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Stock Market Simulation

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By

Haoran Zhang

Jim Huang

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Abstract

This article is a summary of a four-week comparative stock market trading simulation. Two authors used the stock simulation software in Investopedia to create two accounts with the same starting capital, but without interfering with each other. They applied position trading and swing trading methods, one method for one author. The authors conducted corporate research together and selected seven target stocks to be traded during the same period using different trading approaches in the two accounts. The results showed that swing trading had higher return (6.8%), compared to a 4.45% return for position trading. This project also suggested that the amount of profit an investor could make in the market is not only related to the trading method, but also related to the investor's own knowledge and the area in which he or she invests. In terms of trading method selection, investors should make a decision based on their own time schedule and ability, as well as the overall situation of the stock market at the moment.

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Table of Contents

List of Figures

List of Tables

Chapter 1. Introduction

1.1 Goals, General Plan

Throughout a 4-week stock market simulation program, we will learn the fundamentals of stock trading through the simulation software, gain data on the price fluctuations of target stocks, and analyze these data to achieve consequent gains and losses. The aspiration of compiling these numbers is to contrast the advantages and detriments of various trading strategies. Furthermore, we are looking forward to adopting this simulation project as an opportunity to dive into the elemental logic of the stock market and discover how stock price fluctuations relate to company operations, real-world events, and capital flow. It is our firm belief that such a reflection will enlighten us in further stock operations.

There will be 2 contrasting portfolios during this simulation, and each of them will be assigned a specific trading method. Under these portfolios, they will have the same stock composition. The stocks that the team chose are EVs and petroleum. There is up to virtual $200,000 for the whole simulation project, which is allocated in two different Investopedia accounts. Speaking of stock choices, there are 3 stocks of choice in electric vehicles, and 4 in petroleum, consisting of a total of 7-stock groups. Each stock will have an initial share of around $10,000 as a sum of $70,000; the remaining surplus will be used as cash for future possible allocation. Further increasing or decreasing investment is possible.

1.2 About the Stock Market

The stock market, or capital stock, is by its nature marketable security. Companies require capital to operate, and the stock market is one great approach for them to raise capital. When people

purchase shares of a company, the company gets a corresponding amount of capital to promote projects, and investors receive dividends from the resulting profits. Vice versa, the failure of investments can cause the stock to lose its original value.

Over the past hundred years, countless people multiplied their portfolios through stock market operations, with numerous people with a little number of winners, there are bound to be people who lose money. Adding insult to injury, the losers are far more than the winners. The stock market is like a relentless sponge, absorbing most people's assets, but only a few people squeeze out a pitiful profit. After witnessing these tragedies, one cannot help but think about the pros and cons of the stock market. Will it benefit the development of human society, or will it encourage capitalists to help the tigers and enrich themselves? To obtain answers to this question, it is necessary to research the history and statistics of the stock market.

As far as the early 1400s, Antwerp, or modern-day Belgium, became the center of international trade. With the market filled with dazzling goods, merchants gradually formed a habit to stock certain merchandise, with the expectation of a price rise, which would profit themselves after selling merchandise to other people. Such behavior is quite like what stock traders are doing nowadays. Thus, the “stock” trading activity can be taken as the embryo of the modern stock market. With the advancement in time, in 1611, the first stock trade took place in Amsterdam, as the Dutch East India Company released its stocks to the public. For many years, they gather capital from the public by selling stocks prior to the departure from the coast and return the loan with interest to the public upon the completion of the route. Under this mode of operation, this company avoided many cost issues and hazards via public found raising with stocks, and immediately accumulate tons of assets. Later, with the establishment of the Buttonwood Tree Agreement and the Philadelphia stock exchange, there comes the dawn of modern stock trades.

As the stock market expands into an enormous capital body, it brought up catastrophes as well. There are three main crashes in the US stock market, each resulting in Irretrievable consequences. The first took place in 1929, when speculators leveraged bets on the stock market, inflating the stock price and devaluating currency. It is known as the Grand Depression, as unemployment rate jumped to 25% in US, and up to 33% in some countries. Major cities that rely on heavy industries got hit hard, as well as crops, ores, and logging industry. In terms of Keynesian economic, the Grand Depression is due to lack of consumption and over investments. The situation got eased after President Roosevelt initiated continuous policies.

With the end of the Second World War, the impact of the Great Depression of 1929 on the world's economies faded away. What followed was a recovering economy and increasingly globalized trade. However, it was against this backdrop that the year 1987 triggered a major dive in the global economy of unknown origin. At one point, the Dow Jones fell 22.61%. However, nothing major happened during that period of sharp stock market decline that would have affected prices so drastically. In hindsight, many believe that it was a disaster caused by a computer program that caused a herding effect. The new computer programs made it quicker and easier to buy and sell stocks, but the pre-set selling mechanism led to a chain reaction. At the same time, fast-moving global trade spread the effects of one exchange's share price crash rapidly around the world, further causing a worldwide economic collapse. However, some scholars argue that the 1987 stock market slump was a substantial government adjustment to a sustained bull market.

The most recent financial crisis was the subprime mortgage crisis in 2008. Since the onset of the subprime mortgage crisis, investors began to lose confidence in the value of mortgage securities, triggering a liquidity crisis. Even though the central banks of many countries repeatedly sent huge amounts of money to the financial markets, they could not prevent the outbreak of this financial

crisis. Excessive lending was one of the main causes of this financial crisis, as it led to a flood of credit. In order to mitigate the crisis more effectively, the U.S. government changed from a massive injection of funds to a bailout of consumers, replacing a short-term campaign with a long term one. With such measures, the U.S. economy gradually eased. The reason why the massive injection of funds into the market did not solve the problem was that the amount of money invested was not enough, and because the government encouraged the bankers to expand significantly in a capitalist manner, while trying to empty the treasury in a socialist way to help the big capitalists. In this way, only the people lose their jobs, go bankrupt and lose their houses. Therefore, it is not smart to ease the financial crisis by throwing a lot of money into the financial markets.

Since the advent of the stock market, the socio-economy has risen exponentially. Taking the development of the stock market into account the history of humankind, the first industrial revolution began shortly after the appearance of the stock form. Stocks provided the conditions for the beginning of the industrial revolution without a doubt. It was the aggregation and mobilization of resources by stocks that gave companies the opportunity to grow by leaps and bounds. From an individual point of view, the stock market was the lubricant in the industrial revolution. It not only allowed the impact of the industrial revolution to spread expeditiously, but also provided it with a constant flow of resources. However, the two-sided nature of the stock market has simultaneously brought several disasters to society. The financial crisis has displaced countless people and left them without food. Overall, the stock market has opened more possibilities for entrepreneurs. Along with the growing legislative protection, it will surely create more value for human society.

1.3 Electric Vehicles, New Trend of Vehicles

When it comes to the most popular newborn fields in recent years, electric vehicles must be one of the dark horses. Since the dawn of the industrial revolution, pollution has been an inevitable repercussion of the liberation of productivity. With the continuous reduction of non-renewable resources such as coal and petroleum, and the gradual attention to global warming and climate change, eco-friendly has gradually become an essential part of the development of human society. Along with advances in power generation, transportation, and storage, EVs have received widespread attention as an alternative. The high energy utilization of electric motors makes them more environmentally friendly compared to internal combustion engines. Also, the high acceleration, quietness, and better electronics of electric vehicles have led to some consumers to choose electric vehicles. The EV industry expands drastically over the decades. Not only there are traditional gas car manufacturers who advent to this novel ground, but also newborn corporations that concentrate on solely electric motivated vehicles.

When evaluating the entire industrial chain, the most significant upstream industry for the electric vehicle market should be batteries, which occupy approximately 40% of EV production cost. And the positive pole accounts for more than 50% of the battery production cost. A popular trend is using more nickel in the positive pole to increase the energy density of battery. Impingement on the downstream market, which originated from upstream industries, will be seen evidently in the data comparison of the nickel price and Tesla stock price, as Figure.1.3.1and Figure.1.3.2 show. As shown, although slightly delayed, the two curves are similar. It reaches an exaggerated peak in March and then gradually declines. In China, the electric car sector is blossoming with fierce competition. The U.S. market, on the other hand, is dominated by Tesla. As the leading corporation in the field, its fluctuations would spread to the whole industry. With such notions in mind, Tesla

and other two companies with potential are identified by the writers; they are Rivian Automotive and Lucid Group INC. Both companies have completed the development of their latest generation vehicles and have received a remarkable number of orders. Towards the end of 2021, they initiated the delivery of vehicles. In return, their stock prices rose wildly, but there are no evergreens as we speak of the stock market. All in all, along with Tesla, these three companies are a perfect representation of the U.S. EV industry, the later project on this sector will base on their performance.

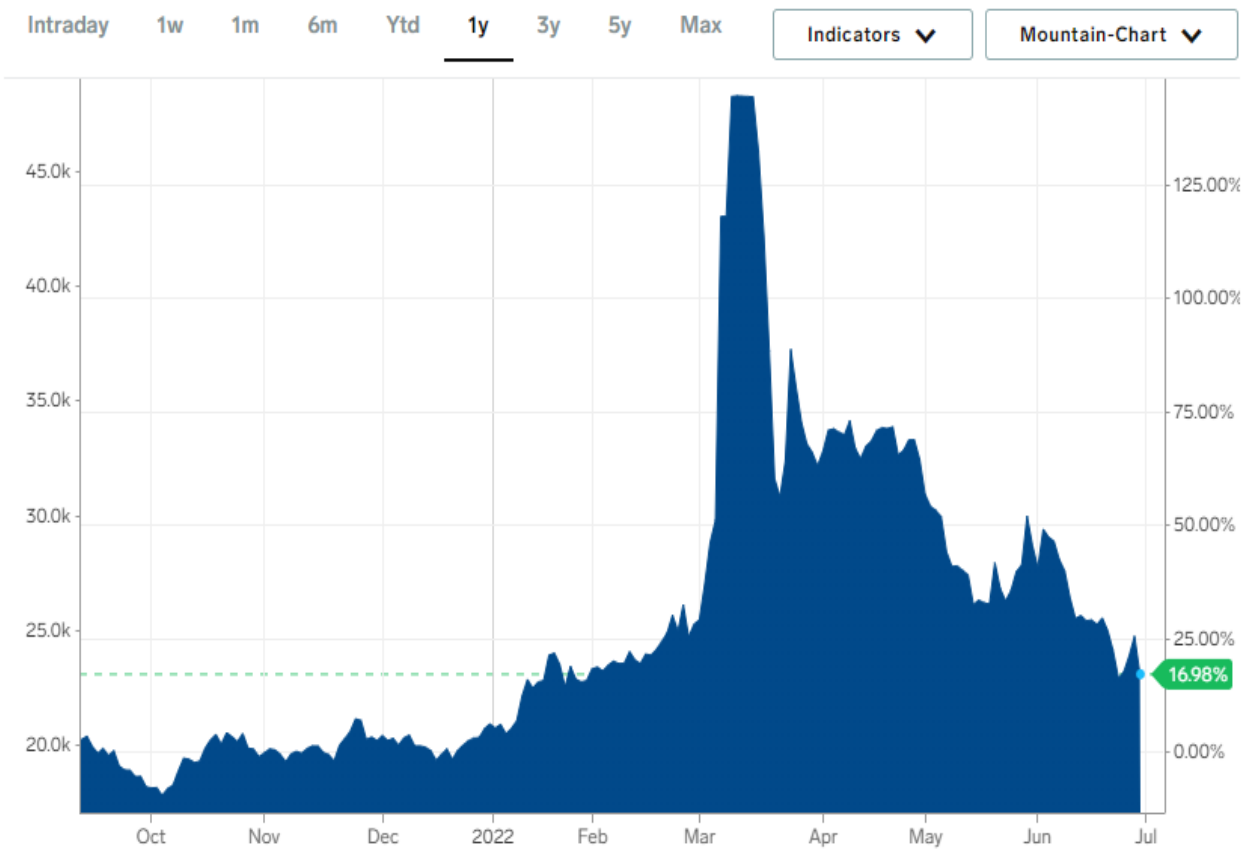

Figure.1.3.1 Nickel Price From Oct.2021 to June.2022

Figure.1.3.2 Tesla Stock Price 5.23-5.27,2022

1.3.1 Tesla, Inc.

Nowadays, when people talk about electric cars, Tesla is a company that cannot be ignored. Although in recent years, both new and traditional car companies have released electric cars to try to get a share of the electric car market. Tesla, as the first runner and the most successful car company in recent years, has a firm control of most of the electric car market, especially in the United States. “According to the latest registration data, Tesla still owns about 75% of the US’s electric car market so far this year with Model Y and Model 3 alone at the top.” (Lambert, 2022). Tesla with its high-performance inverter, unique one-piece all-aluminum body, high energy density battery pack, assisted self-driving and other advantageous technologies, has become the concentration of high-tech car companies. In 2021, Tesla occupies the first place in the market

capitalization of global car companies with a market capitalization of 673.69 billion. Not only does it surpass all traditional car companies, but it is more than three times as large as Toyota, which is in second place.

