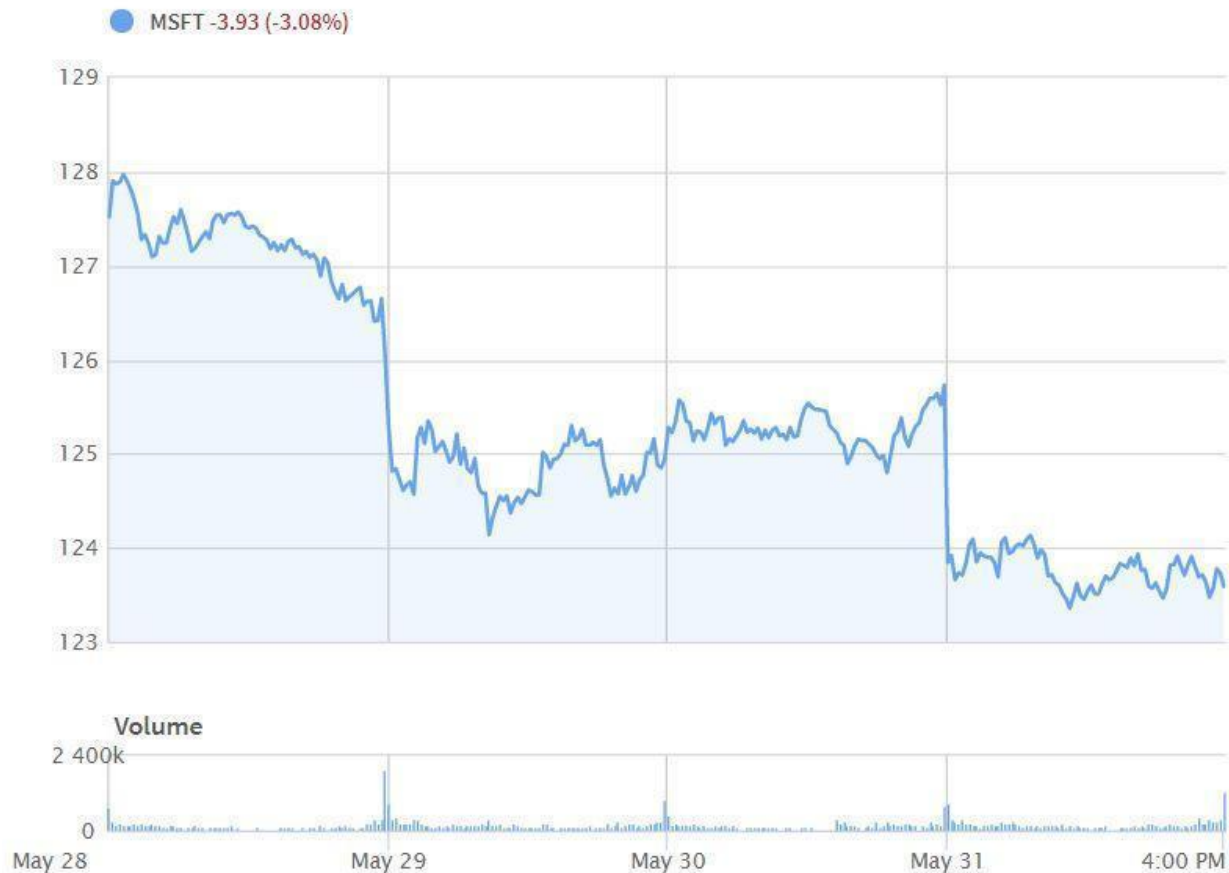
Figure 4.7 Microsoft Corporation stock trend during week one simulation

Overall this week, the highest point of Microsoft's stock trend appeared at 9:55 AM on May 28th with the stock value of $127.97 (+0.35%) per share. The lowest point hit $123.36 (-3.26%) at 12:25 PM on May 31st. The Risk/Reward ratio of Microsoft' stock is 0.36 given my initial bought-in price of $124.58. The equation is as follows:

$$(\$124.58 - \$123.36) / (\$127.97 - \$124.58) = 0.36$$

While the Risk/Reward ratio is lower than 1, potential profit can still be obtained in the investment of Microsoft's Stock. However, since its first week graph appears to be less stable than PayPal's stock, I decide to not buy in more but hold the current MSFT stock.

In the first week (Figure 4.8), Walmart's stock price showed a decreasing trend from the opening of the market on May 28th to the midday on May 29th, with a price of $101.53 per share. After that, an increasing trend followed until the market close on May 30th. Then, just like the three other stocks, a price gap presented and bring the stock price down to $101.33 per share when the market opened on May 31st. With the low open price, Walmart's stock entered an increasing trend once more until the end of this week.

Figure 4.8 Walmart Inc. stock trend during week one simulation

The highest point of Walmart's stock price reached $103.43(+0.41%) per share at 9:55 AM on May 30th, while the lowest price hit $100.70 (-2.24%) per share at 11:55 AM on May 31st. According to the equation of calculating Risk/Reward ratio, target profit and stop-out point are set at $103.43 and $100.70, with my initial investment price $102.02. The calculation is as followed:

$$($102.02 - $100.70) / ($103.43 - $102.02) = 0.94$$

The result shows a ratio close to 1, which indicates that the potential profit may be less than the risk of the investment. Therefore, I will hold and monitored the stock of Walmart closely next week to gain more profit as I can.

Table 4.2 below is a summary of week one transactions. I sold all my 546 shares of T-Mobile stock to stop potential loss. Then, I bought in 20 more shares of PayPal's stock at the price of $109.78 per share. No transactions for MSFT and WMT this week.

Table 4.2 Week one transaction by using Swing trading method

Date	Symbol	Buy/Sell	Price	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit/Loss
							250,125.81	
5/30/19	TMUS	Sell	76.06	546	41,523.77	61.00	291,649.58	61.00
5/31/19	PYPL	Buy	109.78	20	2,200.59	0	289,448.99	0
Total Profit/Loss for ALL	61.00							

4.2.2 Week Two (June 3rd – June 7th)

Throughout the second week, the total gain by the stock transaction is $6,650.9 for the investment on Microsoft, T-Mobile, Walmart, and PayPal. The major movement in this week was the complete selling of PayPal's and Walmart's stocks to obtain profit when the price of these stock was swung to the high point of their trends. In the meantime, T-Mobile's stock was re-purchased at the point which I believed is the lower end of its trend. Overall, all four stock has the similarities of ending their downtrend and begin to rise back around Tuesday and Wednesday. This is likely caused by the event that NASDAQ entered "correction" on Tuesday (a 10% drop from its peak), to which all four companies I invested belong.

The price decreasing trend of T-Mobile's stock, which inherited from last week, has come to an end in the middle of Monday this week (Figure 4.9). 1:00 PM on June 3rd to be precise, at which the stock price hit as low as $73.46 per share. After that, T-Mobile's stock entered its increasing trend throughout the week, and it maximized at $77.10 per share at 11:00 PM on June 7th. Compared to the beginning of the week, T-Mobile's stock shows an increase of $2.73 (3.67%) on its stock value.

Figure 4.9 T-Mobile US, Inc. stock trend during week two simulation

My objective of this week on T-Mobile's stock was to buy-in all those shares I sold last week at a comparably low price. As Swing Trading apply, it is best for me to buy-in stocks when it enters its uptrend. So, the purchase was made at 2:30 PM on June 3rd with 530 shares of T-Mobile's stock at the price of $74.29. With that, the Risk/Reward ratio is calculated as follows:

$$($74.29 - $73.46) / ($77.10 - $74.29) = 0.30$$

Since the ratio is less than even half of 1.0, which indicates that the potential reward of T-Mobile stock is still very high, I decided to hold these shares until the beginning of next week.

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PayPal's stock continued its downtrend until just before the market close on June 3rd, as shown in Figure 4.10. Compared to last week, it dropped from a peak of $113.11 per share to the bottom of $104.54 per share (-7.58%). Then, PayPal's stock entered its uptrend with a price jump to $106.85 per share when the market opened on June 4th. Unlike the TMUS uptrend that has many price fluctuations while increasing, PayPal's stock rose smoothly and steadily. At 11:00 AM on June 7th, it reached its highest price in two weeks with $114.97 per share.
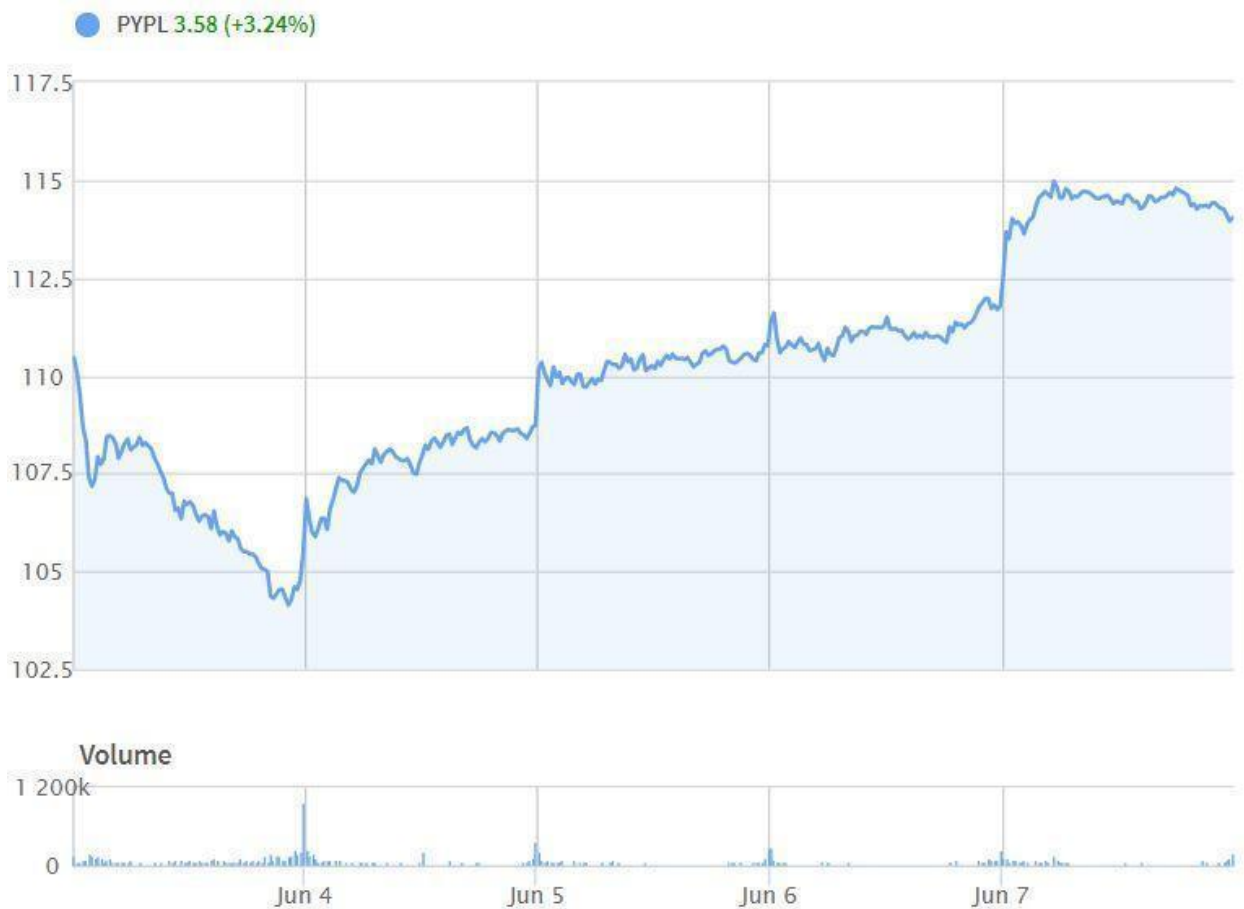
Figure 4.10 PayPal Holdings, Inc. stock trend during week two simulation

One feature that stands out in Figure 4.10 is that the volume of PayPal's stock appears to be in a small quantity after the rising on price this week. In other words, the potential room for the stock price to grow became comparably small. So, after holding it for two weeks, I sell all my

PayPal's stock at 2:00 PM on June 7th with $114.56 per share. I will keep the part that was gain in this transaction and invest the rest in the future when the price of PayPal's stock swing to a lower end.

Just like T-Mobile's and PayPal's stocks, Microsoft's stock price kept decreasing and reached its reflection point at the end of Monday, while followed by an increasing trend immediately (Figure 4.11). Throughout the week, Microsoft's stock trend shows two slight price jumps between the closing price and the opening price the next day. The first one took place between June 4th to June 5th with price jumped from $123.20 to $124.96 per share, and the second one is the jump from $127.90 per share to $129.02 per share between June 6th and June 7th.

Figure 4.11 Microsoft Corporation stock trend during week two simulation

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This week, the lowest point of Microsoft stock trend appeared at 3:40 PM on June 3rd with the stock value of $119.20 per share (-3.86%). The highest one reached $132.00 per share (6.46%) at 10:50 AM on Friday. Since the Risk/Reward ratio was less than 1 in last week, and there is still more volume for the Microsoft's stock shown in Figure 4.11, I decided to use the RRR equation to calculate the X value of Microsoft's stock investment, which X indicates the price that the investment shows equal risk and reward.

$$(X - \$119.20) / (\$132.00 - X) = 1.0$$

$$X = 125.60$$

Given the result, I decided to hold Microsoft's stocks for a longer time to obtain more profit on the increasing of this stock. Even the price might drop last week, the calculation shows that there is still plenty of room for me to sell and gain.

Since Friday last week, Walmart's stock has been in a comparably turbulent state with price went slightly up and down for three days (only market days are counted). Finally, such a state was ended, and Walmart's stock began its rise on Wednesday, June 5th with the market opening price at $102.76 per share. Between June 5th and 6th, Walmart's stock price (Figure 4.12) increased by 1.6%, which was also the increase rate for the rest of the week. Until the market close on Friday, Walmart's stock has increased $3.89 per share (+3.81%) this week. The highest point of Walmart's stock price reached $106.31(+4.09%) per share at 3:30 PM on June 7th, while the lowest price hit $101.47 (-0.65%) per share at 10:55 AM on June 4th.

Figure 4.12 Walmart Inc. stock trend during week two simulation

Normally, I would perform a Risk/Reward calculation for Walmart's stock with this week information to help determine my sell decision. However, as shown in Figure 4.13, Walmart's stock appears to rise above its historic peak within the two years for the first time, and it has already been in an uptrend for a period of time. According to the principle of swing trading, I think it is a good time to sell my Walmart's stock since its price has swung up in the trend. So, also at 2:00 PM on June 7th, I sold all 816 shares of Walmart stocks with $106.03 per share.

Figure 4.13 Walmart Inc. stock trend in two years range

Table 4.3 below is a summary of week two transactions. I bought in 530 shares of T-Mobile's stock at the price of $74.29 per share. Then, I empty my stocks for PayPal and Walmart: 777 shares of PYPL at $114.56 per share and 816 shares of WMT at $106.03 per share. No transactions for MSFT this week.

Table 4.3 Week two transaction by using Swing trading method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit /Loss
							289,448.99	
6/3/19	TMUS	Buy	74.29	530	39,378.69	0	250,070.30	61.00
6/7/19	PYPL	Sell	114.56	777	89,008.13	3,388.72	339,078.43	3,388.72
6/7/19	WMT	Sell	106.03	816	86,515.49	3,262.18	425,593.92	3,262.18
Total Profit/Loss for ALL	6,711.9							

4.2.3 Week Three (June 10th – June 14th)

For the third week, the total gain by the stock transaction is $1,224.92 for the investment on Microsoft, T-Mobile, Walmart, and PayPal. The major movement in this week was emptying my T-Mobile stock to lock the gain for this week. In the meantime, PayPal's stock was re-purchased when I determined it has entered its next increasing trend. Overall, T-Mobile's, PayPal's and Microsoft's stock has experienced a similar level of a price drop for the beginning of the week, while Walmart's stock increase without much turbulence.

The bumpy increase of T-Mobile's stock value from last week has pushed its price to $77.15 per share when the market opened on Monday this week, as shown in Figure 4.14. Yet, the good times did not last long, the drops of approximate $3 on T-Mobile's stock took place on the next day morning between 10:00 AM to 11:00 AM. At first, the stock price oscillated rapidly from $76 to $77 per share for the first hour on Tuesday, then, the first drop happened and brought the price to $75.20. Soon after that, a second drop came in and lowered the price again to the bottom of $74.71 per share on 11:00 AM. For the rest of the week, T-Mobile's stock price appears to be

on a decreasing trend on a weekly scale. Although there are some small rises throughout its decreasing, the price never came up across the line of $76.00 per share.

The overall behavior of T-Mobile stock did not fully match the Risk/Reward ratio of 0.3 from last week. However, the stock market is not simple math, there are still lots of factors can affect the trend of the stock. One feature that stood out is that the volume of T-Mobile stock was very small on Monday, right before the drop, and the trend on Monday was also in a smooth and slow decrease as shown in figure 4.14. Both indicators remind me that the peak of the uptrend could have passed. So, at 3:20 PM on Monday, I sold all my TMUS stock at $76.62 per share to lock the gain.

Figure 4.14 T-Mobile US, Inc. stock trend during week three simulation

Similar to T-Mobile's stock, PayPal's stock experienced a big drop on Tuesday. Figure 4.15 shows that the stock price spike up to $116.52 per share in the morning on Tuesday, then it dropped to $114.95 suddenly in less than 20 minutes. Followed by three other rapid drops, PayPal's stock price hit $113.42 per share at 1:00 PM on June 11th, which was a 2.66% drop on the stock price compared to the market open price on the same day. However, the $113.42 appeared to be the lowest price on the fast drop trend this week. Soon after the drop, the stock entered its next increasing trend and last until the market closed on Friday. The maximum price of PayPal's stock this week was $117.27 per share at 11:45 AM on June 10th.

Last week simulation, I predicted that PayPal's stock price might experience a drop based on the low volume quantity. The behavior of the stock this week prove that it was a good prediction. The sold of the stock last week helped me dodge the big price drop on June 11th, which also provided me a new opportunity to buy in the stock again. I waited two more days to make sure that PayPal's stock will enter a long decreasing trend. At 3:20 PM on June 12th, I bought in 780 shares of PYPL at the price of $114.57 per share. However, since the buy-in price is very close to my sold price last week, the risk of price drop cannot be neglected, which reminds me to monitor PayPal's stock very closely on the beginning of next week.

Figure 4.15 PayPal Holdings, Inc. stock trend during week three simulation

Figure 4.16 shows that Microsoft's stock experience a "V" shape trend throughout this week. On Monday, the market opened with a relatively low price of $132.52 per share of Microsoft's stock, then it experienced a small decreasing trend for the first two days until the price reached $130.90 per share at 10:35 AM on June 12th, which was the lowest point this week. One day after, the stock price slowly entered the next increasing trend for the week and reached $133.18 (+0.5%) per share at 3:20 PM on Friday.

Although there is a drop in the price for Microsoft's stock this week, the price never came close to $125.60 per share, which was the alert price that I calculated on last week simulation. Given the additional feature that the volume of MSFT on Figure 4.16 still in a healthy range, I

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decided to hold the Microsoft's stock for a little longer period to next week and observe its future behavior closely.

Figure 4.16 Microsoft Corporation stock trend during week three simulation

In this week, Walmart's stock shows a continually increasing trend that was different with TMUS, PYPL, and MSFT. After the market opened with $106.75 per share on Monday, Walmart's stock kept increasing with no notable price drop throughout the week. Shown in Figure 4.17, there were even some rapid increases in price that took place when the market opened on June 11th, June 12th, and June 13th. At least a $0.30 increase each time. The maximum price of Walmart's stock was $109.57 per share (+2.64% compared to the beginning of the week) at 3:25 PM on Friday, then the market closed for the week with $109.07 per share (+2.17%).

The behavior of Walmart's stock did not match my prediction. Apparently, there is still room for the stock price to grow. Anyhow, buy-in seems to also be an unwise decision given that the price of Walmart's stock was still at its peak within the two years, so I decided to wait a little bit longer for the price to come down and perform my next buy-in of Walmart's stock.

Figure 4.17 Walmart Inc. stock trend during week three simulation

Table 4.4 below is a summary of week three transactions. I sold all 530 shares of TMUS stock at $76.62 per share to lock the gain. Then I bought in 780 shares of PayPal's stock at the price of $114.57 per share. No transactions for MSFT and WMT this week.

Table 4.4 Week three transaction by using Swing trading method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit /Loss
							425,593.92	
6/10/19	TMUS	Sell	76.62	530	40,603.61	1,224.92	466,197.53	1,285.92
6/12/19	PYPL	Buy	114.57	780	89,369.59	0	376,827.94	3,388.72
Total Profit/Loss for ALL	7,936.82							

4.2.4 Week Four (June 17th – June 21st)

For the fourth week, the total gain by the stock transaction is $1,885.42 for the investment on Microsoft, T-Mobile, Walmart, and PayPal. The major movement in this week was the sold of 780 shares of PayPal's stock to lock the gain of the week. Then, two buy-in actions of T-Mobile's and Walmart's stocks were conducted. Overall, Microsoft's and Walmart's stock were in its steady increase this week, while PayPal's exhibit a strange behavior, which will be demonstrated later.

Figure 4.18 gives the stock trend of T-Mobile for the past week, in which it indicates that at 11:50 AM on June 17th, the slow but turbulent decrease of T-Mobile's stock has come to an end. The decrease last over four trading days and finally brings the stock price down to $74.57 per share, which is also the lowest stock price for T-Mobile this week. After that, the stock went into its increase period for this week. Especially between the days, the stock price increased rapidly for the first two days. Yet, such an increase was unexpectedly short. The sudden drop of T-Mobile's stock took place when the market opened on June 20th. There is a total of $1.7 price drop for T-Mobile's stock for the first hour on June 20th. Similarly, the drop also appears in the next two day

in the morning. Until the market closed on Friday, T-Mobile's stock value is at $75.69 per share, which is only 1.33% increase compares to the beginning of the week.

