Comparison of Selected Stock Exchanges in China and in the USA

Srovnání Londýnské burz v Číně a v USA
Bachelor Thesis Assignment

Daizhou Xian

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3. Development of Stock Exchanges in China
4. Development of Stock Exchanges in the USA
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6. Conclusion
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Declaration of Utilisation of Results from the Bachelor Thesis
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Supervisor: Ing. Kateřina Kořená, Ph.D.

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Ing. Iveta Ramanová, Ph.D.
Head of Department

prof. Dr. Ing. Zdeněk Zmeškal
Dean
The declaration

"I hereby declare that I have elaborated the entire thesis including annexes myself."

Ostrava dated 06.05.2019

[Signature]

Student's name and surname
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1 Introduction

Financial market refers to the marketplace where the financial supply and demand use various financial instruments, such as stock, bond, currencies and derivatives to adjust the capital surplus during the economic operation. Generally, financial markets can be divided into two categories: money market and capital market according to the term of trading instruments in the financial market. The securities market is a market that is financed through the issuance and trading of securities, including the bond market, the stock market, the fund market, the insurance market, the financial leasing market, etc. Among markets in financial markets, stock markets are important parts.

The US securities market has a longer history than the Asian securities market, and it has a more sophisticated and advanced production and trading system. As the world's largest stock exchange, the New York Stock Exchange has more than 3,000 listed companies. In 2006, the merger of the New York Stock Exchange and Euronext helped the New York Stock Exchange to have more markets around the world. China’s securities market doesn’t have long history, its securities market has achieved remarkable achievements in just over a decade. China has mainly three stock exchanges, namely, SSE, SZSE and HKEX, stock trading still accounts for an absolute proportion.

The aim of this thesis is to give readers a comprehensive understanding of the main stock exchanges in China and in the USA. We will see the differences between the stock exchanges in the two countries. The important part of this paper is the third part and the fourth part, focusing on some specific aspects, including history, market overview, listing conditions, IPO and supervision, and in the fifth part is the key part of comparison. Shanghai Stock Exchange and New York Stock Exchange are the most influential stock exchanges in China and the United States. We can know the advantages and disadvantages of these two exchanges clearly, and finally predict the better development of the two stock exchanges in the future.
2 Main Characteristics of Stock Exchanges

The stock market is a barometer of the economy. Stock exchanges are organized markets for stock and bond trading. These markets were initially open to everyone, but currently only members of the association can buy and sell directly.

2.1 Definition

A stock exchange is a legal person that provides places and facilities for centralized trading of securities, organizes and supervises securities transactions, and implements self-discipline management. Stock exchanges are divided into two types: company system and membership system. Company-owned stock exchange: A corporate stock exchange is a stock exchange that provides trading venues and service personnel for the purpose of making profits to facilitate the trading and delivery of securities firms. A membership-based stock exchange is a non-profit-making, self-disciplined and mutually constrained member, and members who participate in the operation can participate in stock exchanges in stock trading. Only members can be allowed to trade on exchange. Members could be firms or individual.

2.2 History of World’s Stock Exchanges

The world's first market for stock trading was in the Netherlands, in 1602. The development of Dutch maritime trade has stimulated a large amount of capital investment, which has created demand for stock issuance and trading. The first company limited by shares is the East India Company of the Netherlands. Because there was no complete stock market at the time, and there was no independent stock exchange. In the second half of the seventeenth century, the economic center was transferred to the UK, and the stock company established in the Netherlands had a leap in London.

Among the oldest exchanges in London, the Royal Exchange, in 1773, at the Jonathan Cafe in Chaise Hut, London, stock economists formally organized the first stock exchange, now the London Stock Exchange. The predecessor, this is the prototype of the modern securities market. With the removal of the South American trade barriers
and the public's expectation of the stock price rise, it promoted the conversion of bonds to stocks, which in turn led to the rise in stock prices.

In the 1750s, the London stock market once again slanted to overseas investment. This has taken a crucial step towards establishing London's status as a world financial center.

In contrast, the US securities market was first developed in order to develop domestic industrial bases such as canals and railways. The earliest US securities market was in Philadelphia, Pennsylvania. In 1792, the 24 most brokers at the time were secretly negotiated and officially negotiated under the plane of the phoenix tree. This is the famous Sycamore Tree Agreement. This became the earliest stock market in the United States, the predecessor of the New York Stock Exchange. In 1863, the New York Stock Exchange was renamed.

At the end of the 19th century, the first stock exchange in India and Asia established the Bombay Stock Exchange. The Tokyo Stock Exchange was established in 1878. On December 19, 1990, the Shanghai Stock Exchange officially opened, then mayor of Shanghai, attended the opening ceremony of the exchange.

2.3 Characteristics and Functions

The following part is mainly to introduce the main characteristics and functions of the stock exchange.

2.3.1 Characteristics

The characteristics of the stock exchange are: firstly, there is a fixed trading place and strict trading time; secondly, the participating traders are member securities companies with certain qualifications; thirdly, the trading objects are limited to listed securities that meet certain standards; and the trading volume is concentrated, with High transaction speed and turnover rate; last, it has strict management of securities transactions and market order.¹

¹ Source: www.investing.com
2.3.2 Functions

Stock exchanges make a difference in financial markets in nowadays. What makes it important is their functions. Below are main important functions of stock exchanges (Stephen, 2011)

**Providing marketplaces and transaction information for trading securities**

Due to the existence of this market, securities buyers and sellers have centralized trading venues, which can realize the transfer of securities held at any time to ensure the continuous flow of securities. Provide Securities trading relies on information, including information about listed companies and securities trading information. The Exchange has the responsibility of supervising and properly reviewing the information provided by listed companies and is obliged to publish the transaction market immediately.