In terms of Tesla's products, Tesla is also different from traditional car companies. The authors believe that Tesla's products have an extremely clear market positioning and target group. Car companies in general try to provide as comprehensive a range of models as possible to attract all kinds of consumers. The features and appearance of the car will try to satisfy the consumers. Unlike traditional big car companies, Tesla's products have a unique method. Although he has released cars and SUVs at different prices, the "simple" interior and less edition options make its customers seem relatively fixed. Although there are Cybertruck(pickup truck) and Semi(truck) coming soon, the controversial appearance also reflects Tesla's industry-first product mindset. What as similar as its unique company's values, a key person that must be said, Tesla's current CEO - Elon Reeve Musk.

It is difficult to make an accurate prediction of Tesla's stock price. Not only authors have limited information sources and knowledge compared with professional traders, but also Tesla's stock price is not just a reflection of the value of Tesla as a company, which is arguably rare at market time as well. On the one hand, Tesla is trying to reorient itself as a tech company from a car company via buying company like SolarCity, on the other hand, Elon Musk has a strong personal influence. Elon Musk owns some companies that have enormous potential but are not IPO'd, such as SpaceX, The Boring Company, Neuralink, etc. If there is positive news for these companies, Tesla's share price will receive positive impact in the meantime. What is more, Elon Musk's speech is uncontrolled. Unlike other public figures, he speaks as he pleases. His comments are everywhere, from virtual currency to the new president. The dramatic drop in Tesla's stock price

due to his comments is not an accidental case. Although Tesla's stock price forecast is difficult, authors consider that as a leading electric vehicle company, Tesla is a direct beneficiary of the trend of electric vehicle development and its stock price has important reference value. Finally, authors added Tesla into the target list.

1.3.2 Lucid Group, Inc.

Founded in 2007, Lucid Group focused on battery technology in its early years and began developing its first car in 2014, with the product unveiled in 2016. Its only model now is the Lucid Air, and deliveries begin in October 2021. In addition to electric vehicles, Lucid has businesses in energy storage technology and foundry production. As a latecomer, it is inevitably compared with Tesla, the pioneer, in all aspects. However, Lucid seems to have been born to outperform Tesla. “A car better than Tesla” is likely to be their slogan. With the advantage of Lucid's battery and charging technology, it has the longest range on the market today, 1,111 miles, up to 900 volts of charging voltage, and the fastest charging speed, 300 miles on a 20-minute charge. In additional, acceleration time from 0 to 60 mph is as short as 2.5 seconds. As a sedan, this incredible performance is extremely impressive in many fuel-efficient sports cars! The appearance of the breakthrough windshield and roof completely with glass connected to one shave, so the appearance is more stylish and technological sense, both excellent view (Air Dream Edition). Unlike Tesla the Lucid’s product is directly orientated as a luxury sedan which is not covered by Tesla. It seems to want to be the Mercedes Benz of EVs. The price is from $87,400 to $16,900, which is even higher than most traditional luxury sedans. According to “Lucid Reports First Quarter 2022 Financial Results”, as of May 5th, Lucid has received over 30,000 reservations with potential sales of $2.9 billion. And 360 vehicles were delivered in the first quarter of this year, with an expected

production of 12,000 to 14,000 vehicles in 2022. Everything shows that is a rising new EV company on the right track.

Lucid has increased their reservation prices since June due to the upstream industry, nickel metal price increase. The stock price had increased for a short term. However, as the covid outbreak extends and the U.S. economy declines, Lucid's stock price also declines. The current price of about $20 is the bottom for what was the historical maximum price of $65 and the peak price of $56 in early 2022. This could be an excellent time to buy. For Lucid, delivering large orders for cash and keeping money flowing is a priority. Although Lucid is aggressively expanding its production line to speed up deliveries. But if funding breaks down, Lucid is likely to be in danger of bankruptcy. The authors will closely monitor news about Lucid's product deliveries. Lucid's target customer groups do not overlap much with Tesla's. As a start-up, Lucid may not have Tesla's established structure and massive volume, but the authors believe it has high potential for growth. As another representative of the EV industry, the authors believe Lucid should be one of the stocks to target.

1.3.3 Rivian Automotive, Inc.

The U.S. consumer automobile market is unique in the world. European prefers compact, versatile cars. Developing countries favor affordable, durable cars. The American people love SUVs and pickup trucks to satisfy their exploration and transportation needs, and the sales of SUVs and pickup trucks have always been high in the U.S. market. Rivian is recognizing at this, and as there is nothing like it in the EV market. Rivian is launching their latest products, the R1S (SUV) and R1T (pickup truck).

Their target customer group is people who love the outdoors and consumers who have family travel needs. Their vehicles have the perfect balance of performance and pass ability. 3 seconds -

-- the acceleration time from 0 to 60 mph; Towing capacity is up to 11,000 lbs.; Wading depth is more than 3 feet. Rivian's vehicles do what most fuel SUVs and pickups do even better. In addition, the space saved by the engine and transmission has been turned into storage space, which makes the Rivian vehicle exceptionally spacious. At the mechanical level, the stability of the vehicle is improved by pulling down the center of the vehicle with the battery, and the multi-position adjustable chassis height and suspension give Rivian greater terrain adaptability. In terms of driving experience, the adjustable brake and chassis combination makes Rivian a rather unique driving experience. Beyond its shorter range, the Rivian takes full advantage of the benefits of electric vehicles and does not lose out on the strengths of fuel cars. However, Rivian has launched the Rivian adventure Network, a rapidly expanding integrated charging network to solve the charging concerns of Rivian customers. On the software level, in additional to what other EV companies have, Rivian has introduced the exclusive Pet Comfort system, which undoubtedly caters to a significant number of households with pets in the U.S. market. In terms of environmental protection, Rivian can be considered the standard for American EV companies. The extensive use of recycled and biodegradable materials in its products brings electric vehicles closer to the objective of environmental protection. In terms of marketing strategy, unlike the other two companies mentioned above, the authors believe Rivian is more focused and better at what it does, with a wide range of accessories for outdoor enthusiasts such as bike racks, tents, and even a small outdoor kitchen for the R1T. Moreover, Rivian has a partnership with Snow Peak, a Japanese outdoor company, which further enhances the positioning of Rivian's vehicle products and attracts many fans. As an entrepreneurial start-up, a clear product positioning and feature enhancement is a wise choice. Instead of wasting a lot of money expanding the product range, it is better to hold

on to your target group and develop your own fan base. The authors believe that Rivian is undoubtedly the best of the 3 companies in terms of product.

Although Rivian is appreciated by its authors at the product level, Rivian is not favored in terms of stock price. Rivian has never had a significant number of vehicles delivered, and as a startup, Rivian's funding situation is a concern. Although a new factory seems to be under construction, the company's financial situation must be watched if the flow of funds is not guaranteed. According to Rivian's Q1 2022 shareholder letter, Rivian has received an initial order from Amazon for 100,000 of EDV (Rivian's van model). If this order begins to be delivered, it should provide Rivian with a significant cash flow within one to two years. In addition, Rivian has raised its 2022 production forecast again to 25,000 vehicles, with the number of R1 reservations growing to greater than 90,000 units at an average price of more than $93,000. In terms of the report, Rivian is basically out of its initial start-up difficulties and its capital and production chains are stabilizing. However, concerns should remain about the news given the still existing debt and the economic situation in the US, as well as the fact that Rivian has only delivered 5,000 vehicles as of May. In conclusion, the authors still believe a company with a great product, Rivian, deserves to be noticed.

1.4 The Blood of Industries--- Petroleum

Oil, a purely natural and non-renewable resource, is permeating every aspect of our lives. For the average person, it seems that gasoline is the only derivative that can evoke a hint of concern for oil. In fact, oil has become the blood of human industry. Fuel is needed for daily commuting and transportation of goods, and its derivatives are used to make lubricants to improve the efficiency and service life of industrial machinery, and asphalt is used to build roads. OPEC, the Organization of Petroleum Exporting Countries, which is the most significant organizations to the international

oil market, was founded in 1960 and has made a significant contribution to stabilizing oil prices. in the 1970s, the collapse of the international monetary system acted as a seesaw, sending oil prices skyward, and the oil crisis that broke out at the same time "decimated" prices. Later, through the OPEC organization, oil-producing countries were able to nationalize their oil assets and thus control global oil prices. This was followed by an ever-expanding volume of spot trading. This seriously affected the interests of the oil exporting countries and caused a competition for global oil shares, which subsequently led to the third oil crisis. This crisis brought oil and gasoline to futures, where the futures price guided the spot price and stabilized it by linking the oil and financial markets together. This then began to form the modern oil market.

1.4.1 Chevron Corporation

Chevron Corporation is one of the world's six largest oil companies and one of the largest multinational energy companies, with a global presence in more than 180 countries. Headquartered in San Ramon, California, Chevron's technologies are used in all aspects of the oil and gas industry, including exploration, extraction, refining, and transportation.

The Chevron Group began as Standard Oil of California, or SoCal, founded in 1911 during the Rockefeller family's anti-trust breakup of Standard Oil. Chevron was one of the early "Seven Sisters" who controlled the U.S. oil industry. In the early 1950s, Standard Oil of California discovered the world's largest Ghawar oil field in Saudi Arabia, with total reserves of more than 70 billion barrels and proven reserves of 11.2 billion tons. The oil in the Middle East has generated huge profits for the countries to which it belongs as well as for the companies that extract it. As Standard Oil of California continued to expand, it merged with Gulf Oil in 1984, creating the largest merger in history. Under antitrust regulations, Standard Oil of California had to divest many of Gulf Oil's subsidiaries and sell many of Gulf Oil's gas stations and a refinery. After the merger

was completed, Standard Oil of California was renamed Chevron Group. At the same time, Chevron Group developed a strong natural gas and LNG business, acquiring a 28% stake in Illinois Corporation (NYSE: ILN) in 2000. This powerful capital propelled Chevron to extend its clutches to Texaco, one of the Seven Sisters, and successfully merged with Texaco in 2001. Thus, Chevron Group successfully annexed two of the seven sisters and became one of the world's largest multinational oil groups.

Chevron's corporate slogan is "the human energy company", and it places great emphasis on the development and use of clean energy. Chevron once acquired Unocal, a California-based joint venture, making it the world's largest geothermal energy provider by developing large amounts of geothermal heat in Southeast Asia. Because of this, Chevron has officially become the world's largest provider of thermal energy, generating enough energy to power seven million homes each year. In addition, Chevron has invested heavily in alternative energy sources to reduce greenhouse gas emissions. Chevron recently received the highest rating score for its environmental performance. Steve Green, Chevron's chief, claims that Chevron will continue the path to sustainable, clean energy.

1.4.2 Exxon Mobil Corporation

ExxonMobil is now the largest publicly traded oil company in the United States by total market capitalization. It was formed in 1999 by the merger and reorganization of Exxon and Mobil. According to 2007 statistics, ExxonMobil had a total of 72 billion barrels of crude oil equivalent in reserve, and at the current production rate, the company could sustain its supply for more than 14 years. At the same time, XOM has 38 refineries in 21 countries and can process 6.3 million

barrels of crude oil per day. Such a large volume makes XOM the largest oil company in the world, along with Shell and BP.