Since I sold TMUS stock last week, I kept waiting for the turning point that changes the stock trend from down to up. Although we can clearly see that such point appeared on June 17 from the weekly Figure below, I could not determine it for certain when I was at that moment. To me, there is still a possibility for the stock to drop. So, I did not buy in T-Mobile stock until I saw the increase when the market opens on June 18th. After that, 540 shares of T-Mobile's stock were bought at the price of $76.11 per share at 10:00 AM on June 18th.
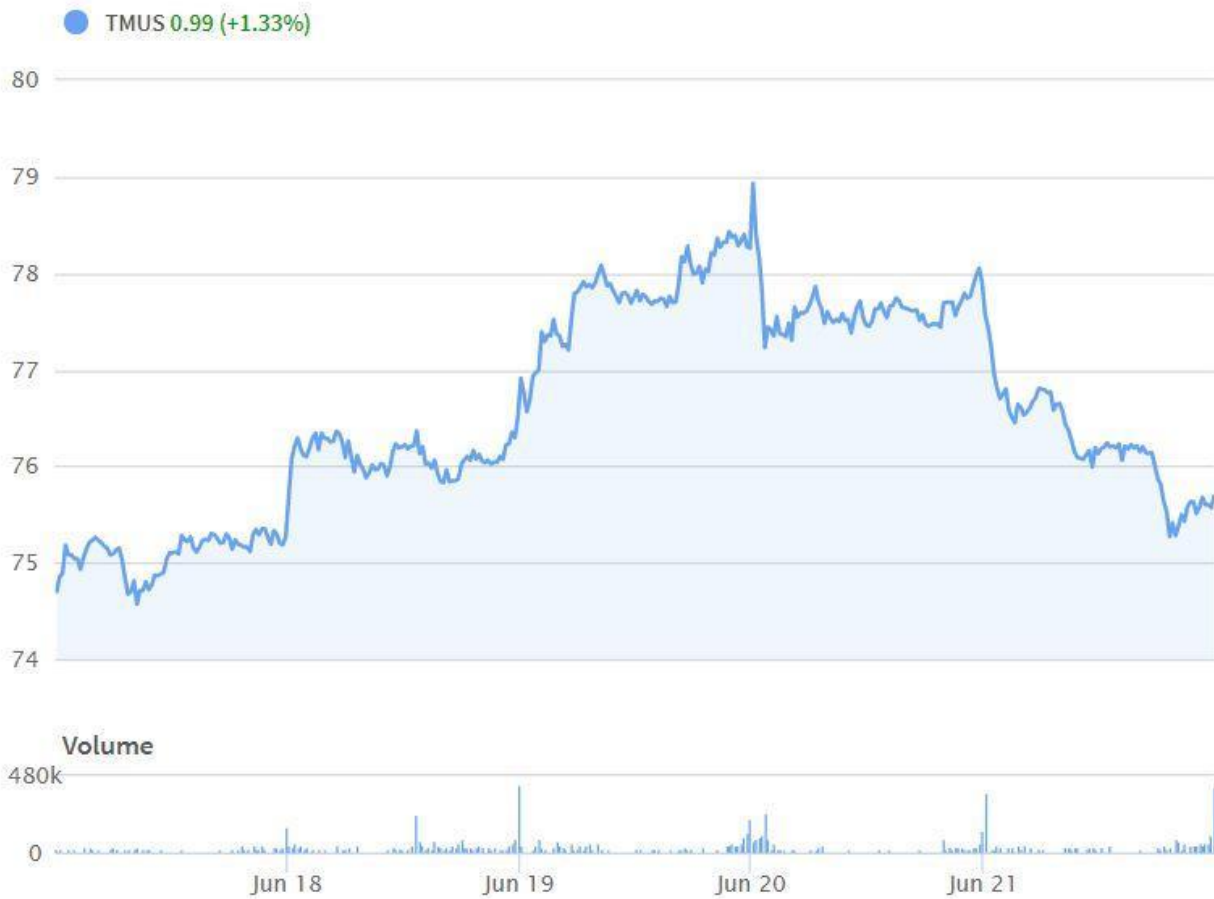
Figure 4.18 T-Mobile US, Inc. stock trend during week four simulation

PayPal's stock has expressed the most uncommon behaviors this week since the simulation starts four weeks ago. Inherited from last week's increase, PayPal's stock price was at $116.69 per

share when the market opened on Monday. Then, as shown in figure 4.19, such increase became slow and smooth within the whole day. On the next day, a $1.69 price drop of PayPal's stock happened in the first hour, which brings its price down to $116.31 per share. Then, PayPal's stock showed a downtrend for the next two day, with some kickback took place at the end of June 19th. All the sudden, the stock price boots up to $119.56, which is a $2.43 increase, when the market opened on June 20th. However, PayPal's stock price dropped with the same scale at the beginning of June 21st and brought the stock price back to $116 range until the end of the week.

Fortunately, PayPal's stock did not start dropping immediately on the first day of the week. Yet, the very small volume and the slowdown of increase of the stock reminded me that the end of its increasing period was near. So, I decided to sell 780 shares of PayPal's stock at 3:00 PM, at which I believed it starts to swing down its price, on June 17th at the price of $117.00 per share. Although it turns out that I missed a big sell opportunity on June 20th, I did not regret my decision since such opportunities are rare and unpredictable, hence unsafe to some degree.
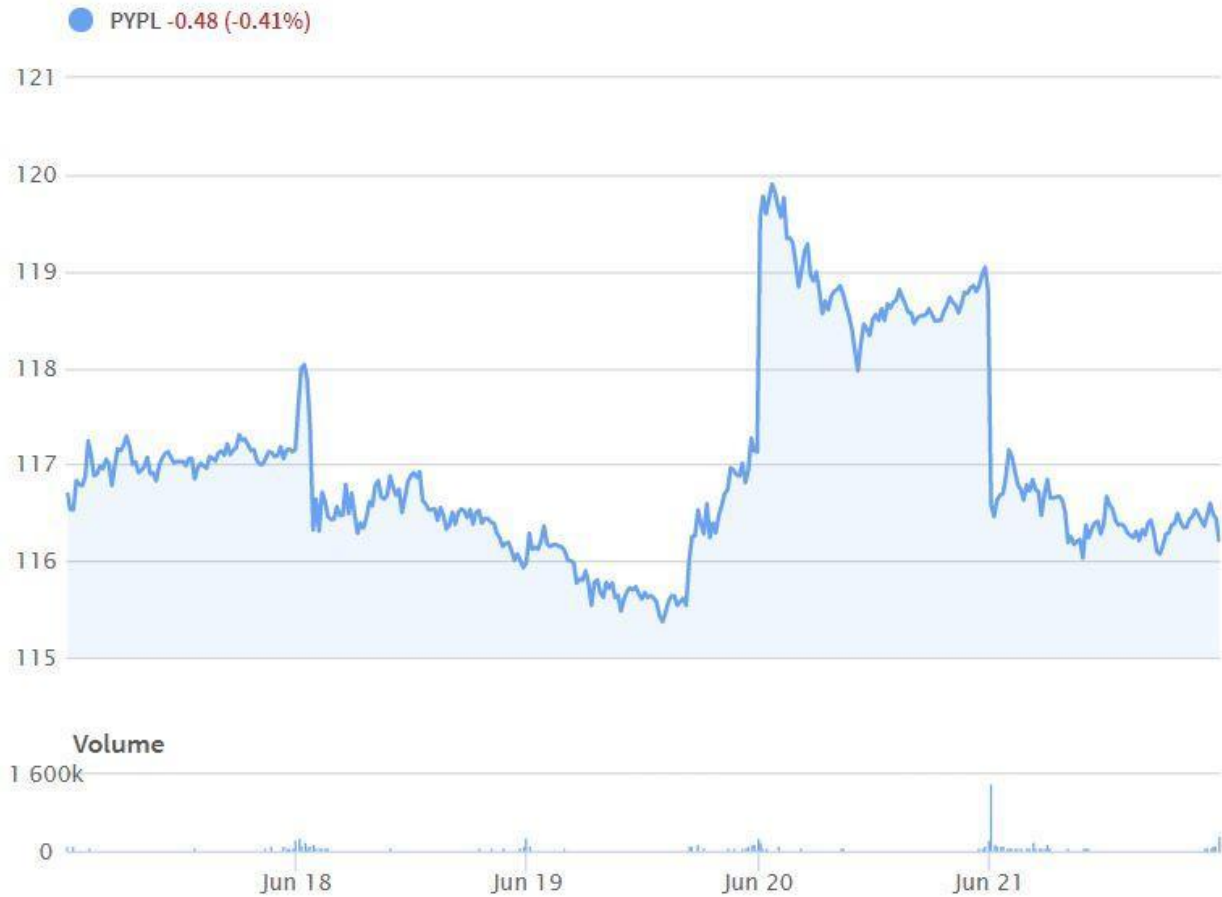
Figure 4.19 PayPal Holdings, Inc. stock trend during week four simulation

For the past week, Microsoft's stock again shows a good increase that last for the entire week. On Monday June 17th, the stock behavior was rather smooth and oscillated around $133, then, a 1.35% increase of Microsoft's stock value took place when market opened on June 18th, by which a price gap of $1.8 per share has appeared in Figure 4.20. After that, another notable increase of stock value happened in the morning of June 20th, and brought it to $137.53 per share at 9:50 AM, which is the highest point of Microsoft's stock trend this week, and 3.56% increase compared to the beginning of the week.

Until today, Microsoft's stock has shown a significant amount of potential profit and kept increasing week by week. Again, despite the small drops that appear within the day, the price never came close to the alert amount of $125.60 per share. Although the volume of Microsoft's stock

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seemed to be small on the figure below, it is important to point out that the volume was graph at the unit of 10 Million instead of 1600 K that was in other figures. Having said that, the Microsoft's stock gives me no reason to sell it now, and I will again keep monitor it closely in the future.
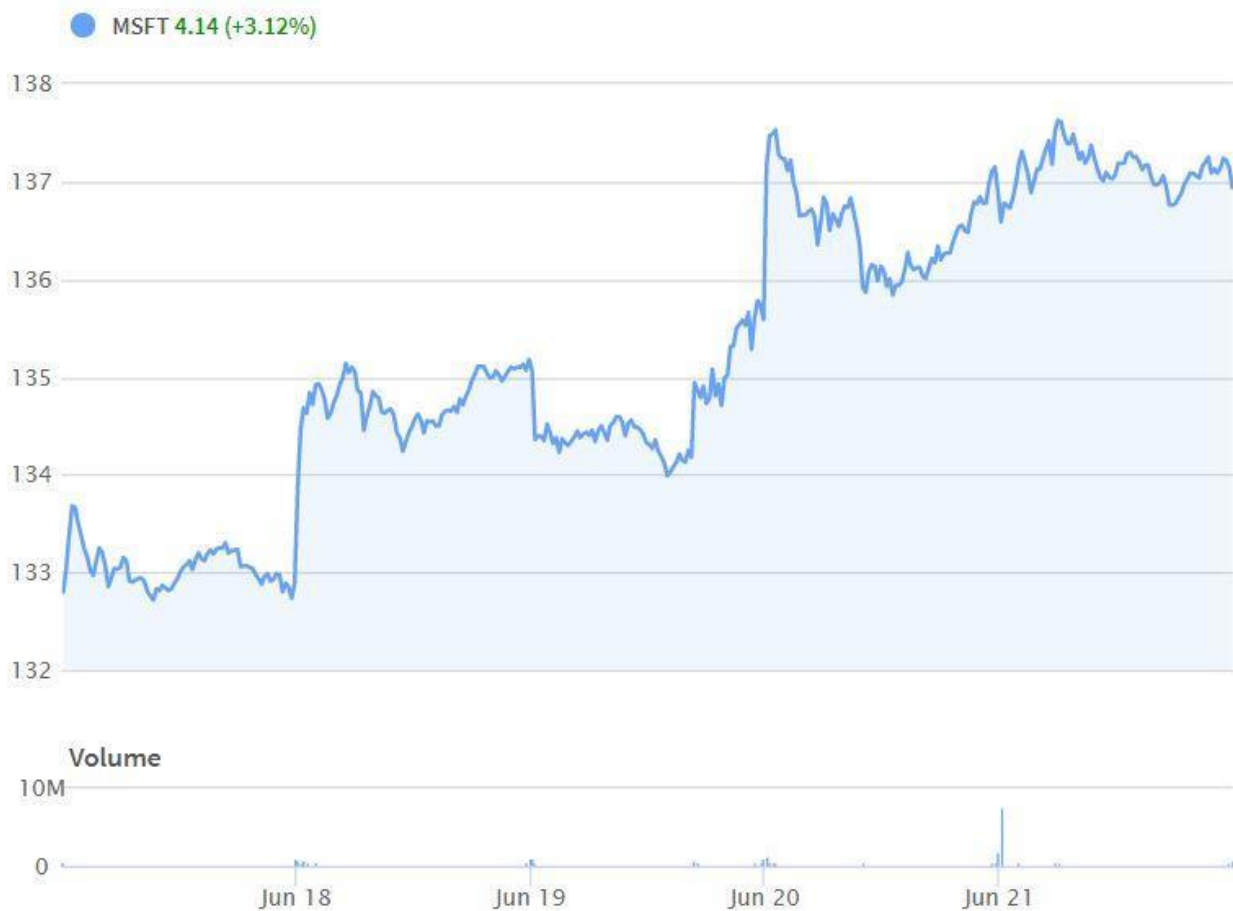
Figure 4.20 Microsoft Corporation stock trend during week four simulation

Walmart's stock was in a rather bumpy state from June 17th to the midday June 20th, as shown in Figure 4.21. $108.29 per share was the lowest price of Walmart's stock this week, and it appeared at 10:10 AM on June 17th. After that, the stock experience both increase and decrease in price and oscillated in the range of approximately $1 per share. On June 21st, Walmart's stock put such oscillating state to an end and shows a clear increase on the price. It reaches $112.09 per share (+2.51% compared to the market opened on Monday) for the highest at 12:30 PM on Friday.

In last week simulation, the increasing behavior of Walmart's stock delayed my action of buy-in because of the mismatch of my prediction for the stock price to swing down. However, there was still no clear sign of a price drop for the first two days this week. I begin to consider the possibility that the stock will keep the increase on a large scale for a longer period. In that circumstance, the buy-in will still gain profit in the future. So, at 11:40 AM on June 19th, I bought 800 shares of Walmart's stock at a price of $109.03 per share. The Risk/Reward ratio was calculated as follows:

($109.03 - $108.29) / ($112.09 - $109.03) = 0.24

Given the ratio is less than half of 1, the buy-in action is considered relatively safe, since that the profit potential is greater than the risk potential of this Walmart's stock.

Figure 4.21 Walmart Inc. stock trend during week four simulation

Table 4.5 below is a summary of week four transactions. At the price of $117.00 per share, I sold 780 shares of PayPal's stock on June 17th to lock the gain. Then, I bought 540 shares of TMUS at the at the price of $76.11 per share on June 18th. I also bought 800 shares of Walmart's stock at a price of $109.03 per share on June 19th. No transactions for MSFT this week.

Table 4.5 Week four transaction by using Swing trading method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit /Loss
							376,827.94	
6/17/19	PYPL	Sell	117.00	780	91,255.01	1,885.42	468,082.95	5,274.14
6/18/19	TMUS	Buy	76.11	540	41,104.39	0	426,978.56	1,285.92
6/19/19	WMT	Buy	109.03	800	87,228.99	0	339,749.57	3,262.18
Total Profit/Loss for ALL	9,822.24							

4.2.5 Week Five (June 24th – June 28th)

For the fifth week, the total gain by the stock transaction is $5,451.18 for the investment on Microsoft, T-Mobile, Walmart, and PayPal. The major movements in this week were the empty of Microsoft's and Walmart's stock to lock gain as their prices swing downward. Also, as I stated in my initial investment, the other $250,000 was started to be put into used this week. As a result, I invest a good amount of my assets in PayPal, which I will demonstrate later in the passage.

The stock trend of T-Mobile this week appears to be in the state of general decreasing, as shown in Figure 4.22. Started from Monday, June 24th, T-Mobile's stock opened with the price of $76.24 per share, which later was confirmed as the highest price for T-Mobile's stock this week. Having said that, T-Mobile's stock price began dropping as soon as the market opened, and for the

first two days, the dropping trend is seemed to be relatively steep and distinct. The price hit $74.60 per share when the market closed on June 25th (2.15% drop compared to the beginning of the week). At 12:40 PM on June 26th, T-Mobile's stock price was at its lowest of $72.80 per share. After that, the decrease became mild and the price started oscillating around $73.20. On Friday, the stock finally shows some increase and hit $74.00 per share along the way.

The behavior of T-Mobile's stock this week is unexpected, especially considering that I invested in T-Mobile's stock at the price of $76.11 last week. I missed the opportunity to sell the stock last week while the stock price was at the range of $78 per share. For now, the best solution for me is to wait a little longer for the stock price to rise back up, if possible, and kept close attention to the stock behavior in the meantime.
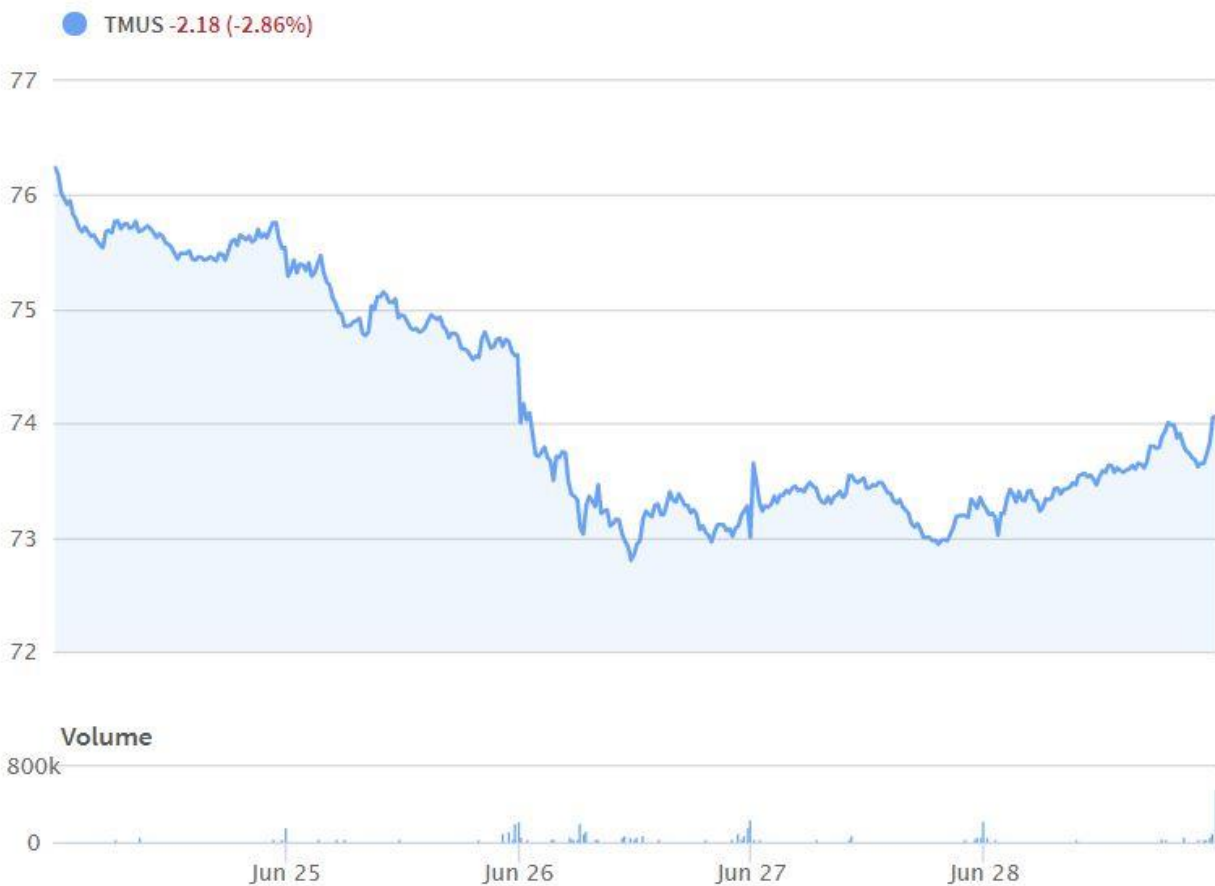
Figure 4.22 T-Mobile US, Inc. stock trend during week five simulation

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As shown in Figure 4.23 below, PayPal's stock also experienced some price drop this week, yet unlike T-Mobile, the decrease did not happen until Tuesday, June 25th. When the market opened on that day, the dropping took place immediately. Steeper and faster compared to T-Mobile's stock, PayPal's stock price went from $116.87 per share to $113.51 per share within the day. On the next day June 26th, PayPal's stock showed a quick regain in price when the market opened in the morning. However, the raise was instantaneous, and the price began to drop again after the rise. Until later on June 28th, the bleeding wound of PayPal's stock seems to be patched and the price started a very slow regain.
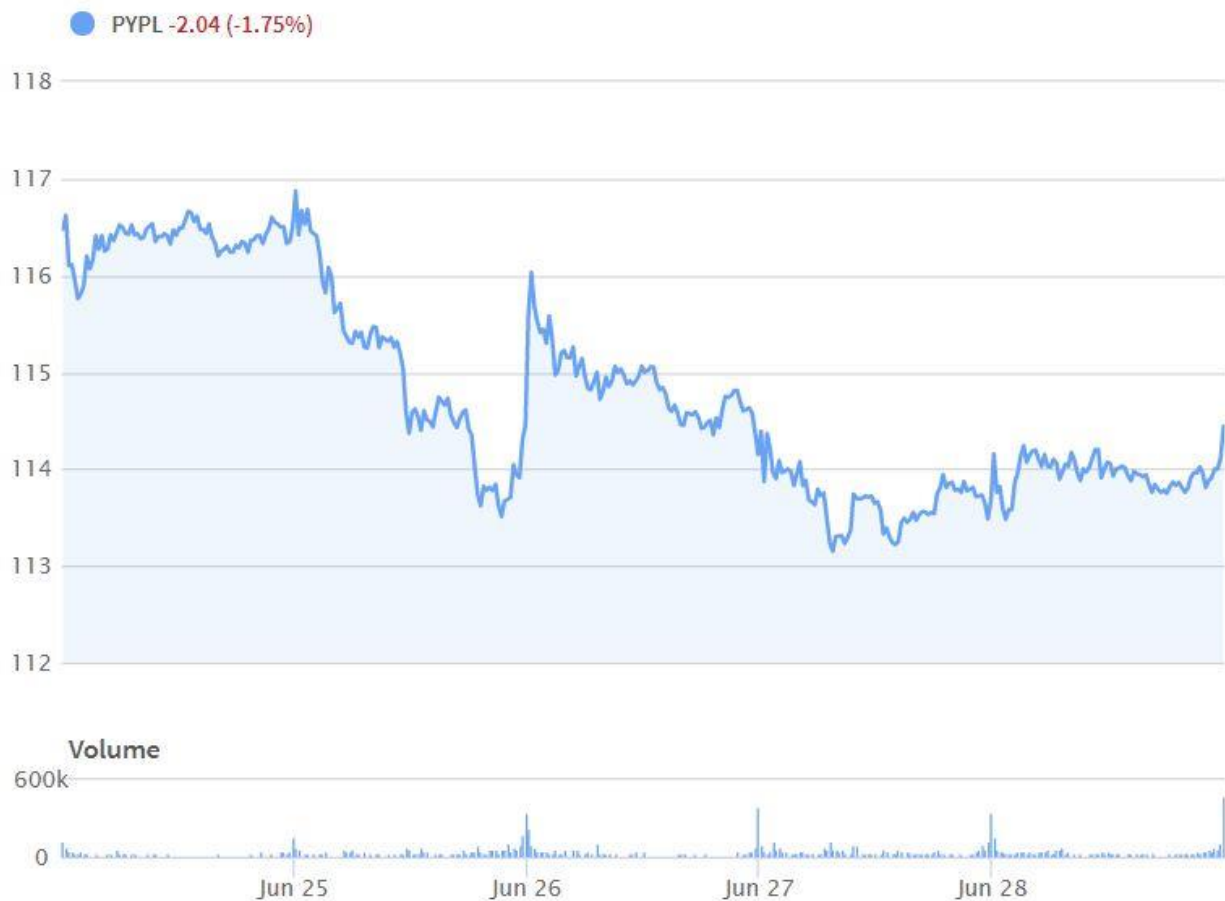
Figure 4.23 PayPal Holdings, Inc. stock trend during week five simulation

The selling of PayPal's stock last week provided the opportunity for me to re-invested on the stock as the price dropping. At 1:00 PM on June 28th, such transaction was made for 1350

shares of PayPal's stock at the price of $114.00 per share, based on the principle that the stock price has passed its lowest point and ready to swing up. The equation to calculate the risk to reward ratio is shown below while I set the highest point of $116.87 as the target of profit, then set the lowest point of $113.15 as the stop-out point:

$$(\$114.00 - \$113.15) / (\$116.87 - \$114.00) = 0.30$$

The ratio is less than half of 1 and indicates that the profit potential is greater than the risk potential of PYPL. It suggests that it is considered as a good move of buy-in PayPal's stock.