**Formation and announcement price**

The securities transactions completed in the exchange form the price of various securities, since the trading of securities is concentrated and open. The transaction is concluded by means of bilateral bidding, and its price is approximately fair and reasonable at the theoretical level. This price is announced to the public in a timely manner and is used as an important basis for various related economic activities.

**Concentrate on various types of social funds to participate in investment**

With the increasing number of stocks listed on the exchange and the increasing number of transactions, it is possible to attract extremely extensive funds to stock investment and provide the necessary funds for enterprise development.

**Guide the rational flow of investment**

The exchange provides convenience for the free flow of funds and reflects the profitability and development of securities issuers through daily quotes and listed company information. Make social flows flow in the most needed and most beneficial direction.
Formulate trading rules and maintain trading order

Fair trading rules can achieve fair trading results. Trading rules mainly include listing delisting rules, quotation bidding rules, information disclosure rules, and delivery settlement rules. The main difference between different exchanges lies in the difference of trading rules. The same exchange may also adopt multiple trading rules. The trading rules may not be effectively executed. The core function of the exchange is to supervise various violations of fairness and trading. The behavior of the rules allows the transactions to proceed in a fair and orderly manner.

2.4 Major Stock Indices in the World

Stock indices are statistical indicators of changes in the securities market. Each index has its own calculation method, usually expressed as a change in the base value.

Figure 2.1 Major Stock Index in the World

<table>
<thead>
<tr>
<th>Index</th>
<th>Last</th>
<th>Prev.</th>
<th>High</th>
<th>Low</th>
<th>Chg.</th>
<th>Chg. %</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>S&amp;P 500</td>
<td>2,937.46</td>
<td>2,939.88</td>
<td>2,940.52</td>
<td>2,937.46</td>
<td>-2.42</td>
<td>-0.08%</td>
<td>26/04</td>
</tr>
<tr>
<td>Nasdaq 100</td>
<td>7,822.4</td>
<td>7,826.7</td>
<td>7,828.1</td>
<td>7,822.4</td>
<td>-4.3</td>
<td>-0.05%</td>
<td>26/04</td>
</tr>
<tr>
<td>SmallCap 2000</td>
<td>1,589.74</td>
<td>1,577.70</td>
<td>1,591.48</td>
<td>1,589.74</td>
<td>+12.04</td>
<td>+0.76%</td>
<td>26/04</td>
</tr>
<tr>
<td>Dow 30</td>
<td>26,521.35</td>
<td>26,543.33</td>
<td>26,542.19</td>
<td>26,521.34</td>
<td>-21.98</td>
<td>-0.08%</td>
<td>26/04</td>
</tr>
<tr>
<td>Nikkei 225</td>
<td>22,324.50</td>
<td>22,258.73</td>
<td>22,383.50</td>
<td>22,208.50</td>
<td>+81.77</td>
<td>+0.38%</td>
<td>26/04</td>
</tr>
<tr>
<td>S&amp;P/ASX 200</td>
<td>6,385.29</td>
<td>6,385.60</td>
<td>6,386.29</td>
<td>6,372.19</td>
<td>-0.31</td>
<td>0.00%</td>
<td>26/04</td>
</tr>
<tr>
<td>FTSE 100</td>
<td>7,440.85</td>
<td>7,428.19</td>
<td>7,443.10</td>
<td>7,423.75</td>
<td>+12.66</td>
<td>+0.17%</td>
<td>26/04</td>
</tr>
<tr>
<td>CAC 40</td>
<td>5,569.50</td>
<td>5,569.36</td>
<td>5,571.50</td>
<td>5,561.99</td>
<td>+0.14</td>
<td>+0.00%</td>
<td>26/04</td>
</tr>
<tr>
<td>Euro Stoxx 50</td>
<td>3,501.05</td>
<td>3,500.41</td>
<td>3,502.05</td>
<td>3,497.05</td>
<td>-0.04</td>
<td>-0.02%</td>
<td>26/04</td>
</tr>
<tr>
<td>SMI</td>
<td>9,729.60</td>
<td>9,742.27</td>
<td>9,739.50</td>
<td>9,710.50</td>
<td>+4.73</td>
<td>+0.05%</td>
<td>26/04</td>
</tr>
<tr>
<td>AEX</td>
<td>567.94</td>
<td>567.18</td>
<td>568.06</td>
<td>566.59</td>
<td>-0.76</td>
<td>-0.13%</td>
<td>26/04</td>
</tr>
<tr>
<td>DAX</td>
<td>12,332.23</td>
<td>12,315.18</td>
<td>12,323.28</td>
<td>12,308.07</td>
<td>+8.05</td>
<td>+0.07%</td>
<td>26/04</td>
</tr>
<tr>
<td>IBEX 35</td>
<td>9,495.60</td>
<td>9,500.00</td>
<td>9,500.45</td>
<td>9,494.05</td>
<td>-11.00</td>
<td>-0.12%</td>
<td>26/04</td>
</tr>
<tr>
<td>Hang Seng</td>
<td>29,956.00</td>
<td>29,985.01</td>
<td>29,974.00</td>
<td>29,943.50</td>
<td>+88.99</td>
<td>+0.30%</td>
<td>26/04</td>
</tr>
<tr>
<td>FTSE MIB</td>
<td>21,741.50</td>
<td>21,737.97</td>
<td>21,769.50</td>
<td>21,588.50</td>
<td>-3.53</td>
<td>-0.02%</td>
<td>26/04</td>
</tr>
</tbody>
</table>