Environmental protection is a common weakness of every oil company, and XOM is no exception, as in 2009 ExxonMobil was criticized by scientific organizations for its inaction and misinformation on environmental protection. However, XOM has since moved on to join other oil giants in putting environmental protection on the agenda. Today, XOM is equally committed to reducing carbon emissions, improving oil extraction, and refining processes, and waste plastic disposal.

1.4.3 BP p.l.c.

BP is one of the six largest oil companies in the world and one of the top ten private conglomerates in the world. bp stands for British Petroleum. Its businesses integrate oil exploration, gas exploration, oil refining and reserves, and oil trading.

BP was formed in 1909 when it was known as the Anglo-Persian Oil Company. The reason for this was that the British obtained permission from the Shah of Iran to begin commercial exploitation of the oil resources discovered in the Persian Gulf in 1901. When World War I broke out, the British government, realizing that oil was a valuable resource, began to acquire a stake in the company and made it active in supplying fuel to the Royal Navy, and managed to own 51% of the shares after the war. Although APOC began to develop its business in various parts of Europe after the war, its focus remained on the resources of the Persian Gulf generation, which expanded rapidly under the aegis of the British government and acquired the then Shell in 1931. The latter was separated from BP in 1975.

After World War II, Iranian nationalist sentiment was high, and the Iranian parliament passed a bill to partially nationalize BP in Iran. The U.S. was successfully persuaded by the U.S. to defend Western interests in the Gulf and, with the help of the CIA, to overthrow the then Iranian government. This led to BP's return to the Persian Gulf and the resumption of operations in Iran with a 40% stake. Even though such a scheme struck the company slightly later, the World Bank later assisted BP's other investment plans, effectively preserving BP's profits.

Beginning in the 1960s, BP focused on the development of oil sources in the U.S. state of Alaska and the European North Sea and began producing significant quantities of oil in 1970. This initiative greatly increased BP's resilience and enabled it to withstand the two subsequent oil crises. Later, the Thatcher government implemented a privatization strategy in which the British government sold off its BP holdings in tranches between 1979 and 1987 and was purchased by the Kuwait Investment Office, which was also trying to gain control of BP. The deal was later interrupted by strong opposition from the British government.

BP has had two major accidents in the recent past. 2005 saw an explosion at its refinery in Texas. This refinery was once the third largest in the United States, with a capacity of 433,000 barrels of crude oil per day. Such a large processing capacity represented 3% of the total gasoline supply in the United States. An explosion of this magnitude resulted in more than 100 injuries and 15 confirmed deaths. The investigation later revealed that the accident was caused by mismanagement, when the liquid level indicator failed, causing the heater to overfill and light hydrocarbons to leak and walk throughout the refinery, culminating in an explosion caused by an ignition source. Similarly, in 2010, an oil spill occurred on an offshore drilling rig in the Gulf of Mexico belonging to BP. The accident was also caused by platform failure that led to an explosion and a huge amount of crude oil spilled into the Gulf of Mexico. The accident resulted in the death of 11 crew members

and the injury of 17 others. According to estimates, an average of 60,000 barrels of crude oil gushed into the Gulf of Mexico each day, covering at least 2,500 square kilometers of water with oil. Many living creatures have been coated and the local fishing and tourism industries have been severely affected, causing heavy losses.

1.4.4 Shell plc.

In the Netherlands in 1890, an oil company was created with special authorization from the Dutch monarch, called Royal Dutch Petroleum. At the beginning of its creation, Royal Dutch Petroleum set its sights firmly on the largest oil company of the time, namely Standard Oil of the United States. To be able to compete with it, Royal Dutch Petroleum merged with the then British Shell Company to create Royal Dutch Shell in 1907. Today it is the second largest oil company in the world and has its headquarters in The Hague, Netherlands. Shell is not only the world's oil giant but also a major competitor in other energy sectors such as chemicals and solar energy. Like other oil majors, Shell's core businesses cover oil exploration and gathering, natural gas development, and renewable energy, and it has subsidiaries or operations in more than 140 countries and territories.

After more than a hundred years of development, Shell has created many splendors unmatched by later waves as the world's top oil company. It has the largest regional footprint in oil exploration and production and is also the world's largest private trader of natural gas production. While setting world records for oil and gas deep-water development, it is also a pioneer in international LNG technology. It is unlikely that private car owners in the United States have not seen the Shell logo, as it is the world's largest retailer of fuel and lubricants. Its products can be found all over the world. The Shell Sealy family of synthetic lubricants offers excellent oxidation resistance and

clean dispersion, as well as optimizing cold engine starts, extending engine life and reducing fuel consumption. Shell is engaged in oil exploration and production activities in more than 50 countries around the world and has some of the world's most advanced exploration technology, capable of producing more than 2 million barrels of oil per day. And here's another jaw-dropping fact about Shell's gas exploration: it sells more than 65 billion cubic meters of natural gas annually, which is second only to Russia, the world's largest producer and exporter of natural gas! The fact that Shell's gas industry is taking on a country by itself is a testament to its strength.

Today, Shell is a publicly traded company with its parent company, Royal Dutch Petroleum, and Shell Transport & Trading in the UK. Although they are not members of the group and do not participate in its operations, Royal Dutch Petroleum owns 60% of the shares and the latter 40%. In its day-to-day operations, Shell places great emphasis on its own resilience, often instilling crisis awareness in its subsidiaries and holding frequent drills for oil supply disruptions. The experience gained from these drills enabled Shell to withstand the huge impact of the Gulf War on the world oil market. The best way to describe Shell's international strategy is to plan ahead, as they place great emphasis on advanced technologies such as oil development and are willing to invest large amounts of capital to develop new technologies. This is because Shell executives are aware of the polluting effects of oil development on the environment and the rising costs of extraction in remote areas such as the deep sea and the Arctic. Shell has 16 research institutes worldwide, with over 7,000 research professionals. These investments are paying off for Shell, not only by reducing the risk to the lives of production personnel but also by reducing the cost of drilling. Shell also has the exclusive skill of creating policy guidance matrices to chart the course of each operating unit. This approach is used to improve quality, strengthen positions and win markets.

Chapter 2. Strategies

2.1 Trend Following

As the saying goes, those who know the time are the best. In the ever-changing stock market, timing is one of the most fundamental abilities, and this ability is then called trend following. It basically means buying when the stock market is trending upward and selling when it is trending downward. This is probably one of the basic rules for making money in the stock market. However, there are many difficult things in the world, and being superb at trend following is not just a matter of staring at the K chart every day. In the early days of the stock market, when there were fewer types of stocks and fewer items, it was possible to make good money by monitoring the market and following the trend every day. As the market evolves, various industries became entangled with each other and involved the whole body. Take the electric vehicle industry, for example, its relevant industries are battery technology, charging technology, and the deployment of charging piles. These industries are also inseparable from related metal mining. The stock price of the EV industry has exploded overnight, probably because there is a key breakthrough in battery technology, or because government policy is favorable to new energy. The reason for the decline in stock prices may also include the rising cost of raw material mining, the price of raw materials being speculated, or because of the operation of investment banks. Thus, the uncertainty of the stock market has been increasing, that is, the stock market “shocks”. The new theory suggests that trend following filters market shocks, looking at market trend characteristics on a weekly or even monthly basis. Investors need to learn a lot about the structure of the target sector and pay close attention to the news and policies associated with the sector. This is the only way to shine a bright light on a sector’s trend and thus more accurately determine it.

2.2 Swing Trading

As opposed to a relatively safe approach, such as trend following, swing trading can be considered top-tier capital speculation. Swing trading is a way to earn spreads by holding stocks for a short period. Generally, the position is held for only one day, or sometimes for as little as a few hours. Swing trading does not have the same long-time cost as the trend following. All it requires is a judgment of the short-term stock price. As a consequence of the oscillating nature of the stock market, there does not seem to be much character to the stock price movements in the short term. It is for this reason that swing trading was once called speculative trading. There are usually several indicators that are used as criteria to judge short-term ups and downs. The first one is the moving average, which helps investors to identify trend reversals and also gives a better indication of the overall strength of the trend. Average crossovers can potentially signal a trend shift. The RSI is an excellent tool for identifying potential volatility opportunities and can map the amount of intraday trading power in each time frame. Traders can choose when to open positions by determining whether they are overbought or not. Overall, swing trading is a way to profit from short-term speculation, which is particularly volatile in terms of uncertainty and returns. Although it has inherent flexibility, for the average person, swing trading is tantamount to gambling.

2.3 Position Trading

imagine if you bought 10 shares of BRK.A in 1980 at $400 per share, each share would have brought you over $400,000 in revenue 40 years later. The same example abounds. If you bought shares of Maotai Liquor in China a dozen years ago, they would have multiplied many times over today. This type of buy-and-hold trade is called a position trade and is recognized as a winning strategy - unless you buy the moolah on the cheap and your stock becomes worthless. Using the

oil industry and new energy as examples, let's try to look at the extreme long term. In 50 years from now, oil will probably not be as important as it is today - with the advent of more renewable energy technologies and the depletion of fossil energy reserves, we seem to foresee a future in which electricity replaces fossil energy. By then, a new energy vehicle business that is now $20 a share could be worth $100 in the future, on the premise that it will survive that long. In fact, such a trend has already manifested itself in China. New energy companies like BYD, Azera, and Xiaopeng are flourishing. In fact, they are also benefiting from the demand for public transportation in China, with numerous cabs and buses using clean energy. This will be an inevitable trend worldwide as well. When you invest in the right industry and hold on to it for decades, the returns can be substantial. Moreover, it is relatively easy to determine whether or not you should invest in a business, and the risks are low. If the business has complete capital, an industry chain, and can do a steady stream of investment in development, it has unlimited potential for the future. Position trading is more suitable for emerging industries because it has lower costs and ample room for development. The only drawback is that one cannot see significant gains in the short term. It is a strategy that can be won with patience.

Chapter 3. Simulation 1: Position Trading

Jim Huang is responsible for the portfolio of position trading. As general plan above, each portfolio starts with $100,000 cash. Each stock would have approximately $10,000 initial investment for the first purchase. The simulation starts on July 18th,2022, but it is possible that the author would buy the stock at a better price instead of on that date. In the following tables, "Profit/Loss" is the profit or loss in that single transaction of that stock; "Total Cash" is the holding cash in the portfolio; "Total Profit" is the cumulative performance of the whole portfolio; "Total Asset" is the sum of the value of holding stocks and the holding cash.

As position trading strategies, the author would make decisions based on all information collected, try to buy at a low position and sell at a high position. It is possible buy and sell in the same day for risk avoidance or funds mobilization. Position trading is a relative long-term strategy, the data in following tables would ignore the numbers during holding period and focus on the performance.

3.1 Week 1

The simulation started on Monday, July 18th . Initial assets were $100,000 in cash. On the afternoon of the 18th , EV stocks declined significantly, so the decision was made to buy and purchase $1,000 per share at the closed market price as planned. In the meantime, oil stocks declined slightly, but overall prices were relatively flat, and the authors decided to stay on the sidelines.

On the 20th , Tesla sold 75% of its holding in Bitcoin and cashed out a significant amount of cash. "Tesla sold $936 million (€919 million) of the world's largest crypto during its second financial quarter – worth around $2 billion (€1.96 billion) at the end of 2021." (Ramage, 2022) As a result,

Tesla shares rose more than 10% that day and kept rising, up more than $100 per share. The other two EV stocks may have also risen but to a lesser extent due to the effects.

On the 21st, Oil stocks had a big dip and the author purchased $10,000 per share at around 1pm as originally planned.

