

Project Number: DZT 1712

**An Interactive Qualifying Project Report:**

Submitted to the Faculty of

**WORCESTER POLYTECHNIC INSTITUTE**

In Partial Fulfillment of the Requirements for the

Degree of Bachelor of Science

By

Yuanchen Zhou

Submitted Date: 10/10/2018

Approved by Professor **Dalin Tang**, Project Advisor

## **Abstract**

The objective of this project is to gain a basic understanding of the operation rules of stock market by using stock trading simulation. Swing trading and technical trading were selected for a Chinese stock market simulation using Cofool stock simulator. Five stocks were chose and traded with the two methods for five weeks. After simulation, both methods have gained profits, performances of the two trading methods were compared and analyzed. In conclusion, technical trading was the better method for short-term investors with superior theoretical predictions on stock trend and various technical indicators significantly helped investor to react rapidly under different situations. This experience of this project provided valuable first-hand knowledge for future stock investment in real life.

## **Acknowledgement**

I would like to express my sincere gratitude to my adviser Professor Dalin Tang for providing his invaluable guidance, comments and suggestions throughout this project. I would specially thank Professor Dalin Tang for constantly supporting and motivating me to work harder.

# Table of Contents

Abstract.....	-2-
Acknowledgement.....	-3-
List of Figures.....	-9-
List of Tables.....	-13-
Chapter 1: Introduction.....	-14-
1.1: Constituents of Stock Market.....	-15-
1.2: Influential Factors of Stock Prices.....	-16-
1.3: Economic Policies and Chinese Stock Market.....	-18-
1.4: Present Status of Chinese Stock Market.....	-20-
Chapter 2: Strategies.....	-23-
2.1 Fundamental Analysis.....	-23-
2.2 Technical Analysis.....	-24-
2.3 Trading Method.....	-27-
2.3.1 Swing Trading.....	-28-
2.3.2 Technical Trading.....	-29-
2.4 Stock Simulation Platform.....	-31-
Chapter 3: Company Selections.....	-36-
3.1 300657 Hongxin Electronics Technology.....	-36-
3.2 600889 Nanjing Chemical Fiber.....	-37-
3.3 603323 Wujiang Bank.....	-38-

3.4 600084 Citic Guoan Vine Co.LTD.....	-40-
3.5 000683 Yuanxing Energy.....	-41-
Chapter 4: Swing Trading.....	-43-
4.1 Week 1.....	-43-
4.1.1 300657 Hongxin Electronics Technology.....	-43-
4.1.2 600889 Nanjing Chemical Fiber.....	-44-
4.1.3 603323 Wujiang Bank.....	-45-
4.1.4 600084 Citic Guoan Vine Co.LTD.....	-45-
4.1.5 000683 Yuanxing Energy.....	-46-
4.1.6 Week One Trading Summary.....	-47-
4.2 Week 2.....	-47-
4.2.1 300657 Hongxin Electronics Technology.....	-48-
4.2.2 600889 Nanjing Chemical Fiber.....	-48-
4.2.3 603323 Wujiang Bank.....	-49-
4.2.4 600084 Citic Guoan Vine Co.LTD.....	-50-
4.2.5 000683 Yuanxing Energy.....	-51-
4.2.6 Week Two Trading Summary.....	-51-
4.3 Week 3.....	-52-
4.3.1 300657 Hongxin Electronics Technology.....	-53-
4.3.2 600889 Nanjing Chemical Fiber.....	-53-
4.3.3 603323 Wujiang Bank.....	-54-
4.3.4 600084 Citic Guoan Vine Co.LTD.....	-55-

4.3.5	000683 Yuanxing Energy.....	-55-
4.3.6	Week Three Trading Summary.....	-56-
4.4	Week 4.....	-57-
4.4.1	300657 Hongxin Electronics Technology.....	-57-
4.4.2	600889 Nanjing Chemical Fiber.....	-58-
4.4.3	603323 Wujiang Bank.....	-58-
4.4.4	600084 Citic Guoan Vine Co.LTD.....	-59-
4.4.5	000683 Yuanxing Energy.....	-60-
4.4.6	Week Four Trading Summary.....	-60-
4.5	Week 5.....	-61-
4.5.1	300657 Hongxin Electronics Technology.....	-62-
4.5.2	600889 Nanjing Chemical Fiber.....	-63-
4.5.3	603323 Wujiang Bank.....	-64-
4.5.4	600084 Citic Guoan Vine Co.LTD.....	-64-
4.5.5	000683 Yuanxing Energy.....	-65-
4.5.6	Week Five Trading Summary.....	-66-
4.6	Summary On Swing Trading.....	-67-
Chapter 5:	Technical Trading.....	-69-
5.1	Week 1.....	-69-
5.1.1	300657 Hongxin Electronics Technology.....	-69-
5.1.2	600889 Nanjing Chemical Fiber.....	-70-
5.1.3	603323 Wujiang Bank.....	-71-

5.1.4 600084 Citic Guoan Vine Co.LTD.....	-72-
5.1.5 000683 Yuanxing Energy.....	-73-
5.1.6 Week One Trading Summary.....	-74-
5.2 Week 2.....	-75-
5.2.1 300657 Hongxin Electronics Technology.....	-75-
5.2.2 600889 Nanjing Chemical Fiber.....	-76-
5.2.3 603323 Wujiang Bank.....	-77-
5.2.4 600084 Citic Guoan Vine Co.LTD.....	-78-
5.2.5 000683 Yuanxing Energy.....	-79-
5.2.6 Week Two Trading Summary.....	-80-
5.3 Week 3.....	-81-
5.3.1 300657 Hongxin Electronics Technology.....	-81-
5.3.2 600889 Nanjing Chemical Fiber.....	-82-
5.3.3 603323 Wujiang Bank.....	-83-
5.3.4 600084 Citic Guoan Vine Co.LTD.....	-84-
5.3.5 000683 Yuanxing Energy.....	-85-
5.3.6 Week Three Trading Summary.....	-86-
5.4 Week 4.....	-87-
5.4.1 300657 Hongxin Electronics Technology.....	-87-
5.4.2 600889 Nanjing Chemical Fiber.....	-88-
5.4.3 603323 Wujiang Bank.....	-89-
5.4.4 600084 Citic Guoan Vine Co.LTD.....	-90-

5.4.5 000683 Yuanxing Energy.....	-91-
5.4.6 Week Four Trading Summary.....	-92-
5.5 Week 5.....	-93-
5.5.1 300657 Hongxin Electronics Technology.....	-93-
5.5.2 600889 Nanjing Chemical Fiber.....	-94-
5.5.3 603323 Wujiang Bank.....	-95-
5.5.4 600084 Citic Guoan Vine Co.LTD.....	-96-
5.5.5 000683 Yuanxing Energy.....	-97-
5.5.6 Week Five Trading Summary.....	-98-
5.6 Summary On Technical Trading.....	-99-
Chapter 6: Comparison and Analysis.....	-101-
6.1 Profit/Loss for Trading Methods.....	-101-
6.2 Decision Making on Different Methods.....	-103-
Chapter 7: Conclusion.....	-105-
References.....	-106-



# List of Figures

Figure 1.1: Week K Line from 2015-2018 of Shanghai Market Index.....	-22-
Figure 2.1: The Dow Theory Ideal Market Picture.....	-25-
Figure 2.2: Dow Thoery Three Trend Types.....	-26-
Figure 2.3: Swing Highs and Swing Lows.....	-28-
Figure 2.4: Traing Range of Veritex Holdings.....	-31-
Figure 2.5: User's Home Page.....	-32-
Figure 2.6: Buy in Interface.....	-33-
Figure 2.7: "My Position" Section.....	-33-
Figure 2.8: Page Outline of Singel Stock.....	-34-
Figure 2.9: Day K line Chart for Pingan Bank.....	-35-
Figure 2.10: Candlesticks Explanation.....	-35-
Figure 3.1: Day K line chart of Hongxing Electronics Tech.....	-37-
Figure 3.2: Day K line chart of Nanjing Chemical Fiber.....	-38-
Figure 3.3: Day K line chart of Wujiang Bank.....	-39-
Figure 3.4: Day K line chart for Citic Guoan Vine Co.LTD.....	-41-
Figure 3.5: Day K line chart of Yuanxing Energy.....	-42-
Figure 4.1: Day K line chart of Hongxin on July 30th.....	-43-
Figure 4.2: Day K line Chart of Nanjing on July 30th.....	-44-
Figure 4.3: Day K line Chart of Wujiang on July 30th.....	-45-

Figure 4.4: Day K line Chart of Citic Guoan on July 30th.....	-45-
Figure 4.5: Day K line Chart of Yuanxing on July 30th.....	-46-
Figure 4.6: Day K line chart of Hongxin on August 10th.....	-48-
Figure 4.7: Day K line Chart of Nanjing on August 10th.....	-49-
Figure 4.8: Day K line Chart of Wujiang on August 10th.....	-49-
Figure 4.9: Day K line Chart of Citic Guoan on August 10th.....	-50-
Figure 4.10: Day K line Chart of Yuanxing on August 10th.....	-51-
Figure 4.11: Day K line chart of Hongxin on August 17th.....	-53-
Figure 4.12: Day K line Chart of Nanjing on August 17th.....	-54-
Figure 4.13: Day K line Chart of Wujiang on August 17th.....	-54-
Figure 4.14: Day K line Chart of Citic Guoan on August 17th.....	-55-
Figure 4.15: Day K line Chart of Yuanxing on August 17th.....	-56-
Figure 4.16: Day K line chart of Hongxin on August 31st.....	-57-
Figure 4.17: Day K line Chart of Nanjing on August 31st.....	-58-
Figure 4.18: Day K line Chart of Wujiang on August 31st.....	-59-
Figure 4.19: Day K line Chart of Citic Guoan on August 31st.....	-59-
Figure 4.20: Day K line Chart of Yuanxing on August 31st.....	-60-
Figure 4.21: Recent Five-Day Stock Price for Hongxin 9.3-9.7.....	-62-
Figure 4.22: Day K line Chart of Hongxin in September.....	-62-
Figure 4.23: Recent Five-Day Stock Price for Nanjing 9.3-9.7.....	-63-
Figure 4.24: Day K line Chart of Nanjing in September.....	-63-
Figure 4.25: Recent Five-Day Stock Price for Wujiang 9.3-9.7.....	-64-

Figure 4.26: Day K line Chart of Nanjing in September.....	-64-
Figure 4.27: Recent Five-Day Stock Price for Citic Guoan 9.3-9.7.....	-65-
Figure 4.28: Day K line Chart of Citic Guoan in September.....	-65-
Figure 4.29: Recent Five-Day Stock Price for Yuanxing 9.3-9.7.....	-66-
Figure 4.30: Day K line Chart of Yuanxing in September.....	-66-
Figure 4.31: Profits for Each Company.....	-68-
Figure 4.32: Profits for Each Week.....	-68-
Figure 5.1: Day K line chart of Hongxin in July.....	-70-
Figure 5.2: Day K line Chart of Nanjing in July.....	-71-
Figure 5.3: Day K line Chart of Wujiang in July.....	-72-
Figure 5.4: Day K line Chart of Citic Guoan in July.....	-73-
Figure 5.5: Day K line Chart of Yuanxing in July.....	-74-
Figure 5.6: Technical Chart of Hongxin on August 10th.....	-76-
Figure 5.7: Technical Chart of Nanjing on August 10th.....	-77-
Figure 5.8: Technical Chart of Wujiang on August 10th.....	-78-
Figure 5.9: Technical Chart of Citic Guoan on August 10th.....	-79-
Figure 5.10: Technical Chart of Yuanxing on August 10th.....	-80-
Figure 5.11: Technical Chart of Hongxin on August 17th.....	-82-
Figure 5.12: Technical Chart of Nanjing on August 17th.....	-83-
Figure 5.13: Technical Chart of Wujiang on August 17th.....	-84-
Figure 5.14: Technical Chart of Citic Guoan on August 17th.....	-85-
Figure 5.15: Technical Chart of Yuanxing on August 17th.....	-86-

Figure 5.16: Technical Chart of Hongxin on August 31st.....	-88-
Figure 5.17: Technical Chart of Nanjing on August 31st.....	-89-
Figure 5.18: Technical Chart of Wujiang on August 31st.....	-90-
Figure 5.19: Technical Chart of Citic Guoan on August 31st.....	-91-
Figure 5.20: Technical Chart of Yuanxing on August 31st.....	-92-
Figure 5.21: Recent Five-Day Stock Price for Hongxin 9.3-9.7.....	-93-
Figure 5.22: Day K line Chart of Hongxin in September.....	-94-
Figure 5.23: Recent Five-Day Stock Price for Nanjing 9.3-9.7.....	-94-
Figure 5.24: Day K line Chart of Nanjing in September.....	-95-
Figure 5.25: Recent Five-Day Stock Price for Wujiang 9.3-9.7.....	-95-
Figure 5.26: Day K line Chart of Nanjing in September.....	-96-
Figure 5.27: Recent Five-Day Stock Price for Citic Guoan 9.3-9.7.....	-96-
Figure 5.28: Day K line Chart of Citic Guoan in September.....	-97-
Figure 5.29: Recent Five-Day Stock Price for Yuanxing 9.3-9.7.....	-97-
Figure 5.30: Day K line Chart of Yuanxing in September.....	-98-
Figure 5.31: Profits for Each Company.....	-99-
Figure 5.32: Profits for Each Week.....	-100-
Figure 6.1: Net profit for Swing Trading.....	-102-
Figure 6.2: Net profit for Technical Trading.....	-102-
Figure 6.3: Profits of Each Week from Swing Trading.....	-104-
Figure 6.4: Profits of Each Week from Technical Trading.....	-104-

## List of Tables

Table 4.1: Week one report for Swing Trading.....	-47-
Table 4.2: Week two report for Swing Trading.....	-52-
Table 4.3: Week three report for Swing Trading.....	-56-
Table 4.4: Week four report for Swing Trading.....	-61-
Table 4.5: Week five report for Swing Trading.....	-67-
Table 5.1: Week one report for Technical Trading.....	-75-
Table 5.2: Week two report for Technical Trading.....	-81-
Table 5.3: Week three report for Technical Trading.....	-87-
Table 5.4: Week four report for Technical Trading.....	-92-
Table 5.5: Week five report for Technical Trading.....	-98-

# Chapter 1: Introduction

The objective of this project was to acquire a good understanding of the basic principles of stock market operation, identify multiple distinct factors affecting stock prices, apply the knowledge and methodologies of technical analysis on stock trading simulation. Comparison of similar or different decisions that were made based on different methodologies would be required to analysis which method is more efficient for new investors. Two of methodologies was selected, for five-week trading of same companies. In order to reach these goals, first of all, the initial research would begin with the constituent of stock market. Secondly, the study on the influential factors of stock prices would be indispensable for the future investment. Although during evaluating and selecting stocks, the all-around performance and news should be considered, there were standardized financial index that provide useful information for investors. The two methodologies that chose for this project would both be standardized and classical. Therefore the beginner would be able to easy to operate followed by the simple strategies.