Figure 4.24 gives the stock trend of Microsoft for the past week, and for the first time in four weeks, the stock price showed an evident decrease throughout weekly transactions. One feature that stood out is that the behavior of Microsoft's stock this week appears to be in a great common with the one of PayPal. Microsoft's stock also held its price steady on Monday ($138.34 at the greatest), until it began its fast fall in the morning on June 25th (3.43% drop cause it to reach $132.83 per share). Similarly, on June 26th, the stock open price spike high, then another slower drop took place and last to the end of the week.

As I introduced the Swing Trading method in Chapter 2, such a method is usually implemented with the trading period that lasts no longer than two weeks. Yet, I held Microsoft's stock for over four weeks because of its sustained growth in price. In other words, the time for Microsoft's stock price to swing to the peak is much longer than for the other three stocks. However, the price drop on June 25th reminded me that such increasing time of Microsoft's stock might come to an end, so I sold all 334 shares of MSFT with the price of $136.16 at 9:50 AM on June 25th to lock the gain.

Figure 4.24 Microsoft Corporation stock trend during week five simulation

In the fifth week (shown in Figure 4.24), Walmart's stock also embraced its decrease, which I predicted should take place last week. But unlike the other three stocks, the price drop for Walmart's stock was gentler and slower. On Monday, June 24th, Walmart's stock was at $111.73 per share when the market opened. Then, three days later, the price dropped to $110.17 per share at the end of June 26th (only $1.56 differ in price). A quick and big drop took place in the first eighty minutes next day that brought the price of Walmart's stock to the lowest of $108.95 per share. After that, the stock went through some increase and decrease again until the market closed on Friday.

The buy-in for Walmart's stock was considered a late move as I described last week simulation. So, it is likely that the stock price will begin to drop anytime this week. Having that in

mind, I was sensitive to the decreasing behavior for Walmart's stock on June 24th. Same as to Microsoft's stock, I believed it was the time to sell Walmart's stock as its price began to swing down. Therefore, at 10:15 AM on June 25th, I sold all 800 shares of Walmart's stock with a price of $111.19 per share. Although the stock seems to be in an increasing mode after the price drop on June 27th, I decided to wait a little bit longer for the price to be more stable for re-investment.

Figure 4.25 Walmart Inc. stock trend during week five simulation

Table 4.6 below is a summary of week four transactions. I sold all 334 shares of MSFT with the price of $136.16 on June 25th to lock the gain. Soon later at the price of $111.19 per share, I also sold 800 shares of WMT for the same purpose. Then, on June 28th I bought 1350 shares of PYPL at the at the price of $114.00 per share. No transactions for TMUS this week.

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Table 4.6 Week five transaction by using Swing trading method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit /Loss
							339,749.57	
6/25/19	MSFT	Sell	136.16	334	45,472.45	3,733.16	385,222.02	3,733.16
6/25/19	WMT	Sell	111.19	800	88,947.01	1,718.02	474,169.03	4,980.20
6/28/19	PYPL	Buy	114.00	1350	153,904.99	0	320,264.04	5,274.14
Total Profit/Loss for ALL	15,273.42							

4.2.6 Week Six (July 1st – July 5th)

For the sixth week, the total gain by the stock transaction is $4,173.14 for the investment on Microsoft, T-Mobile, Walmart, and PayPal. The major movements in this week were the selling of T-Mobile's and PayPal's stocks. There was no buy action for any of the stocks this week due to the risk concern, which I will elaborate later in the passage.

After a week of price dropping, T-Mobile's stock was finally entering its slow increase at the end of last week, and such increase was inherited into this week's behavior of T-Mobile's stock (shown in Figure 4.26). Opening with $74.25 on Monday, July 1st, the price of T-Mobile's stock floated in the channel of $74 per share the entire day. Then, in the first hour on Tuesday, the price sprinted up to as high as $75.20 per share. A slight came back took place after the sprint, but it was quickly ended by another increase in the afternoon of July 2nd. After that, T-Mobile's stock was increasing without much resistance and reached the peak of this week trend at the price of $76.73 per share on July 3rd. However, despite such increase has last the entire week, T-Mobile's stock price never touched the line of $77 per share.

The investment of T-Mobile's stock at the price of $76.11 per share on June 18th has put me in a dilemmatic position of decision making since the big price drop on the previous week, and I have decided to wait for the stock price to come back up instead of selling them at the low price. The risk came with the opportunity for the stock price to go even lower, hence more loss, but luckily, such tragedy has not happened. The price of T-Mobile's stock rise back, and I was able to sell all of them at $76.50 per share at 10:15 AM on July 3rd. To me, it was more important to stop the loss instead of making more value, so I sold the stock as soon as its price went above $76.11 per share this week.

Figure 4.26 T-Mobile US, Inc. stock trend during week six simulation

PayPal's stock has also stopped its decreasing in price at the end of last week, yet its trend was still unclear at the beginning of this week. Price oscillated up and down around $115 per share,

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as shown in Figure 4.27 below, and even dropped to the lowest of $114.42 per share on Monday afternoon. Started from Tuesday, PayPal's stock price has finally shown some steady increase that last to the market closed on July 3rd, in which the stock price hit $117.68 per share at its highest. However, a fast and significant drop took place on Friday morning and brought the price down to $114.73 per share in just an hour. But, soon after the drop, PayPal's stock price rises back again to above $117.07 per share in the remaining day.

In the Risk and Reward ratio calculation, I did last week, the target price for the reward was $116.87, which was also the highest stock price of PayPal in the previous week. So, at 11:35 AM on July 3rd, which was the first time the stock rise above the target price, I sold all my PayPal's stock at the price of $116.95 per share to ensure a safe and valuable gain.

Figure 4.27 PayPal Holdings, Inc. stock trend during week six simulation

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As shown in Figure 4.28, the behavior of Microsoft's stock this week appears to share some common with PayPal's stock. Similarly, Microsoft stock did not show the sign of increase until the beginning of July 2nd and was even in a decreasing state on July 1st. The stock entered its uptrend after it hit the bottom of $135.09 per share and kept increasing until July 5th. Then, just like PayPal's stock, the big price drops also took place in the first hour of the market open on July 5th. Microsoft's stock price came down from $137.46 per share to $135.87 per share at 10:00 AM on that day but soon rise back up to above $137.00 again on the same day.

Figure 4.28 Microsoft Corporation stock trend during week six simulation

Although there was some chance of re-investment for Microsoft's stock this week, such as the period that the stock price went below $135.50 per share on Monday, Microsoft's stock is still in its peak viewed in a 1-year scale in Figure 4.29, and has no sign of significant decrease. In my

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opinion, it is rather safer to wait a little bit longer into next week to lessen the risk of price adjustment (price drop) of Microsoft's stock.

Figure 4.29 Microsoft Corporation stock trend in one-year range

The decrease of Walmart's stock price was still distinct on Monday, as shown in Figure 4.30 below. The lowest price was at $110.04 per share at, a 1.63% drop compares to the beginning of the week. After that, the stock price was unstable, increase and decrease were both shown in its weekly trend. At 12:15 PM on July 3rd, Walmart's stock reached its weekly maximum at the price of $112.36 per share, and the price was still in the $112 range when the market closed on Friday.

For Walmart's stock, I have the same concern of investment risk as of Microsoft's stock. The less in value of the stock volume in Figure 4.30 even enhances such concern. For the first time,

the volume scale was set to as low as 400K to Walmart, which kept me from re-investing its stock. I decided to wait one more week for its behavior to be stable for investment.

Figure 4.30 Walmart Inc. stock trend during week six simulation

Table 4.7 below is a summary of week six transactions. 540 shares of TMUS were sold at $76.50 per share on July 3rd. Then, 1350 shares of PYPL were also sold on the same day at the price of $116.95 per share. No transaction for MSFT or WMT this week.

Table 4.7 Week six transaction by using Swing trading method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit /Loss
							320,264.04	
7/3/19	TMUS	Sell	76.50	540	41,305.01	200.62	361,569.05	1,486.54
7/3/19	PYPL	Sell	116.95	1350	157,877.51	3,972.52	519,446.56	9,246.66
Total Profit/Loss for ALL	19,446.56							

4.2.7 Week Seven (July 8th – July 12th)

In the seventh week, the total gain by the stock transaction is $4,288.02 for the investment on Microsoft, T-Mobile, Walmart, and PayPal. The major movements in this week were the bought-in and sold of PayPal's stock and the bought-in of Walmart's stock. Abnormal behaviors of the two other stocks stop me from investing them this week.

Figure 4.31 gives the weekly trend of T-Mobile's stock, and the long vertical linear behavior of the stock on July 10th is too striking to be ignored. But first, T-Mobile's stock was at a mild descending period, which came as a recess of the continually increase last week, for the first two days. The closing price of T-Mobile's stock was $75.15 per share on July 9th. Then, on the next day, such price was push up to $78.02 when the market opened. A $2.87 direct increase between the closing and opening price of the stock resulted in a distinct vertical line in T-Mobile's stock trend. After that, the stock price became a little unstable but was increasing overall. $79.45 per share was reached at the end of this week.

By observing the figure, we can easily conclude that any investment of T-Mobile's stock before July 10th would bring a good amount of profit due to the dramatic increase. Yet, such an

increase was much unexpected. To me, I was still waiting for the price of the stock to decrease

more to make an investment at the end of July 9th. Anyhow, I missed the window of investment

to catch the July 10th increase, and the increase also caused me to wait a little longer since the

price of the stock was already high.

Figure 4.31 T-Mobile US, Inc. stock trend during week seven simulation

This week, the behavior of PayPal's stock was a good example of smooth and steady

increase, especially for the first two days (shown in figure 4.32). At first, PayPal's stock opened

with $115.68 per share on Monday morning. The price was relatively low compared to the $117

channel. However, the lower the price, the more room for the stock to increase in value. After two

days of trading in the market, PayPal's stock reached the $120 line on July 10th and was kept in

that channel until the end of the week. The stock was $120.64 at its highest value, at which was the market closed of July 11th.

In swing trading, the trader was suggested to invest the stock at the beginning of its increasing period. The steady increase trend of PayPal's stock made the period to be identified easier. So, at 10:00 AM on July 9th, I bought in 1400 shares of PayPal's stock at $116.99 per share. In the same week, I sold all the stock at $120.06 per share at 1:00 PM on July 12th as I determine the increase period has come to an end, and the price is likely to swing down on next week based on the reason that the stock price stopped increase and kept relatively unchanged in the last two days of the week.

Figure 4.32 PayPal Holdings, Inc. stock trend during week seven simulation

Microsoft's stock appeared to be the most unstable one among all the four stocks this week. As shown in Figure 4.33, there are lots of positions of sudden changes in price in this week stock trend. For example, the price was generally increasing in the first day to finally $136.97 per share until a $1 drop took place when the market opened on the next day. Similar events happened in almost every market opening moment this week and created many vertical lines in the weekly trend of Microsoft's stock. Overall, Microsoft's stock has increased from the lowest of $135.41 per share on Monday to $138.89 per share (+ 2.37% increase) on Friday end.

The unstable behavior of Microsoft's stock caused the decision of investment more difficult, and I still concerned with the continued high value of the stock and the possibilities of a large decrease. So, I decided to wait one more week for the stock to be more stable to be safer invested.

Figure 4.33 Microsoft Corporation stock trend during week seven simulation

As shown in Figure 4.34, Walmart's stock was also increasing on a weekly scale. There are two waves of the increase can be identified on the graph. The first one started at the beginning of the week. Just like three other stocks, the opening price of Walmart's stock was relatively low: only $112.05 per share. Then, it was increased to above the $113 line on July 9th. Later in the day, the price dropped slowly to the middle between $112 to $113, until the second waves came on July 11th and brought the stock finally to $114.59 per share when the market close on July 12th.

At 11:00 AM on July 9th, I invested 1000 shares of Walmart stock at the price of $113.14 per share because I determined that the stock has entered its increasing period. Yet, it turns out that it is at the peak of its first wave and soon drop to a lower price. I was a little worry at that moment but reassured later when the second waves came on July 11th. I decided to hold Walmart's stock little bit longer to next week to sell. The Risk and Reward ratio is calculated as follows:

$$(\$113.14 - \$111.90) / (\$114.74 - \$113.14) = 0.78$$

The ratio is less but close to 1, which reminds me to keep close attention to the stock behavior in the future to prevent loss.

Figure 4.34 Walmart Inc. stock trend during week seven simulation

Table 4.8 below is a summary of week seven transactions. 1400 shares of PYPL were invested at $116.99 per share on July 9th and sold on July 12th at $120.06 per share. 1000 shares of WMT were bought on July 9th at the price of $113.14. No transaction for TMUS or MSFT this week.

Table 4.8 Week seven transaction by using Swing trading method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit /Loss
							519,446.56	
7/9/19	PYPL	Buy	116.99	1400	163,790.99	0	355,655.57	9,246.66
7/9/19	WMT	Buy	113.14	1000	113,144.99	0	242,510.58	4,980.20
7/12/19	PYPL	Sell	120.06	1400	168,079.01	4,288.02	410,589.59	13,534.68
Total Profit/Loss for ALL	23,734.58							

4.2.8 Week Eight (July 15th – July 19th)

In the eighth week, the total gain by the stock transaction is $1,780.02 for the investment on Microsoft, T-Mobile, Walmart, and PayPal. The windows of reinvestment of all four stocks were relatively late in the week, hence restricted such opportunities for gaining more profit. The only transaction was the selling of all Walmart stock, by which the eight-weeks trading period under the swing trading method is concluded.

T-Mobile's stock this week has presented a two-phases trend, as shown in Figure 4.35. Phase one lasted about three days from the market opened on July 15th to the market closed on July 17th. During this period, the price of the stock was floating up and down within the channel of $79 to $79.5 per share. Then, in the first two hours after the market opened on July 18th, the stock price decrease to $77.47 per share. The drop of price created an approximate diagonal line on the graph on Thursday morning. After that, T-Mobile's stock again oscillated around the line of $77.5 per share until the end of the week.

The high stock price inherited from last week did not leave me any room to invest. Although there was a price drop of T-Mobile's stock this week, the timing (Thursday) is relatively late to consider investment, since the trading period will be ended on Friday, July 21st. Have said that, there was no transaction for T-Mobile's stock, and the trading of this stock has officially concluded.

Figure 4.35 T-Mobile US, Inc. stock trend during week eight simulation

This week, the behavior of PayPal's stock has become more radical than usual. Acicular spots can be found in many places in its weekly trend, as shown in Figure 4.36. Such spots were the indications of rapid increase followed by rapid fall of the stock price, especially when the market opened on July 18th, where the price changed dramatically from $118.84 per share to $120.66 per share and followed by the drop to $119.45 per share in ten minutes. Overall, PayPal's

stock has experienced a downtrend for the first three days, then a quick up and down for the remaining of the week.

The decision of selling all PayPal's stock at the end of last week seems to be a wise one, along with the prediction of the stock trend, for which the increasing period has come near to the end. The first three days in the trend shows that the stock price last as high as $121.21 per share at one point, then fell below $119 line on July 18th. Just like T-Mobile's stock, the price drop of PayPal's stock was too late to reinvestment. Hence, no transaction for it this week.

Figure 4.36 PayPal Holdings, Inc. stock trend during week eight simulation

Figure 4.37 gives the weekly trend of Microsoft's stock, and the graph is seemed rather harmonious in price changes, compared to PayPal's stock. The stock price was kept very closed to $139 line for July 15th all day, and the most significant price change was less than even $0.5. Then,

from July 16th to July 18th, Microsoft's stock price was floating around the $137 line, after the price drop that took place on Tuesday morning. Later, the price of the stock was dropped to even lower and hit $135 line on July 18th, until the most dramatic price alternation on the next day that brought the stock price to $139.36 per share with the market opening. At the end of the week, Microsoft's stock closed with $136.65 per share (-1.64% changes compared to the beginning of the week).

Again, for Microsoft's stock, the decrease in price came very late for reinvestment. In addition to that, the procedure of price swings from low to high took place too quickly on Friday that for me to consider an investment. So, just like the two stock above, no transaction for Microsoft's stock this week.

Figure 4.37 Microsoft Corporation stock trend during week eight simulation

Walmart's stock was oscillating for the first three days this week. Although the stock trend seemed like a dramatic changing one in Figure 4.38, it is important to notice that the price scale is set to $0.25 between each line. In other words, the price of Walmart stock was not altering as much as its appearance on the graph and was kept within the channel between $114 per share to $115 per share for the first three days this week. Similar to the other three stocks, a price drop happened when the market opened on July 18th and brought the stock price from $114.71 to $113.93. Yet, Walmart's stock price soon began its rising after the price fall and reached $115.22 in its highest on Friday.

After I bought 1000 shares of Walmart's stock last week, I was kept paying attention to the opportunities to sell them this week. My goal was to sell the stock after it reached $115 line, yet the only two times of such achievements were inconvenient for transactions. The first one is the moment of the market opened on Monday and the second one is the same moment on Tuesday. Other than that, the price drop to approximately $114 per share after the second moment gave me a quite worry for missing the opportunity to trade this week. Fortunately, the stock price rose back, and I sold all the shares with $114.93 per share at 3:00 PM on July 16th.
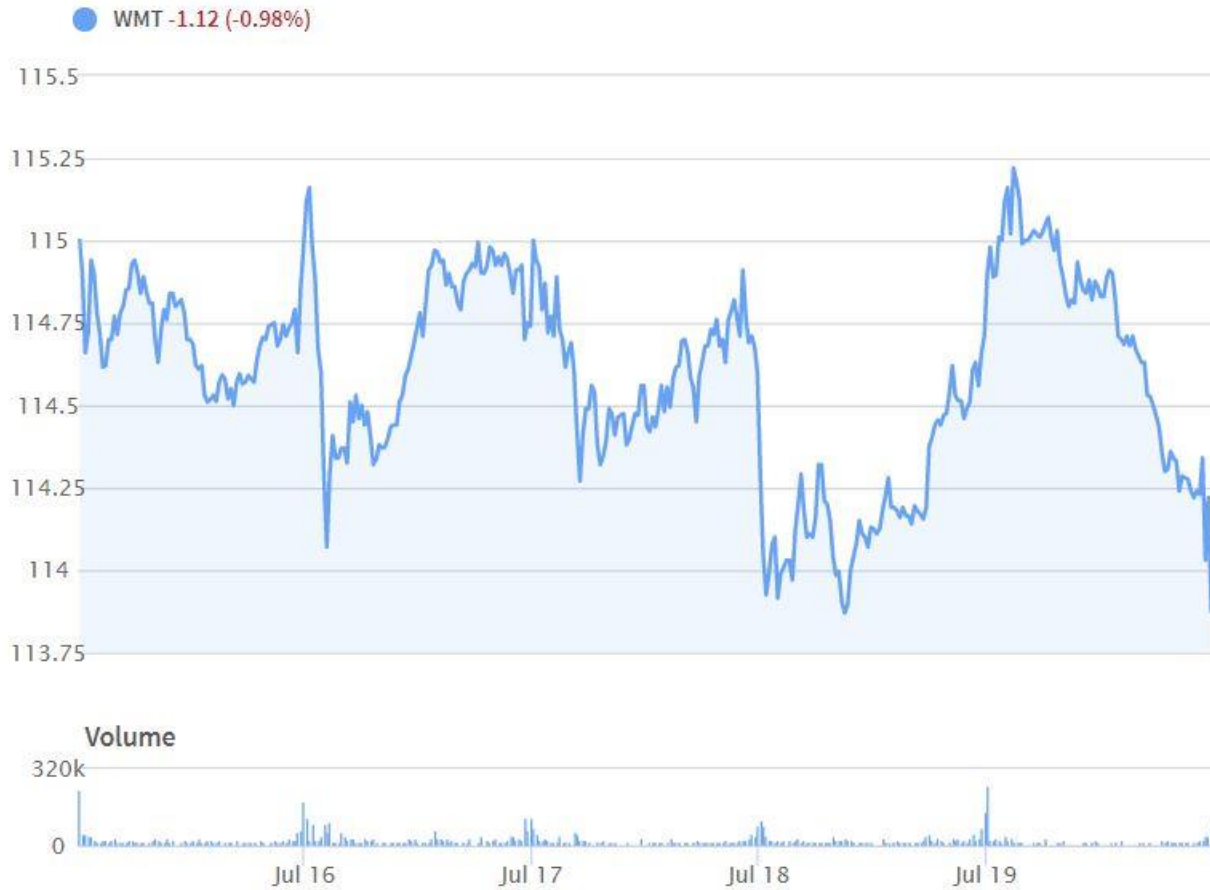
Figure 4.38 Walmart Inc. stock trend during week eight simulation

Table 4.9 below is a summary of week eight transactions. 1000 shares of WMT were sold at $114.93 per share on July 16th. No transaction for TMUS, PYPL or MSFT this week.