Source: World Stock Exchange Indices
2.4.1 Dow Jones Industrial Average (DJIA)

The Dow Jones Industrial Average (DJIA) is an index that we often see in our studies, which tracks 30 large, publicly-owned companies trading on the New York Stock Exchange (NYSE) and the NASDAQ. The DJIA is named after Charles Dow, who created it in 1896, and his business partner, Edward Jones. The Dow Jones Industrial Average was designed to serve as a proxy for the broader U.S. economy. As the economy changes over time, so does the composition of the index. The Dow Jones typically makes changes when a company becomes less representative of the economy.

The key point about the DJIA is that it is not a weighted arithmetic average, nor does it represent its component companies' market capitalization as does the S&P 500. Rather, it reflects the sum of the price of one share of stock for all the components, divided by the divisor. Thus, a one point move in any of the component stocks will move the index by an identical number of points.

Its formula is DJIA = SUM (Component stock prices) / Dow Divisor

Figure 2.2 Dow Jones Industrial Average (DJIA)

Source: World Stock Exchange Indices

From the above figure, it can be concluded that the Dow Jones index has increased significantly in the past five years, with a small fluctuation in the middle but little impact.
2.4.2 Standard & Poor’s 500 (S&P 500)

Standard & Poor’s 500 index is the market-oriented expiration index of 500 US public transactions companies. It has more stocks and use a value-weighted index. The index is widely considered to be the best scale of large-scale US stocks. The Formula for a Company's Weighting in the S&P 500 is Company Weighting in S & P= Company market cap/Total of all market cap.

Figure 2.3 S&P 500 (SPX)

Source: World Stock Exchange Indices

The number of the Standard & Poor's index is not as large as that of Dow Jones, and the range of fluctuations is small. The trend is the same, both are increasing.

2.5 Stock Exchange Supervision

There are many subjects in the stock market. Investors, listed companies and shareholders, securities institutions and customers have different interests. There are various contradictions and conflicts, and they need to be centralized and unified through the regulatory agencies. Regulate the behavior of various market entities and maintain the normal order of the market. Take the United States as an example. One of the important measures taken by the US government after the 1929 economic crisis was the establishment of the Securities and Exchange Commission to conduct centralized and unified supervision over securities issuance, securities trading, and securities
trading institutions.

The factors affecting the liquidity of a company's securities are often outside the control of the exchange. Therefore, the areas in which the exchange can play a role are mainly to provide monitoring activities; the listing conditions of companies that meet the investor protection standards, such as company quality and information disclosure.
3 Development of Stock Exchanges in China

As an emerging high-growth securities market, China's securities market has achieved remarkable achievements in just over a decade. The trading and settlement networks of the Shanghai Stock Exchange and the Shenzhen Stock Exchange cover all parts of the country. The securities market trading technology is at the advanced level in the world, and the legal system is gradually improved. A unified national securities regulatory system has also been established. The securities market has played a prominent role in promoting the reform of state-owned enterprises and promoting China's economic restructuring and technological progress. The issuance system of China's securities market was transitioned from the approval system to the approval system. In March 2000, the China Securities Regulatory Commission (see 3.2.4) officially implemented the approval process for stock issuance. The securities issuance system thus transitioned from the approval system to the approval system. The stock issuance method has been continuously improved. In the early stage of the development of the securities market, stock issuance was issued within the enterprise by means of targeted recruitment. The Measures for the Administration of Securities Issuance and Underwriting, implemented on September 19, 2006, have once again imposed new regulations on the issuance, issuance and underwriting of securities issuance. For example, enterprises listed on the SME board may not have to go through the cumulative bidding inquiry. Only through preliminary inquiry, the price can be issued; in the issue of securities, the green shoes mechanism is also introduced, that is, the over-allotment option, the number of initial public offerings of more than 400 million shares, the issuer and its lead underwriter Over-allotment options can be used in the offering.

The behavior of market participants is gradually regulated. After 15 years of development, the behavioral normative system of the participants in the securities market has been basically established: the establishment of the information disclosure system for listed companies, the promulgation of a series of administrative regulations and departmental regulations prohibiting insider trading and securities fraud and passed a series of regulations. The regulations regulate the distribution of dividends of listed
companies, and so on. Of course, there are still many problems in China's young securities market.

**Figure 3.1 GDP in China**

![GDP in China](image)

*Source: Government data, author*

The stock market is a barometer of the economy. In general, GDP data has an impact on the stock market. Second, GDP grows with high inflation. Aggregate demand is greater than aggregate supply. Third, GDP growth will slow down under the macro-control. If the macro-control is effective, the stock market will stabilize and gradually rise.

### 3.1 Financial markets in China

Since the reform and opening in 1978, as an important part of China's overall reform and opening, the financial markets’ opening to the outside world in the past 40 years can be roughly divided into five stages.