The Chinese stock market was used for this project. Five different companies will be selected for the trading. The initial capital fund was ¥500,000 for each methodologies, and the simulation would last for five weeks use swing trading and technical trading. Ultimately, in this project, two trading groups would invest separately but with same initial fund, same companies and same time period. Comparison on the profits and deficit would be made. The practical experience on stock investment could be able to provide a valuable reference for the future decision making on financial field.

## 1.1: Constituents of Stock Market

The stock of a corporation is a type of security that signifies ownership and represents a claim on part of the corporation's assets and earnings [1]. Share is the unit of stocks; a share of stock can be regarded as partial ownership of the corporation or financial asset in proportion to the total number of shares [2].

A stock market is a platform for the insurance and exchange of stocks, which can be divided by two parts: the primary market and secondary market. The primary market also known as the equity insurance market, initial public offerings and secondary equity offerings are two common goods. The main function of this market is to raise capital for the cooperation. However, equity insurance does not have fixed issuing time or location. The secondary market can be separated into two parts: the exchange market and the out-exchange market. The exchange market is all the trading that happening in the stock exchange. Everything else can be called as out-exchange market. In this stock trading simulation, only the exchange market will be referenced.

Investors are easy to be interfered by frequently fluctuating stock prices and the great number of the stocks. The stock market index is an indicator of market which can describing the overall change of stocks. Groups of stocks which are representative the market are selected by the stock exchange and carry on the weighted average of their price, then calculated by the settled formula.

For the sake of legalizing the transaction of stock, traders and stockbrokers will trade in a stock exchange or securities exchange. Shanghai Stock Exchange was the first stock exchange placed in mainland China which was established in 1990, regulated under China Securities Regulatory Commission [3]. Therefore, it was not entirely open to foreign investors. In China,

there are only two stock exchange Shanghai Stock Exchange and Shenzhen Stock Exchange. In Chinese stock exchange there are 'A' shares and 'B' shares being issued. 'A' shares set price in local currency Yuan and 'B' shares set price in U.S. dollars. Domestic investors are allowed to trade both types of shares, there are more restrictions on the transaction of 'A' shares for foreign investors [4].

As an individual investor, most of the trading of stock has to be through a stockbroker. A stockbroker usually works with a brokerage firm which work as an agency of the stock market. They can be professional, served individually, and provide constructive suggestions, which implies that they will charge more money from every share they have been traded.

In Shanghai and Shenzhen Stock Exchange, all the trading has to follow the 'T+1' schedule. All the stocks that purchase in the first day, can only be traded in the next day, which can help damp speculation.

In order to suppress excessive speculation, in China, there is price limit for controlling the rising and tumbling in stock price. The price limit for 'A' shares is 10%, which means that when the price of a stock raise or fall 10% compare to the last day closing price, then until the stock exchange close in that day, traders can only trade their stock in that price. For the different type of share they have different price limit.

## **1.2: Influential Factors of Stock Prices**

The price of a stock fundamentally determined in the theory of supply and demand. However, it is still hard to predicate the behavior of stock price only by telling if the supply meets market



demand. So many financial experts summarize the factors that move a stock price into three categories: fundamental factors, technical factors and market sentiment [5].

Primarily, the fundamental factors of stock price refer to a combination of two things: an earnings base and a valuation multiple [6]. Earnings per share is a good example of the earnings base, it denotes that how much profit the firm is available to return to the stock holder on every share of the stock. However, many people confused the earnings per share with dividend. Dividend is the actual money the firm decided to distribute to all shareholders. Most companies would like to save their earnings to invest in their business growing. The price-earnings ratio is one of the valuation multiples, is the ratio of market value per share to earnings per share. The level of PE ratio indicates the investment value. A high PE ratio suggests that compare to the current stock price the profitability of the firm is inadequate. Relatively, the risks of investment will increase. However, decisions should be made in accordance with specific conditions, such as development potential and market prospect.

Secondly, technical factors are the mix of external conditions that affect the supply of and demand for a company's stock [7]. Some technical factors can interact with fundamental factors. There are so many different types of technical factors, to begin with, economic factors are the most approachable. The economic development state on the listing place and the forecasting economic trends have a close relationship with the stock market. These years, the stock market index of China is falling gradually, one of the most important reason is the current economic growth slowdown. There are other general economic factors, such as interest rates of bank, inflation and deflation. All of these performances of market economy will affect investors' confidence.

In each industry, the trends of future development will determine the price of stock. The overall industry performance can affect every firm in this sector. Furthermore, as a new industry is emerging, so many substitute companies will plan to list at the same period of time, it usually hard for investors to make decisions. In addition, expect for the regular industry or economic factors, demographics is also one of the technical factors. Many researches have been expressed that the greater proportion of middle-aged investors among the investing population, the market will have a greater demand for stocks and higher valuation multiples [8].

Thirdly, market sentiment directly affects the demand of the market. Market sentiment means the psychology of market participants, individually and collectively. Market sentiment most of time can be represented by the mainstream view of the majority of investors and it can be subjective and obstinate. Sometimes, investors can be over-reacted to a single piece of news about the industry of the companies, leads to a huge stock pricing fluctuation. Any spreading of rumors in the stock market, can be accompanied by related emotional infection. Compare with the objective information, investors apt to be affected by the hint of behavior of other investors.

### **1.3: Economic Policies and Chinese Stock Market**

The policy fluctuation in Chinese stock market was a remarkable difference among international equities market. The short-term trends of stocks were influenced by the financial and monetary policies. In the long run, the development of stock market depended on the macroeconomic conditions and macro-economic regulation of Chinese government; which conditions lags behind the regulation. In addition, when both regulations and conditions at the same direction, the stock market would begin to converge. However, when they showed different direction, stock market would show turning points with the economic regulation, waited for

economic situation to ascertain the point. Therefore, the orientation of macro-economic control has decisive effects on Chinese stock market.

Since the implementation of macro-economic control in China, the growth of economy has been impacted frequently by the economic policy to some specific industries. In order to maintaining and accelerating the economic development, regulations of government focused on upgrading industries, adjusting the economic structure and raising the quality. Nevertheless, the capability of financial policies in smoothing economic fluctuation was consequential, if the rate of economic growth too fast, government led to tight policy to continue; vice versa.

The first bull market in China, started from the December of 1990, the establishment of Shanghai Stock Exchange, there were only eight listed stock. At that time, the price limit was 1%, after rising for two years, and stimulus of abolition of price limit, stock market index raised from ¥95 to ¥1429. During these two years, government used expansionary monetary policy to encourage investment.

In 1993, the consumer price index raised to 14.7%, the stock market has been hit by high inflation and tight fiscal policy. Issuing new shares and public debt were accompanied by market index continued to slide. This bear market ended at July of 1994 by the adoption of three rescue measures: imposed a moratorium on listing, cut in the rights issue, and widen the channels of funds; market index finally stabled at 325 and start picking up again. Though the index dropped back to value from 1992, the number of listed companies on both Shanghai and Shenzhen increased to 287. Bull market began in August of 1994 along with the government's rescue measures.

Similar policy regulations are common occurrences in the history of Chinese stock market. In 1999, regulators allowed the high-risk industries to list on stock exchanges, the concept of network stock entered the market, large number of investors and funds entered, brought Chinese stock market into the sixth bull market. Nonetheless, revalue currencies, national investment plan and economy system reform, all of these policies and regulations had contributed to turmoil in stock markets.

## **1.4: Present Status of Chinese Stock Market**

In the five recent years, from 2014 to 2018, China stock market characteristics has changed, investors tend to buy blue chip, and short losing stocks, driven the change of market structure. At the beginning of 2014, the stock market is still at the bear market which has last for five years. At the end of the year, bull market began, the stock market has increased dramatically, such as the Shanghai Securities Company had increased it at 49.5%. The bull market lasted until the June 2015, followed by a serious bear market which reached the lowest point at August.

For 2016, the stock market was less than satisfactory, because the stock market in China was at a lower level compare to the whole world. However, it was still dramatic, when everyone agreed it would go up, it went down, and vice versa. Most shareholders could not afford the second shock since 2015. The myth of unbeaten IPO was the biggest strong point in the market in 2016.

In 2017, the index showed a moderate rise. Retail investors were withdrawing from the market gradually. The influence of overseas investors and institutional investors was increasing, advocated the idea of value investment. National stock issuance system and delisting

mechanisms have been improved through these 4 years, the chance of non-performing stock to turn over decreased. The structural changed in the market, showed the trend of investment institutional development, which was close to global developed market.

Undoubtedly, 2018 was a new era of economy and a turning point of the whole stock market of China. At the beginning of March, in the two conventions and 19<sup>th</sup> session of national congress of the communist party, the government proposed firstly to develop manufactures, improved the quality of products; supported the revitalization of rural society; and strengthened the prevention and treatment of pollution. All of the measures that government has adopted, maintained the momentum of stock growth. However, as tensions grew over the trade dispute between the U.S. and China, China Securities Regulatory-Commission floated listed stocks, and overheated real estate market in China, the stock market collapsed at 19<sup>th</sup> June.

The GEM index hit a new low since 2015. Nevertheless, from the beginning of July, the impact of the trade dispute to market was decreasing. The exchange rate would be one of the important issues. From Figure 1.1, the market index of Shanghai Exchange has declined to ¥2747 on July, which was close to the support level on 2016, which indicated the change on the market trend. It would be a good time to enter the market at this point of inflection.



Figure 1.1 Week K Line From 2015-2018 of Shanghai Market Index

## **Chapter 2: Strategies**

To this day, the academic world did not have exist any theory or method which can fully explain the stock market behaviors. It was commonly believed that no one could predict the market. Stock investment involved high risk and a lot of uncertainties. All the stock investment theory that was well known, could not predict precisely the trend of a stock in the next few days in the market. Therefore, the study of stock market should never be restricted to the immediate profit or loss. The main object of this IQP was comparing different trading methodology in different stocks.

There were two main analysis theory of stock investment: fundamental analysis and technical analysis. They were distinguishing from the perspective of research paradigm, but they also interrelate with each other in practical application.

### **2.1 Fundamental Analysis**

Fundamental analysis takes the intrinsic value of enterprises as the main research object, and makes detailed analysis on the macro-economic situation, the prospects of the industry development and the operation situation of enterprises. This method can evaluate the security's value and make financial forecasts based on the historical and present data.

Investors can use either a top-down or bottom-up approach to start their analysis. The top-down approach begins with the investigation of economic indicators which includes GDP growth rates, inflation, interest rates and so on [9]. Subsequently, investors narrow their research down to industry, analysis the total sales, profit level. Eventually, they refine their attention to

the individual enterprise. The bottom-up approach is a reverse progress, usually start with a specific company.

There are two essential part in fundamental analysis, which is quantitative analysis and qualitative analysis. The two studies are not conflicting but complementary. Qualitative analysis is the main premise of quantitative. This method focuses the research on the market spaces of the industry and competitive advantages of firm. The study can examine potential customers, market share and industry cycles, thus determine the strength and weakness of the selected stock to invest rationally.

Quantitative analysis provides powerful evidences of companies operating. It occupies a significant position on fundamental analysis. The assessment is based on the mathematical and statistical financial statements, which includes balance sheet, statement of retained earnings and profit margin, etc. The detailed calculation should be discussed when making the decision to track an enterprise.

## **2.2 Technical Analysis**

Technical analysis is based on traditional economic theory, study the action of market in order to forecast the trend of market and make profitable investment. The whole methodology bases on three basic assumptions:

1. The market discounts everything;
2. Price moves in trends;
3. History tends to repeat itself [10].



Compare to fundamental analysis, technical analysis focuses on the volatility of stock prices. However, it suggests that stock's price already reflects some fundamental factors and the price of a particular stock is the product of supply and demand in the market. Technical analysts believe that prices move in short-, medium-, and long-term trend [11]. The movement of price usually is affected by the market psychology, such as emotions like fear or excitement, which can be analyzed by chart patterns and often repeat themselves [12].

After long-time development and evolution, many different theories have derived from technical analysis, for example, Dow Theory and Elliott Wave Principle.

### 2.2.1 Dow Theory

Charles H. Dow was the founder of the Dow theory. After the death of Charles, William Peter Hamilton and Robert Rhea gradually developed and perfected the theory. Dow theory is combination of plenty theorems, as a new investor the first thing that should be noticed is the ideal market picture. The Figure 2.1 shows the ideal market period, it should contain uptrend, top, downtrend and bottom. Even though the reality never shows in the exact same form. The movement of retracements and consolidations showed in this model, presumed how the accumulated emotion of investors affected market.

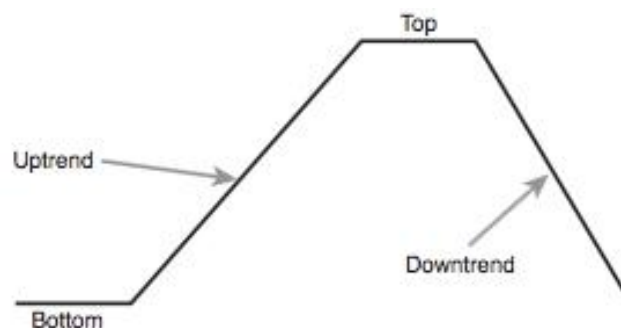


Figure 2.1 The Dow Theory ideal market picture

The second theorem of Dow Theory is that economic rationale should be used to explain stock market. Here technical analysis overlaps with the fundamental analysis. The stock trend should agree with the development prospect of the industry.

Dow Theory hypothesis there are three movement on the trend of price, each define by time: the first is the primary trend, a broad upward or downward trend which is also known as bull or bear market, it is the most important one and last for few years; the second is the decline in a primary bull market or a rally in a primary bear market, it is very deceptive and usually last from weeks to many months; the third is the daily fluctuation, is often unimportant [13]. Figure 2.2 illustrates the three different period trends of price.