Table 4.9 Week eight transaction by using Swing trading method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit /Loss
							410,589.59	
7/16/19	WMT	Sell	114.93	1000	114,925.01	1,780.02	525,514.60	6,760.22
Total Profit/Loss for ALL	25,514.60							

4.3 Trading Result

After eight weeks of stock trading simulation under the method of Swing Trading, I have achieved $23,734.58 profit on my $500,000 investment. The profit gains each week were shown in Figure 4.39 below, for which the average was $3189.33. For the first four weeks, only half of $500,000 was used in investment as a safety consideration. As a result, the profit gain was not great except for the $6650.90 one on week two. As time passed, I start to invest the stocks with all the cash after week four, and the outcome appears to be better: mostly above $4000 per week.
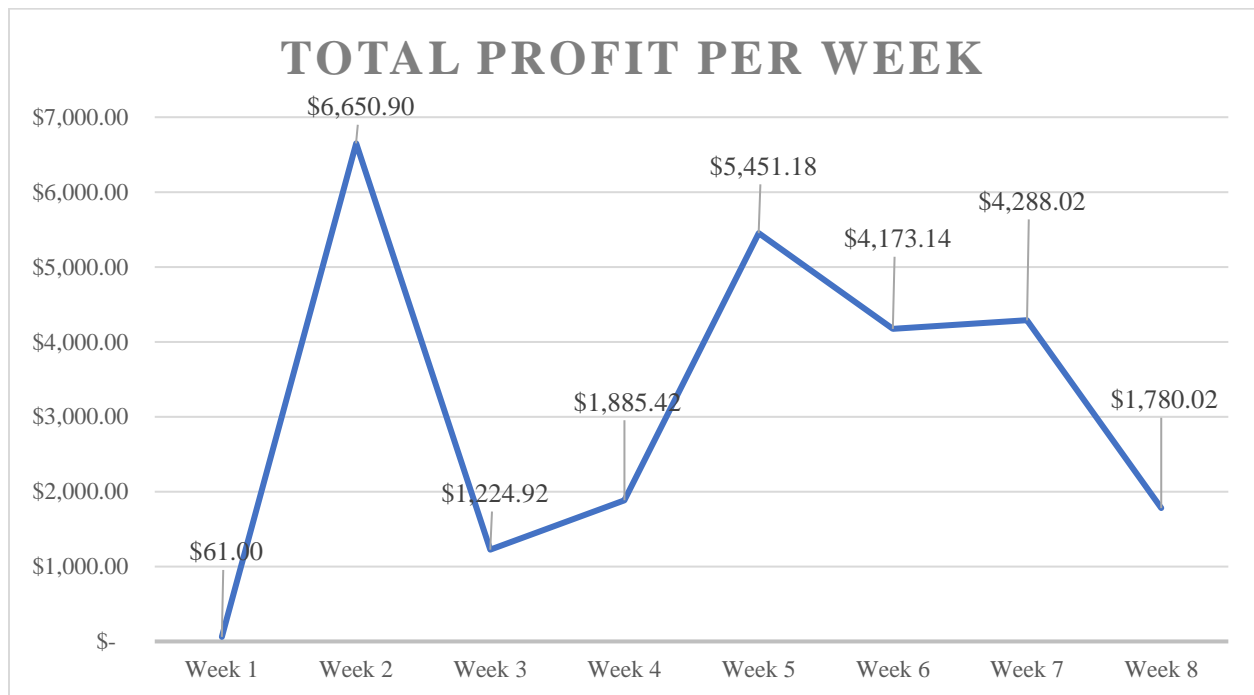
Figure 4.39 Total Profit per week by using Swing Trading method

During the eight-weeks trading period, T-Mobile's stock and PayPal's stock appear most frequently on the transaction table 4.10 below, and Walmart's stock is closely on their heels. Having said that, Microsoft's stock is shown very less on the transaction table, unlike the other three stocks. In fact, only one set of the transaction (buy and sell) can be found. This is caused by the all-time increasing of Microsoft's stock in the eight weeks. In terms of Swing Trading, such

behavior can be classified as an abnormal long-term increasing trend. As mentioned in Chapter 2.2, the trading period in Swing Trading are mostly under two weeks, even less time for the stock to increase, yet for Microsoft's stock, it actually took over four weeks for the stock to reach the periodical peak. In the end, the total profit is $25,514.60 for the investment on Microsoft, T-Mobile, Walmart, and PayPal.

Table 4.10 Complete Transaction by using Swing trading method

Date	Symbol	Buy/Sell	Price	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit/Loss
5/29/19	MSFT	Buy	124.58	334	41,739.29	0	458,260.71	0
5/29/19	TMUS	Buy	75.93	546	41,462.77	0	416,797.94	0
5/29/19	WMT	Buy	102.02	816	83,253.31	0	333,544.63	0
5/29/19	PYPL	Buy	110.19	757	83,418.82	0	250,125.81	0
5/30/19	TMUS	Sell	76.06	546	41,523.77	61.00	291,649.58	61.00
5/31/19	PYPL	Buy	109.78	20	2,200.59	$0	289,448.99	0
6/3/19	TMUS	Buy	74.29	530	39,378.69	0	250,070.30	61.00
6/7/19	PYPL	Sell	114.56	777	89,008.13	3,388.72	339,078.43	3,388.72
6/7/19	WMT	Sell	106.03	816	86,515.49	3,262.18	425,593.92	3,262.18
6/10/19	TMUS	Sell	76.62	530	40,603.61	1,224.92	466,197.53	1,285.92
6/12/19	PYPL	Buy	114.57	780	89,369.59	0	376,827.94	3,388.72
6/17/19	PYPL	Sell	117.00	780	91,255.01	1,885.42	468,082.95	5,274.14
6/18/19	TMUS	Buy	76.11	540	41,104.39	0	426,978.56	1,285.92
6/19/19	WMT	Buy	109.03	800	87,228.99	0	339,749.57	3,262.18
6/25/19	MSFT	Sell	136.16	334	45,472.45	3,733.16	385,222.02	3,733.16
6/25/19	WMT	Sell	111.19	800	88,947.01	1,718.02	474,169.03	4,980.20
6/28/19	PYPL	Buy	114.00	1350	153,904.99	0	320,264.04	5,274.14
7/3/19	TMUS	Sell	76.50	540	41,305.01	200.62	361,569.05	1,486.54
7/3/19	PYPL	Sell	116.95	1350	157,877.51	3,972.52	519,446.56	9,246.66
7/9/19	PYPL	Buy	116.99	1400	163,790.99	0	355,655.57	9,246.66
7/9/19	WMT	Buy	113.14	1000	113,144.99	0	242,510.58	4,980.20
7/12/19	PYPL	Sell	120.06	1400	168,079.01	4,288.02	410,589.59	13,534.68
7/16/19	WMT	Sell	114.93	1000	114,925.01	1,780.02	525,514.60	6,760.22
Total Profit/Loss for ALL					25,514.60			

Figure 4.40 shows the total profit gained by each stock after eight weeks of trading, and PayPal's stock has taken the lead with a $13,534.68 profit, which is almost 50% greater than the second place of Walmart's stock ($6760.22 gain). Although Microsoft's stock was mentioned as

in an all-time increasing state, the situation for it is not favored by the Swing Trading method. In this method, trading is proceeded as the stock price swing up to the sellout (high) point. Hence, a viable and constantly changing stock is requested to create more "waves" for the trader to trade. PayPal's stock is the best example among the four stocks and therefore has gained most of the profit in this simulation.
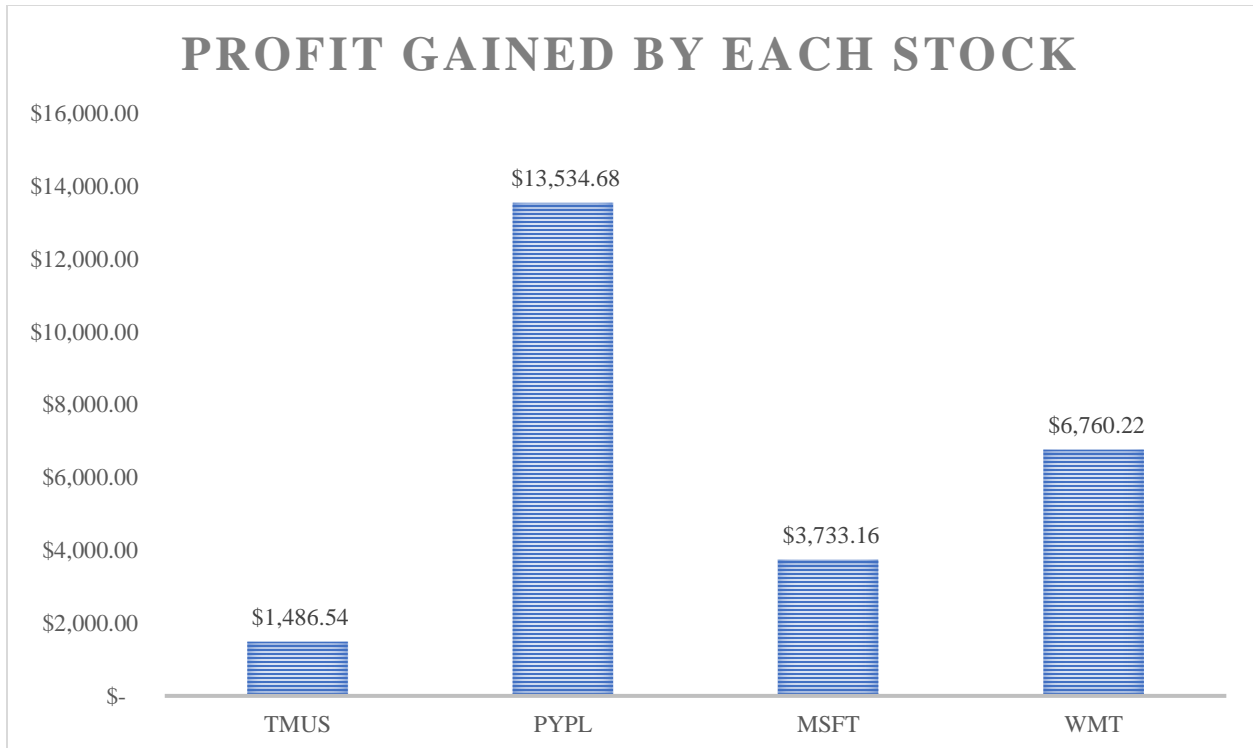
Figure 4.40 Profit Gained by Each Stock

Chapter 5: News Trading (Manager: Jerry Xu Assan)

This chapter records the process of trading stocks by using News Trading. This chapter starts with introducing selected companies based on the current news trend. The body of this chapter includes initial investment record, analysis of stock trends and a report of yielding in each company in the next eight weeks.

5.1 Stocks Chosen:

One of the great questions hanging over the stock market currently is what happens if the U.S. and China end an international trade dispute that changes how U.S. companies operate in the world's second-largest economy. Accordingly, I want to analyze the performance of a few companies' stock that can be greatly involved in this war. Companies are selected based on how sensitive those companies are to tariff policy changes.

5.1.1 Skyworks Solutions (SWKS)

This company engages in the design, development, and manufacture of proprietary semiconductor products. Its product portfolio includes amplifiers, attenuators, circulators, demodulators, detectors, diodes, directional couplers, front-end modules, hybrids, isolators, lighting and display solutions, mixers, modulators, optocouplers, optoisolators, phase shifters, synthesizers, power dividers and combiners, receivers, switches, and technical ceramics. It operates largely through the Chinese industries and the trade war can affect greatly on the companies' strategies, the company stock in the past five years is shown in Figure 5.1:

Figure 5.1 Skyworks Solution stock trend in 5 years

5.1.2 Intel, Nvidia and Qualcomm (INTC, NVDA and QCOM)

Intel, Nvidia and Qualcomm, as shown in Figure 5.2.1, Figure 5.2.2 and Figure 5.2.4, are similar companies in that they engage in the design, manufacture, and sale of computer products and technologies. They also deliver computer, networking, data storage and communications platforms. What's particularly special about these stocks is that they complete head-on with Huawei throughout the whole trade in an attempt to restore the American intellectual properties in technologies. In this way, it is easy to see fluctuates in the stock prices, which in return provides investors with opportunities (Barrons, 2019).

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Figure 5.2 Intel Corporation stock trend in 5 years

Figure 5.3 Nvidia Corporation stock trend in 5 years

Figure 5.4 Qualcomm Corporation stock trend in 5 years

5.2 Trading Simulation

I decided to investigate the three months chart first in order to examine whether it is good to enter the market. At first glance, the overall trend of these graph of the companies aboves is heading toward a lower point. This indicates the market entering into a local low point, which is quite good news. As this being set as a foundation, I will start to examine the news about current market environment that may cause the price to either go up or down, and make my choices based on my news research.

5.2.1 Week One (May 28th – May 31st)

For Skyworks's solutions, according to a recent news from Bloomberg, trump is imposing tariff on Mexico trade as well in the near future only if the Mexican government starting to

accelerate the process in infringing illegal immigration. Throughout these few weeks, suppliers for tech companies like Skyworks has suffered from the us-china trade war and has recovered from shifting the supply route into Mexico. This new policy by trump, however, can further worsen the situation. Considering skylark solution is the top supplier for apple, which indicates it having a lower risk as well as reaching a below average stock price, I still believe it is a good time to buy in, but not too much. Figure 5.3 shows the stock trend in the past three months for Skyworks solutions.

Figure 5.5 Skyworks solution stock trend in 3 months

Intel is also one of the hardware providers that are involved in the vortex of us-china trade war. In addition, intel is one of the targeted companies that china has publicly announced after the Huawei ban. As a result, the market share of intel dropped quite a bit according to Figure 5.4. However, news has shown that several institutional investors were still buying more shares and intel did not drop as much as AMD and other major tech supporters. In my opinion, I think it would

be best to play it safe because there is not a strong and convincing indication from news of stock price rising in the future.

Figure 5.6 Intel corporation stock trend in 3 months

For Nvidia, as shown in Figure 5.5, news has indicated that various institutional investors and funds are buying more shares just this week, namely Trinity Point Wealth LLC, Oregon Public Employees Retirement Fund, Norges Bank and SG Americas Securities LLC. This is a good indication that at least in the near future many professionals are positive on Nvidia's stock value. According to Barron, Nvidia, much like other chip providers that are suffering from the us-china trade war, has sent out a low visibility financial report which upset the investors, causing the stock price to drop by 15%. Taking that into consideration, I would consider this being a good buying point.

Figure 5.7 Nvidia Corporation stock trend in 3 months

During the news search process, it is surprising to see that Qualcomm is actually prospering, at least against its competitors. As of late, Qualcomm is powering nearly all 5G designs available and announced, including the Galaxy S10 5G and the LG V50 5G, to name two phones we've held in our hands. Qualcomm's X55 modem supports 4G LTE, sub-6 and mm Wave 5G protocols in the same unit. Another difference with Qualcomm's offering is the speed. In theory, MediaTek's 5G download speed is 4.2 Gbps, which is much faster than today's best 4G LTE, but substantially lower than Qualcomm's peak 7.0 Gbps 5G sub-6 speed. In conclusion, Qualcomm holds an absolute technological advantage. As a result, I think this is a good time to buy in QCOM stocks. Figure 5.6 demonstrates the stock price of Qualcomm in the past three years.

Figure 5.8 Qualcomm Inc stock trend in 3 months

In conclusion, Table 5.1 below is a summary of the final decision I made regarding the consideration from news-driven trading. For Qualcomm and Nvidia, I decided to purchase more, for intel and Skyworks solution, I decided to buy slightly less as there aren't much of a promising news.

Table 5.1 Week one starting transaction by using News trading method

Date	Symbol	Buy/Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit
							500,000	
05/19/ 19	SWKS	Buy	67.17	100	6724	0	493,339	0
05/29/ 19	INTC	Buy	43.52	100	4434.99	0	488,915	0
05/29/19	NVDA	Buy	140.15	120	16,818	0	472662.21	0
05/29/19	QCOM	Buy	64.84	2000	129,690.99	0	339002.22	0

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Table 5.2 is a summary of this week's simulation. As shown, Qualcomm did show a promising rise in stock price, and my relatively bigger share has covered the loss of the rest of the stocks, yielding a total of 3330.79 dollars of profit.

Table 5.2 Week one transaction by using News trading method by the end of the week

Symbol	Holding Share	Share Value	Total value	Money Spent	Profit / Loss
SWKS	100	66.61	6661	6724	-63
INTC	100	44.03	4423.99	4434.99	-11
NVDA	120	135.44	16252.8	16,818	-565.2
QCOM	2000	65.54	133659.99	129690.00	3,969.99
Net Profit					3,330.79

5.2.2 Week Two (June 3rd – June 7th)

For Skyworks solutions, as the stock price in last week shown in Figure 5.7, according the Olympia Report, various companies like MKM Partners, DA Davidson and B.Riley decreased their price target, This indicates that there is a strong position of buying for the next week. As 5g getting hotter and hotter, Skyworks solution is also on the race of winning large amount of contract in next-generation Wi-fi routers and military-grade radio systems as the market for 5G wireless infrastructure equipment takes shape which indicates a good time to buy in more.

Figure 5.9 Skyworks solutions Inc stock trend in the past week

Intel (Figure 5.8) was not showing too much exciting news recently, and according to TechKnowBits, many institutional investors are selling their share of Intel stocks. So, this week I will sell the shares and wait for a price drop in the near future to buy in.

Figure 5.10 Intel Corp stock trend in the past week.

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For Nvidia (Figure 5.9), news has shown that various institutional investors and funds are buying more shares. In this week, namely TD Capital Management LLC, Investment House LLC, Capital Financial Planning LLC and Clearfield Financial Advisors LLC. This is a good indication that at least in the near future many professionals are positive on Nvidia's stock value. Nvidia has issued its earnings results last Thursday, and it was more than impressive. It is outperforming the market so is a strong buy. I will buy more when the price is right next week.

Figure 5.11 Nvidia Corp stock trend in the past week

For Qualcomm (Figure 5.10), according to the Modern Readers, institutional investors are buying more shares this week. In addition to that, just recently Qualcomm has invested in the IPO of SiFive,the increasingly popular startup that provides processor core IP and silicon solutions based on the open source RISC-V set raised $65.4 million during its latest funding round. As a result, I think this is a good time to buy in QCOM stocks.
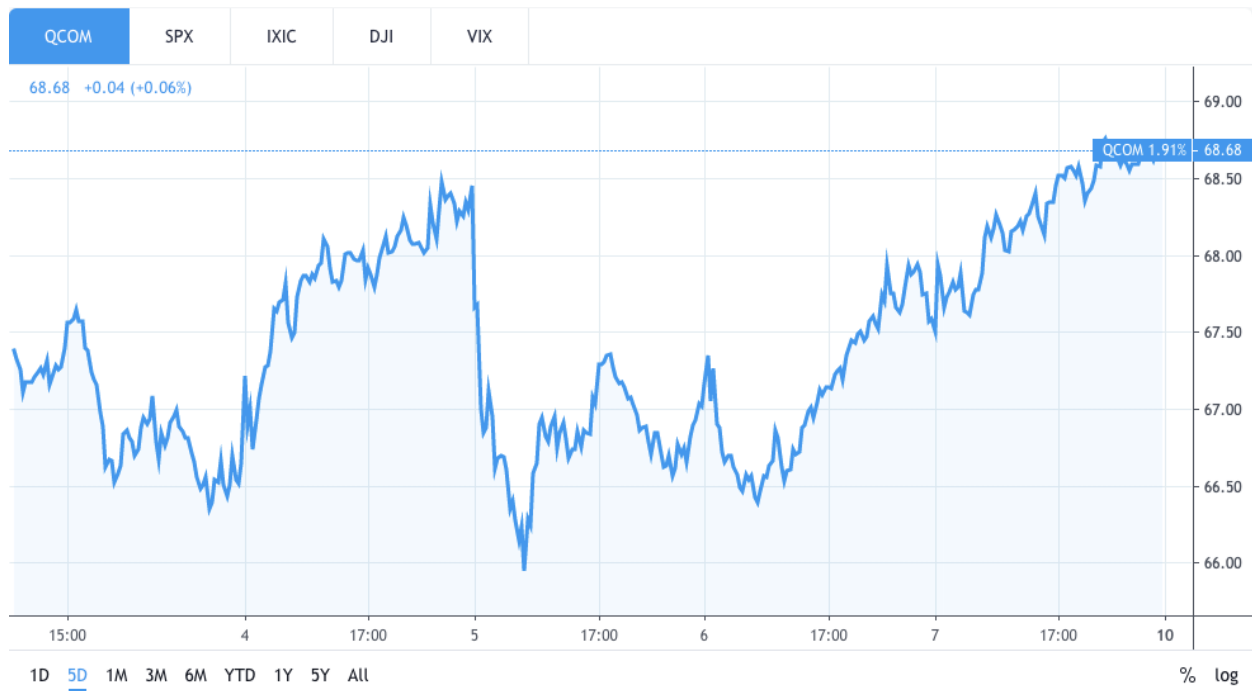
Figure 5.12 Qualcomm Inc stock trend in the past week

In conclusion, this week has seen all the stock rising for a bit thanks to the bullistick market. The important part is capturing the next round of stock price rising, and according transactions shown in Table 5.3 and 5.4.

Table 5.3 Week two buy and sell transactions

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost /Proceeds	Profit/Loss	Total Cash	Total Profit
06/07/19	NVDA	Sell	144.02	120	16,818	444.41	472662.21	444.41
06/07/19	QCOM	Sell	67.69	2000	135360.01	5669.02	339002.22	5669.02

Table 5.4 Week two transaction by using News trading method

Symbol	Holding Share	Share Value	Total value	Money Spent	Profit / Lose
SWKS	100	70.15	7015	6724	291
INTC	100	46.03	4603	4434.99	168.01
NVDA	120	144.02	17,282.4	16,818	464.4
QCOM	2000	67.69	135,380	129690.00	5,690
Net Profit					6,613.41

5.2.3 Week Three (June 10th – June 14th)

For Skyworks solutions (shown in Figure 5.11) as well as the three other stock I have chosen (shown in Figure 5.12, 5.13 and 5.14), this week has not been a great week. According to Jeremy C. Owens from MarketWatch, several semiconductor companies saw shares decline in after-hours trading Thursday following Broadcom Inc.'s earnings report. This is strongly indicated in the stock price dropping for every stock that I have chosen. However, given that the 5G market is in sharp demand and these stocks coming from the companies that are the main competitors of the new market. It is very likely that the price would bounce back in a matter of time. So, this is actually a good buying point. The key is not to be disturbed by the price drop and hold on to the stocks.

Figure 5.13 Skyworks solutions Inc stock trend in the past week

Intel's price drop is successfully predicted by the news trading method from last week, so accordingly, I will buy more shares as the price will go up according to the news. In addition, recent trump ban of selling semiconductors to China has also hinder the economy of tech companies like Intel. However, I do believe this is temporary stoppage and further recovery will be set upon.

Figure 5.14 Intel Corp stock trend in the past week

This week for Nvidia are scattered news about various business that it is involved in, from Shield-TV to a Real-time ray tracing. It is clear to see that the company is looking ahead to expand their business despite the recent stock price drop from the semiconductor tariff. As predicted last week, there is a price drop and it is a great time to buy in more of the stock.

Figure 5.15 Nvidia Corp stock trend in the past week

For Qualcomm, according to Bloomberg, it is involved in a dispute with Huawei regarding a massive (56.492) patent portfolio. This dispute is the key part in taking up the blooming 5g market. For now, there is no promises that Qualcomm has an advantage over Huawei, so it is best that I do not rush into buying more of Qualcomm stock (shown in).