The first stage was 1978-1993. At this stage, China's foreign economic development is not too fast. In view of the shortage of capital and foreign exchange at that time and *the relatively low domestic resources*, the opening of China's financial industry was mainly to introduce some foreign banks, to participate in international financial market activities, to introduce foreign exchange funds, and to improve the
investment and financing environment in the domestic market. This is the initial stage of China's financial industry opening to the outside world.

The second stage is 1994-2001. At this stage, foreign investment increased rapidly, and foreign banking business developed further. At the beginning of 1994, the reform of the RMB exchange rate began, and China began to implement a managed floating exchange rate mechanism. Subsequently, the State Council promulgated the Regulations on the Management of Foreign-funded Financial Institutions, which marked the entry into the legalization and standardization of the management of foreign-funded banks. After 1998, affected by the Asian financial crisis, the development of foreign financial institutions in mainland China showed a short period of structural adjustment.

The third stage is from the end of 2001 to 2006. At this stage, the opening of China's financial industry has undergone tremendous changes. In December 2001, China joined the WTO and participated in international financial cooperation and competition on a larger scale and depth. At the end of 2006, the total assets of foreign banks in mainland China reached RMB 806.8 billion. In 2004, HSBC's 19.9% strategic shareholding in the Bank of Communications was marked by several foreign banks as strategic investors.

The fourth stage is 2006-2016. In 2006, China’s WTO accession period ended, and it began to fulfill its commitment to further opening the financial industry. In 2006, the Regulations on the Implementation of the Regulations on the Administration of Foreign-funded Banks was marked. The geographical and customer restrictions of foreign-funded banks in China were significantly reduced, and more national treatment was obtained. In 2008, due to the impact of the global financial crisis, some foreign banks contracted or withdrew some of their business in China, but overall, in the past decade, the development of foreign banks in mainland China has achieved great results. As of the end of 2016, the total assets of 1,013 banks in 14 countries in China were about 2.93 trillion yuan, 3.6 times that of 2006.

In the fifth stage, that is, since 2017, China's financial market has entered a new stage of opening. In April this year, President announced at the Forum that China will
substantially relax the market entry threshold including the financial industry. The Governor of the Central Bank announced 12 major measures and timetables for expanding financial opening up. In the past year, many restrictions on market access, business scope and holding ratio have been gradually relaxed, and several policies have been introduced and implemented.

3.2 Shanghai Stock Exchange

As we all know, Shanghai is China's financial center. The Shanghai Stock Exchange is the full name of SSE, located in Pudong, Shanghai. It was established in 1990. Most of the listed companies in the Shanghai Stock Exchange are large-cap stocks. Most listed companies are state-owned enterprises and central enterprises. SSE shoulders the arduous task of standardizing the development of the market, but also faces a good opportunity to further promote the construction of the market. Relying on first-class hardware facilities and superior location advantages and powerful radiation in the Pudong new area, with the Shanghai economy good momentum of development and characteristic of the leading effect, with the state-owned enterprises reform and the construction of Shanghai financial center of the capital market actively, Shanghai will be in accordance with the firm faith, strengthen supervision, stable, standardized development train of thought, in such aspects as technology, supervision, personnel, services multi-pronged, to build a standard transparent, efficient, open, full of vitality world first-class exchange to open a new chapter.

3.2.1 History of SSE

On December 19, 1990, the Shanghai Stock Exchange officially opened, then mayor of Shanghai, attended the opening ceremony of the exchange. Shanghai stock exchange chairman li authorized general manager to ring the first hammer of the official opening in the trading hall. The real fire of the stock market was after Deng Xiaoping's southern tour in 1992. On May 21 of that year, Shanghai stock exchange prices were fully opened-up and guided by the market. In January 2006, the new Shanghai
composite index was officially launched, and the structure of the securities technology building was capped. In May, the Shanghai stock exchange issued the Shanghai stock exchange trading rules. After years of continuous development, Shanghai securities market has become the leading market in mainland China, ranking first in the number of listed companies, the number of listed shares, the total market value, the market value, the total transaction value of securities, the transaction amount of stocks and the transaction amount of national debt and other indicators. By the end of 2008, SSE had 864 listed companies, 1,184 listed securities and a total market value of 9725.191 billion yuan. A lot of pillar enterprises, key enterprises, enterprises in basic industries and high and new technology enterprises in the national economy have raised development funds and changed their operating mechanisms through going public. As of the end of 2009, the SSE had 870 listed companies, with 1,351 listed securities and a stock market value of 1,845.523 billion yuan. Lots of national economic pillar enterprises, key enterprises, basic industry enterprises and high-tech enterprises have not only raised development funds but also transformed their operating mechanisms. As of March 11, 2013, the SSE had 954 listed companies, with 2,214 listed securities and a total market value of 1,607,507 million yuan. The listed company has raised a total of 25 trillion yuan; On November 5, 2018, Xi Jinping stated in the opening speech of the Expo that the board will be established on the Shanghai Stock Exchange and the pilot registration system”

3.2.2 Market Overview in SSE

The market overview of the Shanghai Stock Exchange is mainly about trading systems and several major stock indices.

SSE trading business are divided into trading system-based business and non-trading system-based business, trading system-based business can be divided into Centralized trading business, trading-related services. This trading system opened the precedent of the China Stock Exchange and later gained some promotion. (KANE, 2014)
Stock Indices

Main stock indices include the Shanghai Composite Index and SSE 100, from the below figures, we can see the obvious changes.