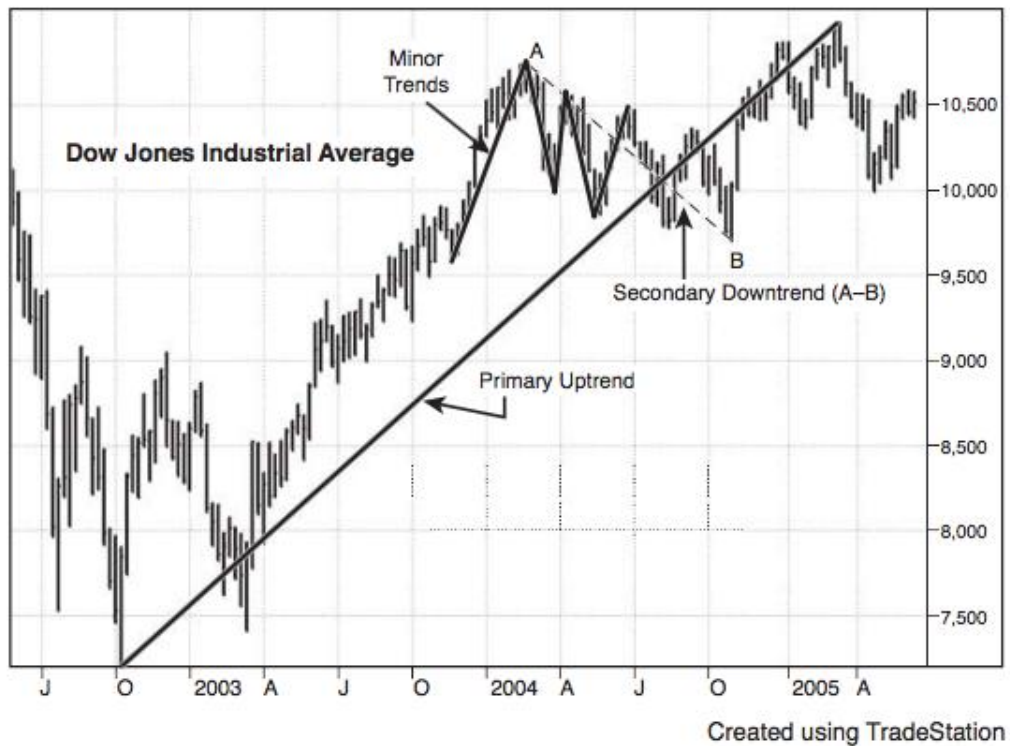


Figure 2.2 Dow Theory three trend types

Dow Theory introduced an important concept of confirmation. Index confirmation is one of the most important principle in Dow Theory, only when two indices confirm each other, shows a similar fluctuation, the trend can be recognized. The behavior of a single index cannot be taken as the signal of reverse of the trend. In China's market, Shanghai Stock Index and Shenzhen Stock Index can be verified for each other.

### **2.2.2 Elliott Wave Principle**

Ralph Nelson Elliott used Dow Jones Industrial Average as the research tool and developed the Elliott Wave Principle in late 1920s, refined 13 different patterns and waves in the market. These patterns are repetitive in the market but with different period and amplitude, and greater patterns and be constituted by the basic ones.

Elliott Wave Principle believes that the market trend keeps repeating a pattern, each cycle is comprised of five uptrend waves and three downtrend waves. Elliott suggests that market cycle can be classified according to the length of time, but each cycle must contain eight waves.

However, many experts criticize the Elliott Wave Principle, since it is hard to define the first wave of the cycle, the misjudgment of the cycle can lead to many big lost, investors would not take that high risk in real market.

## **2.3 Trading Method**

Overall, there are two types of trading methods, active and inactive trading strategies. For short-term investments active trading methods are easier to earn profit through the frequent act of

buying and selling stocks. In this research-based investment, the swing trading and technical trading will be selected.

Both of these two methods are very classical, there are many deep researches on these trading methods. However, in this project, only the basic principles and knowledges will be introduced. During the practical trading, the used principles and rules will be explained in detail.

### 2.3.1 Swing Trading

Swing trading is a famous fundamental trading technique, the holding position time of swing trading is between days to several weeks. The price of stocks is never stable, always moves in an irregular wave shape curve. As figure 2.3 shows that when the wave moves to a low location where we called swing lows, traders should consider buy in, and hold till a swing high location appear and then quickly sell them.

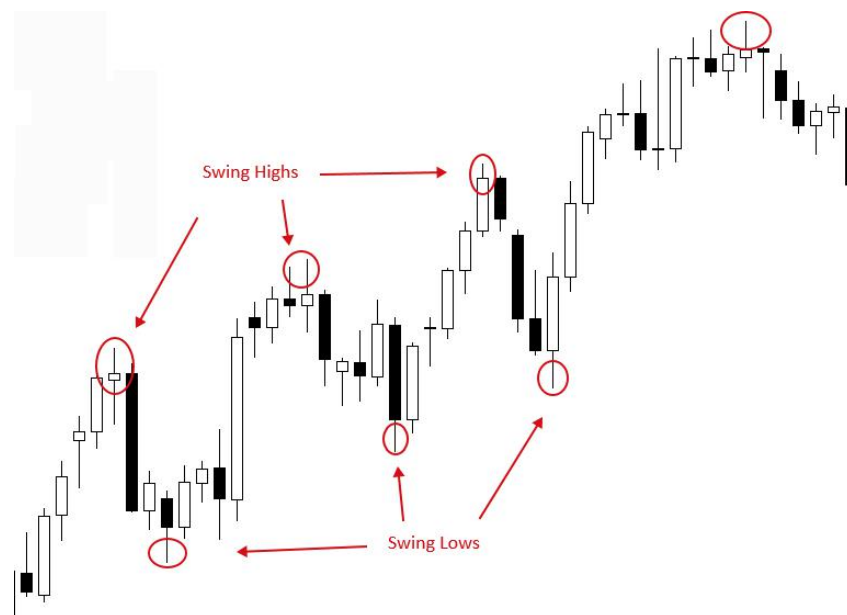


Figure 2.3 Swing highs and Swing lows

Since it is impossible to tell the highest price location, traders will get off when they gain in reasonable incomes. It is only efficient for individual investors, trading institutions hold large amount of stock shares, it would be difficult to sell all the stocks quickly. Swing traders focus on the short-term price fluctuations, profit from the temporary uptrend and get out of the market when it shows a downtrend. Swing traders would also combine the technical analysis and fundamental analysis to determine the price trends.

The swing trader relied heavily on the short-term trend, during the stock selecting, active large cap stocks which have a high trade volume. Volume suggests there are amount of stocks that exchange each day [14]. Thus, swing trader can enter or get out the trend whenever they want, to reduce the risk of investment.

The fundamental strategy of swing trading is momentum trading. The momentum of a stock is when there is a distinct direction of price moving and high amount of trading volume [15]. Investor needs to react fast to buy shares and take the up-going price trend for a while. However, holding too long is accompanied by high risk, all the momentum is transient, the price could swing into the opposite direction any minute.

During the trading process, Japanese candlesticks charts could be very helpful to demonstrate the buying pressure and selling pressure [16]. In addition, trend-line trading strategy can help to determine whether the stock could still continually go up or down.

### **2.3.2 Technical Trading**

Technical trading is focus on the analysis of charts and graphs, discover the convergence or divergence of the line in the graphs and estimate the buy or sell occasion. Technical trading is

very big topic, generally, technicians collect data from past and predict the future. However, rich supply of data and indicators is normally confusing and complex.

However, there are some common technical indicator can help the beginner to start with. For instance, relative strength index is good signal to show investors to buy or sell. It measures the magnitude of recent price changes to analyze overbought or oversold conditions [17]. The formula to calculate the relative strength index is:

$$RSI = 100 - \frac{100}{1+RS'} \quad (1)$$

Where RS is average gain of up periods during the specified time frame or average loss of down periods during the specified time frame [18].

Traditionally, if the RSI higher than 80, it would be a signal of overbought condition, investors could consider selling the stock; if the RSI lower than 20, it's a signal of oversold condition, indicating investors would buy the stock.

Pattern analysis is one of the easiest and most intuitionistic method in technical trading. Through a long-term observation and study, technicians summarized specific patterns that might repeat in the stock price. Comparing the recent stock chart to the existent patterns might give investors a hint to the future trend.

The candlesticks chart is also important in technical trading, it shows the trading range of the security. When a security price change between consistent high and low price for a period of time, the top range are called price resistance, and the bottom range is price support [19]. When the price above the trading range a breakout might occurs, when the price below the range a breakdown can happen.



Figure 2.4 Trading range of Veritex Holdings

## 2.4 Stock Simulation Platform

The story of stock market makes investors get rich overnight is familiar to everyone. However, the stock market is always changing rapidly, the whole market can also plummet on one day. Because of the high risk, many people choose to watch instead of investing their savings. At this time, stock simulation platform is good choice for new investors to practices.

There are many free stock trading simulation platforms online, each have their pros and cons. Cofool.com has been selected for this research study, this platform can operate both on the web page and phone application, therefore, investor can get the newest information first time and operate anytime and anywhere. The stocks prices are synchronous with the real market.

Since the phone application version of this platform is more convenience and easier to operate, therefore, most of the operations will happen on the phone.

Every new user of Cofool.com will receive 1,000,000 Yuan virtual investment funds which can used to trade the simulation stock market. However, in this research project, only half of

these funds will be used. The other half of funds will be used to do some practical exchange to understand this platform before the real trading start.

On Figure 2.5, a screenshot of user's home page is shown, there is an overview of user's assets on the top and five functional buttons on the bottom. On the overview, each translation is on the top of each word. In the five buttons, only the first, second and fourth buttons will be used, so the translation is on the bottom of each button.



Figure 2.5 User's Home Page

When user presses the first button they can purchase the stock they want to invest. The interface of exchange is shown in Figure 2.6. In the first search bar, investor can enter the stock code or company's name to search for the stock they want to purchase. Once investor choose the stock, the market price of the stock will show on the second bar, however the investor could add or cut a little.





Figure 2.6 Buy in Interface

Once the user successfully buys in any stock, it will show on the “My position” section on the home page of user, as Figure 2.7 showed. All the stocks that investor purchased will be shown in this section, it is a very intuitive way to observe the change of each stocks’ price.



Figure 2.7 “My position” Section

The page layout for each stock is very clear and neat. Figure 2.8 is showing the page of Pingan Bank, it outlines the real-time share price, and the navigation bar under it shows different types

of technical charts, such as K line charts. Investors can purchase the stock by using the red button on the left-bottom, also with the star-shape button on the mid-bottom they can add this stock to their selected stock to observe.



Figure 2.8 Page Outline of Single Stock

The most important technical chart that will be used in this project is Day-K line Chart, Figure 2.9 is a Day K line chart for Pingan Bank. On the left side of the chart, we can select different types of technical charts and observe it from the bottom.



Figure 2.9 Day K line Chart for Pingan Bank

K line charts was constitute of green and red rectangle bodies which are called candlesticks. Figure 2.10 explained the basic meaning for each part of candlesticks. Firstly, the red color suggests a rising on price for this day, and green color means the decline on the price[20].

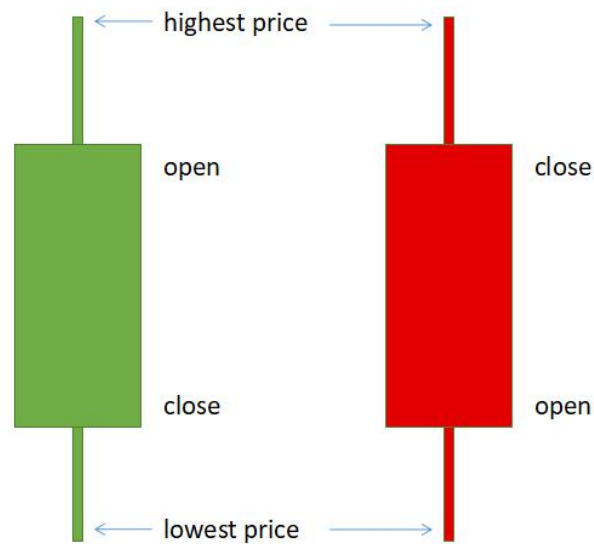


Figure 2.10 Candlesticks Explanation

## **Chapter 3: Company selections**

Shenzhen Stock Exchange and Shanghai Stock Exchange had more than 3200 stocks in total. There were so many choices in companies. It was impossible to pursue and eliminate every stocks, therefore I did some research online first. These five companies that I picked, came from different industry, therefore they would affect by different information and the price would not decline at the same time.

### **3.1 300657 Hongxin Electronics Technology**

Hongxin Electronics was the leading manufacturer of the flexible print-circuit boards in China. The main market of the firm was mobile communications.

In the first quarter year report, it showed 200.73% year-on-year decline in attributable net profit. However, recent released half-year performance reports estimated that net earnings rose 3% to 15%. At present, Hongxin had a full order book and sufficient capacity. The financial indexes of the company have been greatly improved.

This company was actively expanding the production of intelligent manufacturing and has focused on increasing research and development in the field of smart cars, which was a rising industry in China. Entering the emerging market would certainly bring a great development to the firm.

In figure 3.1, there was a downward trend from April to the middle of June. However, from mid-June to end of July, there was slow rising trend. In addition, 10-day moving average line

(yellow line in figure 3.1) moved up and across the 20-day moving average line (pink line in figure 3.1); it was a signal of buying in.



Figure 3.1 Day K line chart of Hongxing Electronics Tech

## 3.2 600889 Nanjing Chemical Fiber

Nanjing Chemical Fiber Stock Co., Ltd was a state-controlled listed company, reformed the Nanjing Chemical Fiber Factory to joint-stock enterprise in 1992. The company's share was listed on the Shanghai Stock Exchange in March 1996.

In the context of the conversion of new and old capacity in the chemical fiber industry, Nanjing has accelerated the pace of expansion. Viscose was a highly competitive market, rising raw materials prices and yield reduction led to industry profit margins decline year by year. Nanjing raised 1.5 billion to construct differentiated viscose staple fiber project with 160,000 tons annual yield.

As one of the leading enterprises, expanded production, thus occupied a higher market share was a brilliant move. However, Nanjing's share price was continuing to fall.

At the February one of the subsidiaries was forced to shut down coal-fired units in thermal power plants, leded cost to rise considerably. Another subsidiary Jiangsu Jinling has also been shut down temporarily due to the investigation of environmental issues by relevant government departments.

In figure 3.2, there was a primary downtrend during 2018. However, since the beginning of July, there was a upward trend, the 5-day moving average line(blue line in Figure 3.2) moved up across the 10-day moving average line(yellow line in Figure 3.2). At this moment, it was hard to tell it would be a secondary trend or a minor trend.



Figure 3.2 Day K line chart of Nanjing Chemical Fiber

### 3.3 603323 Wujiang Bank

Wujiang Bank was formally established in 2004, which was the first joint-stock commercial bank in China since the establishment of the China banking Regulatory Commission. Despite the history of the company was not long, the modern enterprise system and management concept promoted stable growth of the market value of Wujiang Bank.