Figure 5.16 Qualcomm Inc stock trend in the past week

In conclusion, the table below is a summary of the final decision I made regarding the consideration from news-driven trading. For Qualcomm and Nvidia, I decided to purchase more, for intel, AMD, and Skyworks solution, I decided to buy slightly less as there aren't much of a promising news. I did rush a bit for the price drop, meaning I did not wait for the best time to purchase. But I believe it will bounce back next week. The corresponding transactions are demonstrated in Table 5.5 and Table 5.6.

Table 5.5 Week three buy and sell transactions

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/Proceeds	Profit/ Loss	Total Cash	Total Profit
06/10/19	NVDA	Buy	150.33	800	120,283.99	-5,067	370,618.27	-5,067
06/10/19	QCOM	Buy	70.89	1500	106,354.99	-4,819	264,263.28	-4,819

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Table 5.6 Week three transaction by using News trading method

Symbol	Holding Share	Share Value	Total value	Money Spent	Profit / Lose
SWKS	100	71.15	7115	6724	391
INTC	100	46.19	4619	4434.99	184.01
NVDA	800	144.02	115,216	120283.99	-5,067
QCOM	1500	67.69	101,535	106,354	-4,819
Net Profit					-9310.99

5.2.4 Week Four (June 17th – June 21st)

The expectations on Trump-Xi Trade war G20 summit in Osaka, Japan has definitely been the driving force in affecting the stock price, especially the ones whose company are connected to key words like "5G", "Wireless" or simply chip stocks. People are speculating this summit to be a time that the two giant heads try to ease down the tariff. As a result, this week the stock rebound quite a bit from last week.

For Skyworks solutions, my prediction was spot on in the rebound (Figure 5.15), as it is the direct supplier for apple devices and the g20 summit's seemingly promising market ensures that the price will not drop for a long time. My suggestion for this particular is to hold on to it for longer time. It is unlikely to experience a sharp price drop soon.
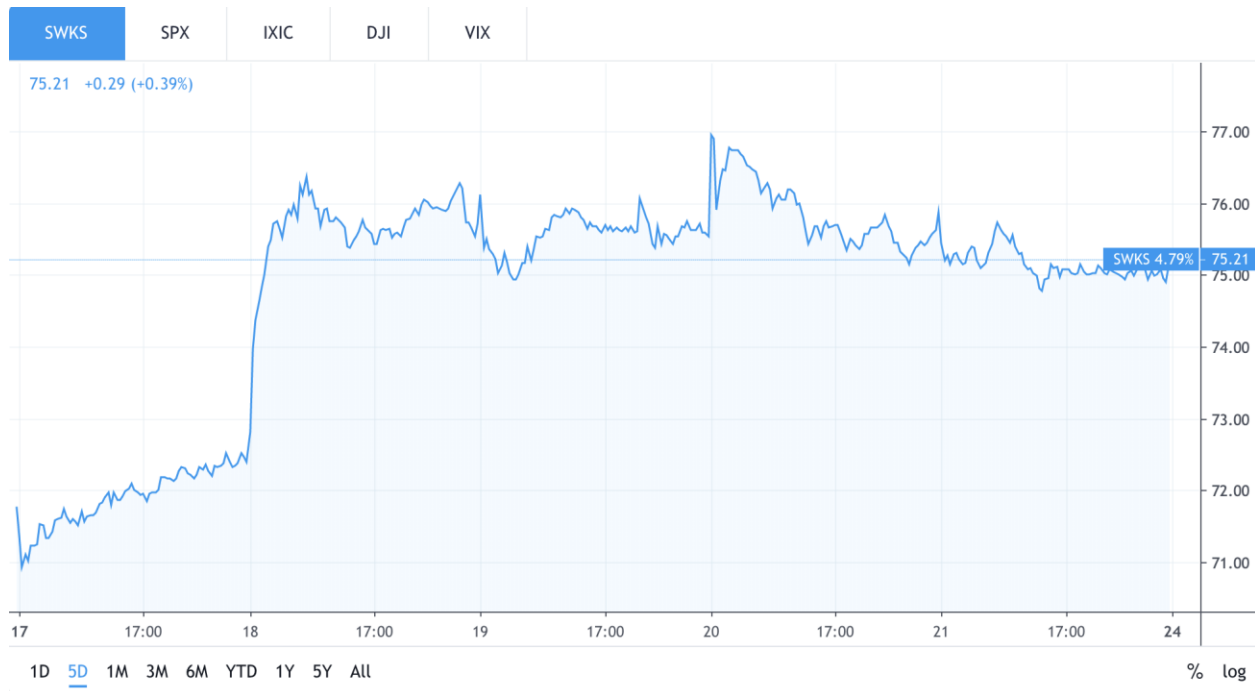
Figure 5.17 Skyworks Solutions Inc stock trend in the past week

Intel's price rebound is successfully predicted by the news trading method from last week (Figure 5.16), so accordingly, I will hold on to the shares I bought from last week's price drop. Source form Washington post reveals many direct competitors in chip market from China are barred from the purchasing entity. In other words, the US government is actively supporting Intel along with other American companies in this particular market. In addition, according to Odessa art, Intel is one of the top firms in producing next-generation transistors that has a rising demand in the future market. Given a bigger market and the support from the national government, it is safe to invest in Intel stocks.

Figure 5.18 Intel Corp stock trend in the past week

Last week's price drop was a great time to buy in more Nvidia stock. As expected, the price rebounded this week and generate some promising value. (Figure 5.17) However, news wise Nvidia is not really promising, at least for this moment. According to CRN, NVidia is on the list of new U.S. government ban on sales to Chinese HPC system developers. Even though Intel is happy about this ban, Nvidia is hurt by it, since China is one of the biggest buyers of such system. Accordingly, for nest I will sell parts of my Nvidia share.
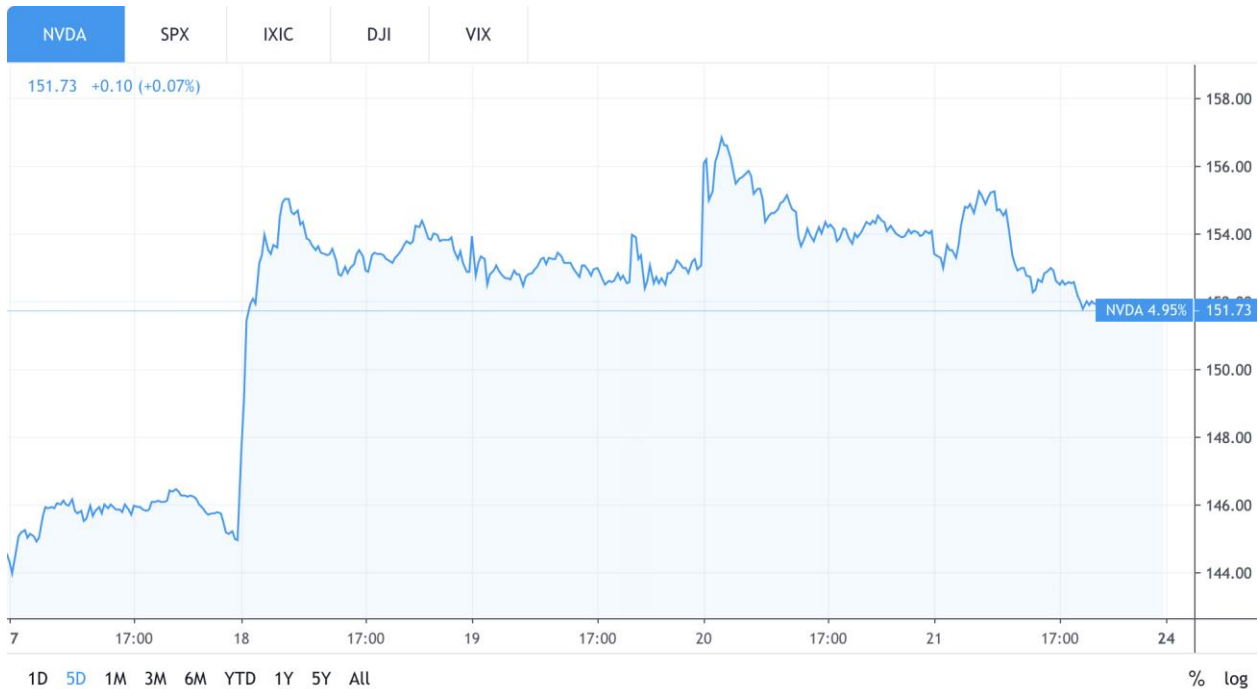
Figure 5.19 Nvidia Corp stock trend in the past week

Qualcomm also experienced a positive stock price change this week (Figure 5.18) under the US Commerce Department adding restrictions to trades. According to JDSurpa, Huawei holds fifteen percent of the crucial patent in 5G and Qualcomm, being the second best, holds eight percent of the patents. For next week, it is needed extra tension on news regarding the restrictions on trade. If it is confirmed, then it will be a great opportunity to buy in more Qualcomm share.
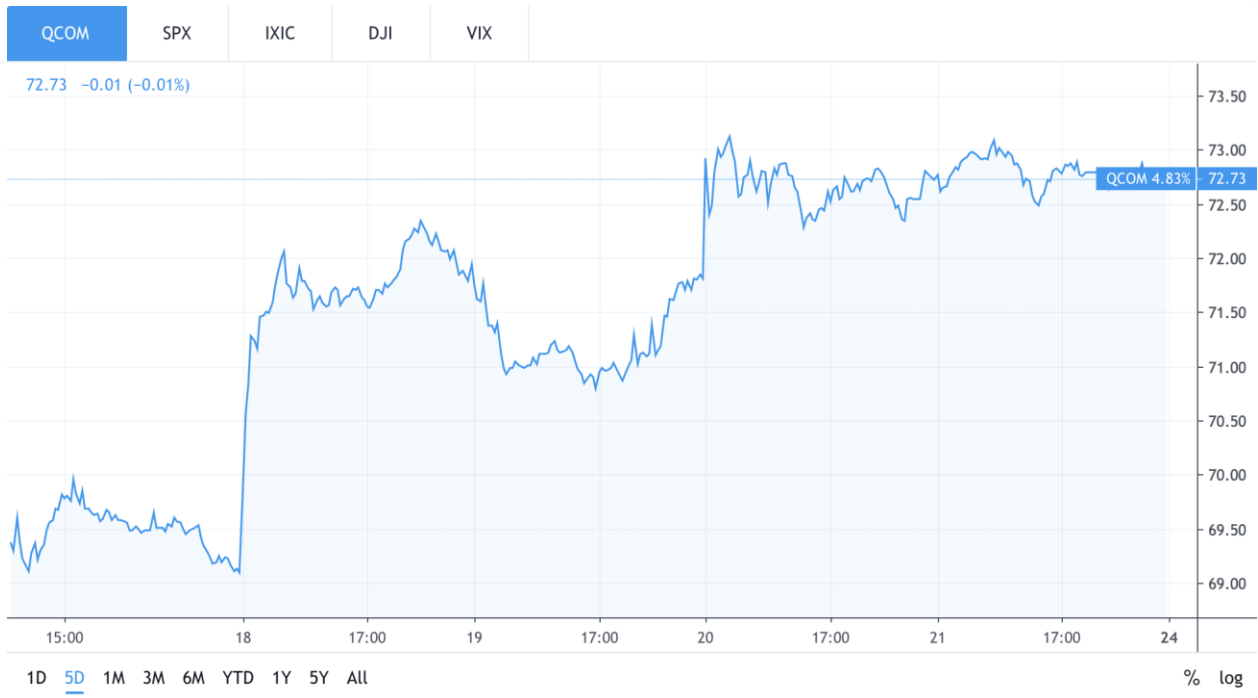
Figure 5.20 Qualcomm Inc stock trend in the past week

In conclusion, the table (Table 5.7) below is a summary of the profit this week I made regarding the consideration from news-driven trading. Since last week I decided to hold on to the stocks so there was not any transaction.

Table 5.7 Week four transaction by using News trading method

Symbol	Holding Share	Share Value	Total value	Money Spent	Profit / Lose
SWKS	100	75.22	7522	6724	798
INTC	100	47.46	4746	4434.99	311.01
NVDA	800	151.76	121,408	120283.99	1,124.01
QCOM	1500	72.72	109,080	106,354	2,726
Net Profit					4959.01

5.2.5 Week Five (June 24th – June 28th)

This week concludes with a booming price rise for tech and chip stocks. The key takeaway of Mr. Trump diving into the international diplomacy, is that the focus of the trade war is shifted. In other words, He has publicly announced that there will not be any further tariff on the trades with China for the time being, and this great news greatly stimulated the tech and chip stocks.

For Skyworks solutions, holding on to the stock was a wise chose (Figure 5.15), as it kept rising in value for the past month. There is not much to worry about this stock just yet. My suggestion is to hold on to it for longer time and wait for a good time to buy more.

Figure 5.21 Skyworks Solutions Inc stock trend in the past week

Intel (Figure 5.20), along with Qualcomm (Figure 5.21) resumed supplying tech part to Huawei After last week's trade ban from the US commerce. However, according to The Epoch Times (Hao, 2019), this is due to a legal loophole in the ban itself. In this way, although the price rebounded this week for both stocks. It is not safe to conclude that such rise is stable. In this way,

I still consider holding the stock and wait for other better news to convince a greater buy in.

Figure 5.22 Intel Corp stock trend in the past week

Figure 5.23 Qualcomm Inc stock trend in the past week

Nvidia this week sees the largest rise in price stock. On one hand, it acquired Mellanox, which is one of the leaders in the high-speed network card, which could be a great resource for Nvidia to leverage. On the other hand, according to Investor Place (Moadel, 2019), Having a reasonable trailing 12-month P/E ratio of 30-ish and an impressive trailing 12-month EPS of $5.30, Nvidia is setting foot to beat the market in the future. Since I capture the right moment to buy in more Nvidia stock, this week has been a great time to see my portfolio growing.

Figure 5.24 Nvidia Corp stock trend in the past week

In conclusion, the Table 5.8 below is a summary of the profit this week I made regarding the consideration from news-driven trading. Since last week I decided to hold on to the stocks so there was not any transaction.

Table 5.8 Week five transaction by using News trading method

Symbol	Holding Share	Share Value	Total value	Money Spent	Profit / Lose
SWKS	100	77.27	7727	6724	1,003
INTC	100	47.87	4787	4434.99	352.01
NVDA	800	164.23	131,384	120283.99	11,100.01
QCOM	1500	76.07	114,105	106,354	7,751
Net Profit					20206.02

5.2.6 Week Six (July 1st – July 5th)

This week was rather dry comparing to last week in terms of the ups and downs of the stock price. Given that the high rising stock price enabling people to sell for profit, the four companies I have chosen to have all seen a reasonable price drop from a volume of people selling them. However, according to the news we have for the companies in the long run, this is actually not a bad time to buy more shares.

For Skyworks solutions, there was not much breaking news following on the tariff imposed on US-China trade war. In other words, being the biggest supplier for Huawei who has already been utilizing alternative supplying route under harsh circumstances, if there will not be any further restrictions coming from both governments then this would suggest Skywork solution has survived the war. In this way, I'm looking positive towards the company's growth.
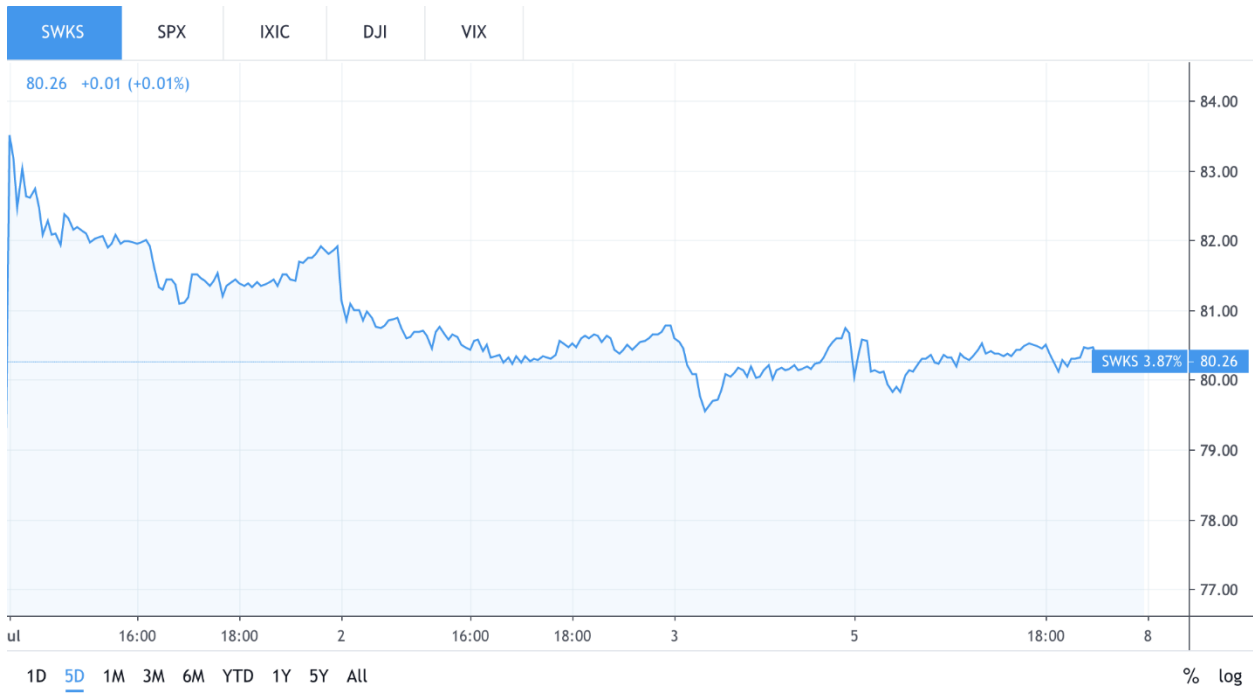
Figure 5.25 Skyworks Solutions Inc stock trend in the past week

Intel (figure 5.26) has issued various patent this week that are crucial to its semiconductor business. These patents have enabled them a basic legal foundation in competing against the tariffs on Us china trade. In this way, there is not much to worry about just yet on the performance of the company.
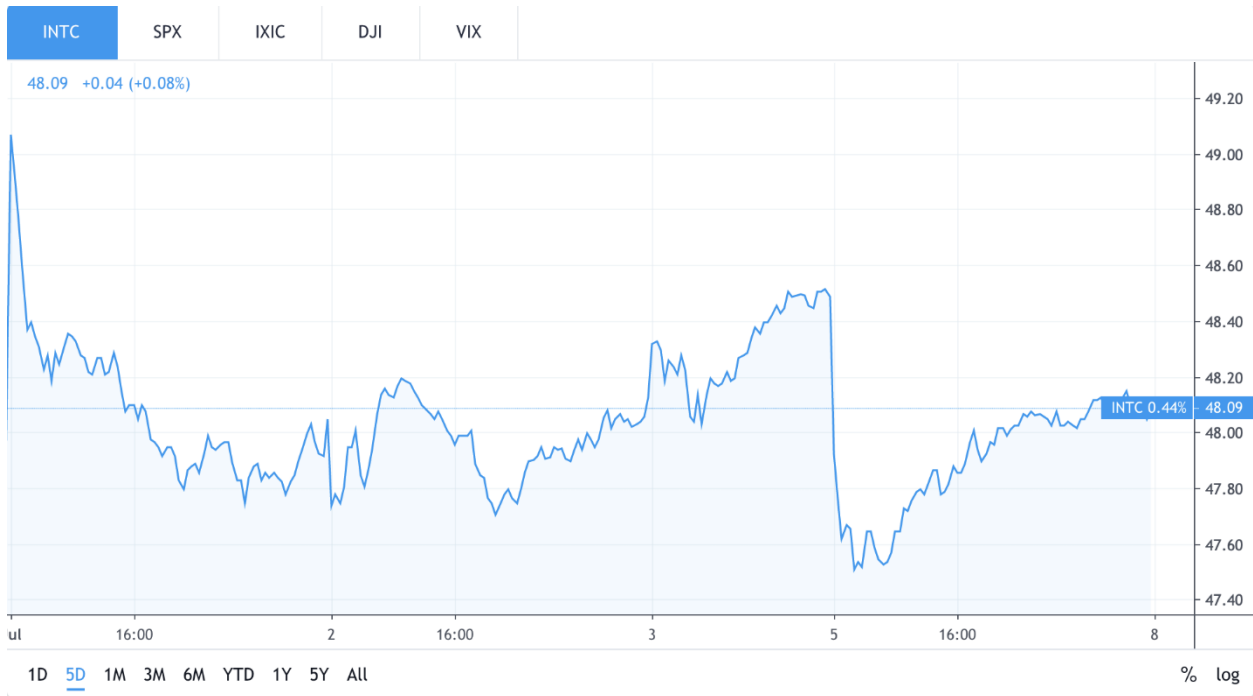
Figure 5.26 Intel Corp stock trend in the past week

For Nvidia, the main reason why the stock price dropped, according to the news from Motley Fool, is that its rival company AMD's newly released 7-nanometer Navi-series GPU. This is not devastating news at all. On the contrary, it is good news to see how companies are competing to deliver better goods, and this is what drives the company to thrive for a bigger share in the market. So, as far as I'm concerned, the only worry is the find the right time to buy in. So far, I do not believe it is the right moment.
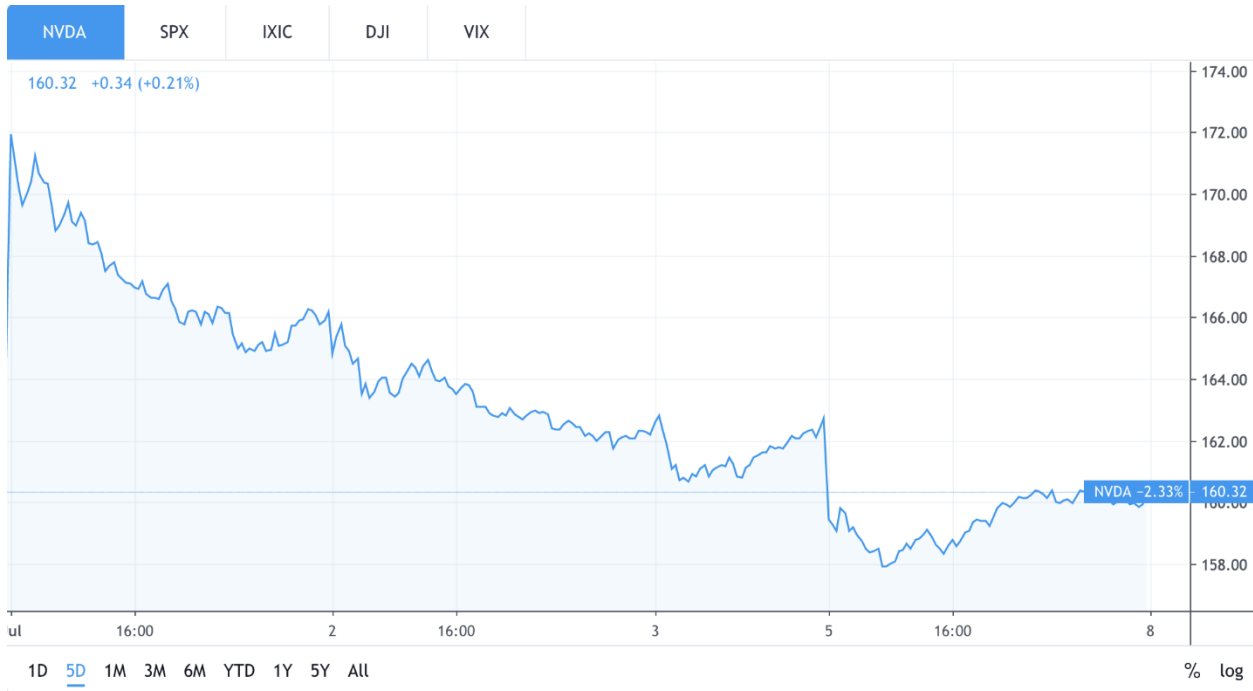
Figure 5.27 Nvidia Corp stock trend in the past week

For Qualcomm, one exciting news is that it won a legal battle over the use of 5G technology in vehicles across Europe, per Bloomberg along with Deutsche Telekom AG DTEGY and BMW. This means that Qualcomm is in the market with huge potential and is not even facing too much competition. Adding the cease-fire of US and China during the trade war, this gives Qualcomm a huge advantage. As a result, Qualcomm stock will rise in the future.