**Figure 3.2 The trend of the Shanghai Composite Index**

![Graph of the Shanghai Composite Index trend](image1)

Source: SSE data, author

**Figure 3.3 SSE 100**

![Graph of SSE 100 trend](image2)

Source: east money, author (only find data in 5 years)

The SSE 100 Index is a sample of the top 100 stocks from the SSE 380 index stocks with a combination of operating income growth rate and ROE, to highlight the overall trend of core investment stocks in the emerging blue-chip sector in the Shanghai market.

From the above, Figure 3.1, it can be concluded that the stock index of the Shanghai Stock Exchange experienced a change from the first rise and then fall during the period from 2014 to 2016. In 2016, the SSE 180 Index yearly high was lower than the previous two years, the SSE 180 Index year-end close also fell by 10%. SSE composite index year-end close also has a small decline, about 4.05 percentage reduction. Then we can see the fluctuation trend of the Shanghai Composite Index in the past ten years from the trend of the Shanghai Composite Index (weighted back test) weighted by the
market capitalization. The Shanghai Composite Index\textsuperscript{2} and the Shanghai Composite Index – the free market capitalization weighted two indices have reached a peak in 2015. Overall, the Shanghai Composite Index rose by 19% in the past decade, while the free market weighted index rose by 70%. The Shanghai Composite Index\textsuperscript{2} uses the weighted calculation of the total market capitalization to objectively increase the weight of large-capital listed companies with large total share capital but small tradable shares (the actual marketable part of the market).

3.2.3 Issuing conditions and IPOs in SSE

The subject qualification for the issuance of A shares on the Shanghai Stock Exchange shall be a legally established and legally existing joint stock company; with the approval of the State Council, a limited liability company may publicly issue shares when it is changed into a joint stock limited company according to law.

The SSE's profit index A-share market requires at least three years of profit, the net profit in the last two years has accumulated no less than 10 million yuan; or the most recent year's profit, the latest year's operating income is not less than 50 million yuan. The subject qualification is that the issuer should be a legally established and legally existing joint stock company; with the approval of the State Council, the limited liability company can publicly issue shares when it is changed into a joint stock company according to law. The overall process of the initial public offering (IPO) of shares and the listing business of the Shanghai Stock Exchange is mainly divided into three stages: First, preparations for the issuance of listings (including the preparation of listing-related business preparations and stock code applications); Second, application and issuance of new shares online and listing; Third, application for listing of new shares and listing.

\textsuperscript{2} Source: http://English.sse.com.cn/
After obtaining the approval document from the CSRC (see 3.2.4), a joint-stock company with an initial public offering of a-shares shall submit information disclosure, issuance application documents, listing *application documents* and other materials related to the issuance and listing at the stage of listing to the Shanghai stock exchange, which shall be accepted by the issuance and listing center.

When a joint-stock company issuing a-shares for initial public offering issues stocks, it shall, in accordance with the relevant provisions of the measures for the administration of securities issuance and *underwriting*, determine the issue price by way of inquiry. The common distribution methods are as follows:

1. The distribution method *combining offline placement* and *online pricing* (at present, most of them adopt the method of direct pricing after initial inquiry);

2. The total number of initial public offerings shall be *less than 20 million shares* (including 20 million shares) and there shall be no transfer of old shares

   If the plan is made, the issue price shall be determined through *direct pricing*, and all issues shall be issued to online investors, and offline inquiry and placement shall not be arranged.

3. For an IPO of *more than 400 million shares*, it may adopt the issuance method of combining the placement to strategic investors, offline placement and online pricing.

*Figure 3.4 Companies with the biggest IPOs*

<table>
<thead>
<tr>
<th>Rankings</th>
<th>Code</th>
<th>Name of Stocks</th>
<th>Change%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>601398</td>
<td>Industrial and Commercial Bank of China</td>
<td>4.57</td>
</tr>
<tr>
<td>2</td>
<td>601857</td>
<td>China Petroleum</td>
<td>3.56</td>
</tr>
<tr>
<td>3</td>
<td>601288</td>
<td>Agricultural Bank of China</td>
<td>3.52</td>
</tr>
<tr>
<td>4</td>
<td>600519</td>
<td>Guizhou Maotai</td>
<td>3.5</td>
</tr>
<tr>
<td>5</td>
<td>601318</td>
<td>China Ping An</td>
<td>2.67</td>
</tr>
</tbody>
</table>

Source: SSE data, author.
3.2.4 Regulation and Supervision in SSE

CSRC (China Securities Regulatory Commission)

China securities regulatory commission (CSRC) is with 21 functional departments, 1 inspection team and 3 centers. According to article 14 of the securities law of the People's Republic of China, the CSRC also has a stock issue examination and approval committee, whose members are professionals of the CSRC and relevant experts outside the commission. The CSRC has set up 36 securities regulatory bureaus in provinces, autonomous regions and municipalities directly under the central government, as well as offices of securities regulators in Shanghai and Shenzhen. The China securities regulatory commission (CSRC) is in accordance with laws, regulations and the authorization of the state council, uniformly supervise and administer the national securities and futures market, maintain the order of the securities and futures market and ensure its lawful operation. The state council stipulates in the regulations on the administration of futures trading that the CSRC shall implement centralized and unified supervision and administration of the futures market.