Nowadays, Wujiang was capable to provide all range financial service to customers, contained remarkable regional competitive advantages and steady growth in business performance.

Wujiang Bank disclosed the semi-annual performance report for the first half year of 2018. The revenue was 1.52 billion Yuan, rose by 11.36% compared with the last year; the net profit was 505 million Yuan, soared by 15.3% compared with last year. The ratio of non-performing loan remained below 2%.

However, the market value of Wujiang Bank was underestimated by the professional securities companies. As the economy worsened, the stock of Wujiang appeared a primary downtrend dropped from ¥10.71 to ¥5.80 since the beginning of 2018. The share price gradually stabilized at a low level, from ¥5.70 to ¥5.90, during the June and July.

In Figure 3.3, at the very end of July, the 5-day moving average line moved up across the 10-day moving average line, it might be a foreshadow of price rising.



Figure 3.3 Day K line chart of Wujiang Bank

### **3.4 600084 Citic Guoan Vine Co.LTD**

Citic Guoan Vine Co.LTD was owned by Citic Guoan Corp., was a China-leading listed wine producer, owning several famous brands of wine in China, for instance, Niya, Xiyu and Xintian etc. Enterprise relied on the industrial belt at the northern foot of Tianshan Mountain and Yili River Valley, both of them were China's best-known wine-growing regions.

Natural ecological advantages of producing regions ensured high quality of the raw material. Enterprise expanded international exchange and operation to improve the production method by introducing advanced technology, equipment and management expertise.

Citic Guoan Vine's brands won prizes frequently in international wine challenge. Up to now, it has won fifty gold medals and forty-three medals. There was no doubt, it has become to a promoter of China's wine producing industry.

Deputies mentioned creating ecological wine industrial park and developed local tourist industry at the producing region of Citic Guoan Vine in the Two Sessions. Though the annual report of 2017, showed a deficit. Recently, Citic Guoan group had increasing their sharing holdings by sixty million.

In figure 3.4, there was a blank area after July, since Citic Guoan Vine Co.LTD has been halted since August 2017, reissued since 13<sup>th</sup> June 2018. Though the shares had halved in value, reissued security is an advantage for short-term investment. In a short period of time, a slump in this stock was impossible to appear.





Figure 3.4 Day K line chart for Citic Guoan Vine Co.LTD

### 3.5 000683 Yuanxing Energy

Inner Mongolia Yuanxing Energy Co.LTD was a modern energy and chemical company, which was founded in January 1997 and listed on the Shenzhen Stock Exchange in January 31<sup>st</sup> of the same year. At present, the company had 44 wholly-owned and ginseng holding enterprises. It had the largest natural gas methanol production based and largest natural alkali industry based in China.

The main products of Yuanxing, such as methanol, baking soda and soda ash, dominated the domestic market and occupied more than 50% of the export shares. It had a high market share at China. One of the subsidiaries of the Yuanxing, Zhongyuan Chemical Company was building a fine baking soda project with annual output of four hundred thousand tons, which was expected to be completed by the end of 2018.

In the report of institutional investors, Yuanxing would complete a new ammonia factory with annual production of 300,000 tons and urea factory of annual production of 520,000 tons in

August 2018. In the 2017 annual report of Yuanxing, the operating income raised to 10 billion and 300 million, rose by 12.78% year-on-year.

In the figure 3.5, there was a secondary uptrend since the beginning of July. It was hard to tell how long it would last for, therefore investor needed to be careful with buy in at this moment. However, the 20-day moving average line was rising and across the 60-day moving average line. It showed a potential of price rising.



Figure 3.5 Day K line chart of Yuanxing Energy

## **Chapter 4: Swing Trading**

At the moment I entered the stock market, the whole market showed a bear market. Most of stocks was in a downtrend. Therefore I wouldn't expect to much incomes from my investment. I wouldn't buy a stock with all my budget, in case the stock market crashed, I still got some money for the next investment. The main method that I am going to use is three candlestick theorem to check if it is the swing low or swing high point.

### **4.1 Week 1**

The first simulation week of swing trading started at 30<sup>th</sup> July 2018. I entered the stock market with 500,000 Yuan initial investment funds. In total, there were five company in the observation, the maximum investment funds for each company is 100,000 Yuan.

In the first week I made five movements with the basic principle of swing trading.

On the Wednesday, Chinese stocks have been through another turbulent session, all the stocks on the selected list fell broadly. By following on of the most basic rule on swing trading, work against the trend, it was a good time to buy in stocks.

#### **4.1.1 300657 Hongxin Electronics Technology**

In the July, the change of share prices can be divided into three major part: it first went down to ¥27.62; following by an uptrend until the price reached ¥35.99; then the price went down again at the end of July. On 2<sup>nd</sup> August, the whole market slumped sharply, based on the basic principle of swing trading, work against the trend, it is a good time to buy in.

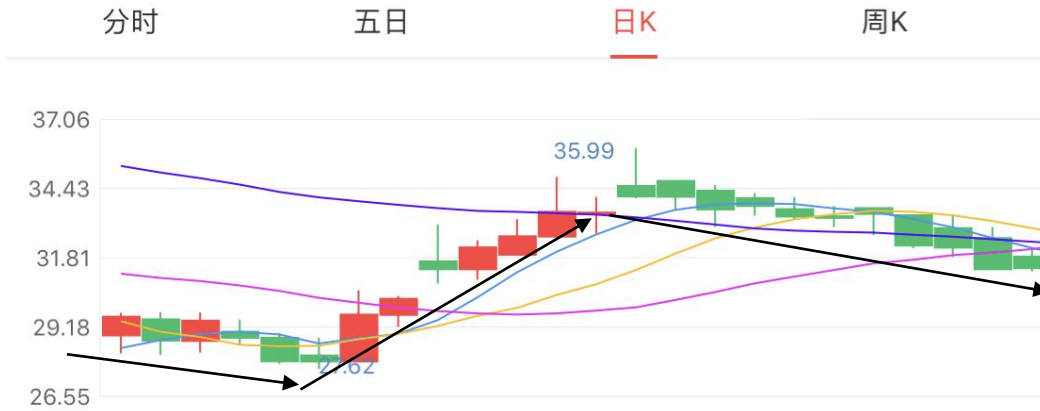


Figure 4.1 Day K line chart of Hongxin on July 30<sup>th</sup>

### 4.1.2 600889 Nanjing Chemical Fiber

In the July, the stock doesn't have any big change, only small price fluctuations occurred. The period of each temporary trend is between 4 days to 8 days. In Tuesday, it is the fourth day of this downtrend, and the price is reasonable low. Therefore, it probably will be the end of the downtrend.



Figure 4.2 Day K line Chart of Nanjing on July 30<sup>th</sup>

### 4.1.3 603323 Wujiang Bank

After the middle of July, Wujiang bank had shown an uptrend, even though there was few fluctuations at the end of July, it still seemed like a beginning of secondary uptrend. In swing trading, investor is encouraging to catch up the uptrend at the beginning. Therefore, Thursday's decline of the whole market is a good chance to catch the uptrend.



Figure 4.3 Day K line Chart of Wujiang on July 30<sup>th</sup>

### 4.1.4 600084 Citic Guoan Vine Co.LTD

The price of Citic Guoan didn't have any big change in July. The small fluctuation at the end of July couldn't tell any trend of the stock. With the whole market plunge on Thursday, Citic Guoan also continued showing a big decline on the price. Therefore, a low buy in price was offered during purchasing this stock, the exchange succeeded at the end of the day.

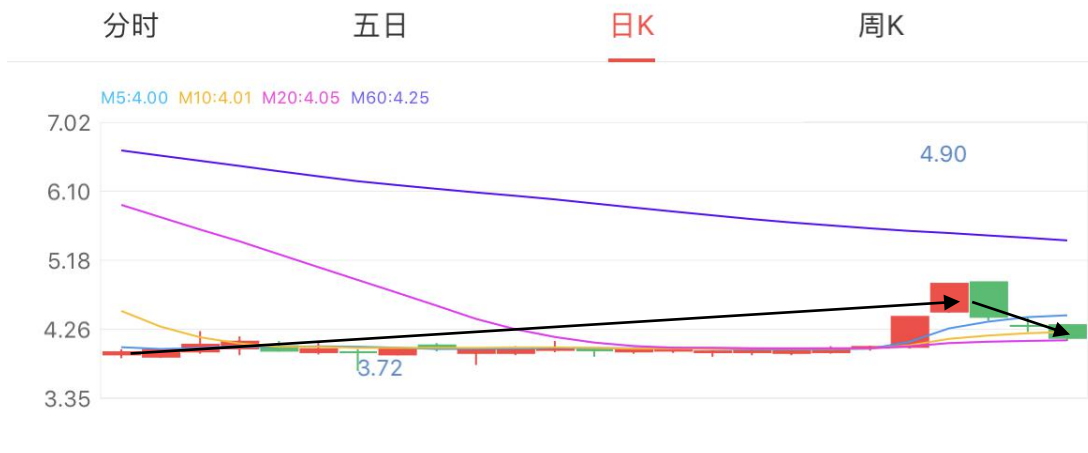


Figure 4.4 Day K line Chart of Citic Guoan on July 30<sup>th</sup>

### 4.1.5 000683 Yuanxing Energy

In the July, Yuanxing Energy has shown a big uptrend. The highest price stayed around 3.14. The price gradually become stable, at the first few days of this week, the price still had a small rising trend. However, by the affection of the broader market, Yuanxing also fall on the Thursday. It will be a very short-term investment, since the price is recently higher than usual. It was very risky to hold it for a long time.



Figure 4.5 Day K line Chart of Yuanxing on July 30<sup>th</sup>

## 4.1.6 Week One Trading Summary

Table 4.1 gave a summary of trades made this week. I purchased each stock with only half of my initial fund, since the situation of stocks were not clear at this point, in case any stock market crash happen, I could still be able to continue my investment.

Date	Stock No.	Buy/Sell	Price of Share	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
8/02/2018	300657	Buy	32.40	3000	97200		402800	
7/31/2018	600889	Buy	5.50	3000	16500		386300	
8/02/2018	603323	Buy	6.32	3000	18960		367340	
8/02/2018	600084	Buy	3.87	3000	11610		355730	
8/02/2018	000683	Buy	2.97	30000	89100		266630	

Table 4.1 Week one report for Swing Trading

## 4.2 Week 2

The second simulation week of swing trading started at 6<sup>th</sup> August. All the selected companies have raised their price compared to the last week. I owed these profits to the crash on stock market from last Wednesday. Since the plunge on the stock prices hit the bottom, this week we

can see that the market index was constantly showing a rising trend. Even though the prices increased persistent. However, as a swing trader, we shouldn't expect excessive returns.

### 4.2.1 300657 Hongxin Electronics Technology

The share price of Hongxin began the week at ¥31.66 and raised to ¥33.50. There was an uptrend wave in this week. On Monday morning, the price fell by 2.8%, even went lower than the buy in price last week, therefore I decided to purchase more, since the three candlesticks on last week shows a signals of swing lows. In the Figure 4.6, three candlesticks were annotated as “1”, “2”, “3”. The first candlestick made a low point, second one was lower, the third one raised a bit; which tell us that the stock would likely to have a reverse trend. On Friday, I sold half of holding stocks.



Figure 4.6 Day K line chart of Hongxin on August 10<sup>th</sup>

### 4.2.2 600889 Nanjing Chemical Fiber

The share price of Nanjing began the week at ¥6.19 and fell to ¥5.97. On Monday, the stock price raised by 4.92%. The highest price per share went up to ¥6.44, which was also the highest



price in recent few months, as a swing trader, we shouldn't expect for excessive returns, therefore I decided to sale it. After Tuesday the price of Nanjing started to plummet. In Figure 4.6, we can see a clear uptrend from 2<sup>nd</sup> August.



Figure 4.7 Day K line Chart of Nanjing on August 10<sup>th</sup>

### 4.2.3 603323 Wujiang Bank

The share price of Wujiang began the week at ¥6.56 and raised to ¥6.60. On Monday the price raised by 3.47%. I was hesitated if I should sell it. I decided to take a risk and hold it for one more day. The price went up again on Tuesday, therefore, I sold it on the afternoon. On Figure 4.8, we could see that Wednesday the price went down, and Thursday raised again, it was a signal of reversing trend.



Figure 4.8 Day K line Chart of Wujiang on August 10<sup>th</sup>

#### 4.2.4 600084 Citic Guoan Vine Co.LTD

The share price of Citic Guoan began the week at ¥3.98 and fell to ¥4.19. The stock was showing a downtrend since last week, but on the Friday a red candlestick appeared as Figure 4.9 showed. The rising on Monday suggested that the change on the direction of trend. Also, the price of stock was close to my previous buy in price. Therefore, at this beginning of uptrend, I decided to buy in. On Friday, the stock price was inflated and raised by 4.49%. I sold half of holding shares on a good price.



Figure 4.9 Day K line Chart of Citic Guoan on August 10<sup>th</sup>

## 4.2.5 000683 Yuanxing Energy

The share price of Yuanxing began the week at ¥3.18 and fell to ¥3.16. On the first two day, the stock was continuing an upwards trend from last Friday. On Tuesday the price rose to 3.37 which was the highest point in recent two month. Therefore, I sold it for ¥3.30. After Tuesday, the stock continually went down. We could observe a clear downtrend on Figure 4.10.



Figure 4.10 Day K line Chart of Yuanxing on August 10<sup>th</sup>

## 4.2.6 Week Two Trading Summary

In this week, I focused on selling stock, as a swing trader I won't expect too much for a single stock. Therefore, as long as it profited even for a little bit, I will sell it out to avoid risk. I also buy two stocks in again based on the uptrend show in the day K line charts.

Date	Stock No.	Buy/Sell	Price of Share	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
8/06/2018	300657	Buy	31.66	3000	94980		171650	
8/10/2018	300657	Sell	33.18	3000	99540	2340	271190	2340
8/06/2018	600889	Sell	6.24	3000	18720	2220	289910	4560
8/07/2018	603323	Sell	6.70	3000	20100	1140	310010	5700
8/06/2018	600084	Buy	3.86	3000	11580		298430	
8/10/2018	600084	Sell	4.16	3000	12480	870	310910	6570
8/07/2018	000683	Sell	3.30	30000	99000	9900	409910	16470

Table 4.2 Week Two Report for Swing Trading

### 4.3 Week 3

The third simulation week of swing trading started from 20<sup>th</sup> August. From 13<sup>th</sup> August to 17<sup>th</sup> August, the market index continually went down, and many companies hit the limit down price. I couldn't exchange any of the stock. Therefore, I chose to observe for a week and started investment on this week. Many of my selected companies had a signal to raise, but the general

primary trend didn't seem to change. Therefore, I wouldn't hold them for a longer time, since there was a big chance to slump again.