Figure 5.28 Qualcomm Inc stock trend in the past week

In conclusion, the table below is a summary of the profit this week I made regarding the consideration from news-driven trading. Since last week I decided to hold on to the stocks so there was not any transaction.

Table 5.9 Week six transaction by using News trading method

Symbol	Holding Share	Share Value	Total value	Money Spent	Profit / Lose
SWKS	100	80.33	8033	6724	1,309
INTC	100	48.08	4808	4434.99	373.01
NVDA	800	160.23	128,184	120283.99	7,900.01
QCOM	1500	76.66	114,990	106,354	8,636
Net Profit					18,218.02

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5.2.7 Week Seven (July 8th – July 12th)

This week Stocks are hitting record and high as well as the unemployment rate has been the lowest in the last 50 years. This phenomenon is mainly stimulated by the federal reserve announcing it will lower the interest rate in order to further encourage capital investments.

For Skyworks solutions (shown in figure 5.27), things are looking good. Given that it is publicly announcing Huawei as its biggest client after the tension between the US and China has eased off a bit, there is not much to worry about. In addition, the aforementioned announcement from the federal reserve also ensured a bright future in terms of investing in Skyworks stock.
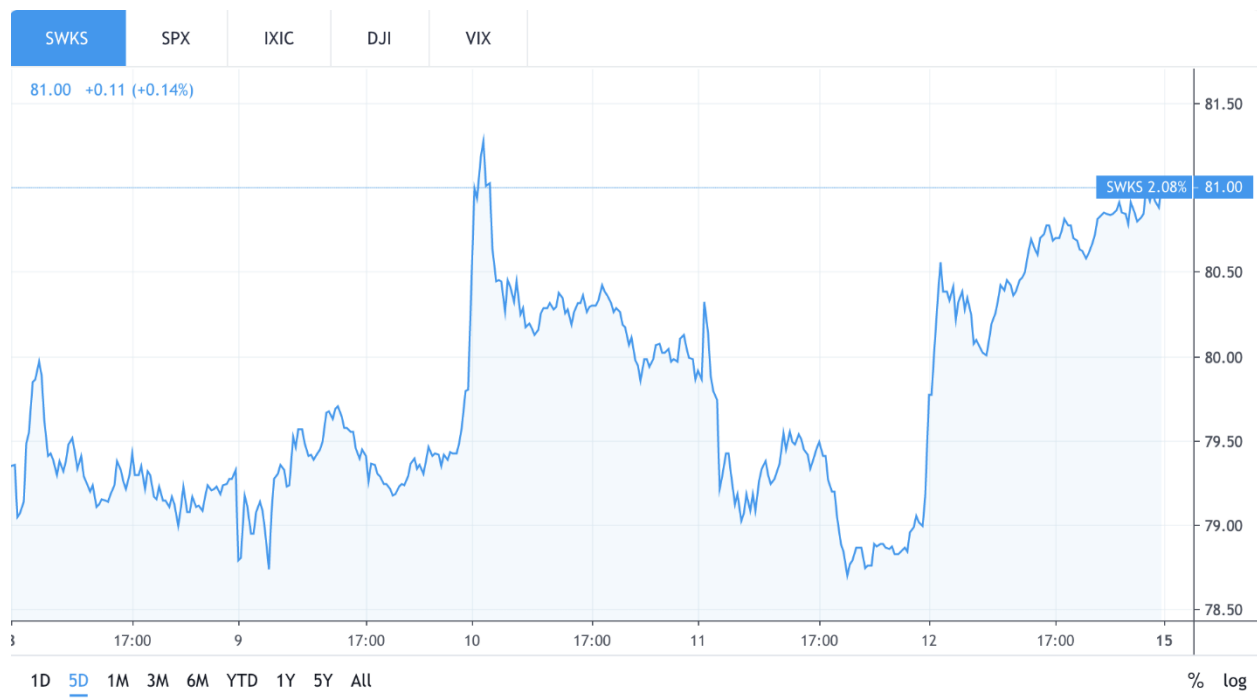
Figure 5.29 Skyworks Solutions Inc stock trend in the past week

Intel(figure) does not have news big enough either in tech or financial field, but it did also catch up the ride from fed's announcement. So, at this moment, it is pretty much safe to hold on to intel stock.

Figure 5.30 Intel Corp stock trend in the past week

Nvidia (shown in figure) has contributed a lot in the gaming and entertainment industry. Nvidia claims to have Monster Hunter World's gameplay resolution up to 50 percent, which could mean a great impact considering the number of people playing Monster Hunter World is somewhere higher than 1100,0000. What's more, Nvidia is dropping various deals on graphic cards, which would very likely stimulate its revenue a lot. In this way, Nvidia is looking good and is worth holding on to.

Figure 5.31 Nvidia Corp stock trend in the past week

For Qualcomm, product wise, it has announced the newly released Xiaomi Redmi 7A was a huge hit in Asian market especially in India. Company wise, Lytx, which has a database of traffic data, has just joined Qualcomm for smart cities technologies. However, smart city is still a concept in development, so this does not guarantee much. As a result, I will not rush to buy more of Qualcomm stock.
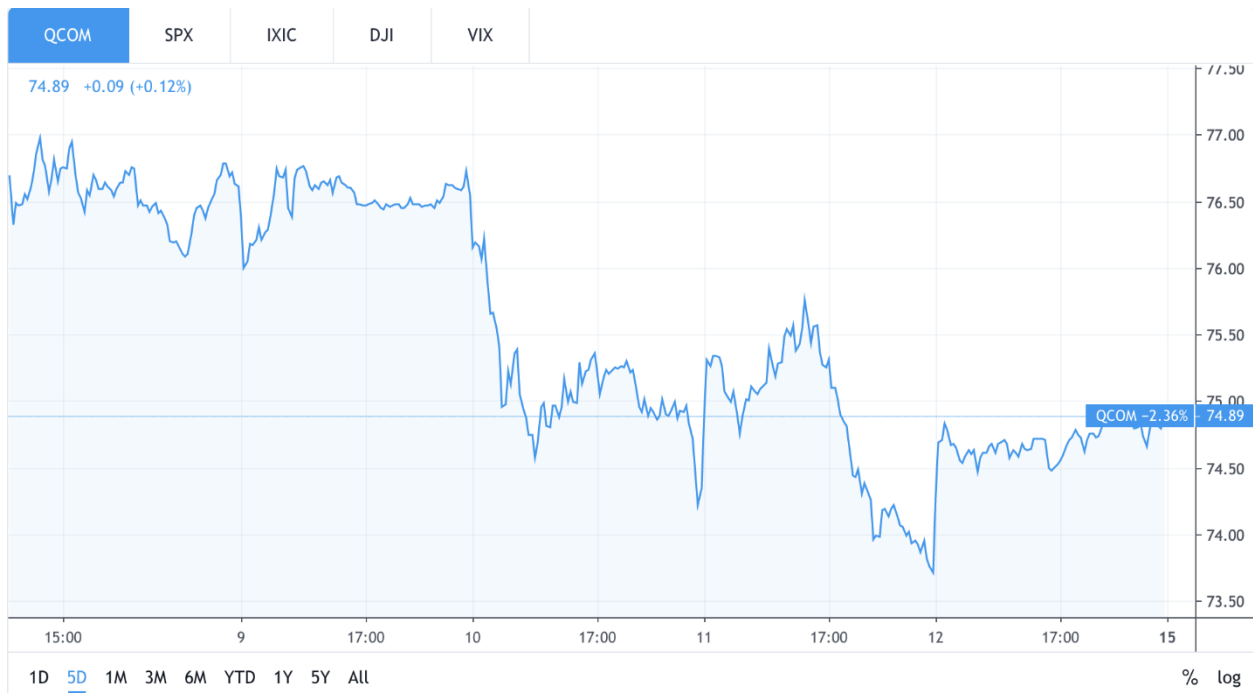
Figure 5.32 Qualcomm Inc stock trend in the past week

In conclusion, the table below is a summary of the profit this week I made regarding the consideration from news-driven trading. Since last week I decided to hold on to the stocks so there was not any transaction.

Table 5.10 Week seven transaction by using News trading method

Symbol	Holding Share	Share Value	Total value	Money Spent	Profit / Lose
SWKS	100	81.01	8101	6724	1,377
INTC	100	49.92	4992	4434.99	557.01
NVDA	800	167.61	134,088	120283.99	13,804.01
QCOM	1500	74.90	112,350	106,354	5,996
Net Profit					21,734.02

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5.2.8 Week Eight (July 15th – July 19th)

The closing price of the stocks of the companies I selected are pretty much the same as last week, this lack of the fluctuation in prices is correspondingly indicated in this week's lack of breaking news regarding the four companies.

For Skyworks solutions (shown in figure 5.31), the stock hit a rise back after Apple announced its dedication in creating apple product that will fit perfectly with new coming 5G services. In addition, Apple has also announced its tech upgrade under the cooperation along with Qualcomm (shown in figure 5.34) in the 5G era, which can also be good news for Qualcomm. More excitingly, according to Caso, such deployment can be reached in as early as the year 2020. So, my suggestion in these two stocks are simply holding on to them and buy more if needed.
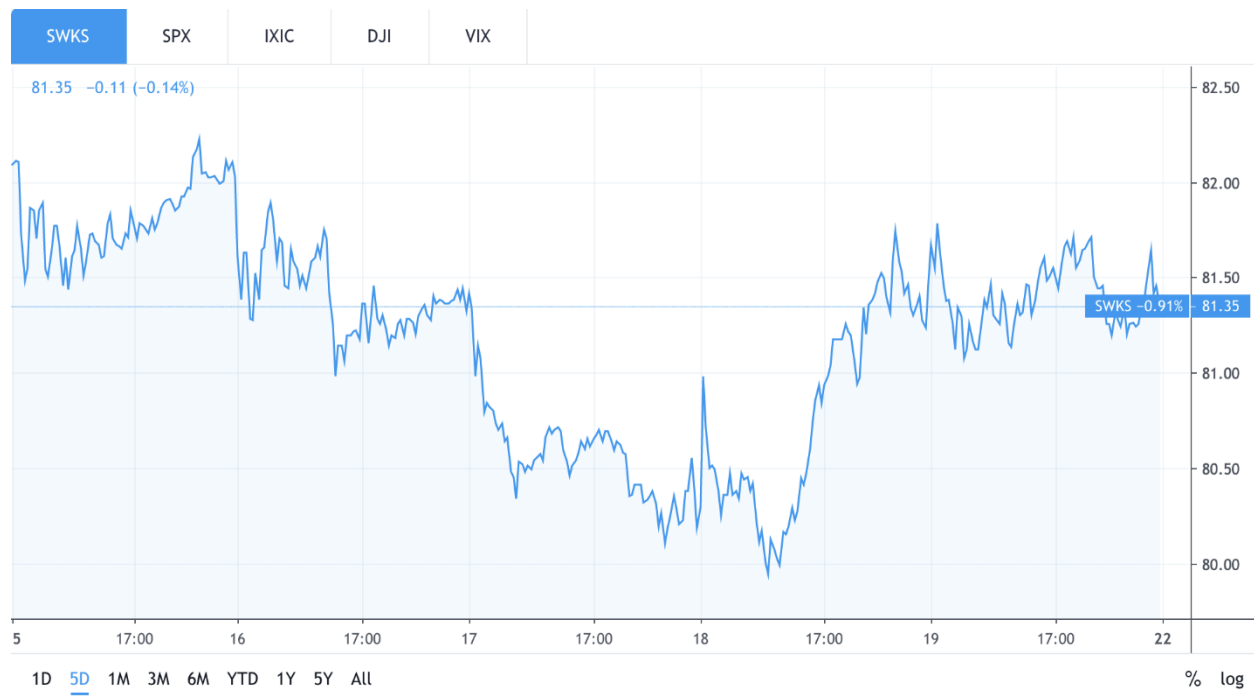
Figure 5.33 Skyworks Solutions Inc stock trend in the past week

While researching for related news on Intel, I found that, according to the Washington Post (Wu, 2019), the White House is planning to invite a few of the tech giants including Google and

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Intel to discuss the sales and business under relieved Huawei ban. Even though President Donal Trump announced the loosen regulation on Huawei ban, there is no affirmation on that, and such uncertainty is bothering the business partners as well as stockholders like you and me. Having companies teaming up is a strong indication of a strong rise in stock price, so my suggestion would be a quick buy and sell in recent days.
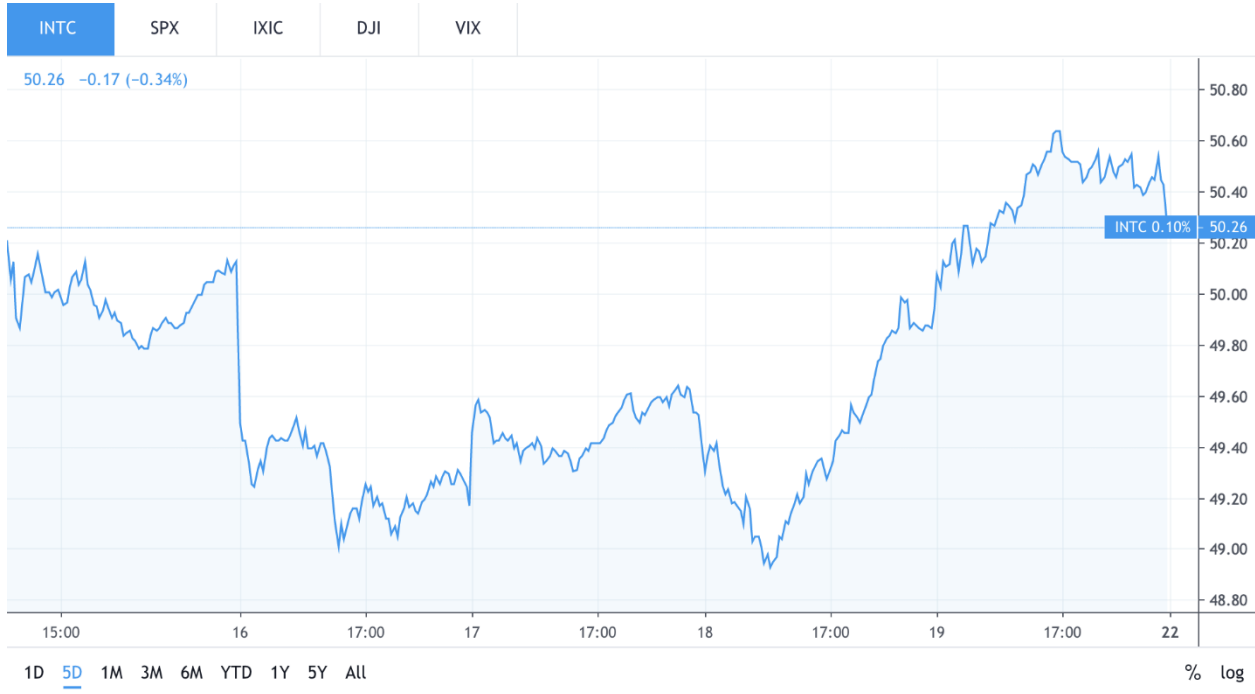
Figure 5.34 Intel Corp stock trend in the past week

Nvidia (shown in figure 5.33) this week does not have much big news. Moreover, there was not any major release of its product post last week. As shown in the figure, the stock price almost remained intact in this week. No news is good news, my suggestion is to keep holding on to this promising stock.
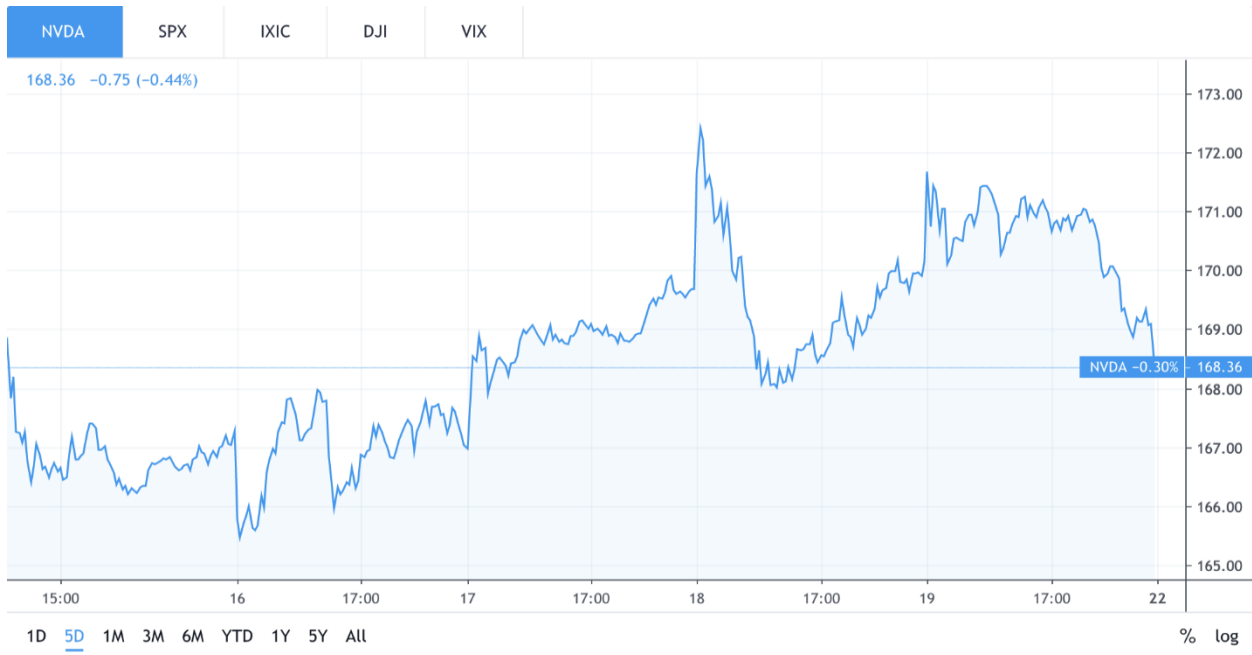
Figure 5.35 Nvidia Corp stock trend in the past week

For Qualcomm (shown in figure 5.34), apart from the big team up with Apple mentioned above, there wasn't much exciting news on it. As a result, there was not much stock price change for Qualcomm as well. But I believe it will rise in the future, so hold on to it.
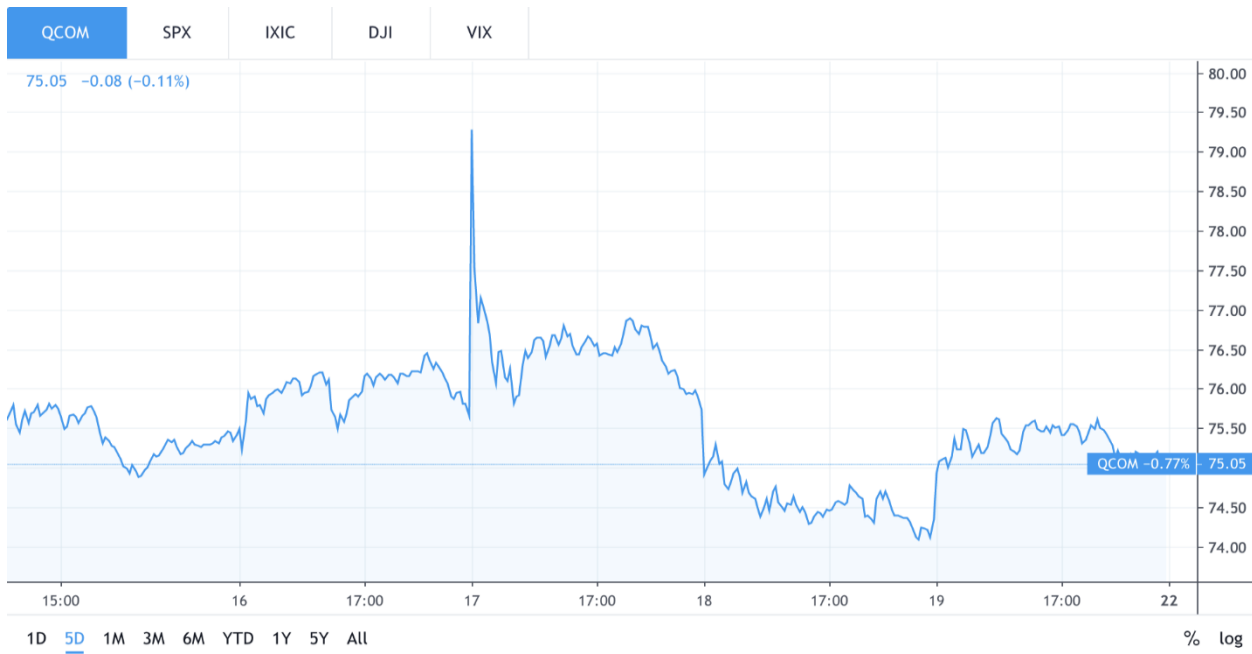
Figure 5.36 Qualcomm Inc stock trend in the past week

In conclusion, the table below is a summary of the profit I made this week regarding the consideration from news-driven trading. Since last week I decided to hold on to the stocks so there was not any transaction.