Within the CSRC, there is a futures supervision department, which is the functional department of the CSRC to supervise and manage the futures market. In October 1992, the securities commission of the state council (hereinafter referred to as the securities commission of the state council) and the China securities regulatory commission (hereinafter referred to as the China securities regulatory commission) were established, marking the beginning of the formation of a unified regulatory system for China's securities market. The securities commission of the state council is the competent authority of the state for unified macro-management of the securities market. The China securities regulatory commission (CSRC) is the regulatory and executive body of the securities commission of the state council, which supervises the securities market in accordance with laws and regulations.

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3 Source: www.csrc.gov.cn
In accordance with the requirements of the *Implementation Opinions*, China Securities Regulatory Commission strengthen supervision over the audit work of SSE and **strengthen the supervision** of the whole process of the issue of listing of new shares before and after the event. Strengthen the continuous supervision of the listed companies of the Shanghai Stock Exchange, further compact the responsibilities of intermediaries, crack down on illegal acts such as **fraudulent issuance** and **false statements**, and protect the legitimate rights and interests of investors. SSE stated its measures in transaction supervision: First, it no longer adopts *window guidance* methods such as verbal reminders, strictly adopts supervision measures such as **suspending account transactions**; secondly, acts of excessive speculation and speculation that seriously **disrupt market order**, mainly in the form of sending a risk reminding letter to members, members are required to inform investors of the risk of secondary market transactions. Third, they will **take self-regulatory measures** in time for obvious violations of market manipulation, such as market manipulation, and report cases to the CSRC in a timely manner. The fourth is to **strengthen market monitoring and analysis**, pay close attention to market sentiment, and establish and improve a dynamic monitoring mechanism to adapt to changes in the market situation.

**Stock issue review committee**

To examine and verify whether stock issuance applications meet the relevant requirements in accordance with relevant laws, administrative regulations and regulations issued by the China securities regulatory commission; To examine and verify **relevant materials and opinions** issued by sponsors, accounting firms, law firms, asset appraisal institutions and other securities service institutions and relevant personnel for the issuance of stocks; To examine and verify the **preliminary examination report** issued by relevant functional departments of the CSRC; To put forward **opinions on examination and verification** of stock issuance applications in accordance with the law.
3.3 Shenzhen Stock Exchange

Shenzhen Stock Exchange is a national securities trading place approved by the State Council of China and is supervised by the China Securities Regulatory Commission. The functional role of the capital market has been continuously tested in the practice of reform, opening-up, and modernization. The Shenzhen Stock Exchange is a member-based legal person who implements self-discipline management. It has 115 members of securities companies and 4 members of non-securities companies. The main functions of the Shenzhen Stock Exchange include: providing places and facilities for securities trading; formulating business rules; reviewing securities listing applications, arranging securities listings; organizing and supervising securities transactions; supervising members; supervising listed companies; managing and publishing market information.

3.3.1 History of SZSE

The Shenzhen Stock Exchange opened on December 1, 1990. The Shenzhen Stock Exchange was born in the reform and opening-up and the construction of the special zone and created a precedent for the centralized trading of new China securities. So far, a multi-level capital market system in China has been built, fully support the development of China's small and medium-sized enterprises and promote the implementation of the national strategy of independent innovation. At the beginning of 1992, Deng Xiaoping made a southern tour and delivered a speech, in which the discussion on the stock market fundamentally eliminated people's doubts and played a huge role in promoting the development of the securities market. On December 1, 1992, Shenzhen initiated the Shenzhen securities week activity through TV to popularize securities knowledge and promote rational investment. Shenzhen stock exchange faces the severe situation, adapts to the system change, advances the market service project, strengthens the market front line supervision, realizes the leap growth from the regional market to the national market, completes the key transformation from the experimental exploration to the standardized operation. In 1996, service centers were set up in Beijing,
Shanghai, Wuhan, xi ’an and Chengdu, and a nationwide market service network was established. In August 2000, Shenzhen stock exchange set up a leading group for gem preparation, and the preparatory work for GEM was launched. The Shenzhen stock exchange has been fully mobilized and well organized and has done a lot of basic work for the development of the gem market in terms of laws and regulations, technical system, enterprise cultivation and talent reserve. In 2008, the severe international financial crisis affected the global economy. In order to realize the sustainable and healthy development of China's economy, people from all walks of life call for the launch of gem as soon as possible. On March 21, 2008, China securities regulatory commission (CSRC) publicly solicited opinions from the public on the administrative measures on initial public offering of stocks and listing on GEM. On December 8, 2008, the general office of the state council issued several opinions on the current financial sector promoting economic development, which clearly stated that the GEM will be launched in due time. On October 23, 2009, GEM was officially launched. On oct 30, the first batch of 28 gem listed companies went public.

3.3.2 Market Overview in SZSE

The market overview of the Shenzhen Stock Exchange is mainly about trading systems and several major stock indices. the Shenzhen Stock Exchange has formed a multi-level capital market system in which the three boards of the Main Board, the Small and Medium Enterprises Board and the Growth Enterprise Board complement each other and coordinate development. The main board market of the Shenzhen Stock Exchange was born in 1990, which promoted the listed companies to use the capital market to become better and stronger, forming a deep blue-chip market; the SME board was launched in May 2004, becoming the cradle of “invisible champions” for SMEs. The leading enterprise in the industry; the GEM started in October 2009, and has become the driving force for structural adjustment, the cradle of emerging industries and the platform for independent innovation.
Stock Indices

Main stock index of SZSE is Shenzhen Component Index.

Figure 3.5 Shenzhen Component Index

Source: SZSE data, author.