### 4.3.1 300657 Hongxin Electronics Technology

The share price of Hongxin began the week at ¥31.00 and raised to ¥31.68. The last whole week the stock went down by 6.4%, therefore I hold it for a whole week and made no operation. On Wednesday, I saw the three candlesticks reversing sign again, therefore, I decided to buy in. In figure 4.11, the sign was annotated, and we can see an uptrend on the last three days of this week. I decided to hold it for a little longer.



Figure 4.11 Day K Line Chart of Hongxin on August 17<sup>th</sup>

### 4.3.2 600889 Nanjing Chemical Fiber

The share price of Nanjing began the week at ¥5.48 and fell to ¥5.46. At the first two days, the stock continued the last week downtrend. If we looked at a longer period of time from the figure 4.12, there was a downtrend since 07<sup>th</sup> August. The candlesticks 17<sup>th</sup> August 20<sup>th</sup> August and 21<sup>st</sup> August showed a reverse sign; therefore, I purchased the stock on the next day. At the end of the week, the price started to raise a bit.



Figure 4.12 Day K line Chart of Nanjing on August 17<sup>th</sup>

### 4.3.3 603323 Wujiang Bank

The share price of Wujiang began the week at ¥6.12 and raised to ¥6.39. On the last week, the price continually went down, which verified the prediction I made on second simulation week. The rising on Monday and Tuesday, suggested that there was chance to change the downtrend, it would be a beginning of the uptrend wave, therefore, I bought in on Wednesday. On Thursday and Friday, the stock continued to raise. This week the stock showed an overall uptrend which was illustrated on figure 4.13.



Figure 4.13 Day K line Chart of Wujiang on August 17<sup>th</sup>

### 4.3.4 600084 Citic Guoan Vine Co.LTD

The share price of Citic Guoan began the week at ¥4.01 and fell to ¥3.98. On the first two days the price hasn't changed to much but was showing a small increase. On Wednesday morning, there was an increasing trend, but the opening price of the afternoon was low again. Since the stock showed a downwards trend after 15<sup>th</sup> August as the figure 4.14 laid out. To reduce the risk of plummet on price, I decided to sell it.



Figure 4.14 Day K line Chart of Citic Guoan on August 17<sup>th</sup>

### 4.3.5 000683 Yuanxing Energy

The share price of Yuanxing began the week at ¥2.87 and fell to ¥2.77. There was a clear downwards trend on this week. Based on the previous uptrend from July to August which can be observed on Figure 4.15, I thought this downward trend was a temporary tendency and it might hit the bottom price already. Therefore, I decided to buy in on Friday.



Figure 4.15 Day K line Chart of Yuanxing on August 17<sup>th</sup>

### 4.3.6 Week three Trading Summary

Prices of stocks went down again this week. However, based on the stock adjustment and government stimulus on the stock market, I believe the decline on the stock was temporary. Therefore, I purchased most selected stock again in this week as table 4.3 showed.

Date	Stock No.	Buy/Sell	Price of Share	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
8/20/2018	300657	Buy	31.01	3000	93030		316880	
8/22/2018	600889	Buy	5.45	3000	16350		300530	
8/22/2018	603323	Buy	6.10	3000	18300		282230	
8/22/2018	600084	Sell	4.06	3000	12180	900	294410	17370
8/24/2018	000683	Buy	2.79	30000	83700		210710	

Table 4.3 Week three report for Swing Trading



## 4.4 Week 4

The fourth simulation week of swing trading started from 27<sup>th</sup> August. In this week most of the selected companies had a minor decline in the stock prices. Though there were no explicit signals indicating that there was a reversed trend in the next few days, I was taking a risk and bought shares at a relative low price. It was difficult to trade stocks in a general bear market. However, this investment only focused on a very short-term change in prices. Therefore, I could still control my loss, even if the stocks continued to fall next week.

### 4.4.1 300657 Hongxin Electronics Technology

The share price of Hongxin began the week at ¥32.37 and fell to ¥31.17. The first two days the stock continued the last week's uptrend and stopped on Wednesday. On Wednesday the opening price was ¥33.09, and it started to fall thereafter. I decided to sell it in the afternoon. Since there were too many investors trying to sell it, the price I sold was lower than the market price. After Wednesday, the price went down, which verified my prediction based on the three candlesticks theorem. In figure 4.16, the three candlesticks were annotated.



Figure 4.16 Day K line chart of Hongxin on August 31<sup>st</sup>

## 4.4.2 600889 Nanjing Chemical Fiber

The share price of Nanjing began the week at ¥5.53 and fell to ¥5.22. The first three day of this week, the stock went up for a little bit, I decided to hold and wait for a higher price. However, the stock started to fall again from the beginning of Thursday. Based on the rising of previous days, I thought it might be another sign of felling, therefore, I decided to sell it on the afternoon to reduce the loss. From figure 4.17, we could see the stock continued going down on Friday.



Figure 4.17 Day K line Chart of Nanjing on August 31<sup>st</sup>

## 4.4.3 603323 Wujiang Bank

The share price of Wujiang began the week at ¥6.41 and fell to ¥6.40. In figure 4.18 we can observe that on first three days the stock continued the last week trend, but the rising rate was smaller and smaller, the secondary trend of Wujiang at this moment wasn't clear yet. Therefore, I don't want to risk anymore and sold it on Thursday. The price of stock only had small oscillation, didn't show any clear trend.



Figure 4.18 Day K line Chart of Wujiang on August 31<sup>st</sup>

#### 4.4.4 600084 Citic Guoan Vine Co.LTD

The share price of Citic Guoan began the week at ¥4.00 and fell to ¥3.98. The price of the stock didn't change too much on this week which was similar to last week. In figure 4.19 we could observe that the price price on this week was stable around ¥4.00. It is hard to tell the trend of stock at this moment; therefore, I didn't pay too much attention on it. I turned on notification on this app, and settled that when the price hit ¥3.96, it will remind me to purchase.

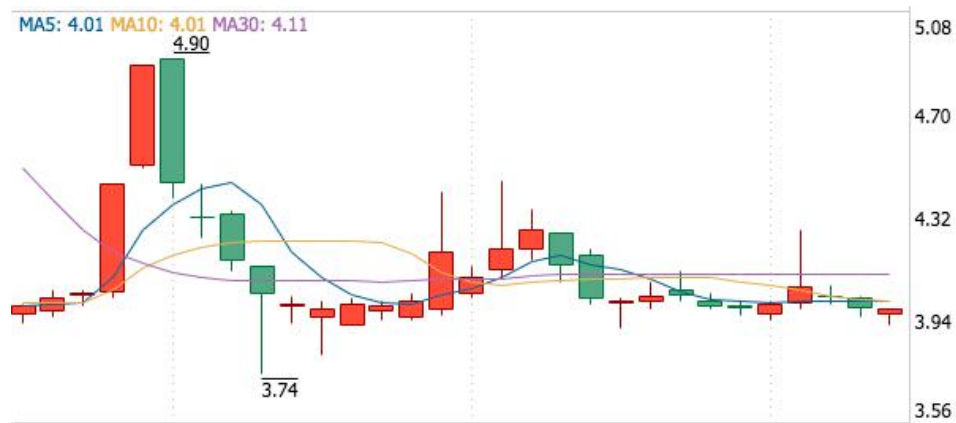


Figure 4.19 Day K line Chart of Citic Guoan on August 31<sup>st</sup>

### 4.4.5 000683 Yuanxing Energy

The share price of Yuanxing began the week at ¥2.83 and fell to ¥2.73. This week the stock continued to fall. Obviously, that I misjudged the trend of stock since last week. There was a small rising on Monday, so I thought it was a signal to change direction of the trend. However, it continued to fall in following days, figure 4.20 illustrated the downtrend for Yuanxing. I thought this downtrend, might be a secondary trend, and it would last for a longer time. To reduce the loss, I decided to sell it at 2.75.



Figure 4.20 Day K line Chart of Yuanxing on August 31<sup>st</sup>

### 4.4.6 Week Four Trading Summary

This week most of my stocks have raised and showing a good uptrend signal, however two of the selected stocks was still declining. Therefore, to control the loss on this investment, I sold them with a low price.

Date	Stock No.	Buy/Sell	Price of Share	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
8/29/2019	300657	Sell	32.37	3000	97110	4080	307820	21450
8/30/2018	600889	Sell	5.28	3000	15840	-510	323660	20940
8/30/2018	603323	Sell	6.42	3000	19260	960	342920	21900
8/31/2018	600084	Buy	3.96	3000	11880		331040	
8/30/2018	000683	Sell	2.75	30000	82500	-1200	413540	20700

Table 4.4 Week Four Report for Swing Trading

## 4.5 Week 5

The fifth simulation week started at 3<sup>rd</sup> September 2018. It's the last week of the trading project, by the help of the experience from previous practice, I focused on the one-day stock moving wave and traded more frequently.

Since the news about tax cut released in 5<sup>th</sup> September, most of the stocks in the selection set up a high opening price and showed an uptrend for few hours. I seized this opportunity, sold most the stock I have been holding. Before the close of trading in the midday, the market index declined rapidly. The market index continued being tepid in Thursday, I bought few stock in. Though amendment of personal tax gave a positive impact to the whole market in Friday, few investment stocks had a little deficit.

### 4.5.1 300657 Hongxin Electronics Technology

In last whole week, the stock of Hongxin Electronics has been steadily falling. The downtrend lasted till Monday, in Monday afternoon, the opening price was extremely low, we could observe this from the Figure 4.21 compared to recent performances. I thought it might be the end of this downtrend wave.

Therefore, it was a good opportunity to buy in. The Figure 4.22 confirmed my guess, in the next two day, a temporary uptrend was displayed. I sold it on the beginning of Wednesday, with a climb in the market index.

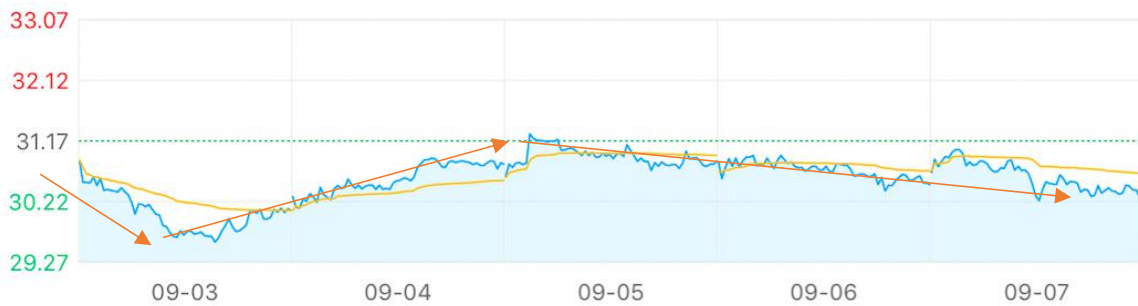


Figure 4.21 Recent Five-Day Stock Price for Hongxin 9.3-9.7



Figure 4.22 Day K line Chart of Hongxin in September

## 4.5.2 600889 Nanjing Chemical Fiber

In this week, the price of Nanjing didn't show any clear trend. In Figure 4.24 the price of stock is very stable, didn't move in a certain direction. However, before the closing of morning trading on Monday, the stock price descended to \$5.07, it is the lowest price during these two months. Because of the news that released on the Wednesday, Nanjing also had a high opening price.

On Wednesday, because of the news about personal tax, the price started to raise in first few hours, but I missed this opportunity since the misjudging of the trend, as Figure 4.23 illustrated, the stock didn't raise in next two days. Therefore, I sold on Friday.

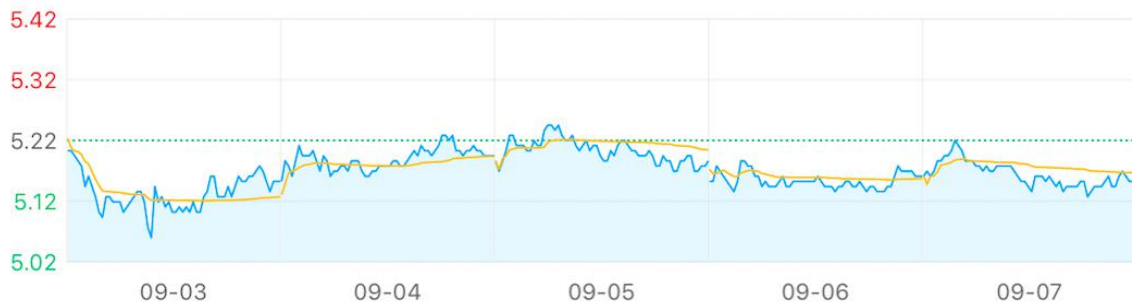


Figure 4.23 Recent Five-Day Stock Price for Nanjing 9.3-9.7



Figure 4.24 Day K line Chart of Nanjing in September

### 4.5.3 603323 Wujiang Bank

There was small drop on Monday, I bought in with a low price. At the end of Tuesday, the price raised a little, I was expecting it to continue on Wednesday. Though, the whole market had positive impacts from the news, the price of Wujiang didn't raise at all. Therefore, to reduce the loss, I decided to sell at the end of Wednesday. The downtrend last till the end of week.



Figure 4.25 Recent Five-Day Stock Price for Wujiang 9.3-9.7



Figure 4.26 Day K line Chart of Nanjing in September

### 4.5.4 600084 Citic Guoan Vine Co.LTD

I hold this stock from last week. In the first two days it went up slightly, however the change was too small to show on Figure 4.28; therefore, Figure 4.27 is a good choice to observe the small temporary trend on price. There was an uptrend from Monday to Tuesday, which could be



clearly saw from Figure 4.27. On Wednesday, I sold it at the beginning of the trading when the price was still showing a downtrend.