Table 5.11 Week eight transaction by using News trading method

Symbol	Holding Share	Share Value	Total value	Money Spent	Profit / Lose
SWKS	100	81.32	8132	6724	1,408
INTC	100	50.27	5027	4434.99	592.01
NVDA	800	168.44	134,752	120283.99	14,468.01
QCOM	1500	75.00	112,500	106,354	6,146
Net Profit					22,614.02

5.3 Trading Result

After eight weeks of simulation period, my portfolio value resulting from news-trading method is 522,614 dollars starting from 50,000. With an annual return of 51.7% (as shown in figure 5.35). This return appears to be a great result at the first glance but noting the U.S. stock market reached an all-time high during the trading period, this great result might be biased.

Portfolio Value Time Series
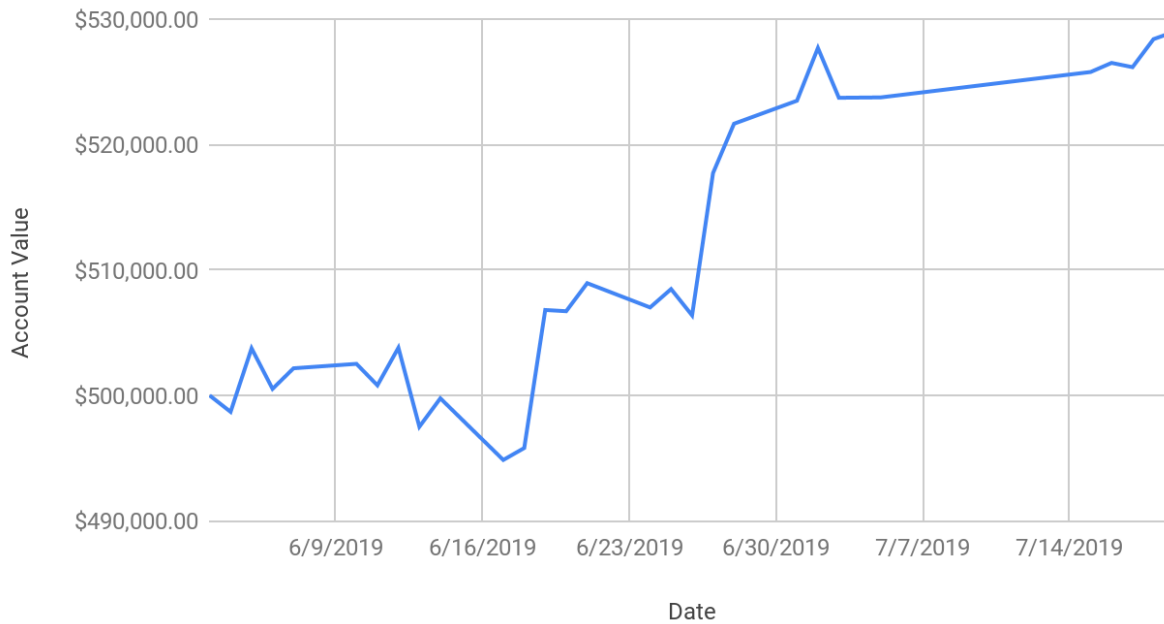
Figure 5.37 News trading portfolio in trading period

In this way, I constructed a combo chart comparing the growth of my portfolio and the growth of the S & P 500 (as shown in figure 5.36) spread out through dates. As shown, my portfolio generally is growing in a rate not vastly different from S&P 500. On June 13 and June 17, the portfolio experienced a sharp drop, and looking back at figure 99, the portfolio reached an all-time low. Other than that, the portfolio flourished in the waves of the whole market. Notably, the portfolio outperforms the index on June 19 and June 27, making the total growth of the portfolio during this period greater than S&P 500. In conclusion, news trading method is quite reliable still.

Figure 5.38 portfolio growth rate vs. S&P 500 growth rate

Chapter 6: Technical Analysis Trading (Manager: Xinzhe Jiang)

This chapter records the process of trading stocks by using Technical Analysis trading method. It will start with the introduction of the four stocks chosen for the simulation. And then followed by a detailed record of the changes happened in the next eight weeks. Through this simulation, we can come with a conclusion either this method is efficient and safe or not.

6.1 Stocks Chosen

6.1.1 Advanced Micro Devices Inc (AMD)

AMD is a company that mainly focus on computer hardware design and making. The company's original main product is graphics card for computer. But recently, they joined the competition with Intel on CPU making. This breaks the dominant position of Intel in this area and this is why I choose this company. I think it will do good in the future. Figure 6.1 is the year graph for AMD.

Figure 6.1 AMD stock trend in 5 years

6.1.2 Google (GOOG)

Google is a company that almost everyone knows. It first appears as a search engine and in fact its main product is the search engine. And then the company expand their business to lots of fields like cloud technology and smart technology. It is now a huge company. Figure 6.2 is the year graph for GOOG.

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Figure 6.2 Google stock trend in 1 years

6.1.3 Disney (DIS)

Disney is a company that focus on cartoon making. The company also has other very successful business-like Disneyland Park and the Marvel Studio. Their filmmaking recently is doing so good. They bought lots of famous IP and make a tremendous amount of money out of them. Figure 6.3 is the year graph for DIS.

Figure 6.3 Disney stock trend in 5 years

6.1.4 Bilibili (BILI)

Bilibili is a Chinese company that has only been in stock for a year. It is a web company that is kind like YouTube where people can upload their video and others can watch. One difference is Bilibili also held a lot of anime. They buy amines from japan every season. They know also have their own store selling things that's related to anime. It's a company that has potential. Figure 6.4 is the year graph for BILI.

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Figure 6.4 Bilibili stock trend in 1 years

6.2 Trading Simulation

This is the start of the simulation. The following will be separated by week. Each subsection will contain information about the act I did in one week. It will record my transaction, the price of the stock, reasoning of my decision and so on.

6.2.1 Week One (May 28th – May 31st)

I didn't put too much money into the market at the first week. I'm still at the stage that's seeking for a good chance to buy in because the method I choose need me to be familiar with the trend of the stocks. I will buy in after I get to know what's the current trend of the stock in order to profit. There is also news about the trade war between China and America that China is going to raise taxes on most of the American companies. The total amount is going to be over 60 Billion

dollars. I think This is going to impact the stock a lot and lead to a further drop in the following

week and that will be a better time to buy in a large number of shares. The following table is the

information about the trading act during the first week. Table 6.1 is the trading graph of the week.

Table 6.1 Week one transaction by using Technical Analysis method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/Loss	Total Cash	Total Profit
05/29/19	DIS	Buy	131.39	152	19971.28	0	480028.72	0
05/31/19	GOOG	Buy	1105.34	18	19896.12	0	460132.6	0
05/31/19	AMD	Buy	27.4	730	20002	0	440130.6	0
05/31/19	BILI	Buy	13.49	2965	39997.85	0	400132.75	0

The following graphs are the week graph for AMD, GOOG and DIS. The circled points

are my buying points. As I said at the beginning, I'm expecting the stock to go further down, I

didn't buy a lot of shares. I bought about 20000 dollars' worth of shares for each of these three

stocks to have a starting point. My prediction for the next week is that I will keep buying and then

seeking for a good timing to sell. Figure 6.5, 6.6, 6.7 are the week graph for AMD, DIS and GOOG.

Figure 6.5 AMD stock trend at Week One

Figure 6.6 Disney stock trend at Week One

Figure 6.7 Google stock trend at Week One

The following graph is the week line for BILI. Since this is a Chinese website company, and based on the history pricing of this stock, I think this is a pretty good buying point. So, I bought more than the other three. I bought a total of about 40000-dollar worth of shares. Figure 6.8 is the week graph for BILI.

Figure 6.8 Bilibili stock trend at Week One

The following table is the conclusion of this week. Share value means the value of one share at the end of the week. Total value means the total value of the share I hold at the end of the week. Money spent is how much it cost me to buy these shares. Money in hand is the amount of cash I still have and value in hand include the value of the shares I hold. This is to help me keeping track of how I am doing currently and to see if I'm gaining or losing money. Table 6.2 is the final statistics graph of the week.

Table 6.2 Week one final statistics by using Technical Analysis method

Symbol	Holding Share	Share Value	Total value	Money Spent	Asset Value Change
AMD	730	27.4	20002	20002	0
GOOG	18	1103.85	19869.3	19896.12	-26.82
DIS	152	132.04	20070.08	19971.28	98.8
BILI	2965	13.49	39997.85	39997.85	0
Total			99939.23	99867.25	71.98
				Money in Hand	400132.75
				Value in Hand	500071.98

6.2.2 Week Two (June 3rd – June 7th)

The stock market is pretty good this week. Most of the stock I choose are doing good. The price is going up. My trading method told me that when the price is going up, it can go up higher until it reached the history peak. So, I need to be patient. Based on that, I didn't sell any of my stock, but I bought some at the beginning of the week. Here's the table information for the second week. Table 6.3 is the trading graph of the week.

Table 6.3 Week two transaction by using Technical Analysis method

Date	Symbol	Buy/Sell	Price	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
06/03/19	GOOG	Buy	1036.37	30	31091.1	0	369016.45	0
06/04/19	AMD	Buy	29.57	1690	49978.29	0	319038.16	0
06/04/19	DIS	Buy	134.83	222	29937.25	0	289100.91	0
06/05/19	GOOG	Buy	1042.65	30	31284.49	0	257816.42	0

Google had a huge drop at the beginning of the week. The drop is expected, but I didn't think it would be so bad. So, I bought 30 shares at the end of the first day to buy back some value I lost. This act will let me profit more in the future when it rises. After two days, the stock is floating around the same range. That's why I buy in the second time. I think the stock won't go further down after this and as Google is such a huge company, the price will be back soon. So I bought another 30 shares. I hope the price will recover next week to bring value to me. Figure 6.9 is the week graph for GOOG.

Figure 6.9 Google stock trend at Week Two

For AMD and Disney, the story is different. At the first day, I was stilling waiting to see if the price will go down anymore. But on the second day they are still doing good and the price rise a little bit. I also checked the Dow Jones Industrial Average; it shows that it's on a rising trend. So, I bought in the second day. And it turns out that it's a pretty good buying point. But I didn't sell any at the end of the week since I want it to rise more. Figure 6.10, 6.11 are the week graph for DIS and AMD.

Figure 6.10 AMD stock trend at Week Two

Figure 6.11 Disney stock trend at Week Two

I didn't buy any BILI share. Because the stock price for it is floating around, not the rising trend that I predict. During the week, I can't decide if it's good buying point or not. I'm being careful with this stock because it wouldn't act like other stocks I chose since they are in different areas. Despite all the ups and downs during the week, the price rise at the end. Figure 6.12 is the week graph for BILI.

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Figure 6.12 Bilibili stock trend at Week Two

I'm doing pretty good this week. Or I should say the stock market is doing well overall. I have spent about half of my cash to buy shares. I didn't sell any shares yet. So, any profit I mentioned below is still not in my hand yet. And this is one of the down sides for the method I chose. Because any drop of the stock will affect my profit and it will take more time to achieve the point I want to sell. Table 6.4 is the final statistics graph of the week.

Table 6.4 Week two final statistics by using Technical Analysis method

Symbol	Holding Share	Share Value	Total value	Money Spent	Asset Value Change
AMD	2420	32.41	78432.2	69980.29	8451.91
GOOG	78	1066.31	83172.18	82271.71	900.47
DIS	374	138.01	51615.74	49908.53	1707.21
BILI	2965	14.81	43911.65	39997.85	3913.8
Total			257131.77	242158.38	14973.39
				Money in Hand	257816.42
				Value in Hand	514948.19

6.2.3 Week Three (June 10th – June 14th)

This week, the stock is floating a lot, mostly losing value. There is some hard decision to make. I made my first sell action. Fortunately, it's a gain sell. Unfortunately, I lost a lot of potential value because I was greedy last week, and I hope the stock will rise. I will try to learn from it and make better decisions in the future. The profit or loss is calculated based on the average share which is money spent divided by holding share on last week's table. Table 6.5 is the trading graph of the week.

Table 6.5 Week three transaction by using Technical Analysis method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/Proceeds	Profit/Lose	Total Cash	Total Profit
06/14/19	AMD	Sell	30.35	2420	73442.01	3461.72	331258.43	3461.72
06/14/19	DIS	Sell	141.65	124	17559.61	1011.81	348818.04	4473.53

Didn't buy or sell any GOOG or BILI shares because I'm stilling waiting and observing the market. The price right now is not the peak of the history. So, there are still chances for them to rise. I'm waiting to see how the market acts next week and then I will make my decision. Figure 6.13 and 6.14 are the week graph for GOOG and BILI.

Figure 6.13 GOOG stock trend at Week Three

Figure 6.14 Bilibili stock trend at Week Three

I sold all my AMD shares at the end of the week. I should have done this early in the week but at that time, I was hoping the price will rise again. It turns out that it's just hopes but not the truth. I shouldn't be so greedy and sell early. Maybe the best solution at this time is to hold the shares and wait. But I check the history graph of AMD and I find out this is almost the peak of its history so there is a large chance to drop further. So, I sold all of it. Figure 6.15 is the week graph for AMD.

Figure 6.15 AMD stock trend at Week Three

The action I did on Disney is a new try. I didn't sell all the shares I have at the end of the week. I just sold about one third of it. This is because after careful calculation. I find out that if I sell one third of my shares, as long as the price won't go down further than 130, which if about 8.3%, on the first day of next week, I will still be gaining on this stock. This is a step to insure even if the price drops, I wouldn't lose as much. And if the prices rise, there are still plenty of shares to bring me value. And Figure 6.16 is the week graph for DIS.

Figure 6.16 DIS stock trend at Week Three

Although I lost some of the potential value during the week, I'm still doing pretty good, gaining a lot of money. One thing I could do better is stop being so greedy and think good things will happen. Always plan for the worst case. The new technic I'm trying this week is one of the safety acts. It will ensure my property and bring me profit if possible. I have a good start and all I have to do is to keep this throughout the simulation. Table 6.6 is the final statistics graph of the week.

Table 6.6 Week three final statistics by using Technical Analysis method

Symbol	Holding Share	Share Value	Total value	Money Spent	Asset Value Change
GOOG	78	1085.35	84657.3	82271.71	2385.59
DIS	250	141.65	35412.4	33362.5	2049.9
BILI	2965	14.27	42310.55	39997.85	2312.7
Total			162380.25	155632.06	6748.18
				Money in Hand	348818.04
				Value in Hand	511198.29

6.2.5 Week Four (June 17th – June 21st)

The market this week is relatively normal. There aren't many surprising movements. The price of AMD showed that my decision last week is right. The price did go down. Now I'm at a period of waiting. Wait for a good price to buy and sell. Table 6.7 is the trading graph of the week.

Table 6.7 Week four transaction by using Technical Analysis method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/Lose	Total Cash	Total Profit
06/14/19	AMD	Buy	29.10	1000	29104.99	0	319713.05	4473.53
06/14/19	BILI	Sell	15.44	2965	45774.61	5776.76	365487.66	10250.29

For AMD, I bought 1000 shares at the end of the week. The price of AMD floats a lot this week and at the end of the week, it seems it reached its bottom but compared to last week, there isn't much difference. So, I just bought 1000 shares. And based on the price of next, I will probably buy more. And Figure 6.17 is the week graph for AMD.

Figure 6.17 AMD stock trend at Week Four

Bilibili is doing great these two weeks. And based on its history price, the price now is pretty high. So, I decided to sell all the shares I hold. The profit is about 5000$. But consider the number of shares I bought and the amount of time I invest into this stock, it's really not that much. I hope the next trade on Bilibili will give me more money than this. And Figure 6.18 is the week graph for BILI.

Figure 6.18 BILI stock trend at Week Four

For google, it is doing pretty good this week. I almost decided to sell the shares I hold. But at the end, I decided to wait. I still believe it has the potential to rise again next week. This is me being greedy again. So, I will pay really close attention to google next week. And Figure 6.19 is the week graph for GOOG.

Figure 6.19 GOOG stock trend at Week Four

Last week, I tried a new technique on DIS. I sold part of the shares I hold. But this week the price of Disney is floating around but not a lot. So, the only choice I have is to wait. Another reason made me make this decision is based on the mythology I chose. Although the price isn't doing good this week, the overall trend of the price is going upward. So, I have to be patient to wait for a selling point or buying point. And Figure 6.20 is the week graph for DIS.

Figure 6.20 DIS stock trend at Week Four

This is the fourth week of the simulation and I consider the first half of my simulation went very well. I had a great start and I made a lot of profit. Although the new technique I tried didn't go the way I want, I still believe that it's a good method and I will probably use it again in the future. Table 6.8 is the final statistics graph of the week.

Table 6.8 Week four final statistics by using Technical Analysis method

Symbol	Holding Share	Share Value	Total value	Money Spent	Asset Value Change
GOOG	78	1121.88	87506.64	82271.71	5234.93
DIS	250	140.23	35057.5	33362.5	1695
AMD	1000	29.10	29100	29104.99	0
Total			151664.14	144739.2	6929.92
				Money in Hand	365487.66
				Value in Hand	517151.8

6.2.5 Week Five (June 24th – June 28th)

The overall result of this week isn't that good. I lost some potential value in the market. This is due to the wrong decision making at the beginning of the week. But I invest a lot of money into the market at the end of the week, hoping this will bring me value next week. The details about what I did wrong and why I made a huge invest at the end of the week will be stated in the following paragraphs about each symbol. Table 6.9 is the trading graph of the week.

Table 6.9 Week five transaction by using Technical Analysis method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/Lose	Total Cash	Total Profit
06/14/19	AMD	Buy	29.10	1000	29104.99	0	319713.05	4473.53
06/14/19	BILI	Sell	15.44	2965	45774.61	5776.76	365487.66	10250.29

I didn't sell any share of google last week which is a huge mistake. I was too greedy again. At the first day of the week, I thought everything is doing good and the next day, the price had a huge drop which is unexpected. And the price keeps going down the following day. I lost a lot of

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money because of this. I don't know if this is the bottom of this price drop, so I didn't buy in any share. I will buy in next week if the price kept going down so that when the price rises again, I can make more profit out of it. Figure 6.21 is the week graph for GOOG.

Figure 6.21 GOOG stock trend at Week Five

At the end of last week, I bought about 1000 shares of AMD which is not a lot. And the price didn't change a lot during the first two days of this week. Until the third day, the price went up a lot, and I think this is a sign of wakening of AMD which I predict last week. So, I bought 4000 shares hoping the price will rise and bring me a lot of money. Before the end of the week,

the price did go up a little bit but it's not enough. I am hoping it will go up more next week. Figure 6.22 is the week graph for AMD.

Figure 6.22 AMD stock trend at Week Five

Bilibili is the next mistake I made last week. I sold all shares I hold last week. And this week, the price of BILI kept going up. If I didn't sell last week, I can make more money. This is a lesson to me. Always be patience and the effort will pay back. Figure 6.23 is the week graph for BILI.

Figure 6.23 BILI stock trend at Week Five

The price of Disney is floating around this week as usual. But I bought a lot of shares at the end of the week. Maybe it's not a good choice based on its price, but the new Spiderman movie released on 6.28. Since this is the first Marvel movie after Avengers 4 and a lot of people like the character Spiderman, I think it will impact Disney's stock price. So, I bought in before the release of the movie and if the price arise, I can make a lot of money out of it. Figure 6.24 is the week graph for DIS.

Figure 6.24 DIS stock trend at Week Five

Although I lost some money because of the decision-making last week, I made two large purchase this week so that I can make up the loses next week. I will pay close attention to DIS and AMD next week. If the price won't go the way I expect, I will sell part of the shares I hold to reduce the loss. Table 6.10 is the final statistics graph of the week.

Table 6.10 Week five final statistics by using Technical Analysis method

Symbol	Holding Share	Share Value	Total value	Money Spent	Asset Value Change
GOOG	78	1080.91	84310.98	82271.71	2039.27
DIS	1110	139.64	155000.4	153457.89	1542.51
AMD	5000	30.37	151850	148749.98	3100.02
Total			391161.38	384478.97	6681.8
				Money in Hand	125747.28
				Value in Hand	516908.66

6.2.6 Week Six (July 1st – July 5th)

Because July 4th is the Independent Day, the market had a day off. The overall performance of the market is pretty good. The price of AMD and Disney did go up as expected. The price went up by a huge rate. The only thing unexpected is the rise of Google. I thought the price will go further down but the fact is it went higher even than last week. This means that last week is actually a very good buy point and I missed it. Overall, I'm doing pretty good this week. Table 6.11 is the trading graph of the week.

Table 6.11 Week six transaction by using Technical Analysis method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/Lose	Total Cash	Total Profit
06/14/19	AMD	Sell	31.50	3000	94495.01	5245.02	220242.29	15495.31

The price of AMD risen just as expected. But I don't know if this is all of its potential or not. So, I just sold about three fifths of the shares I hold now. The remaining 2000 shares is just in case if it rises more next week. I'm glad I bought a huge amount of AMD share last week and this

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is probably the most accurate prediction from the beginning. Figure 6.25 is the week graph for AMD.

Figure 6.25 AMD stock trend at Week Six

The price of Google is totally unexpected this week. I This taught me one thing, to be patient. I checked the six-month graph and found that when I bought in is the lowest price and now the price is going upward. So, if I be patient enough, I can make a lot of money out of it. So, for the 78 shares I hold, I decide to wait for the timing. Figure 6.26 is the week graph for GOOG.

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Figure 6.26 GOOG stock trend at Week Six

Disney is also doing good this week. Unlike AMD, Disney didn't go up to the highest point and then floating around that. The price rise in a slow pace. Since the movie is still on and the Avengers 4 had a second release to challenge the Avatar, I think the stock value will keep rising next week. So, I didn't sell any of the shares I hold. Figure 6.27 is the week graph for DIS.

Figure 6.27 DIS stock trend at Week Six

I still didn't buy in any Bilibili shares this week. Because the price isn't going down even a bit. Next week is the last chance. Because if I can't find a buying point next week, there won't be enough time for me to wait for the price rise again before the end of the simulation. Figure 6.28 is the week graph for BILI.

Figure 6.28 BILI stock trend at Week Six

I'm doing pretty good this week and last week. There are some very good decision making. I hope I can keep this until the end of this simulation. The only thing might go wrong is the price of Google. It might go down next week, but I think it will go back eventually. It's just I don't know if I have time to wait or not. Overall, I'm doing very good and made a lot of money this week and last week. Table 6.12 is the final statistics graph of the week.

Table 6.12 Week six final statistics by using Technical Analysis method

Symbol	Holding Share	Share Value	Total value	Money Spent	Asset Value Change
GOOG	78	1131.59	88264.02	82271.71	5992.31
DIS	1110	142.45	158119.5	153457.89	4661.61
AMD	2000	31.50	63000	59499.99	3500.01
Total			309383.52	295229.59	14153.93
				Money in Hand	220242.29
				Value in Hand	529625.81

6.2.7 Week Seven (July 8th – July 12th)

This is probably the second last week of the simulation. My original plan was to just find the sell point of the stock I hold. But at the end of the first day, I decided to buy in more AMD shares. So, this is the last buying action of this simulation. I wouldn't buy any share next week because there won't be time for me to sell them. I hope I can make the most out of the shares I hold now so that it will be a perfect ending for this simulation. Table 6.13 is the trading graph of the week.