SZSE Main Board

The Main Board dates back from 1986. It evolved and grew along with the shareholding system reform in state-owned-enterprises and in response to SOE development. In spite the suspension of IPOs in July 2000, SZSE Main Board has witnessed continuous improvement in quality thanks to concerted efforts from market participants. The SME Board now has become a unique, indispensable and independent segment in China’s multi-tiered capital market system. The SME Board has witnessed continuous expansion in size and gradual optimization of its industrial structure thanks to many high-quality innovative issuers.

The SME Board\(^4\) highlights its role in supporting independent innovation. The Chi Next market was launched in SZSE on 23 October, 2009. It provides an important platform for implementing the national strategy of independent innovation. It helps accelerate the transformation of economic development mode and galvanizes growth in emerging industries of strategic importance.

B-shares refer to the RMB-denominated special shares with their par values marked in RMB in their circulation and to be subscribed and traded in Hong Kong Dollars. The trading of B-shares was launched in 1992, giving foreign investors the access to China’s equity market. Since China’s entry into the WTO, domestic investors were also allowed to invest in B-shares using foreign currencies.

3.3.3 Issuing conditions and IPOs in SZSE

The listed companies in Shenzhen are mainly small and medium-sized stocks. Most listed companies are private joint ventures. The listing requirements of the Shenzhen Stock Exchange include the following: the legally existing joint stock company; since the establishment of the joint stock company, the continuous operation time has been more than three years.

In the past three years, the main business and directors and senior management personnel did not have any major change, the actual controller has not changed. Complete assets, independent personnel, financial independence, independent organization, and independent business; the share capital before the issuance is \( \geq 30 \) million shares; the ratio of intangible assets to net assets at the end of the latest period is \( \leq 20\% \); there is no unrecovered loss at the end of the latest period; All major aspects are effective, accounting basic work norms, financial accounting reports have no false records; there is no situation that affects the issuer's continued profitability.

The company shall sign the SME Board Securities Listing Agreement or the GEM Securities Listing Agreement with the Shenzhen Stock Exchange before the initial listing of the stock, including the issuer's name, legal representative, registered address and other basic conditions; the rights and obligations of both parties shall be observed. Laws, regulations and other regulatory documents; listing fees and payment methods; stocks termination of listing and other related matters.

The Special Zone provides the investors with the enquiry in three aspects: firstly, IPO issuer’s information is accessible on homepage of the Special Zone. Information such as the number and names of IPO companies on the S ME Board and the Chi Next
Board can be found on the *IPO Overview*, and offering price thereof is available on *IPO Table*. Secondly, stipulated IPO disclosed information such as prospectus is put on the *Information Disclosure* page accessible for investors. Thirdly, information on issuers' price enquiry is presented on the *Price Enquiry* page of the Special Zone. Price enquiry information includes such information required by *the reform on mechanism* of IPO as the number of investors and placement targets participated in the price enquiry, median and weighted average of quoted prices, median and weighted average of quoted prices from public fund, offering price and P/E etc.

**Figure 3.6 Companies with the biggest IPOs**

<table>
<thead>
<tr>
<th>Rankings</th>
<th>Code</th>
<th>Name of Stocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>002415</td>
<td>Hikvision</td>
</tr>
<tr>
<td>2</td>
<td>000002</td>
<td>Vanke A</td>
</tr>
<tr>
<td>3</td>
<td>000333</td>
<td>Midea Group</td>
</tr>
<tr>
<td>4</td>
<td>000651</td>
<td>Gree Electric</td>
</tr>
<tr>
<td>5</td>
<td>000858</td>
<td>Wulangye</td>
</tr>
</tbody>
</table>

Source: SZSE data, author.

### 3.3.4 Regulation and Supervision in SZSE

In response to changes in the market situation and regulatory requirements, Shenzhen stock exchange takes the initiative to give play to its advantages of being close to the market and *flexible and rapid market response*. It focuses on the regulation of abnormal trading behaviors and adopts more binding regulatory measures to ensure that whenever there is any change, there will be a reaction, and whenever there is any violation, there will be an *investigation* and *punishment, strengthening the front-line supervision* of trading. It is an important innovation of transaction supervision under the new situation to establish a transaction behavior supervision mode centering on the supervision of members. Its core is to urge members to perform the management responsibility of *customers' transaction behavior* and form a hierarchical transaction supervision mode of *exchanges managing members and members managing customers*. 
First, give full play to the role of the special committees of the council; Secondly, the establishment of member customer transaction behavior management rules; At the same time, strengthen the performance evaluation and supervision and inspection of members; In addition, it strengthens the compliance training for members, and Shenzhen stock exchange and Shanghai stock exchange carry out at least four sessions of member customer transaction compliance management training every year.

In terms of institutional system, SSE continues to improve the investor demand-oriented information disclosure supervision system for listed companies. Shenzhen stock exchange continues to promote differentiated supervision, and gradually establishes information disclosure rules for listed companies that adapt to the characteristics of different sectors at different levels, improves industry regulatory requirements, and optimizes classified supervision. In the supervision practice, SSE strengthens the supervision of high-risk companies and prominent problems. The SZSE pays close attention to key risk companies, canceling the direct access of some companies' information disclosure, and formulating special risk contingency plans. We will continue to strengthen the supervision of mergers and acquisitions and reorganization, strengthen the joint verification of high transfer and performance matching, shareholder reduction plans and secondary market reduction, and take multiple measures to guide listed companies to increase their awareness of cash dividends, conduct in-depth studies on new market conditions such as high proportion of mortgages and competition for control, and take the initiative to exercise frontline supervision functions in accordance with the law.