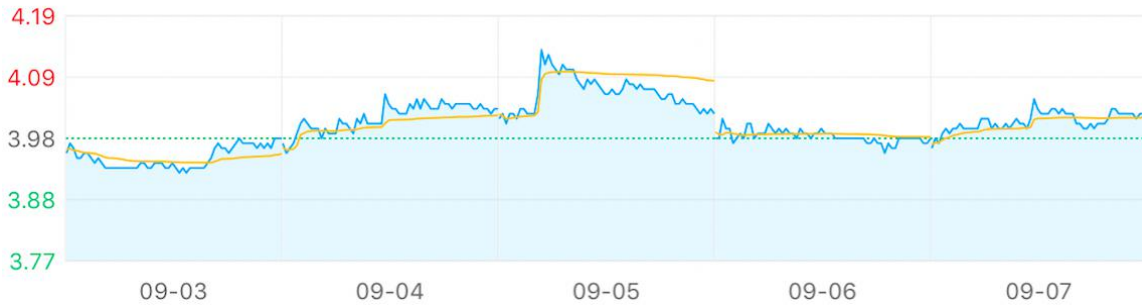


Figure 4.27 Recent Five-Day Stock Price for Citic Guoan 9.3-9.7



Figure 4.28 Day K line Chart of Citic Guoan in September

### 4.5.5 000683 Yuanxing Energy

In the recent few weeks, stock of Yuanxing Energy has performed well, the price has fallen for a month. A clear downward trend could be observed in Figure 4.29 and Figure 4.30 from the beginning of August.

On Monday, Yuanxing continued the low price from last week. The turnover rate was very high, I bought in with a price slightly lower than the market price. On Tuesday afternoon, the

price raised to 2.77. It was the highest price in the entire week. Therefore, I sold it at a high point.

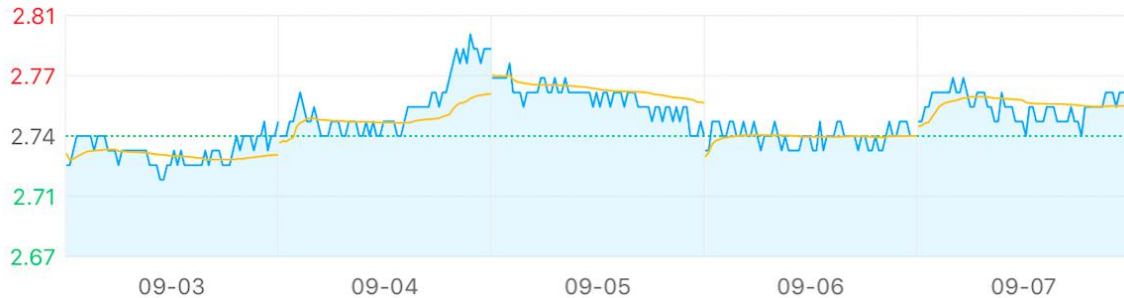


Figure 4.29 Recent Five-Day Stock Price for Yuanxing 9.3-9.7



Figure 4.30 Day K line Chart of Yuanxing in September

### 4.5.6 Week Five Trading Summary

This is the final trading week, therefore, I operated more frequently and took more risk on some investment. From the table we can see that I made more profit and loss from each exchange of my stocks. Overall, my investment for swing trading was successful and has made decent profit.

Date	Stock No.	Buy/Sell	Price of Share	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
9/05/2018	300657	Sell	31.12	3000	93360	-1620	506900	19080
9/03/2018	600889	Buy	5.08	15000	76200		430700	
9/05/2018	600889	Sell	5.22	15000	78300	2100	509000	21180
9/03/2018	603323	Buy	6.32	15000	94800		414200	
9/05/2018	603323	Sell	6.32	15000	94800		509000	21180
9/05/2018	600084	Sell	4.09	3000	12270	390	521270	21570
9/03/2018	000683	Buy	2.72	20000	54400		466870	
9/05/2018	000683	Sell	2.79	20000	55800	1400	522970	22970

Table 4.5 Week Five Report for Swing Trading

## 4.6 Summary On Swing Trading

After my five week simulation of the swing trending I had earned ¥22970 profit based on my ¥500000 investment. During this time, I have made a total of thirty trades. My profits mainly came from Yuanxing Energy. I didn't suffer from loss from any investment, figure 4.31 showed the value of profit I earned from each companies. Figure 4.32 illustrated my weekly profits or and loss. The main profits I have earned in the second trading week. However after that, I didn't make too much income.



Figure 4.31 Profits for Each Company

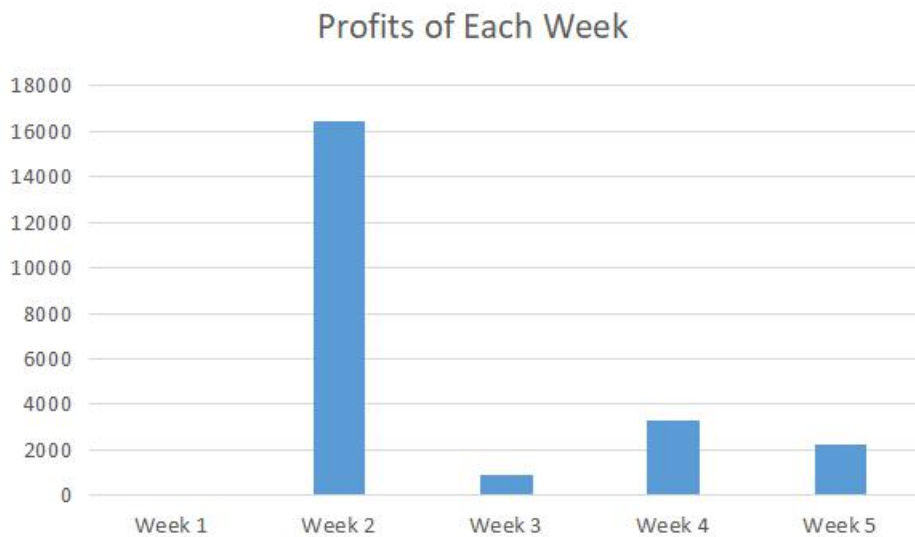


Figure 4.32 Profits for Each Week

All in all, I believed that my simulation was successful. I have made roughly a 4.6% return on investment. I had more understanding on the operations on stock market. I had more background knowledge on swing trading and achieved my goal from Chapter 1.

## **Chapter 5: Technical Trading**

At the moment I entered the stock market, the whole market showed a bear market. Most of stocks was in a downtrend. Therefore I wouldn't expect to much incomes from my investment. I wouldn't buy a stock with all my budget, in case the stock market crashed, I still got some money for the next investment. The main method that I am going to use is checking gold cross for different technical chats to check if it is a rising or falling signal.

### **5.1 Week 1**

The first simulation week of technical trading started at 30<sup>th</sup> July 2018. I entered the stock market with 500,000 Yuan initial investment funds. In total, there were five company in the observation, the maximum investment funds for each company is 100,000 Yuan.

In the first week I made five movements with the basic principle of swing trading.

On the Wednesday, Chinese stocks have been through another turbulent session, all the stocks on the selected list fell broadly. By following on of the most basic rule on swing trading, work against the trend, it was a good time to buy in stocks.

#### **5.1.1 300657 Hongxin Electronics Technology**

In the July, the change of share prices can be divided into three major part: it first went down to ¥27.62; following by an uptrend until the price reached ¥35.99; then the price went down again at the end of July. On 2<sup>nd</sup> August, in KDJ chart from Figure 5.1 we can observe that K line

was rising and across the D line which suggested that the trend might going to change in next few days.



Figure 5.1 Day K line chart of Hongxin in July

### 5.1.2 600889 Nanjing Chemical Fiber

In the July, the stock doesn't have any big change, only small price fluctuations occurred. In KDJ chart of Nanjing, which we can observe from Figure 5.2, that K line was above the D line since Wednesday and keep showing a uptrend, in RSI chart the short-term line was also above the long-term line. Therefore I thought the stock was a good uptrend at this moment, I could still buy in it and waited for more increase on the price.



Figure 5.2 Day K line Chart of Nanjing in July

### 5.1.3 603323 Wujiang Bank

After the middle of July, Wujiang bank had shown an uptrend, even though there is few fluctuations at the end of July, it still seemed like a beginning of secondary uptrend. On the bottom of Figure 5.3, from the RSI chart we can see a breaking point on Thursday, the short-term RSI started to raise and got close to the long-term RSI line. Therefore I purchased it with a small amount of money on Thursday.



Figure 5.3 Day K line Chart of Wujiang in July

### 5.1.4 600084 Citic Guoan Vine Co.LTD

The price of Citic Guoan didn't have any big change in July. The small fluctuation at the end of July couldn't tell any trend of the stock. But from Figure 5.4 we can observe all RSI lines were converge to a same point which suggested the inflection point of the stock was coming. Therefore, a low buy in price was offered during purchasing this stock, the exchange succeeded at the end of the Thursday.





Figure 5.4 Day K line Chart of Citic Guoan in July

### 5.1.5 000683 Yuanxing Energy

In the July, Yuanxing Energy has shown a big uptrend. The highest price stayed around ¥3.14. The price gradually become stable, at the first few days of this week, the price still had a small rising trend. However, by the affection of the broader market, Yuanxing also fall on the Thursday. In figure 5.5 we can see that in RSI chart there was a breaking point on Thursday, therefore it was a good time to purchase the stock.



Figure 5.5 Day K line Chart of Yuanxing on July

### 5.1.6 Week One Trading Summary

In this week, I mainly focused on purchasing stocks, even some of stocks doesn't have a clear signal of uptrend. However, based on the previous long time downtrend, and all technical charts, I still found that stocks were going to change the trend in the next few days.

Date	Stock No.	Buy/Sell	Price of Share	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
8/02/2018	300657	Buy	32.40	3000	97200		402800	
8/01/2018	600889	Buy	5.50	3000	16500		386300	
8/02/2018	603323	Buy	6.32	3000	18960		367340	
8/02/2018	600084	Buy	3.87	3000	11610		355730	
8/02/2018	000683	Buy	2.97	30000	89100		266630	

Table 5.1 Week One Report for Technical Trading

## 5.2 Week 2

The second simulation week of swing trading started at 6<sup>th</sup> August. All the selected companies have raised their price compared to the last week. I owed these profits to the crash on stock market from last Wednesday. Since the plunge on the stock prices hit the bottom and based on indicators showed on the previous week's technical charts, this week we can see that the market index was constantly showing a rising trend. Even though the prices increased persistent. As a short-term investor, we shouldn't expect too much from each investment.

### 5.2.1 300657 Hongxin Electronics Technology

The share price of Hongxin began the week at ¥31.66 and raised to ¥33.50. On Monday in Figure 5.6, the short-term RSI (relative strength index) line has showing an upwards trend and crossed the long-term RSI line. Six-day RSI raised from 37 to 60. Also, we could observe an

uptrend on 5-day moving average, and a downtrend on 10-day moving average, with was showing in the future they were likely to form a golden cross. Therefore, I purchased the stock on Monday. On Wednesday the opening price of Hongxin was ¥32.44 and rising for the first few hours. However, the six-day RSI showed a downtrend. Therefore, I sold it before the noon.



Figure 5.6 Technical Chart of Hongxin on August 10<sup>th</sup>

## 5.2.2 600889 Nanjing Chemical Fiber

The share price of Nanjing began the week at ¥6.19 and fell to ¥5.97. On Monday, there were a big increase on the price of stock and reached the highest point in the recent one month, which was ¥6.44, compare to the lowest point in this period of trend which was ¥4.88, the price has increased by 31%. When the increase rate got close to golden section, such as 38.2% and 61.8%, it was likely to change the trend. From Figure 5.7 we can see that from the technical chart, there wasn't too much useful information. Therefore, I decided to sell it.



Figure 5.7 Technical Chart of Nanjing on August 10<sup>th</sup>

### 5.2.3 603323 Wujiang Bank

The share price of Wujiang began the week at ¥6.56 and raised to ¥6.60. In Figure 5.8, we can see the K line and D line almost overlapped with each other. The RSI index didn't show any gold cross which can be observed from Figure 5.8. Even though the moving average lines of the stock were going up, it was hard to predict the future trend of the stock, therefore, I decided to sale the stock on Thursday.



Figure 5.8 Technical Chart of Wujiang on August 10<sup>th</sup>

## 5.2.4 600084 Citic Guoan Vine Co.LTD

The share price of Citic Guoan began the week at ¥3.98 and fell to ¥4.19. The whole week, the stock showed an upwards trend. In Figure 5.9, in KDJ index, the D line was always above K line, until Thursday, the D line started to move downwards, which indicated that the price was about to continually increase. Therefore, I decided to hold the stock for this week.



Figure 5.9 Technical Chart of Citic Guoan on August 10<sup>th</sup>

## 5.2.5 000683 Yuanxing Energy

The share price of Yuanxing began the week at ¥3.18 and fell to ¥3.16. In Figure 5.10, the 5-day moving average line moved up and crossed 10-day moving average line, in RSI index, the 6-day line also moved up and crossed 12-day line and 24-day line. Therefore, in first two days the stock increased by 5%. On Tuesday, the highest increase rate reached around 3.77% which was closed to 3.82% golden section. I thought it might be a sign of upcoming reversal trend. Therefore, I sold the shares.



Figure 5.10 Technical Chart of Yuanxing on August 10<sup>th</sup>

## 5.2.6 Week Two Trading Summary

In this week I sold most of stocks that I bought from last week, as long as there was any signal that indicated the change would happen on the stock trends, I reacted fast. Therefore in this week, I made profit from each investment except Citic Guoan.



Date	Stock No.	Buy/Sell	Price of Share	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
8/06/2018	300657	Buy	31.7	3000	95100		171530	
8/08/2018	300657	Sell	32.75	6000	196500	4200	368030	4200
8/06/2018	600889	Sell	6.42	3000	19260	2760	387290	6960
8/09/2018	603323	Sell	6.70	3000	20100	1140	407390	8100
8/07/2018	000683	Sell	3.33	30000	99900	10800	507290	18900

Table 5.2.6 Week Two Report for Technical Trading

### 5.3 Week 3

The third simulation week of swing trading started from 20<sup>th</sup> August. From 13<sup>th</sup> August to 17<sup>th</sup> August, the market index continually went down, and many companies hit the limit down price. I couldn't exchange any of the stock. Therefore, I chose to observe for a week and started investment on this week. Many of my selected companies had a signal to raise, but the technical charts changed frequently and didn't seem to show any long-term trend. Therefore, I wouldn't hold them for a longer time, since there was a big chance to slump again.

#### 5.3.1 300657 Hongxin Electronics Technology

The share price of Hongxin began the week at ¥31.00 and raised to ¥31.68. On the first two days the price stayed at a low level, in Figure 5.2.1, we can see the K line was getting closer to the D line and attempted to cross it. If we looked at the moving average lines, we could compare

the price to the price on 2<sup>nd</sup> August, which was ¥31.44, that was the lowest price level on the last downward trend. Combined the price level and the tendency showed in KDJ index, I thought it might be a reversal point. Therefore, I purchased the stock on Wednesday.