On the 22nd, among the three EV stocks, only Tesla is still growing but slowing down, and Lucid and Rivian have declined significantly. The author decided to sell Lucid and Rivian to retain their gains. In the end, they received a profit of -$167.83 and $90.48 respectively. Besides, Tesla's stock price is already at its highest in nearly two months. Considering the gradual slowdown in growth and the potential risk of volatility after the weekend, the author decided to sell his holding of Tesla shares at the closing price to hedge his risk. The details of this week transactions are shown as Table 3.1.1 below. The total profit of this week is $1246.21.

Table 3.1.1 Summary of Position Trading Week 1

Date	Symbol	Buy/ Sell	Price($)	Shares	Net Cost/ Proceeds($)	Profit/ Loss($)	Total Cash($)	Total Profit($)	Total Asset($)
7/18							100000.00		100000.00
7/18	TSLA	Buy	721.44	14	10,100.16		89899.84		
	LCID	Buy	19.96	501	9,999.96		79899.88		
	RIVN	Buy	31.80	312	9,921.60		69978.28		
7/21	XOM	Buy	85.72	115	9,857.80		60120.48		
	SHEL	Buy	47.96	207	9,928.55		50191.93		
	BP	Buy	27.27	364	9,924.46		40267.47		
	CVX	Buy	142.06	70.00	9,944.20		30323.27		
7/22	TSLA	Sell	815.98	14	11,423.72	1323.56	41746.99	1323.56	
	LCID	Sell	19.63	501	9,832.13	-167.83	51579.12	1155.73	
	RIVN	Sell	32.09	312	10,012.08	90.48	61591.20	1246.21	
7/22									101246.21

3.2 Week 2

Three EV stocks showed completely different dynamics this week. Tesla continued last week's growth all the way up to nearly $880 per share in a frenzy after pulling back a bit on Monday and Tuesday. According to the author's observation, similar to last week, the large single transaction volume in the early part of the day should be the operation of financial institutions but the single transaction volume in the late part of the day shrank significantly even with a large number of 1-share buys. In the author's opinion, this phenomenon should be a symbol of a large influx of retail investors. Tesla's share price is significantly higher than it should be, meaning that it could plunge at any time. The author believes that Tesla has limited upside and high risk and did not purchase Tesla this week. Lucid continued its decline from last week, falling 5% again, and although the overall price has remained relatively stable since Tuesday noon, the single-day short-term fluctuations are large, and the author believes it has limited upside and unknown risks, and did not buy it this week. Rivian, on the other hand, maintained an overall similar trend to Lucid until Thursday, and the author did not enter for the same reason, but Rivian started to rise significantly after Thursday's opening, and the growth trend was maintained until the end of Friday. Based on the underlying strategy, the authors did not buy midway up, so Rivian was not traded this week either.

On July 25th, oil stocks had a big wave of gains, but since the Saudi Crown Prince said over the weekend that Saudi Arabia is no longer able to increase oil production, “on Saturday, Prince Mohammed broke the news, revealing that the ultimate maximum capacity is 13 million barrels a day.”(Blas,2022) The author believes that oil stocks do not have much room for growth and should sell their holdings to retain profits.

On 28th, Only shares of Shell and BP were purchased as only Shell and BP were at relatively low prices. The major oil companies then released their Q2 earnings reports, and all oil stocks rose sharply on the positive news and continued to do so until the end of Friday. The author did not buy Chervon and Mobil again due to the missed window. The details of this week transactions are shown as Table 3.2.1 below. The total profit due this week is $2700.43.

Table 3.2.1 Summary of Position Trading Week 2

Date	Symbol	Buy/ Sell	Price($)	Shares	Net Cost/ Proceeds($)	Profit/ Loss($)	Total Cash($)	Total Profit($)	Total Asset($)
7/25	XOM	Sell	89.36	115	10,275.83	418.03	71867.03	1664.24	
	SHEL	Sell	49.86	207	10,321.02	392.47	82188.05	2056.71	
	BP	Sell	27.92	364	10,162.88	238.42	92350.93	2295.13	
	CVX	Sell	147.85	70	10,349.50	405.30	102700.43	2700.43	
7/28	SHEL	Buy	51.25	200	10,250.00		92450.43		
	BP	Buy	28.27	357	10,092.39		82358.04		
7/28									102700.43

3.3 Week 3

This week Tesla surged all the way to a peak price of $940 per share, which far exceeded the author's expectations, but according to the observation, there were not many big trades, considering the mass entry of retail investors. This crazy upward trend finally came to an end on Friday and fell by more than $60 per share in a single day. The decline is expected to continue next week. Rivian continues to grow this week until Thursday, so consider buying at the right time next week. Lucid, on the other hand, is not optimistic. Lucid's second-quarter earnings report on Aug. 4 revealed the company's current struggles. CNBC reported that “The company said it now has over 37,000 reservations for its Air electric luxury sedan, up from more than 30,000 in May – but it delivered just 679 cars in the second quarter. In February, it said that it expected to build between

12,000 and 14,000 vehicles in 2022, down from an original forecast of 20,000." (Rosevear, 2022) Furthermore, On August 1st, Chervon and Mobil fell and the author decided to buy. A higher-than-expected loss in the second quarter added to the company's debt burden. The downward revision of expected production also shows the problems they are having with production. The author is not positive on Lucid's share price in the short term and will invest with caution next week.

On 3rd, BP and Shell rose around 3%, but at the same time Chervon and Mobil declined. It is expected that BP and Shell will stop their upward trend and sell shares held. As for Chervon and Mobil, it was decided to hold and observe.

On 4th, oil stocks declined. The authors sold Chervon and Mobil first in the morning to cut their losses and purchased four oil stocks in the afternoon after prices stabilized. The details of this week transactions are shown as Table 3.3.1 below. The total profit due this week is $2371.95.

Table 3.3.1 Summary of Position Trading Week 3

Date	Symbol	Buy/ Sell	Price($)	Shares	Net Cost/ Proceeds($)	Profit/ Loss($)	Total Cash($)	Total Profit($)	Total Asset($)
8/1	CVX	Buy	160.17	62	9,930.54		72,427.50		
	XOM	Buy	94.77	105	9,950.85		62,476.65		
8/3	BP	Sell	29.79	357	10,635.03	542.64	73,111.68	3,243.07	
	SHEL	Sell	52.58	200	10,516.00	266.00	83,627.68	3,509.07	
8/4	XOM	Sell	88.58	105	9,300.90	-649.95	92,928.58	2,859.12	
	CVX	Sell	152.64	62	9,463.68	-487.17	102,392.26	2,371.95	
	SHEL	Buy	51.29	196	10,052.84		92,339.42		
	BP	Buy	29.47	338	9,959.17		82,380.25		
	XOM	Buy	87.56	113	9,894.28		72,485.97		
	CVX	Buy	151.80	65	9,867.00		62,618.97		
8/6									102,371.95

3.4 Week 4

This week could be called Tesla week. Tesla, as the authors postulated last week, rose for a short time on Monday and then fell quickly. But the situation started to turn around on Wednesday. Tesla received a flurry of positive news and the stock rose sharply again. First, Tesla revealed that it communicated with the Canadian government about building a factory in Canada. Reuters said, “Tesla Inc (TSLA.O) is lobbying the Ontario government as part of an effort to set up an "advanced manufacturing facility" in Canada, a filing by the electric-vehicle maker to the province's Office of the Integrity Commissioner showed.” (Sriram & Koyyur, 2022). Secondly, Tesla announced that its truck model “Semi” will begin deliveries in the later of this year, which means that Tesla would be the first company launch electric trucks. Top Gear said, “Won’t be much longer though according to Elon Musk: he says (on Twitter, of course) it’ll start shipping later this year.” (Holding, 2022). Tesla's acquisition with Twitter has also advanced. Tesla sold nearly $7 billion in stock in preparation for its acquisition of Twitter. The Washinton post said, “Recent Securities and Exchange Commission filings show Musk sold 7,924,107 shares of his electric vehicle company Friday through Tuesday, raising $6.9 billion. The move underscores doubts that Musk can seamlessly back out of a $44 billion deal to acquire Twitter and highlights the extent to which Tesla is being dragged into a high-stakes dispute between a leading social media company and the world’s richest man.” (Gregg, 2022). On the evening of August 10th, the author submitted an order to buy about $20,000 in Tesla stock to try to catch the wave. However, on the morning of the 11th, the author bought on the rise at a relatively high price. The upward trend lasted not enough two hours and turned into a slippery slope down. The authors quickly sold all their Tesla stock holdings to cut their losses. Since the reason for the decline is unknown, the author did not buy Tesla again

out of caution despite the decline being a great chance to purchase. Tesla rose to $900 each share again on Friday.

On August 8th, a $10,000 Rivian order was filled after the market opened. Based on the relatively low closing price of Rivian on Friday, the author tried to invest in Rivian, which performed quite well compared to Tesla's frenzy last week and Lucid's dismal performance. The overall growth trend was maintained and there was not much volatility. Thus the author submitted an order over the weekend with a view to buying Rivian at the right price.

On the 9th, the uptrend in oil stocks is gradually slowing down. Although there may still be upside, the price has been relatively high and the author decided to withdraw and sold all the oil shares in his hand immediately. Meanwhile, Lucid's price is gradually leveling off after a decline, and the authors believe it is likely to rebound within a few days. Based on last week's negative news, the author purchased only around $10,000.

11th, the authors decided to invest more in the EV industry. But all three EV stocks only grew briefly for 2 hours that day, and then started to fall. To retain the gains, all EV stocks were sold. Meanwhile, oil stocks maintain overall uptrend after a brief period of volatility. The author submitted an order for $40,000 on the same evening.

12th, oil stocks grew marginally. This concludes the entire simulation. The details of this week transactions are shown as Table 3.4.1 below. The total profit due this week is $4,451.39.

Table 3.4.1 Summary of Position Trading Week 4

Date	Symbol	Buy/ Sell	Price($)	Shares	Net Cost/ Proceeds($)	Profit/ Loss($)	Total Cash($)	Total Profit($)	Total Asset($)
8/8	RIVN	Buy	36.56	280	10,236.80		52,382.17		
8/9	BP	Sell	30.58	338	10,334.35	375.18	62,716.52	2,747.13	
	SHEL	Sell	52.55	196	10,299.80	246.96	73,016.32	2,994.09	
	CVX	Sell	155.25	65	10,091.25	224.25	83,107.57	3,218.34	
	XOM	Sell	90.66	113	10,244.58	350.30	93,352.15	3,568.64	
	LCID	Buy	17.50	588	10,289.94		83,062.21		
8/11	RIVN	Buy	38.61	267	10,307.54		72,754.67		
	TSLA	Buy	889.54	23	20,459.42		52,295.25		
	TSLA	Sell	868.67	23	19,979.41	-480.01	72,274.66	3,088.63	
	LCID	Sell	18.11	588	10,648.68	359.74	82,923.34	3,448.37	
	RIVN	Sell	38.44	547	21,028.76	484.42	103952.10	3,932.79	
8/12	CVX	Buy	158.25	60	9,495.00		94,457.10		
	BP	Buy	31.31	320	10,019.20		84,437.90		
	XOM	Buy	92.48	107	9,895.36		74,542.54		
	SHEL	Buy	53.52	188	10,061.76		64,480.78		
	CVX	Sell	159.85	60	$9,591.00	96.00	74,071.78	4,028.79	
	BP	Sell	31.67	320	$10,134.40	115.20	84,206.18	4,143.99	
	XOM	Sell	94.00	107	$10,058.00	162.64	94,264.18	4,306.63	
	SHEL	Sell	54.29	188	$10,206.52	144.76	104470.70	4,451.39	
8/12									104470.70

3.5 Summary and Analysis

As the simulation period ends, the portfolio made a total of $4451.39 profit over the past 4 weeks, which is a 4.45% gain compared to the initial capital and the annual return is 76.12%. According to Table 3.5.2, The earnings of EV and oil are $1,610.36 and $2,841.03 respectively. Oil stocks have higher investment returns than EV stocks. Given the short 4-week period, the result is

definitely a significant gain. Position trading is a relatively long-term trading strategy. Generally speaking, long term means relatively low risk and relatively low return. Four weeks is a bit short for a position trading and may not allow for perfect execution of the trading strategy of the position trading. In addition, considering that the author is a beginner in stock market trading, his understanding and application of trading strategies may be inadequate. Position trading requires plenty of patience and sensible judgment and may not be very beginner-friendly. However, as far as the results are concerned, the authors consider this simulation to be a success!