Table 6.13 Week seven transaction by using Technical Analysis method

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/Lose	Total Cash	Total Profit
07/09/19	AMD	Buy	31.91	6000	191464.99	0	28777.3	15495.31

After careful decision making, I bought a huge number of shares at the start of the second day. I kind of regret I sold part of my shares last week. Because after I checked the history graph

of AMD, I find that it's at a time of climbing and it has a lot of potential to rise more. So I bought

this huge amount of shares at the start of the second day. Figure 6.29 is the week graph for AMD.

Figure 6.29 AMD stock trend at Week Seven

It seems that it's a wrong decision to choose Bilibili as one of the trading stocks. Because

this is such a small company, the price isn't changing a lot. And since I didn't find a buying spot,

this is the end of this stock for me. There won't be more chance for me to do action on this stock.

Figure 6.30 is the week graph for BILI.

Figure 6.30 BILI stock trend at Week Seven

Disney is doing better and better and I think the price will keep rising because another movie that a lot of people were waiting for now released. It's the Lion King. This movie caught so much attention because the whole movie is made by CG and it looks as real as the real world. I think this will affect the price of DIS and it will keep rising. So, I didn't sell the shares I hold. Figure 6.31 is the week graph for DIS.

Figure 6.31 DIS stock trend at Week Seven

Google is also doing great. Just like Disney, I'm still waiting for a higher point to sell the shares I hold. Even if it dropped a bit at the beginning of the week, it won't matter since I don't think it will drop so much that I will lose money. So, I'm waiting to gain more at the last week to get as much value as I can from the shares I hold. Figure 6.32 is the week graph for GOOG.

Figure 6.32 GOOG stock trend at Week Seven

As some of the stock I observe reached it peak price from recent record, I think this is probably because the trade war between China and America ended or had a break. The stocks are doing so good that I made so much money at the last two weeks. Next week is the final week of this simulation. I hope I can make more out of it to have a wonderful ending. Table 6.14 is the final statistics graph of the week.

Table 6.14 Week seven final statistics by using Technical Analysis method

Symbol	Holding Share	Share Value	Total value	Money Spent	Asset Value Change
GOOG	78	1144.9	89302.2	82271.71	7030.49
DIS	1110	144.88	160816.8	153457.89	7358.91
AMD	8000	33.21	265680	250964.98	14715.02
Total			515799	486694.58	29104.42
				Money in Hand	28777.3
				Value in Hand	544576.3

6.2.8 Week Eight (July 15th – July 19th)

This week is the final week. Since I didn't hold any shares from Bilibili, it is not included in the detailed analyze of the week. The market is normal at the beginning of the week. Until the 18th which is Thursday. The market had a huge drop. All the company I pay attention to have this price drop which is heart breaking for me because I lost to much during this drop. I was totally unaware of this drop. Although I didn't have a strong ending, the result turns out to be very good. Table 6.15 is the trading graph of the week.

Table 6.15 Week eight transaction by using Technical Analysis method

Date	Symbol	Buy/Sell	Price	Shares	Net Cost/ Proceeds	Profit/Lose	Cash in Hand	Total Profit
07/16/19	AMD	Sell	33.82	8000	270555.01	19590.03	299332.31	35085.34
07/18/19	DIS	Sell	141.62	1110	157193.21	3735.32	456525.52	38820.66
07/19/19	GOOG	Sell	1130.10	78	88142.81	5871.1	544668.33	44691.76

I sold all the shares I hold from AMD at the end of the second day of the week. Although the price peaked at the middle of the day, the overall ending is a drop of price. Since I hold 8000 shares, I can't take any risk. So, I sold all the share as soon as there is a sign of dropping. It turns out to be a very good decision and appears to be the only good decision of the week. Figure 6.33 is the week graph for AMD.

Figure 6.33 AMD stock trend at Week Eight

Disney had a similar curve with AMD. The price didn't change a lot at the beginning and dropped so much at the end. I am so regretful that I didn't sell the shares at the end of 17th. The price has already dropped and at that time, I was still hoping the price to rise again. And then it

was the big drop that every symbol experience. I sold Disney at the end of 18th. Which isn't the worst, but I still lost a lot of money. Figure 6.34 is the week graph for DIS.

Figure 6.34 DIS stock trend at Week Eight

Google is truly the worst trading of the week. I was being greedy and lost so many chances during the week. Even if I sell at the same time with Disney, I won't lost that much. My selling point is the lowest point of the week. After the big drop of Thursday, the price re-covered so quick that the price even went higher. So, I thought the price will keep rising the next day. But it didn't. The next day is an even lower drop which makes me lost so much money. I should have sold at the end of Thursday. Figure 6.35 is the week graph for GOOG.
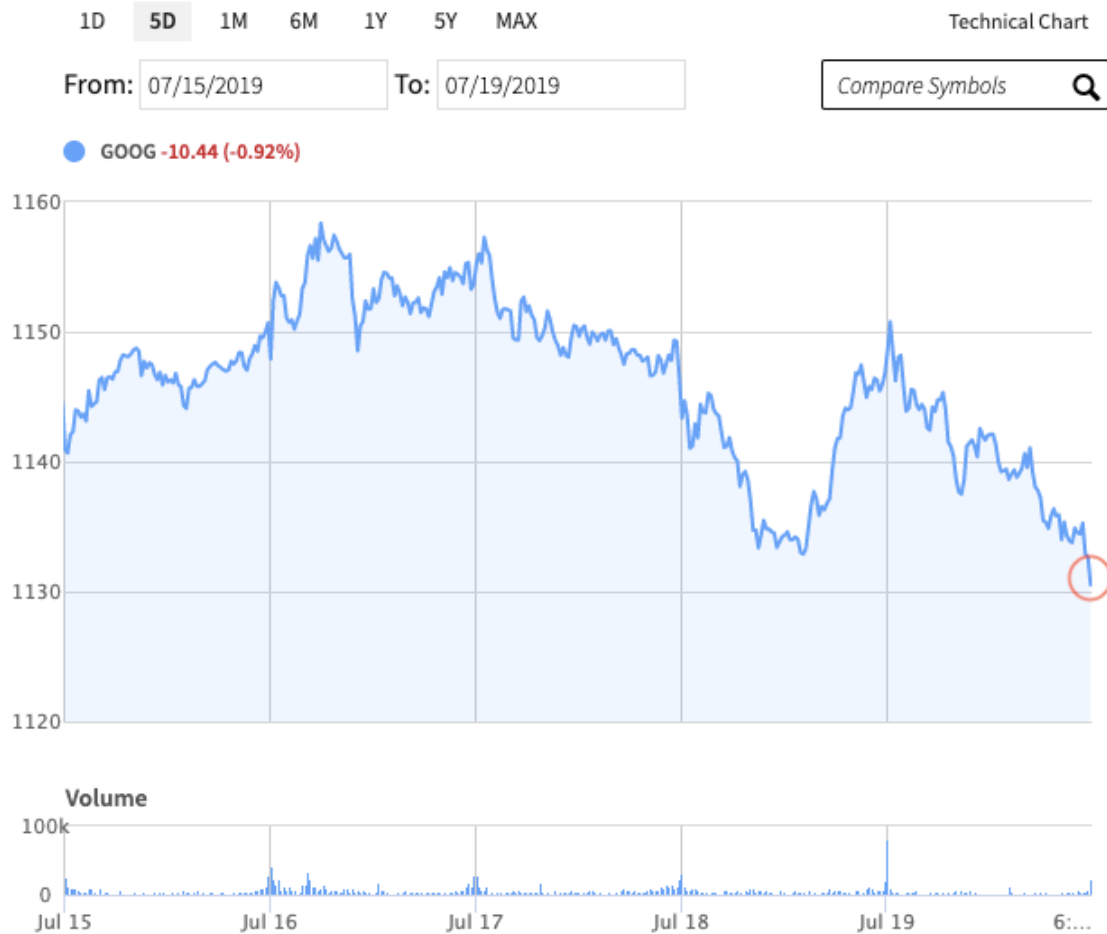
Figure 6.35 GOOG stock trend at Week Eight

6.3 Trading Result

After the eight-week simulation. I made $44691.76 out of $500,000 investment by using the trading method I chosen. Overall, I did pretty good. I made a lot of money out of throughout the eight weeks. Figure 6.36 is the line graph showing total profit per week. It's obvious that I made the most money at the end of simulation. That's because I hold most of the shares to the end of simulation and sold it at the end. Table 6.16 is the overall trading history of the simulation. From this it is easy to observe the trading flow of this simulation.

Figure 6.36 Total Profit Per Week during the simulation

Table 6.16 Overall Trading History

Date	Symbol	Buy/ Sell	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit /Loss
05/29/19	DIS	Buy	131.39	152	19971.28	0	480028.72	0
05/31/19	GOOG	Buy	1105.34	18	19896.12	0	460132.6	0
05/31/19	AMD	Buy	27.4	730	20002	0	440130.6	0
05/31/19	BILI	Buy	13.49	2965	39997.85	0	400132.75	0
06/03/19	GOOG	Buy	1036.37	30	31091.1	0	369016.45	0
06/04/19	AMD	Buy	29.57	1690	49978.29	0	319038.16	0
06/04/19	DIS	Buy	134.83	222	29937.25	0	289100.91	0
06/05/19	GOOG	Buy	1042.65	30	31284.49	0	257816.42	0
06/14/19	AMD	Sell	30.35	2420	73442.01	3461.72	331258.43	3461.72
06/14/19	DIS	Sell	141.65	124	17559.61	1011.81	348818.04	4473.53
06/21/19	AMD	Buy	29.10	1000	29104.99	0	319713.05	4473.53
06/21/19	BILI	Sell	15.44	2965	45774.61	5776.76	365487.66	10250.29
06/26/19	AMD	Buy	29.91	4000	119644.99	0	245842.67	10250.29
06/28/19	DIS	Buy	139.64	860	120095.39	0	125747.28	10250.29
07/05/19	AMD	Sell	31.50	3000	94495.01	5245.02	220242.29	15495.31
07/09/19	AMD	Buy	31.91	6000	191464.99	0	28777.3	15495.31
07/16/19	AMD	Sell	33.82	8000	270555.01	19590.03	299332.31	35085.34
07/18/19	DIS	Sell	141.62	1110	157193.21	3735.32	456525.52	38820.66
07/19/19	GOOG	Sell	1130.10	78	88142.81	5871.1	544668.33	44691.76

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Figure 6.37 is the profit gained by each stock column chart. It gives a direct image of how much I earn from each stock. From the figure, it's easy to tell that AMD produced most of the profit during the simulation. That's because there is a large amount of money getting invested into AMD at the end of the simulation and it's made a lot of profit.
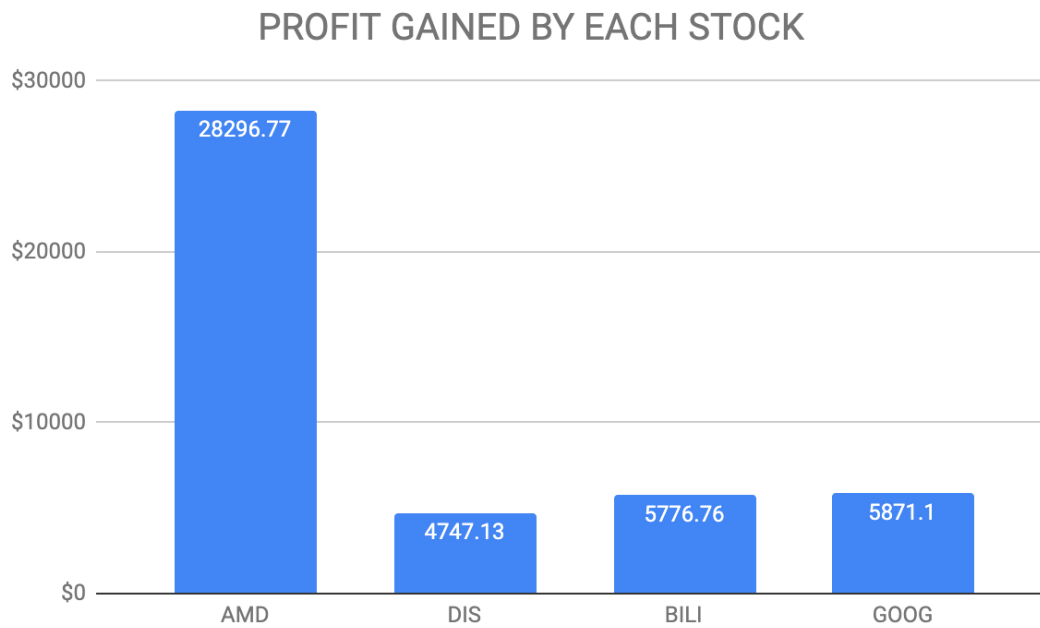

Figure 6.37 Profit Gained by Each Stock

Chapter 7: Analysis and Comparison

During the simulation, the group tried four trading method. They are short-term trading, swing trading, news trading, and technical analysis trading. The simulation had four people using these four methods at the same time. This will make the result of the simulation realistic and fair to analysis since there aren't factors like market act differently during different time periods influencing the outcomes. Table 7.1 is the overall trading result.

Table 7.1 Trading Results Comparison

Trading Method	Balances	Return Rate
Short-term trading	598,350.67	19.67%
Swing trading	525,514.60	5.1%
News trading	522,614	4.52%
Technical Analysis trading	544,576.3	8.92%

According to the table, everyone in the group has made some profit after the simulation. Since most of the people in the group are new to trading, we assumed that the market is pretty good during the time of the simulation which makes everyone end up profit. There are still different on the return rate that will show us the difference between different methods. Through the data, it's easy to observe that the Short-term trading method had a surprisingly high return rate of 19.67%.

Figure 7.1 allows us to compare each method more visually by presenting the weekly profit differences between the four trading methods. On the graph, we can notice that Short-Term has the most steady and high increase in its weekly profit, especially for the last three weeks, in which

the profit gain is around $20,000. The trend line for such strategy matches with a polynomial distribution with an equation:

$$Y = 339.08X2 + 646.76X - 567.58$$

Similarly, the trend line of News Trading also has a positive coefficient (93.849) on its highest degree. And, same as Short-Term Trading, the most profit gain came from the last four weeks of transaction. On the other hand, Swing Trading did not come as profitable as the above two trading strategies. A negative coefficient indicates the less effectivity in weekly profit gain, although there is indeed a 5.1% return rate in an overall view. As for Technical Analysis Trading, most of its profit is collected in the final week, which is demonstrated by a significant yellow column in Week 8. So, instead of a polynomial behavior, the trend line of Technical Analysis Trading appears to be more linear: $Y = 2391.8X - 5176.7$
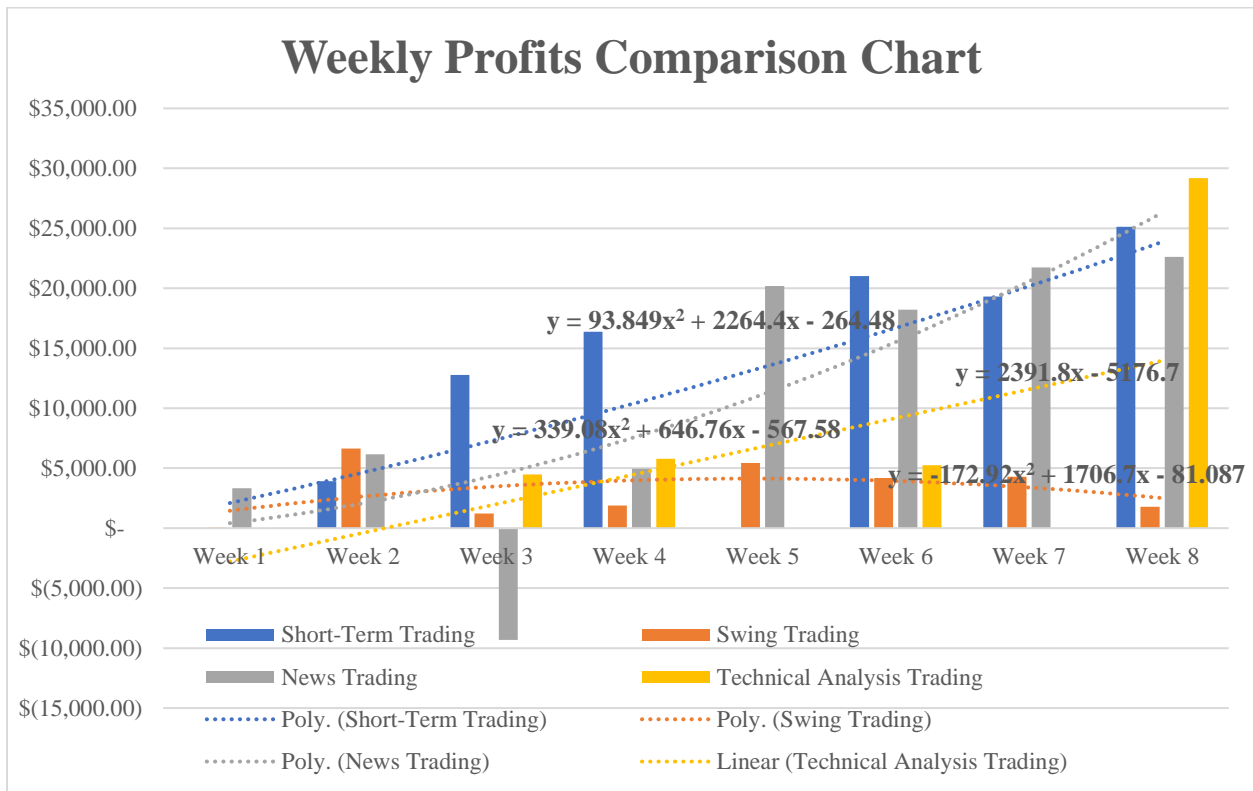

Figure 7.1 Weekly Profits Comparison Chart for Four Trading Methods

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A horizontal comparison on each company chosen for investment is performed after analyzing a vertical comparison on the four trading methods above, as shown in Figure 7.2. The chart is arranged in descending order from the highest profit to the highest loss. Surprisingly, after eight weeks of trading, none of the company has a negative profit at the end of the transaction. Such a rare result was benefited by the good market environment—a bull market—in the past summer, especially for technology companies. The top six of profit gain are all tech companies, in which the highest one reached above $50,000.

Profit and Loss Analysis of each Company

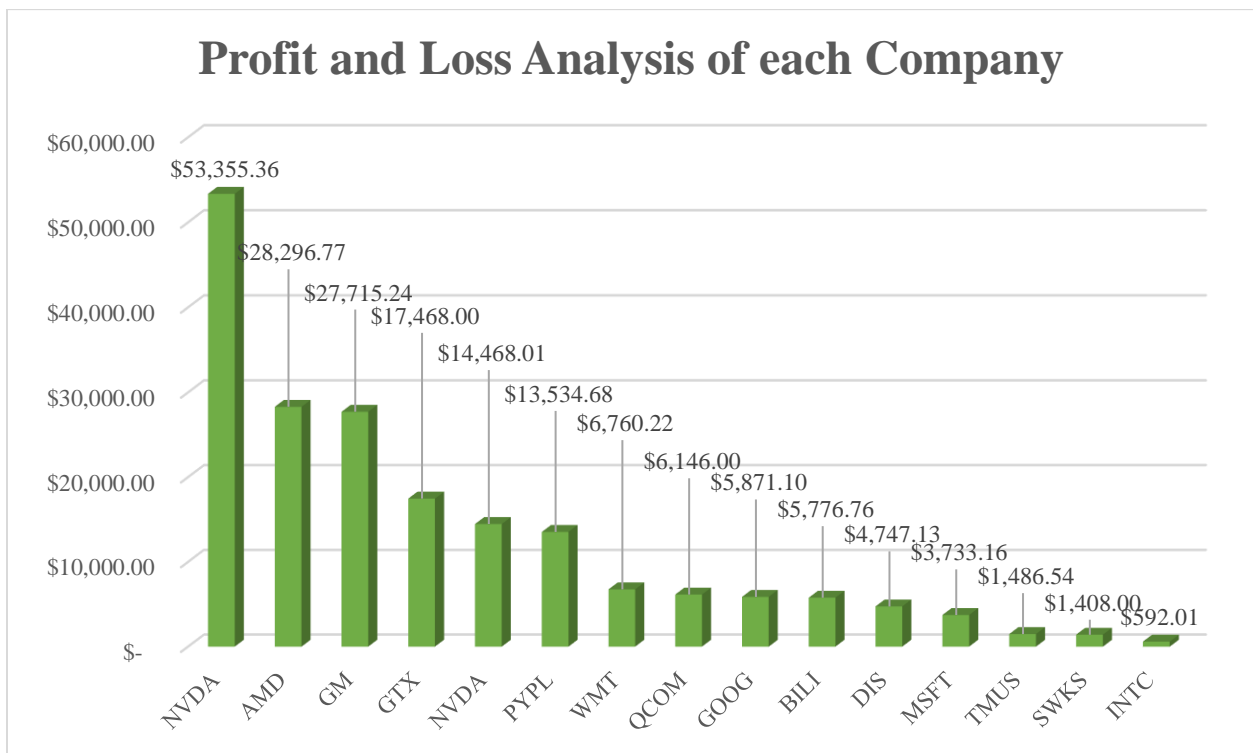|	
$53,355.36	NVDA
$28,296.77	AMD
$27,715.24	GM
$17,468.00	GTX
$14,468.01	NVDA
$13,534.68	PYPL
$6,760.22	WMT
$6,146.00	QCOM
$5,871.10	GOOG
$5,776.76	BILI
$4,747.13	DIS
$3,733.16	MSFT
$1,486.54	TMUS
$1,408.00	SWKS
$592.01	INTC

Figure 7.2 Profit and Loss Analysis of each Company

Chapter 8: Conclusion

After a relatively short trading period, the four trading methods we chose all make profits at different levels. From looking at the analysis and results, it is clear to see that short-term trading has the most preferable result amongst the four chosen trading algorithms. However, we did had a short trading period and short-term trading by-itself has its own natural advantages. The next profitable trading method is technical-analysis trading, where as long as the timing's right, the profit can be huge. Swing trading and News trading were pretty much close performance-wise, but swing trading appeared to have a steadier growth whereas news trading is the only method that reached a negative profit during the trading period. As a result, if given more time, technical analysis and swing trading would very likely balance out with short-term trading. For news trading, we suggest that it could be a great supporting analysis for any of the other three trading methods. Even though during the trading period the U.S. stock market did reach its all-time high, we still managed to beat the market. This has been a very unique experience and is helpful for us to invest in real life. In conclusion, we learned a lot from this project in that this is a great way for us to learn and experience with real data and market changes. Almost all parts of what we did during the project is useful in our future; from performing different trading strategies to writing a presentable documentation, this project enhanced our ability in both in terms of trading and academics.

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