Figure 5.11 Technical Chart of Hongxin on August 17<sup>th</sup>

### 5.3.2 600889 Nanjing Chemical Fiber

The share price of Hongxin began the week at ¥31.00 and raised to ¥31.68. In this week, there wasn't any clear technical indicator could be observed. The 30-day moving average line was rising and crossed 5-day line and 10-day line to form two dead crosses, which was a signal to plummet. However, the slope of 5-day line seemed to be gentle which means that there might be a reversion of the direction. In Figure 5.12, we could see in previous price change, there almost formed a supported line on ¥5.40. Therefore, I purchased the stock on Friday.



Figure 5.12 Technical Chart of Nanjing on August 17<sup>th</sup>

### 5.3.3 603323 Wujiang Bank

The share price of Wujiang began the week at ¥6.56 and raised to ¥6.60. From the Figure 5.13, there was a dead cross on 17<sup>th</sup> August, and the price plummeted to ¥6.05, therefore in this week simulation, I settled this price as the support price. In the KDJ index we could observe that the D line was always above the K line, therefore, I didn't enter the market at the first few days. Until Thursday, the six-day RSI line showed an uptrend, and the price of stock was close to the support price, I decided to purchase the stock.



Figure 5.13 Technical Chart of Wujiang on August 17<sup>th</sup>

### 5.3.4 600084 Citic Guoan Vine Co.LTD

The share price of Citic Guoan began the week at ¥4.01 and fell to ¥3.98. I decided to hold the stock on second trading week, but the stock fell down to ¥4.01 in one week. The five-day average moving line was also going down and formed a dead cross on Tuesday. In Figure 5.14, the six-day RSI was also under the twelve-day RSI, therefore to control the loss, I decided to sale holding shares on Thursday.



Figure 5.14 Technical Chart of Citic Guoan on August 17<sup>th</sup>

### 5.3.5 000683 Yuanxing Energy

The share price of Yuanxing began the week at ¥2.87 and fell to ¥2.77. The stock continually slid down in this week, the price hit down to ¥2.75, which was the lowest point in recent one month. Therefore, it could be the support level. However, there wasn't any other evidence that showing the trend might be reversed in the future, I decided to take a wait-and see attitude.



Figure 5.15 Technical Chart of Yuanxing on August 17<sup>th</sup>

### 5.3.6 Week Three Trading Summary

In this week, followed by the indicators, I made some investments on few stocks. The whole market doesn't seem very powerful, therefore, for other stocks I was still watching and waiting for some clear indicators on technical chats.

Date	Stock No.	Buy/Sell	Price of Share	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
8/22/2018	300657	Buy	31.00	3000	93000		414290	
8/24/2018	600889	Buy	5.40	3000	16200		398090	
8/23/2018	603323	Buy	6.19	3000	18570		379520	
8/23/2018	600084	Sell	3.80	3000	11400	-510	390920	18390

Table 5.3 Week Three Report for Technical Trading

## 5.4 Week 4

The fourth simulation week of swing trading started from 27<sup>th</sup> August. In this week most of the selected companies had a minor decline on the stock prices. Though there were no explicit signals indicating that there was a reversed trend in the next few days, I was taking a risk and bought shares at a relative low price. It was difficult to trade stocks in a general bear market. However, this investment only focused on a very short-term change in prices. Therefore, I could still control my loss, even though the stocks continued to fall the next week.

### 5.4.1 300657 Hongxin Electronics Technology

The share price of Hongxin began the week at ¥32.37 and fell to ¥31.17. On the first two days, the stock rose for 3%. On Tuesday, the price touched the highest price on the last uptrend, which was ¥33.13 on 13<sup>th</sup> August. Following the basic principle that all the history will repeat, I guessed this was a temporary resistance level and last time when the stock tried to break it, it

failed. Moreover, both RSI, and KDJ index was showing a similar pattern. Therefore, I didn't want to take the risk, and decided to sale it.



Figure 5.16 Technical Chart of Hongxin on August 31<sup>st</sup>

## 5.4.2 600889 Nanjing Chemical Fiber

The share price of Nanjing began the week at ¥5.53 and fell to ¥5.22. In the RSI index we could observe a rising tendency on 6-day line. In addition, the 5-day moving average line went up and 10-day line went down, which also indicated that the trend of stock would change. Therefore, I decided to wait for a longer time. However, the price of stock fell again on the Thursday and Friday and hit the lowest price in recent two months. The downtrend of the stock



didn't have any clear signal to show it would end in this price. Therefore, in order to control the loss, I decided to sale it on Friday.



Figure 5.17 Technical Chart of Nanjing on August 31<sup>st</sup>

### 5.4.3 603323 Wujiang Bank

The share price of Wujiang began the week at ¥6.41 and fell to ¥6.40. The five-day moving average line was always above the ten-day moving average line, short-term RSI line was also above long-term line, and from Figure 5.18, the KDJ index also showed a signal of holding the stock, therefore I thought the stock still contain potential of increasing. I waited until Friday, there wasn't any big uplift, the stock was sold on Friday.



Figure 5.18 Technical Chart of Wujiang on August 31<sup>st</sup>

#### 5.4.4 600084 Citic Guoan Vine Co.LTD

The share price of Citic Guoan began the week at ¥4.00 and fell to ¥3.98. On Monday, the six-day RSI line showed an upward trend, therefore I purchased it. There was a big increase on Tuesday, however, I thought the price could go higher, I didn't sell it. Actually, the opening price on Wednesday didn't continue the tendency from previous day, the trend of stock wasn't clear right now, therefore, I decided to wait for next week.



Figure 5.19 Technical Chart of Citic Guoan on August 31<sup>st</sup>

### 5.4.5 000683 Yuanxing Energy

The share price of Yuanxing began the week at ¥2.83 and fell to ¥2.73. The stock continually slid down in this week, the price hit down to ¥2.72. The support level of last week was broke down, so it could be the new resistance level. In Figure 5.20, 6-day RSI was under long-term RSI, therefore, the downwards trend on the stock price didn't likely to change in these few days. I didn't enter the market in this week.



Figure 5.20 Technical Chart of Yuanxing on August 31<sup>st</sup>

## 5.4.6 Week Four Trading Summary

In this week, my investment many stocks didn't perform very well, therefore I only sold my holding stocks for small profits or controlling lost.

Date	Stock No.	Buy/Sell	Price of Share	Share s	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
8/28/2018	300657	Sell	33.12	3000	99360	6360	490280	25050
8/31/2018	600889	Sell	5.23	3000	15690	-510	505970	24740
8/31/2018	603323	Sell	6.49	3000	19470	900	525440	25440

Table 5.4.6 Week Four Report for Technical Trading

## 5.5 Week 5

The fifth simulation week started at 3<sup>rd</sup> September 2018. It's the last week of the trading project, by the help of the experience from previous practice, I focused on the graphic analysis, fundamental analysis and trading range. In this week, I continued my research on the selected company related news and analysis the change on moving average lines.

### 5.5.1 300657 Hongxin Electronics Technology

In last whole week, as Figure 5.22 illustrated, the stock of Hongxin Electronics has been steadily falling. The downtrend lasted till Monday, in Monday afternoon, the opening price was extremely low, and hit the price support line. It suggests the price was low enough to invest and there was a great chance to raise in a short time. However, the 5-day moving average line was going down and across other lines. It wasn't a signal for buying. I took a risk and purchase the stock.

The Figure 5.21, in the next two day, a temporary uptrend was displayed. I sold it on the beginning of Wednesday, with a climb in the market index.

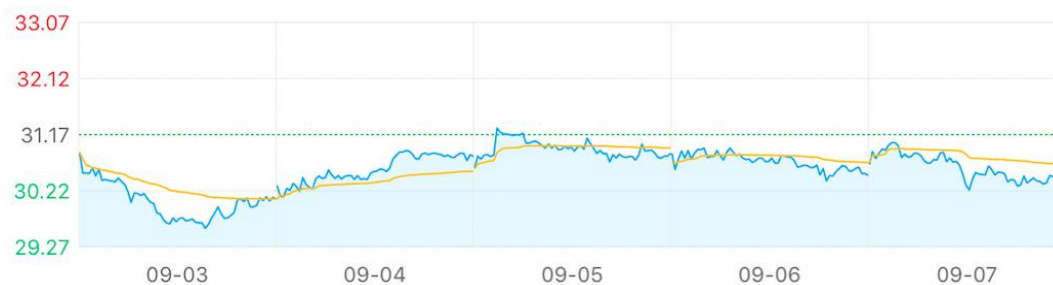


Figure 5.21 Recent Five-Day Stock Price for Hongxin 9.3-9.7



Figure 5.22 Day K line Chart of Hongxin in September

### 5.5.2 600889 Nanjing Chemical Fiber

In this week, the price of Nanjing didn't show any clear trend. In Figure 5.24 we could see two crosses of moving average lines, short-term lines went down crossed the long-term lines, a signal of downward trend. Therefore, there should be any investment at this time. However, before the closing of morning trading on Monday, the stock price descended to ¥5.07, it is the lowest price during these two months. On Wednesday, Nanjing had a high opening price due to the released news.

On the next day, the company claimed that they raised the price of one of their main product, the price of stock dropped.

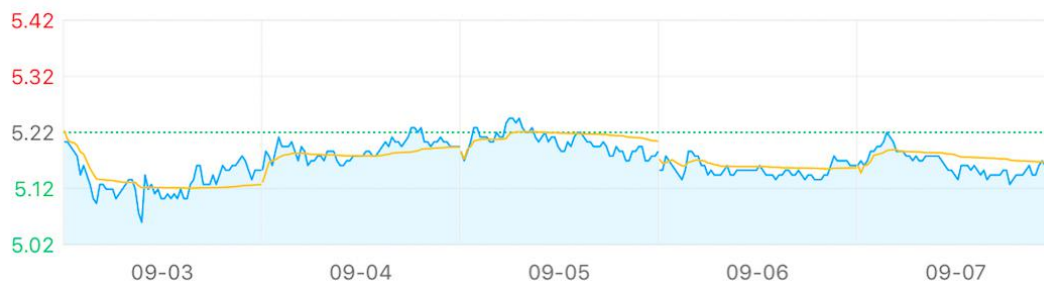


Figure 5.23 Recent Five-Day Stock Price for Nanjing 9.3-9.7



Figure 5.24 Day K line Chart of Nanjing in September

### 5.5.3 603323 Wujiang Bank

There was small drop on Monday, which was lower than the middle line between resistance price and support price, it was reasonable to purchase. At the end of Tuesday, the price raised a little, however it wasn't close to resistance price and in Figure 5.26 we could see that 10-day moving average line is going up as well. I thought there were still opportunity to raise more. Though, on Wednesday, the whole market had positive impacts from the news, the price of Wujiang didn't raise at all. Therefore, to reduce the loss, I decided to sell at the end of Wednesday. In Figure 5.25, that the price was continuing to fall in following days.



Figure 5.25 Recent Five-Day Stock Price for Wujiang 9.3-9.7



Figure 5.26 Day K line Chart of Nanjing in September

### 5.5.4 600084 Citic Guoan Vine Co.LTD

In the beginning of this week, it went up, but the price still stable around the support line, the change was too small to show on Figure 5.28; therefore, Figure 5.27 was a good choice to observe the small change on price. The five-day moving average line was moving up during this week.

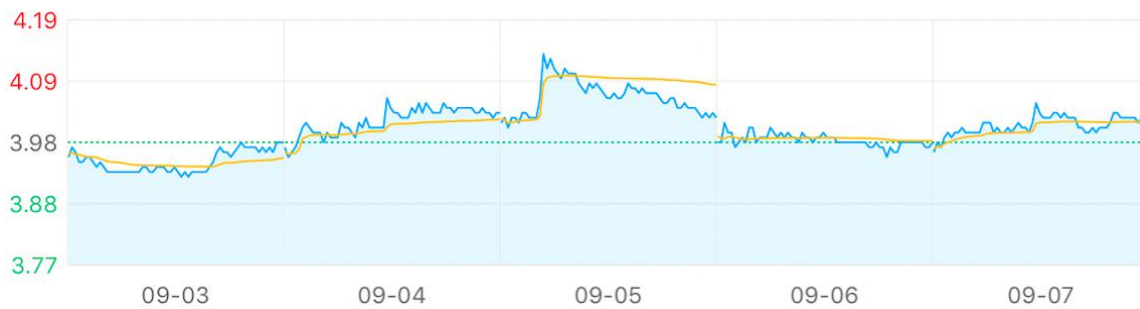


Figure 5.27 Recent Five-Day Stock Price for Citic Guoan 9.3-9.7





Figure 5.28 Day K line Chart of Citic Guoan in September

### 5.5.5 000683 Yuanxing Energy

In the recent few weeks, stock of Yuanxing Energy hasn't performed well, the price has fallen for a month. All the moving average line was moving down and hit the support line for a long time.

On Monday, Yuanxing continued the low price from last week. However, the company was planning to repurchase stock, on Monday and Tuesday there was a clearly rising on the price.

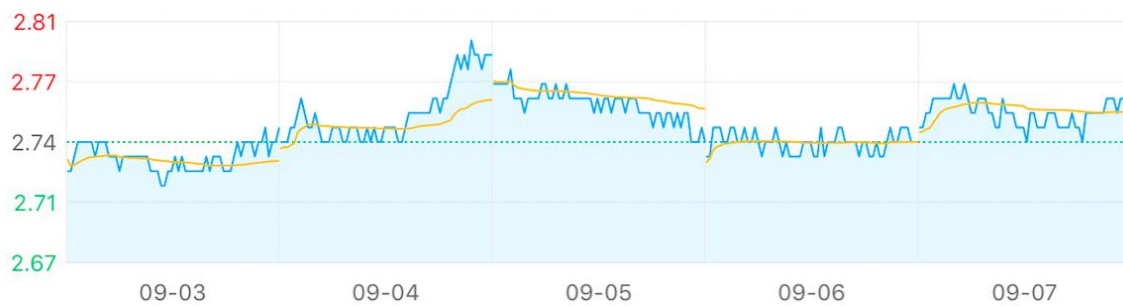


Figure 5.29 Recent Five-Day Stock Price for Yuanxing 9.3-9.7



Figure 5.30 Day K line Chart of Yuanxing in September

### 5.5.6 Week Five Trading Summary

In this week, I focused on the moving average line, therefore, I didn't get too much information from technical charts, therefore I made my decision very careful. I didn't operate my stocks too frequency as swing trading.