Based on the basic trading strategy of position trading, the author believe that some asset allocation to the funds in the investment strategy is necessary. A common fund asset allocation contains cash, stocks and bonds. Due to the fact that Investopedia platform does not support bond trading, as well as disposable assets of only $100,000, which is not a big number in investments. The authors decided to use $30,000 of assets, 30% of total assets, as "fixed assets" for this simulation in order to control investment risk while maintaining investment flexibility. The all changes in cash holdings during this simulation period are shown below as Figure 3.5.1.

The author has been careful throughout the whole simulation period. Position trading requires the trader to predict the overall movement of the stock price in a certain period of time in the future. For the author, making judgments with limited information and limited experience is considerable challenging. In this regard, the author chooses to adopt a more conservative mindset. This is reflected in the operation by quickly exiting when there is uncertainty and setting a bottom line which is 10%. There are 7 stocks in the entire portfolio. As mentioned above, the flexible assets available are $70,000. Therefore, if all stocks are held at the same time, each stock will receive a share of $10,000. As shown in the table in the chapters of the article above, the author has approximately $10,000 per investment. This method means that the investment opportunity is

guaranteed for all stocks and is relatively easy to manage. Certainly, there are gains and losses with this strategy, which is perfectly reflected in the Tesla transactions. During the whole simulation, Tesla experienced 3 jumps, as shown as following Figure 3.5.2. The first jump occurred after Tesla sold off a large amount of bitcoin, it is rising over 12% and slipping towards the end of the week. The author thought at the time that the volatility of this positive news should have ended after the weekend and that the price was almost at its highest point in 2 months. Based on the trading volume, there was a significant number of large trades that would have been institutional buying, and the author thought they would tend to sell at the highs rather than continue to However, the expected decline lasted just less than two days, receiving a second jump and far exceeding the first. hold, so the author sold his holdings. This behavior is based on a careful code of conduct. The price of Tesla is already at a high point, and the author believes that this price will decline at any time, so he did not purchase it again. Therefore, the authors have missed out on a potential gain of $1000 or more. Before the third jump, the author had predicted the growth of the latter, but purchased it at a high point. However, on that day Tesla first declined rapidly by 8% before it started to grow. During the slide, the author sold shares to cut losses and subsequently missed the third jump.

July being the best month of the year for the stock market so far, the author managed to take advantage of the opportunity and gained more than 1% in the last two weeks of July. This is mainly due to a better buying point for the first time. The author's judgment on price levels is derived more from past historical prices, trends in peer stocks and positive/negative news. However, from the second week after the start of the simulation, the 3 stocks of EVs showed a very different trend. This makes the author's judgment much more difficult. EV, as a category of high-tech industry, has always been more volatile than large-cap stocks like oil. The larger fluctuations are very

confusing and misleading and tend to make trader lose patience. That is why the author sensibly chose not to trade EV stocks in the second and third week, avoiding losses caused by his own mindset and operations. Meanwhile oil stocks also had an interesting performance, with the two British oil company stocks showing better stability than the two U.S. oil company stocks. While all four stocks were similar in their overall dynamics, the two U.S. oil stocks were more volatile. The authors trade oil stocks by pooling 4 stocks together, except for the different buying points for each stock. However, according to the Table 3.5.1 and Table 3.5.2 shown below, the two UK oil stocks have significantly higher returns than the other two US oil stocks. The loss in the third week is also due to the losses in Mobil and Chervon. Certainly, the author believes that his own lack of patience and misjudgment in trading oil stocks during this simulation resulted in a loss in the third week.

In conclusion, although some small losses were incurred due to the author's limited experience and limited sources of information, overall, the author managed to comply with the basic principles of position trading without affecting the overall results.

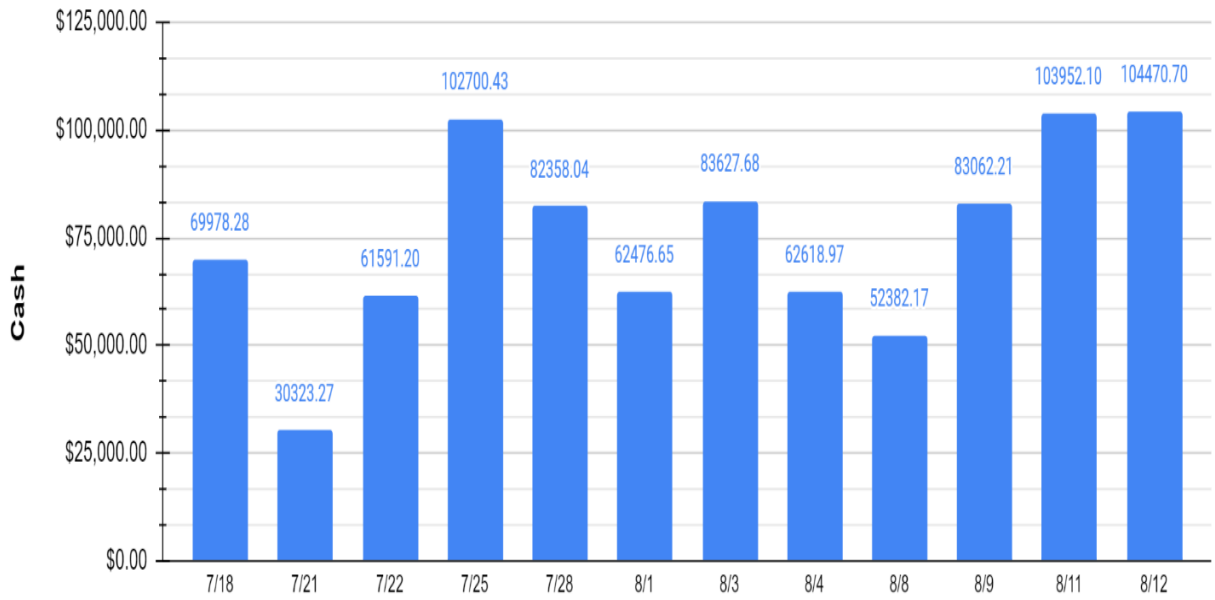

Figure 3.5.1 Portfolio 1 Holding Cash vs. Date

Figure 3.5.2 Price of Tesla,7/18 to 8/12

Table 3.5.1 Portfolio 1 Profit Chart by Weeks

Week	1	2	3	4	Total
Profit($)	1,246.21	1,454.22	-328.48	2,079.44	4,451.39

Table 3.5.2 Portfolio 1 Profit Chart by Weeks

Week	1	2	3	4	Total
TSLA	$1,323.56			-$480.01	$843.55
RIVN	$90.48			$484.42	$574.90
LCID	-$167.83			$359.74	$191.91
				EV Sum:	$1,610.36
BP		$238.42	$542.64	$490.38	$1,271.44
XOM		$418.03	-$649.95	$512.94	$281.02
SHEL		$392.47	$266.00	$391.72	$1,050.19
CVX		$405.30	-$487.17	$320.25	$238.38
				Oil Sum:	$2,841.03

Chapter 4. Simulation 2: Swing Trading

The portfolio for swing trading was conducted by Haoran Zhang. In this portfolio, a total cash amount of $100,000 is provided at the start of the simulation, which starts on July 18th,2022. Every action made by the author is recorded using tables that provide readers with a clear view.

For swing trades, the operator makes decisions every day before, during, and after the market opens. The decision includes but is not limited to, which stock to buy or sell, a number of shares to buy or sell. Following the definition of swing trades, all the decisions should be made quickly, and actions must be taken in a short period of time. Nonetheless, the author might not engage in the market every single day since the decisions are made based on the potential evaluation. That is, if the author holds a negative opinion of the market, he will not buy in. The author will gather news from related fields, and generate predictions future price fluctuations, as real-life investors would do. An explanation of decision making is included in the end of the paper.

4.1 Week 1

The first simulation period started on 18th to 21st, July. During the first two days of that week, there are not enough confidence for the author to enter the market. On the 20th of July, the operator saw a tendency of rise since the stock market is decreasing greatly on 19th, this decrease can be spotted on all three EV stocks (Figure 4.1.1). Due to this discovery, the operator entered the market with the purchase of seven designated stocks. And cashed out on the same day. The stocks did slightly go up on that day, creating 1% profit. Although it is not much, no loss is a win in terms of swing trading. On the same day, Tesla cashed out a ton of bitcoins, which is almost 75% of their bitcoin holdings. Such heavy news pumped up their stock price undoubtedly. Unfortunately, at the time the operator is aware of this information, Tesla's price has already rocketed so high that it is

too risky to buy in and take a bite on the cake. The operator tried to buy in other EV stocks such as RIVN and LCID to see if the Tesla news can have some minor impact on them. Little profit was returned, a great miss indeed.

Meanwhile for petroleum industry, a great rise in price took place on 19th July, as the market opens. With no idea what caused this boost, the operator was concerned that the price will drop down quickly during the day, no action was taken. As of the premarket on 20th, July, a tendency of drop on all four chosen petroleum stock is notified. According to this information, the operator decided to trade petroleum on that day and got some profit return. Followed by a huge decrease in prices on 21st, July, the operator continued to trade petroleum stocks to try to capture a subsequent rise in price. Nevertheless, the prices after that huge decline were fluctuating greatly, which leaded to a failure of sale, that the operator failed to sell the stocks at a desirable price.

Figure 4.1.1 Decrease Trend on 19th, July

Figure 4.1.2 Tesla Cashing out Bitcoin

Figure 4.1.3 Petroleum Prices of Simulation Week 1

Table 4.1.1 Summary of Swing Trading Week 1

Date	Symbol	Buy/ Sell	Price($)	Shares	Net Cost/ Proceeds ($)	Profit/ Loss($)	Total Cash ($)	Total Profit ($)	Total Asset ($)
7/18							100000.00		
7/20	TSLA	Buy	739.94	15	11099.10		88900.90		
	RIVN	Buy	32.52	350	11382.00		77518.90		
	LCID	Buy	20.60	500	10300.00		67218.90		
	CVX	Buy	144.68	80	11574.40		55644.50		
	SHEL	Buy	49.01	250	12252.50		43392.00		
	BP	Buy	27.88	400	11152.00		32240.00		
	XOM	Buy	87.64	130	11393.20		20846.80		
	SHEL	Buy	48.96	120	5875.20		14971.60		
	BP	Buy	27.89	500	13945.00		1026.60		
	BP	Sell	28.02	400	11208.00		12234.60		
	SHEL	Sell	49.30	370	18241.00		30475.60		
	CVX	Sell	146.11	80	11688.80		42164.40		
	XOM	Sell	88.94	130	11562.20		53726.60		
	BP	Sell	28.03	500	14015.00		67741.60		
	TSLA	Sell	742.97	15	11144.55		78886.15		
	LUCID	Sell	20.95	500	10475.00		89361.15		
	RIVN	Sell	32.93	350	11525.50		100886.65		
Sum									
	TSLA					45.45			
	RIVN					143.50			
	LCID					174.10			
	CVX					114.40			
	SHEL					113.80			
	BP					24.55			
	XOM					169.01			
								886.65	
7/21	BP	Buy	27.22	360	9799.20		91087.45		
	SHEL	Buy	48.10	230	11063.00		80024.45		
	XOM	Buy	86.93	130	11300.90		68723.55		
	CVX	Buy	143.12	80	11449.60		57273.95		
	CVX	Sell	143.35	80	11468.00		68741.95		
	XOM	Sell	86.55	130	11251.50		79993.45		
	SHEL	Sell	48.26	230	11099.80		91093.25		
	BP	Sell	27.49	360	9896.40		100989.65		

Sum									
	BP					100.22			
	XOM					50.40			
	CVX					18.40			
	SHEL					36.80			
								105.02	100991.07

4.2 Week 2

The second simulation period started from 25th to 29th, July. This is a successful week for swing trading portfolio as the operator caught a big fish in petroleum industry.