Date	Stock No.	Buy/Sell	Price of Share	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit
9/03/2018	300657	Buy	29.59	5000	147950		377490	
9/04/2018	300657	Sell	31.10	5000	155500	7550	532990	32990
9/03/2018	603323	Buy	6.34	5000	31700		501290	
9/05/2018	603323	Sell	6.28	5000	31400	-300	532690	32690

Table 5.5 Week Five Report for Technical Trading

## 5.6 Summary On Technical Trading

After my five week simulation of the technical trading, I had earned ¥32340 profits based on my ¥500000 investment. During this time, I have made a total of twenty-one trades. My profits mainly came from Hongxin Electric and Yuanxing Energy. I suffered a small loss from my investment on Citic Guoan, figure 5.31 showed the value of profit I earned from each companies. Figure 5.32 illustrated my weekly profits or and loss. I earned my profits from week two, four and five.

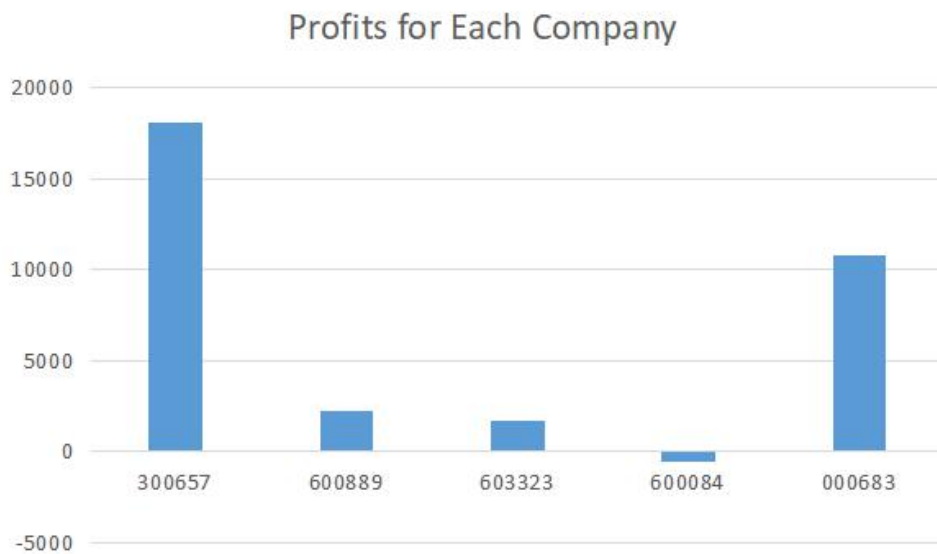


Figure 5.31 Profits for Each Company



Figure 5.32 Profits for Each Week

Overall, I thought my simulation was successful in technical trading simulation. I made many efficient decisions on the stock market investment. Even in a bear market, I could still made a return around 6.5% on this investment. Compare to other investments, this stock trading has a more significant return. However, I was glad that I didn't invest with real money, the small loss from Citic Guoan still made me gloomy for few days.

## **Chapter 6: Comparison and Analysis**

At the end of the stock simulation project both of trading methods: swing trading and technical trading, have successfully showed a profit. At the end of the project, the net balance of swing trading is 522970, the net profit rate is 4.59%; the net balance of technical trading is 532690, the net profit rate is 6.54%. In a five-week investment, the return was remarkable and significant, particularly the market index continued to decline, appeared a bear market. It was a big challenge for a beginner to catch the temporary uptrend in a primary downtrend.

### **6.1 Profit/Loss for Trading Methods**

In figure 6.1 and figure 6.2, the net profit for each company with two trading strategies can be observed. In the bar charts of swing trading, all companies were profitable, though the rate of return were low and most companies earnings were below 5000. On the other hand, the technical trading chart showed a small loss on 600084. However there were three companies gained profit around ten thousand.

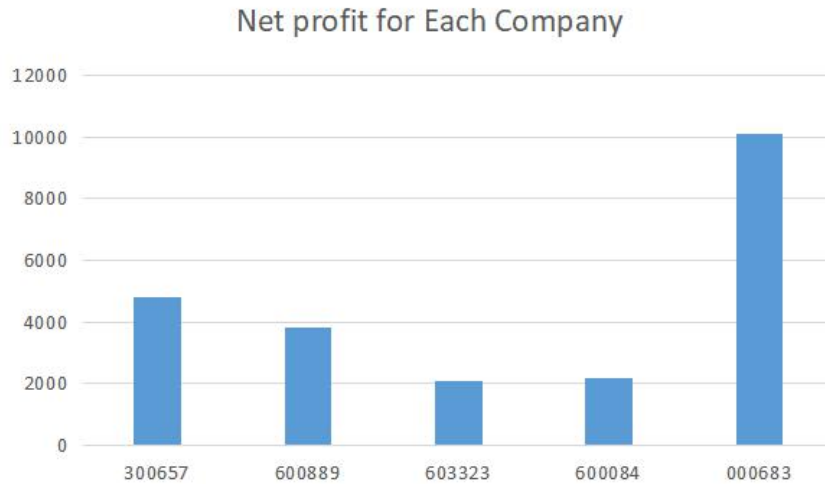


Figure 6.1 Net profit for Swing Trading

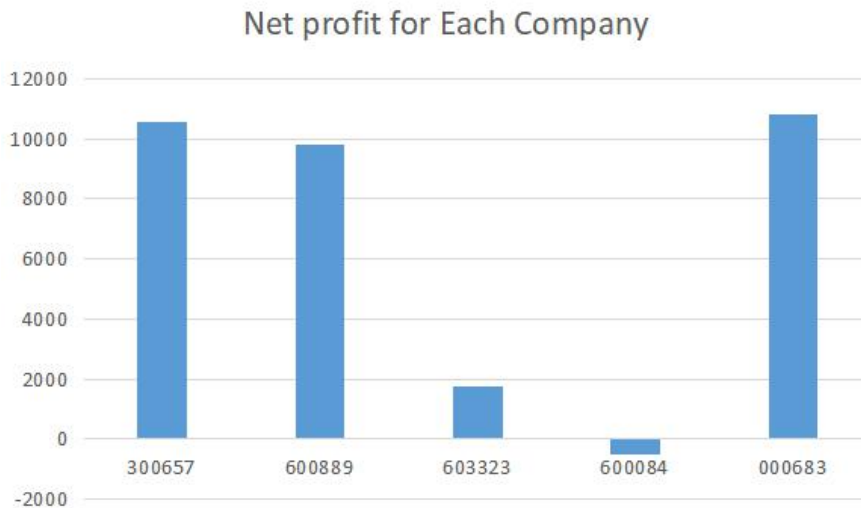


Figure 6.2 Net profit for Technical Trading

In both bar charts, 000683 had the highest rate of return. However, 300657 and 600889 made much more profit with technical trading than swing trading. The major reason of this difference was that it was impossible to detect the beginning and ending points of a temporary trend, we could only enter the market after the uptrend was started, and sell it before the uptrend ends. Therefore, we could only gain profit from partial uptrend.

However, in technical trending, there were more indexes that we can observed and made decisions based on. Even though sometimes they might not be absolute reliable. By comparing many different indicators, the chance of making correct decisions are very high.

The time that spend in technical trading was much more than swing trading in comparison. However, with a short period investment, the technical trading would be recommended. Since it was more reliable and get more returns.

## **6.2 Decision Making on Different Methods**

In the trading with these two methodologies, I have made many different decisions. In total, I have made thirty trades in Swing Trading, and twenty-one trades in Technical Trading. However, I made more profits from Technical Trading. Figure 6.3 and Figure 6.4 showed my weekly income for each methodologies. We could clearly observe from these two chart that Technical Trading made more money, but it also caused a small loss on week 4. Conversely, though in the week 3, 4 and 5, I didn't make great incomes, I still got some profits from a bear market.

During Technical Trading I made decision more carefully, since I got more technical charts to compare and confirm with each other to allow me making rational decisions. Therefore I made less trades but with more efficient move. Also the indicators in technical charts allowed me to predict the next trends' direction which mean that I could act in advance. These allows me to make more profits from each temporary uptrend.

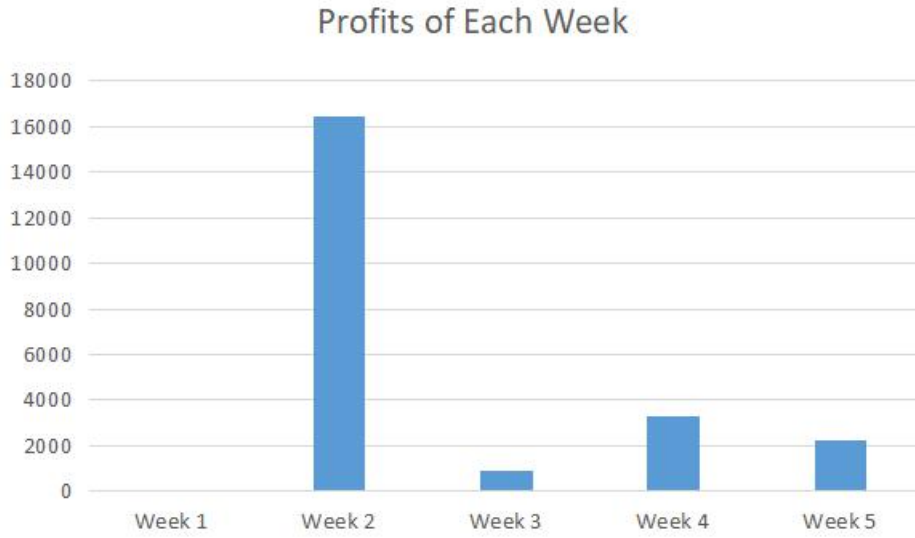


Figure 6.3 Profits of Each Week from Swing Trading



Figure 6.4 Profits of Each Week from Technical Trading



## Chapter 7: Conclusion

All in all, the researched based stock simulation trading project was successful, both trading methods had eventually netted a profit. The return rate was high, in a short-term five-week investment, averaging 5% for two trading strategies: swing trading and technical trading. The knowledge of these two methods used in this research project were very basic and general. In the future, these experience and fundamental strategies from this simulation can be a guidance to guide how to play and make profits in the real market. The rate of profit in stock market was much higher than other fund investments. However, the stock market is constantly changing, a short-term investment requires lots of time and attention; investors were taking higher risk in this market. It was hard to make rational decisions sometimes, especially with the real money. Therefore, the first thing that investors need to remember is, any investment can cause loss, should not have exorbitant expectation and should not put all of the deposit into stock market.

According to the trading result, the technical trading was the most efficient investment method, with the highest return rate. The swing trading has high security but low return rate. If we want to invest for a long-term, that the swing trading probably was a better choice. Since the primary-trend will last for a long time rather than technical indicators of the stock.

In the future, if any investment need to be made in the stock market, the fundamental analysis should be combined with technical analysis, the related news and information will always effect the price of stock. Based on the recent released news, technical indicators and the signal of changing trend, investors can make rational and efficient decision.

## References

- [1] Staff, I. (2018). Stock. [online] Investopedia. Available at: <https://www.investopedia.com/terms/s/stock.asp>.
- [2] Staff, I. (2018). Shares. [online] Investopedia. Available at: <https://www.investopedia.com/terms/s/shares.asp>.
- [3] Chinadaily.com.cn. (2018). Shanghai Stock Exchange. [online] Available at: [http://www.chinadaily.com.cn/bizchina/2006-10/17/content\\_710141.html](http://www.chinadaily.com.cn/bizchina/2006-10/17/content_710141.html).
- [4] Lexicon.ft.com. (2018). A-Share/B-Share Markets Definition from Financial Times Lexicon. [online] Available at: [http://lexicon.ft.com/Term?term=a\\_share%2Fb\\_share-markets](http://lexicon.ft.com/Term?term=a_share%2Fb_share-markets).
- [5] Harper, D. (2018). Forces that move stock prices. [online] Investopedia. Available at: <https://www.investopedia.com/articles/basics/04/100804.asp>.
- [6] Fuld, F. (2018). What are the factors affecting share price?. [online] Quora. Available at: <https://www.quora.com/What-are-the-factors-affecting-share-price>.
- [7] Harper, D. (2018). Forces that move stock prices. [online] Investopedia. Available at: <https://www.investopedia.com/articles/basics/04/100804.asp>.
- [8] Investopedia. (2018). How does the law of supply and demand affect the stock market?. [online] Available at: <https://www.investopedia.com/ask/answers/040215/how-does-law-supply-and-demand-affect-stock-market.asp>.
- [9] Kramer, L. (2018). What is GDP and Why Is It So Important To Investors?. [online] Investopedia. Available at: <https://www.investopedia.com/ask/answers/what-is-gdp-why-its-important-to-economists-investors/>.
- [10] Investopedia. (2018). Technical Analysis: The Basic Assumptions. [online] Available at: <https://www.investopedia.com/university/technical/techanalysis1.asp>.
- [11] "Investopedia," 2015. [Online]. Available: <http://www.investopedia.com/terms/m/macd.asp>.
- [12] Investopedia. (2018). Technical Analysis: Fundamental Vs. Technical Analysis. [online] Available at: <https://www.investopedia.com/university/technical/techanalysis2.asp>.
- [13] Investors, A. (2018). AAI: The American Association of Individual Investors. [online] Aaii.com. Available at:

<https://www.aaii.com/journal/article/charles-dows-theory-still-valid-for-the-21st-century>.

- [14] Anon, (2018). [online] Available at:  
<https://www.investors.com/ibd-university/swing-trading/>.
- [15] Velez, O. (2012). *Swing Trading*. Hoboken: Wiley.
- [16] Staff, I. (2018). Candlestick. [online] Investopedia. Available at:  
<https://www.investopedia.com/terms/c/candlestick.asp>.
- [17] Stockcharts.com. (2018). Introduction to Technical Indicators and Oscillators [ChartSchool]. [online] Available at:  
[http://stockcharts.com/school/doku.php?id=chart\\_school:technical\\_indicators:introduction\\_to\\_technical\\_indicators\\_and\\_oscillators](http://stockcharts.com/school/doku.php?id=chart_school:technical_indicators:introduction_to_technical_indicators_and_oscillators).
- [18] Cns.bu.edu. (2018). Relative Strength Index (RSI). [online] Available at:  
[http://cns.bu.edu/~gsc/CN710/fincast/Technical%20\\_indicators/Relative%20Strength%20Index%20\(RSI\).htm](http://cns.bu.edu/~gsc/CN710/fincast/Technical%20_indicators/Relative%20Strength%20Index%20(RSI).htm).
- [19] Murphy, C. (2018). What do the different colored candlesticks mean?. [online] Investopedia. Available at:  
<https://www.investopedia.com/ask/answers/07/candlestickcolor.asp>.
- [20] Hill, A. (2018). What is the Significance of the Different Candlesticks Colors?. [online] Stockcharts.com. Available at:  
<https://stockcharts.com/articles/mailbag/2014/04/what-is-the-significance-of-the-different-candlesticks-colors.html>.