To start with, the beginning of second simulation period is quite lame, as the EV stocks continued to decline, first two days for petroleum industry were also steady. However, with a closer look into petroleum industry, each day began with a pump in price. Which indicates that the petroleum industry was actively rising. The opportunity opened on 28th, July, as a subsequence decline in price after the "day pump". At the moment the operator saw this decline trend, the decision was made to enter the market. Nevertheless, the price did not go as intended, since the operator predict that there should be a rise after this big drop. The prices for the rest of the day were quite steady without any huge fluctuations, so the operator kept these stocks to the last day of simulation period, hoping that the same "pump" would take place again. This was a bold gamble, as there was no clear evidence that could guarantee the "pump" for next day. The operator took this gamble by merely analyzing the pattern of that week, which is thin and unreliable. From the perspective of after-market analysis, it was worth taking it. The "pump" did happen on the last day of period, generated a remarkable amount of profit to this portfolio.

In summary, the operator found it useful to predict the open market price for the next day base on "premarket" price, as it indicates the amount of buy and sell after the market close. Generally

speaking, when the premarket price is rising fast and great in amount, it would indicate a great rise at the beginning of next day, and vice versa. Therefore, the premarket price is a great guide for operators to win the first bucket of gold of a day.

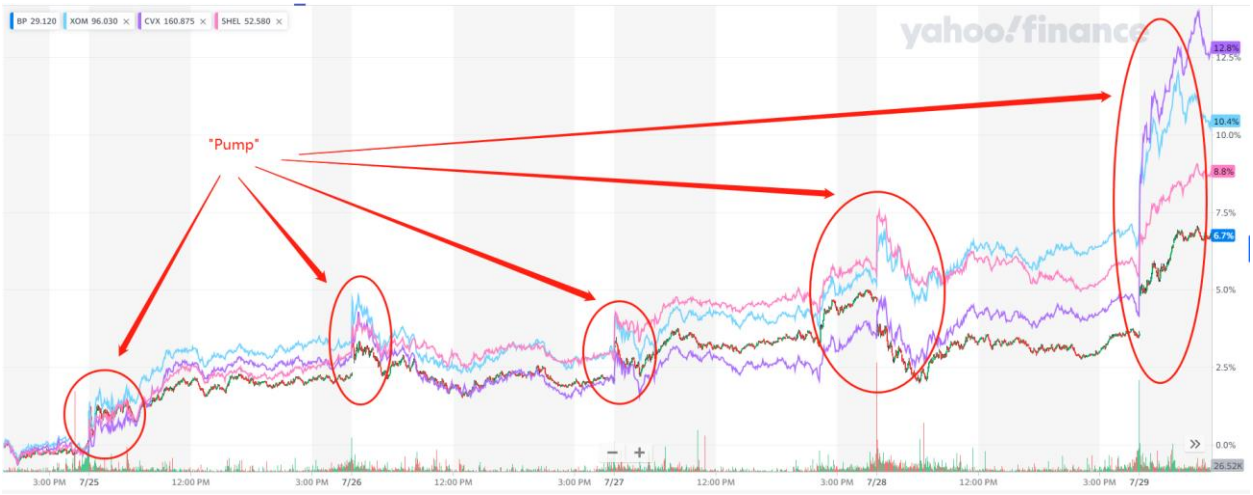

Figure 4.2.1 “Pump” in Petroleum of Each Day

Table 4.2.1 Summary of Swing Trading Week 2

Date	Symbol	Buy/ Sell	Price($)	Shares	Net Cost/ Proceeds ($)	Profit/ Loss($)	Total Cash ($)	Total Profit ($)	Total Asset ($)
7/28	LCID	Buy	18.14	1000	18140.00		82849.65		
	SHEL	Buy	51.72	300	15516.00		67333.65		
	CVX	Buy	149.98	150	22497.00		44836.65		
	XOM	Buy	91.94	100	9194.00		35642.65		
	BP	Buy	28.40	300	8520.00		27122.65		
7/29	XOM	Sell	94.45	100	9445.00		36567.65		
	CVX	Sell	156.55	150	23482.50		60050.15		
	SHEL	Sell	53.05	300	15915.00		75965.15		
	BP	Sell	29.33	300	8799.00		84764.15		
	LCID	Buy	17.97	1000	17970.00		66794.15		
Sum									
	XOM					251.00			
	CVX					985.50			
	SHEL					399.00			
	BP					279.00			
								1914.50	102905.57

4.3 Week 3

The market of week 3 is greatly impacted by a piece of huge global news. That is, Pelosi's visit to Taiwan. At the moment that she landed at the airport the US market gained an enormous rise. This rise generated a decent number of profits for opportunity investors. Nothing is certain before an event takes place, investors can only predict whether or not Pelosi is going to land in Taiwan. The author did not take this bet, but it seems to be a win for those who took it. Though the tension was high, the Chinese government is not likely to take any bold movement when the entire world is watching. Therefore, this is a bet with a huge win rate. The operator of this portfolio did not take any action during the first wave of rising but snatched the final rising wave on 5th, Aug, gaining a profit of several thousand dollars. After the last wave, the price of these stocks went a crazy drop.

Because of the lack of impulses to keep the price rising. It is also worth mentioning that Lucid Auto Group posted their last financial report, indicating a loss in profit, and a decrease in manufacture. That leads to a dive in their stock prices. Apparently, this is not ideal for position traders. But swing traders could still make something out of it, as a huge price drop always indicates potential.

Figure 4.3.1 Pelosi's Visit Strikes the Market

Table 4.3.1 Summary of Swing Trading Week 3

Date	Symbol	Buy/ Sell	Price($)	Shares	Net Cost/ Proceeds ($)	Profit/ Loss($)	Total Cash ($)	Total Profit ($)	Total Asset ($)
8/1	LCID	Sell	18.65	1000	18649.90		85444.05		
	LCID	Sell	18.49	1000	18490.00		103934.05		
8/5	RIVN	Buy	35.39	800	28312.00		75622.05		
	TSLA	Buy	901.17	20	18023.40		57598.65		
	LCID	Buy	18.13	1000	18125.00		39473.65		
	RIVN	Sell	36.20	800	28960.00		68433.65		
	TSLA	Sell	908.62	20	18172.30		86605.95		
	LCID	Sell	18.53	1000	18530.00		105135.95		
	TSLA	Buy	892.40	10	8924.00		96211.95		
	RIVN	Buy	35.77	500	17885.00		78326.95		
	TLSA	Sell	873.73	10	8737.30		87064.25		
	RIVN	Sell	35.68	500	17840.00		104904.25		
Sum									
	LCID					1029.90			
	RIVN					603.00			
	TSLA					37.80			
								1670.70	104904.25

4.4 Week 4

The last period of simulation started on 8th to 12th, August. The market started with a huge rise in EVs and a decline in petroleum. EVs and petroleum are two opposite forces, as a gain in one will lead to a drop in the other. It is not uncommon to see them go in opposite directions during the same period. The operator did not pre-purchase any stock during the weekend and did not enter the EV market on the first day of the week, according to this huge rise. No action was taken the next day, due to the continuing deterioration on the 8th. The operator predicted that the EV market will continue to go down on the next day. Luckily the prediction was right on spot, when the EV stock dropped drastically, the operator bought in the EV industry. The following trend was lame

and without any great fluctuations, these stocks were held to the next day. By analyzing the premarket price on 10th, the operator presumes a rise after the market opens, which did happen for RIVN and LCID, but not quite for TSLA, however. The operator did not see any further opportunities and decided to step out that afternoon. Little profit was gained by this operation. Unfortunately, again, the EV market embraced its boost on 11th, Aug, as the government announced a tax deduction policy on EV purchases. This occasion was not captured since the operation was aware of the news after the market elevated.

On the other hand, for the petroleum industry, the same "pump wave" continued into the first two days of the week, every "pump" when the market opens are followed by great fluctuations. The price of these stocks was going up and down like there was a hurricane. This is especially terrible for swing traders. The opportunity opened up on the 10th when the market opened with a great depression. The operator conducted purchases during midnight on the 9th since according to the premarket, the price will go down as the market opens. Successfully, the purchase was completed at a reasonably low price. However, it is unfortunate that the prices were also swinging with no obvious clue to sell. Therefore, the stocks were kept overnight. The premarket price was monitored closely, and it indicated a rise for the next day. Generally, if the premarket price is boosted high, there should be a drop that follows. As if there was no solid factor that leads to a maintained rise in price, investors tend to sell stocks to make profits. Based on this hypothesis, the operator created sales at midnight on the 10th, resulting in a huge gain in the portfolio.

Figure 4.4.1 Trade Points for EV Industry

Figure 4.4.2 “Pump” for Petroleum Industry

Figure 4.4.3 Trade Points for Petroleum Industry

Table 4.4.1 Summary of Swing Trading Week 4

Date	Symbol	Buy/ Sell	Price($)	Shares	Net Cost/ Proceeds ($)	Profit/ Loss($)	Total Cash ($)	Total Profit ($)	Total Asset ($)
8/9	TSLA	Buy	861.02	15	12915.30		91988.95		
	LCID	Buy	17.79	1000	17790.00		74198.95		
	RIVN	Buy	36.90	500	18450.00		55748.95		
8/10	LCID	Sell	17.86	1000	17860.00		73608.95		
	RIVN	Sell	37.42	500	18710.00		92318.95		
	TSLA	Sell	866.83	15	13002.45		105321.40		
	BP	Buy	30.68	400	12272.00		93049.40		
	XOM	Buy	90.20	200	18040.00		75009.40		
	SHEL	Buy	52.79	300	15837.00		59172.40		
	CVX	Buy	154.32	140	21604.80		37567.60		
8/11	XOM	Sell	92.68	200	18536.00		56103.60		
	SHEL	Sell	53.21	300	15963.00		72066.60		
	BP	Sell	31.26	400	12504.00		84570.60		
	CVX	Sell	158.96	140	22254.40		106825.00		
Sum									
	TSLA					87.15			
	LCID					70.00			
	RIVN					260.00			
	SHEL					126.00			
	BP					496.00			
	XOM					496.00			
	CVX					649.60			
								2184.75	106825

4.5 Summary and Analysis

As the simulation period ends, the portfolio made a total of $6,825 profit over the past 4 weeks, which is a 6.83% gain compared to the initial capital. Considering the 4-week operation window, it is a significant win, with the simulation of a swing trader. Great uncertainty comes into place when people perform swing trade since generally, stocks won't be held for long. It is always a

minute moment that determines a gain or loss. Moreover, a short trading time forces a trader to devote so much time monitoring the trend of prices. Making them impossible to take swing trading as a “part time job”: it occupies most of your day!

From those very reasons, the trades were made with cautious at the beginning of the simulation. Stocks were bought or sold at once if the operator saw a concerning change in trends. As indicated in table 4.5.1, the first week of simulation only received a payback of $991.07. During the first week, the portfolio undergone a huge number of transactions, but the gain is still less than the following weeks that have less transaction histories. While it is not terrible for a beginner, the portfolio did grow with a better pace in the following weeks, since the operator gain more experience as the simulation proceeds. This is because the fact that when the trader is operation first week of simulation, he is ambiguous in gathering useful information for decision making. Normally when perform swing trading, there are a few signs that indicates moment of buy or sell. Without a strong acknowledgement of these indicators, the trader can only perform decision making by guessing, which is not an ideal approach for swing trading. As the operator improves himself, a better gain can be seen on the table.

There are several useful indicators when executing swing trades. First of these is the premarket price. the premarket price is a great tool to estimate the market at the open. If the premarket price is rising high, the holder should anticipate a drop in about an hour after the market opens, and vice versa. The theory is simple, it is simple psychology. The market consists of a ton of investment organizations, and countless retail investors scattered everywhere around the globe. If these individual investors see a rise in price, there will be a tendency among them to sell out the stock to gain profit. Whereas the organizations might hold for future potential. The reason behind this is about information, as organizations generally possess better sources of news, and their operator

are far more educated than individual investors. Under normal conditions, that is, with the absence of shocking news and giant operation from organizations, the market price is largely influenced by individual investors. This is great for swing traders since it is easy to predict a large number of individuals, such predictions will not guarantee you the most payback but is very likely to succeed. Therefore, understanding premarket price will create a bright start of a successful trading day!

Premarket price has its limitations, just like the most of us. It can only reflect the trend of first one hour after the market opens. People need more tool for the prediction for the rest of the day. Here, the volume and relative strength index are in the toolbox. Volume refers to how many pieces of stocks were traded over a period of time. Take Yahoo Finance as an example, the minimum unit is 1 minute, as it can show the volume of stocks traded in a minute. Some other financial websites such as Webull can provide detailed individual proceeds. All these information can be applied for future estimates. Generally, a high volume indicates a stronger trend than a low one. Moreover, by monitoring the volume of each purchase, an individual buyer can gain precious insight to the movement of organizations. When a purchase of 1000 shares for Tesla occurs, or 100 continues 10 shares purchases are conducted, a rise in price can be anticipated, which would indicate a great time to sell. Similarly, large sell could suggest an opportunity to buy. Although there are more factors that could influence stock prices, keep an eye on volumes are always a great idea.

Last but not least, the relative strength index, which is also called a momentum indicator, can distinguish if a stock is overbought or oversold. Stock prices have the tendency to remain at balance without strong impact. A failed operation of a company can be a strong impact, a bad quarter report can be a strong impact, and a newly issued government policy could be an impact. But, without these stimuli, the prices always remains a balance, yet with little “swings” (As indicated in figure 4.5.1). Once an overbought or oversold occurs, there will be a twist in trend to

remain the balance. Unless, for example, Tesla lost most of their capital trading Bitcoin that they can barely keep the factory going. In such case their stock price will dive deep all the way to Mariana Trench, without a single twist! Always keep in mind that these indicators are only helpful when no eye-shocking news are present.

To sum up, swing trading is incredibly time consuming, and it demands sophisticated analysis from different indicators. With its nature of being traded in short period of time, traders almost always need to put their eyes on different charts and lines. Devoted with great passion and applied with correct technique, swing trading has promising paybacks. Since in swing trades, losing money is easy while earning them can also fall out in a blink. Therefore, swing trading are a good fit for those who already build an large portfolio, and would like to take stock trading as their main job.

Figure 4.5.1 Relative Strength Indicator

Table 4.5.1 Portfolio 2 Profit Chart by Weeks

Week	1	2	3	4	Total
Profit($)	991.07	1914.50	1670.70	2184.75	6825.00

Table 4.5.2 Portfolio 2 Profit of Each Stock and Field Total

Week	1	2	3	4	Total
TSLA	$45.45		$37.80	$87.15	$170.40
RIVN	$143.50		$603.00	$260.00	$1006.50
LCID	$174.10		$1029.90	$70.00	$1274.00
				EV Sum:	$2450.90
BP	$124.77	$279.00		$496.00	$899.77
XOM	$219.41	$251.00		$496.00	$966.41
SHEL	$150.60	$399.00		$126.00	$675.60
CVX	$162.80	$985.50		$649.60	$1797.90
				Oil Sum:	$4339.68

Chapter 5. Comparison and Conclusion

5.1 Factors that Influence Price

In reality, there are very many factors that affect stock prices. From basic trading volume to constraining relationships between fields, and even human factors, all can drive or compress stock prices. Just as there are rough waves and soothing waves in the ocean, these factors can also be large or small.

First, a company's performance has a direct impact on its stock price. In order for a company to survive, it first needs to maintain reasonable, excellent business operations. Adequate cash, a stable capital chain, and sound planning are all elements of this. As in the analysis of the three EV companies above, the authors repeatedly emphasized the focus on cash volume and capital chain, especially for the two startups Lucid and Rivian. For start-up companies, converting potential orders into revenue while expanding the industry is a top priority. And with the overall economic downturn and serious inflation, the breakage of capital chain during the expansion process is a potentially fatal risk for startups. The profitability of a company at each stage has a direct impact on the decisions of investors. The quarterly earnings report is a prop to get this information directly. Basically, every company puts out quarterly financial reports that provide an overview of all its financial information for the period. This includes information on turnover, profits, costs, liabilities and many other details. For the average investor, these two items, net profit and debt position, are enough to serve as a solid basis for decision making. If a company's net profit is increasing and its liabilities are unchanged or decreasing, that is enough to mean that the company has been making the right choices. On the contrary, if the net profit is decreasing in one or several quarters in a row, this may indicate that something is wrong with the company's current products and strategy.

Therefore, there is a clear period of turmoil around the earnings release. For instance, Lucid's latest financial report shows that they have hit a bottleneck in production capacity and are unable to deliver a sufficient number of finished vehicles on time, which has dealt a significant blow to their share price. By way of contrast, BP's second quarter earnings release showcased continued growth in net profit with less debt, allowing their stock price to continue to grow over the next few days. So, the company's earnings situation is a primary factor that will act on the share price.

In addition, government policies can also have a long-term impact on the share price of the company in question. Usually, new government policies can be introduced to support and accelerate growth in certain areas, or to curb over-inflation, or to punish monopolies. These policies may cause a significant change in the stock price in the short term, and may also have a subtle impact on the stock price in the following period. The oil industry and new energy vehicles chosen for this article are a good example. In the short term, oil is still an irreplaceable fossil energy source, while the development of new energy sources represents a long-term investment by the government. Recently, the U.S. government has introduced a number of favorable policies aimed at stimulating the consumption of new energy vehicles. First, it announced that it will vigorously popularize electric vehicle charging pads, and then tax exemptions or tax breaks for new energy vehicle consumption (Figure 4.5.3 shows Tesla’s price after this policy). As these measures take time to implement, they are unlikely to have a dramatic impact on stock prices in the short term. But they can subconsciously promote the production and consumption of electric vehicles (under the premise of adhering to these policies). Such an impact is likely to be visible only in the next few years. Another example is that on June 22nd, President Biden announced that he would suspend taxes on gasoline for 90 days. The CNBC reported that “Biden’s plan asks Congress to suspend the federal tax on gasoline and diesel fuel for three months, which coincides

with the summer driving season. The federal tax is 18 cents per gallon of regular gasoline and 24 cents per gallon for diesel." (Stevens, 2022). After that, the price of all oil companies' stocks had sightly raised in a short period. Overall, policy is a huge factor for the stock price.

Finally, the factor that can make the price of a stock go up or down is the inflow and outflow of capital, i.e., trading. Buying down and selling up is a rule of trading that is almost impossible to violate. If the volume of buying is greater than the volume of selling per unit of time, the price will rise, and vice versa. Such trading behavior leads directly to the fluctuation of stock prices, which is the source of the daily curve. Among them financial institutions are often the major source of funds. In order to control the stock price in the direction they desire, the institutions try to obtain a greater flow of funds by borrowing, financing, etc. In addition, unlike retail investors, institutions can profit from both going long and short. The vast majority of retail investors only profit by going long. Traders can usually tell whether a trade is from a retail investor or an institution by the size of the individual trade. Of course there are surprises in everything, such as Tesla. As the analysis above, Elon Musk has a large and loyal fan base. When Tesla's stock price is relatively low, a large number of fan retail investors will flock to buy Tesla shares to raise the stock price. This situation is the most difficult for traders to predict and control.

Figure 5.1.2 Lucid's Drop After Bad Q2 Report

Figure 5.1.3 BP's Gain After Good Q2 Report

Figure 5.1.4 Tesla's Rise with Related Government Policy

5.2 Profit vs. Time Comparison

In this section, the relationship between profit and time using two different methods will be discussed. There is a huge difference between the swing trading and position trading approaches. Due to the fact that trading simulations last up to one month, a single stock in a position trade will not be held for as long as several months. Even so, stocks with a position trading strategy will be held longer than stocks with swing trades. Typically, stocks with swing trades are not held for more than a day, but it is possible that stocks are held longer if trader consider the price is still going up. For comparison, position traded stocks will be held for an average of two days or more, with some cases being held for longer than a month. For this simulation limit, it did not occur during the whole simulation. Position trading do not have a specific period of holding time. The trading operations are all based on the judgement of future trend from trader. In the other word, it could be super long if trader consider there is rising space or super short if trader consider it would

drop. In addition, this chapter will also summarize in detail the time required for traders to keep an eye on the market and investigate using different approaches. Finally, all data are combined in a summary.

First of all, the total profit from position trading is $4451.39 over four weeks, averaging $1112.85 a week and $222.57 a day (based on five working days). According to the operator's statement, the average daily time spent in the stock market is two hours, with a peak of four hours. Based on this ratio, the buy-and-hold trade in this simulation will generate $111.28 in profit for each hour invested. This figure is more than three times the average salary in Massachusetts. From this perspective, this position trade is a good investment. Throughout the trading process, the main time consuming operations were executing buy and sell, watching the trend, researching the company's recent status, and news search and summary. Of these, the longest time was spent on company research and news search summaries. Company research generally occurs during the stock selection period, when the operator investigates companies of all sizes in the target area, mainly browsing through the company's recent quarterly earnings reports, stock price movements, content of related releases, and news involving the company. Of course, the time consumed will vary from company to company, but the process typically takes 4-5 hours. Since this action occurs prior to the mock trade and is a one-time, non-repetitive action, it is not included in the profit vs. time calculation. Likewise, in real life, company research should happen before buying a stock, because the more you know about a particular company, the more guaranteed the trade will be. For the news search summary aspect, the trader needs to spend on average 1 hour per day, which also depends on the number of stocks in the position, the more companies in the position, the longer it will take. During this process, traders mainly need to think about whether the recent relevant news is in line with expectations and how it will affect the trend, to ensure that they can

keep pace and make a profit. Generally when conducting a news search, the operator also keeps a close eye on the k-chart to prevent large institutions from trading heavily and having an impact on the stock price. Taking time consumption into account, position trading is suitable for traders who usually have a formal job, which not only ensures that there is a sufficient source of income to open positions, but also ensures that stock market trading does not significantly affect work, as long as the trader can arrange his or her time wisely. As long as one does enough homework, is not greedy, and has a reasonable judgment of the general trend, there is money to be made in position trading.

Next comes swing trading. In the four-month simulation, the swing trading account made a total profit of $6825. On average, the profit was $1706.25 a week and $341.25 a day (based on five working days). According to the operator's statistics, an average of 5 hours a day is devoted to the trading. According to this data, the hourly income is about $68.25. Traders also need to do their business research in advance, and this part also takes 4-5 hours before trading. The focus in swing trading is on observing price movements. Throughout the trading process, on average, every time you enter the market you need to always watch the market so as not to miss important buying or selling times. A missed moment can mean a loss, either a missed sell resulting in more loss or less profit, or a missed buy resulting in a higher price than originally purchased. The fleeting nature of the opportunity forces swing traders to invest a great deal of effort in maintaining their gains over the course of the position. In addition, news gathering is not as important here as constant monitoring of the market. While following the news is not a bad thing, even if certain news contributes to a broad trend either up or down, there is still a significant amount of internal volatility within a few days. These small fluctuations can be exploited by swing traders as a tool to make money or cut losses. So, swing trading would be a more efficient use of time in watching

the trend and some indicators. In general, swing trading requires the operator to spend most of the day in the stock market and is less suitable for those who are already on staff, as they tend to need to devote their energy to their jobs rather than the stock market. So, as long as you have enough time, you can feel free to swing trade.

5.3 Methodology Comparison

In terms of results, there is no doubt that swing trading has won. In terms of total profit, swing trading outperformed position trading by $2,373.61, or 53.3%. If we use this data to calculate the annualized interest rate, the difference between the two trading patterns amounts up to 59.76%. Although this data is not accurate, it is enough to show the high return of swing trading in one aspect. Since the two portfolios are traded by different operators, the operator of Portfolio 1 is referred to as operator 1 and the operator of Portfolio 2 is referred to as operator 2 in the following. As shown in the Table 5.3.1 below, the third week of the simulation was the one that mainly opened the gap. The third week was the most volatile week of the entire simulation. The operator m1 did not invest in EV and made a loss in investing in oil stocks. The disadvantages of position trading become apparent in the presence of greater volatility. This is because the stocks are held for a relatively long period of time and the operation does not maintain the same continuous focus on the stock price as a short-term trading strategy. During periods of high volatility, the operator's judgment and expectations often differ significantly from the reality. In addition to this, the primary goal of position trading in unstable situations should be stop loss. Therefore, in the event of a loss, first the operator 1 chose to sell rather than take the loss and continue to wait and see. Swing trading is just the opposite. Due to the shorter trading cycle, you can always invest again if the price is right. Even if the stock price is more volatile, swing trading takes even just a few hours from buying to selling, which is much more flexible than position trading and provides a better

take on opportunities. This advantage is mainly found in industries with high investment volatility, such as EV. As Figure 5.3.1 below shows, in the third week, when operator 1 had no way to start, operator 2 still took a highest single week's gain of $1670.70 by relying on one industry, EV. However, position trading is not without its advantages, for example, during the first week, operator 1 purchased Tesla at a lower price, and then two days later Tesla sold off bitcoin and got its first jump in stock price. Operator 1 took the gains from the entire growth process, while Operator 2 purchased it late and at a higher purchase price, so the gains were relatively low. Within a stock trade in a more stable industry like oil, the difference between the two is not particularly pronounced, as Figure 5.3.2 shows, the difference in returns between the two portfolios in the oil industry is not particularly large and the trends are very similar. Meanwhile, the time and effort consumed by the trading is also a priority. As Table 5.3.1 shows, under the position trading strategy, there are fewer trades and higher returns per unit of time. As mentioned above, swing trading requires more time to monitor changes in the stock market, and while positive/negative news has a significant impact on the stock market, swing trading requires more action to be taken in response to stock price fluctuations. The timing of buying and selling is not the top priority. Position trading, in contrast, is more focused on the overall general trend direction rather than specific fluctuations. Swing trading requires making a general trend judgment based on current events, then judging the current trend of the stock price based on trading volume, and finally buying or selling at the appropriate time. Obviously, swing trades will take more time than position trades.

In conclusion, both trading strategies, position trading and swing trading, have their own advantages. In terms of profitability, swing trading is clearly superior, especially in industries with high volatility, such as EV, chips, semiconductors, etc. If time and operational intensity are taken

into account, position trading is a reasonable option when trading relatively stable industries, such as gold, oil, military, etc.

Table 5.3.1 Two Portfolios Profit Comparison Chart by Weeks

Week	1	2	3	4	Total
Portfolio 1 Profit($)	1,246.21	1,454.22	-328.48	2,079.44	4,451.39
Portfolio 2 Profit($)	991.07	1,914.50	1,670.70	2,184.75	6,825.00

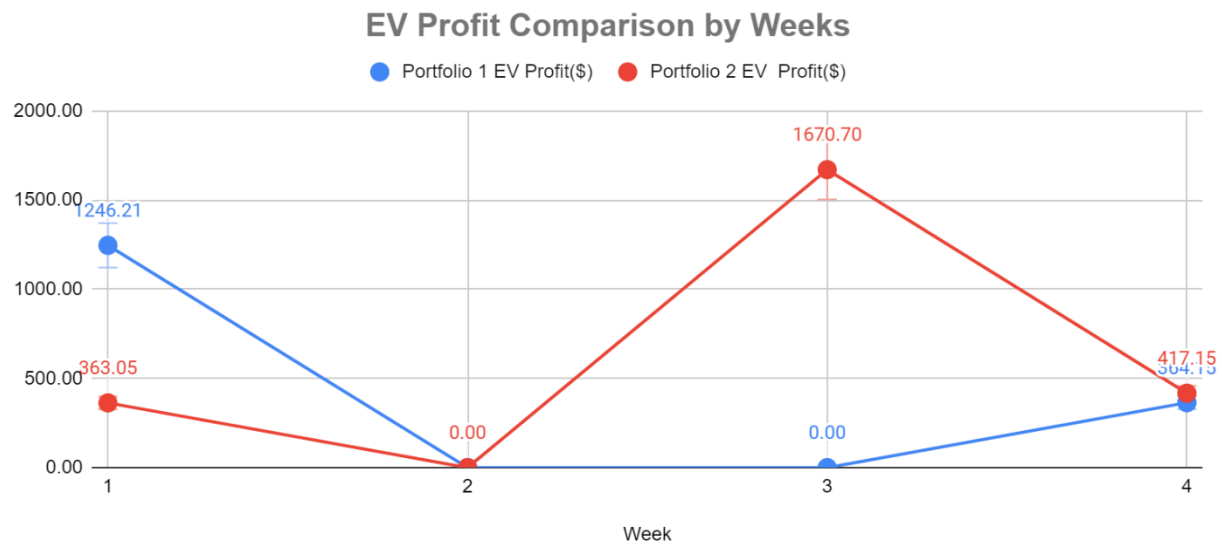

Figure 5.3.1 Two Portfolios EV Stocks Profit Comparison by Weeks

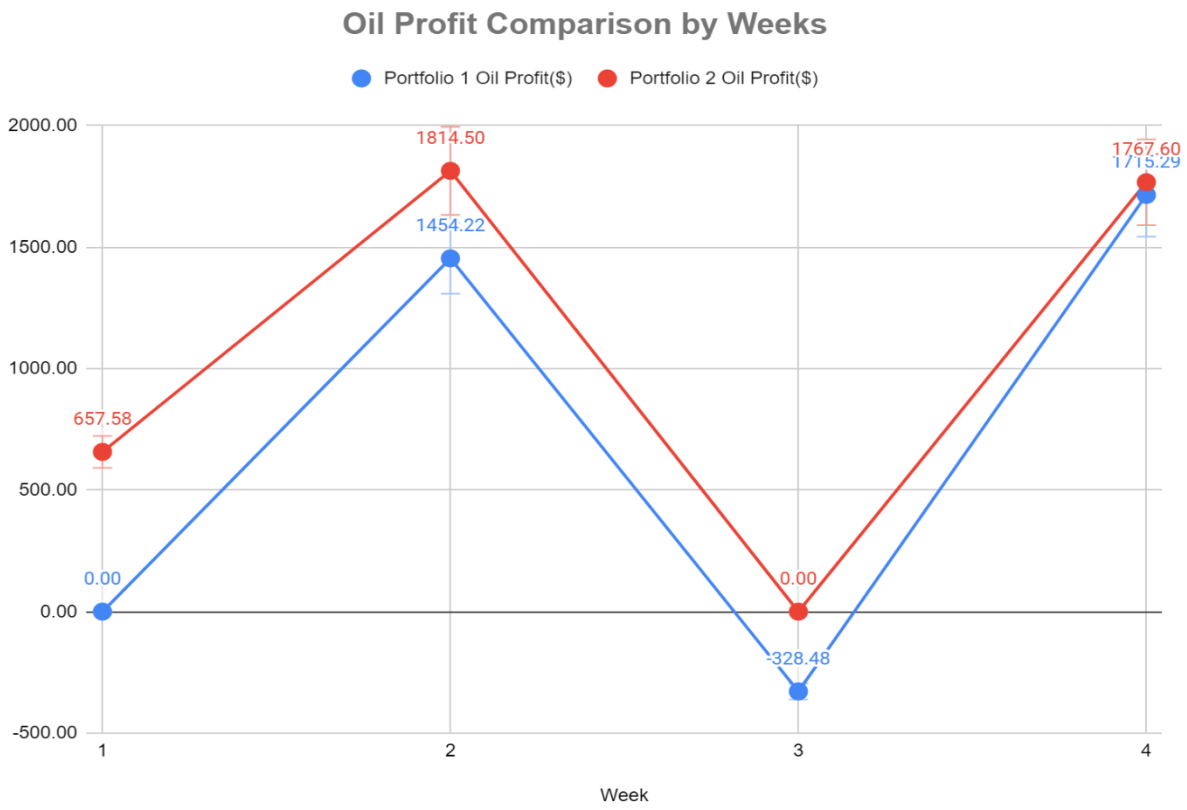

Figure 5.3.2 Two Portfolios Oil Stocks Profit Comparison by Weeks

Table 5.3.2 Two Portfolios Transaction Sum Up and Unit Profit Comparison

	Transaction times	Profit/Hour
Portfolio 1	45	$111.28
Portfolio 2	56	$68.25

5.4 Experience Sum up

After four weeks of exciting stock market trading simulations, this article is finally a summary of those trading experiences. Combining the experiences of both accounts, this chapter will discuss the different advantages or troubles that the two trading methods bring to the trader. Ideally, these experiences will allow the trader to be more comfortable in choosing the right trading style in the future.

In terms of what matters most to many traders, how much profit do the two trading methods generate in the same amount of time? In terms of total four-week returns, position trading is not as rewarding as swing trading. However, traders need to understand that the returns are higher or lower depending on the different buy and sell points, and this aspect is completely different for the two accounts. Moreover, it also depends on the mindset of the trader when executing different strategies. For example, as showed in figure 5.4.1, at some point Tesla stock price is positioned at $880 a share. This is not a good time for position trading, because the price of $880 is the high point of Tesla for this period. If Tesla does not generate enough momentum to continue to drive the stock up, the entry will be a failure in the long run. But not for swing traders. If $880 price is still not close to an overbought point, and there is a short-term retail or institutional position to push the price higher (if the indicators support this), then the operator can buy and sell a few hours later to take profits on a modest upside ride. On the flip side, swing trading has a much lower hourly return ratio, in that its hourly returns may not exceed those of position trading. This stems from the fact that swing trading requires a lot of time to be devoted to watching the market as mentioned earlier. In this simulation, the position trader outperformed the former by 63% in terms of hourly earnings, although he was slightly behind in terms of total earnings. Therefore, it is one-sided to draw a conclusion from the amount of earnings alone.

To give the reader a more comprehensive perspective, this paper also compares the total inputs required for different trading approaches. Firstly, in terms of start-up capital, there is no way to discuss the starting point as both accounts start from the same starting point ($100,000 start-up capital). It is always better to prepare more start-up capital, after all, in terms of amount, the more you invest in the same rate of increase, the more you earn. Secondly, the business research is almost the same, which is a time cost that cannot be bypassed by any investment method. Then, the most different point between the two in the trading process is that swing trading often means more time investment. This is one of the reasons why swing trading hourly returns are so low. It's also why swing trading is almost impossible for people with other jobs to achieve. Very few people will desert during work hours to speculate on stocks. From this perspective, position trading is almost always the best option for people with an income: there is a steady source of income to build positions and less chance of missing opportunities due to too little time spent watching the market. Position trading is generally a more moderate form of trading. In contrast, swing trading is more intense and requires the investor to spend time looking for indicators to ensure adequate profits. In addition, there are some tips for buying/selling stocks. For example, buying/selling shares in multiple transactions can reduce the risk. Because stock market prices change all the time, the price of each transaction is also different. By splitting your purchases into multiple transactions during a downturn, you can effectively lower the average transaction price to make more profit. Likewise, multiple trades can raise the average of the sold prices. Certainly, if a trader needs to hedge losses immediately, a single trade is still the safest way to go.

As a conclusion, the choice of either trading style should be based on the trader's own ability and time constraints. Because statistically speaking, there is no clear evidence that one way is more profitable than the other in the same amount of time. After all, the amount of profit depends on

whether the trader has made the right decision or not. There will be people who make huge profits from swing trading, and there will be people who make the wrong decision and lose their money overnight in swing trading. The same applies to position trading. The amount of money to be made is always proportional to the trader's own ability, not the trading style. Besides, working people may prefer position trading, while those who are investment bankers, or fanatics who are willing to devote their lives to stock trading have more than enough time for swing trading. Of course, there will be smart people who choose to split their assets and use their free time to trade small swings in addition to their positions. All of these approaches are very viable and profitable.

Figure 5.4.1 Example of Tesla

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