3.4 Hong Kong Stock Exchange

The Hong Kong futures exchange limited is established in 1976, the leading derivatives exchange in the Asia-pacific region. The Hong Kong futures exchange provides an efficient and diversified market for investors to buy and sell futures and options contracts through more than 130 exchange participants, many of them linked to international financial institutions.
3.4.1 History of HKEx

Hong Kong has a long history of securities trading, which appeared before the opening of Hong Kong in the 19th century. The earliest securities trading in Hong Kong can be traced back to 1866. Hong Kong's first stock exchange, the Hong Kong stock brokers association, was established in 1891. Hong Kong Exchanges and Clearing Limited (HKEX) is the world's leading exchange group and a Hong Kong-listed holding company. Hong Kong stock Exchange in Hong Kong and London are operating Exchange, its members including the stock Exchange of Hong Kong limited, Hong Kong futures Exchange co., LTD., Hong Kong securities clearing co., LTD., the Hong Kong stock Exchange futures settlement options clearing co., LTD. And Hong Kong co., LTD., also includes the world's leading base metals markets —— the London Metal Exchange (London Metal Exchange, referred to as the LME). HKEX has embarked on a series of reforms in recent years to develop itself into a global leader in providing a full range of products and services, with full vertical integration, and to be ready to take advantage of the prudent and accelerated opening up of China's capital account. The merger of the three companies was completed on 6 March 2000 and the Hong Kong stock exchange listed the company on the stock exchange on 27 June 2000.

In July 2005, the Hong Kong stock exchange for the use of nearly 20 years, trading exchange square, located in the lobby for renovation, reduce transaction counters, and add multiple venues, museum and library facilities, trading hall after renovation in 2006, with 294 piece of desk, trading floor area is 12200 square feet, with the media area and news, Since 2012, HKEx has signed memorandum of cooperation with financial offices of several provinces to prepare for future cooperation. And set up a joint venture company in Shenzhen stock exchange and Shanghai stock exchange to develop new products and services. HKEx completed its acquisition of the London metal exchange in late 2012. In October 2015, HKEx announced its intention to establish a link with the London stock exchange. On November 17, 2014, the Shanghai-Hong Kong stock connect mechanism linking the Hong Kong and Shanghai stock markets was launched. The Shenzhen-Hong Kong stock connect mechanism, which connects the Hong Kong
and Shenzhen stock markets, was launched on Dec 5, 2016. In mid-2017, the bond connect was launched smoothly.

3.4.2 Market Overview in HKEx

All trading on the Hong Kong stock exchange is done by computer.

The first generation of *Automatic disk matching systems (AMS)* was launched in November 1993 and the second generation of AMS was launched in January 1996. The system connected the terminals of securities Banks and enabled trading to move beyond the trading floor. *AMS/3* was introduced in 2000. Through an open connector, securities brokers were able to *import orders directly* into the central processing system for trading.\(^5\) This made trading faster and *increased the volume of transactions* that could be handled by an exchange. With the expansion of the size of the stock market and the need for *the future internationalization* of the HKEX the third generation of AMS/3 was introduced in October 2000. AMS/3 connects investors, exchange participants, other participants, and the central market to make the trading process *more efficient*.

In terms of *market transaction data*, the average daily turnover of the Hong Kong stock market in 2018 *reached a record high* of $107.4 billion, up 22% from $88.2 billion in 2017. *In the derivatives market*, futures and options traded an average of 1,203,996 contracts per day in 2018, up 38 percent from 869,819 contracts in 2017.

**Stock indices**

Following figure is The Hang Seng Index in HKEx.

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3.4.3 Issuing conditions and IPOs in HKEx

A company listed on the Hong Kong stock exchange shall have a market value of more than $10 billion, which shall be determined by the exchange at its discretion, but generally not less than 10% or 10%-25%. For each $1 million issue of shares, it shall be held by no less than three persons, and each issue of shares shall be held by at least 100 persons; The expected market value at the time of listing shall not be less than HK $100 million; The profit requirement is that the income of the most recent year shall not be less than $20 million and the cumulative income of the previous two years shall not be less than $30 million (the above profits shall be deducted from the income and loss generated by non-daily business); Most of the listed companies are high-quality and mature enterprises both at home and abroad. Adopting Hong Kong and internationally accepted accounting principles; Hong Kong stock application to issue the time that wants 3 to 6 months commonly. In recent years, many high-quality domestic enterprises have chosen to list in Hong Kong for a variety of reasons, the most important of which is that Hong Kong's global financing may raise a large amount of funds in the short term.

HKEx won the global IPO crown in 2018, raising Hk$286.5 billion in initial public offerings, up from Hk$128.5 billion in 2017. A total of 218 new companies were listed in the whole year. It is also the sixth time in the past decade that HKEx has topped the global IPO rankings. As many as six of the top 10 IPOs are new economy companies,
including two new economy companies with different voting structures and one unprofitable biotech company.

**Figure 3.8 Companies with the biggest IPOs**

<table>
<thead>
<tr>
<th>Rankings</th>
<th>Code</th>
<th>Name of Stocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>00700</td>
<td>Tencent Holdings</td>
</tr>
<tr>
<td>2</td>
<td>01398</td>
<td>Industrial and Commercial Bank of China</td>
</tr>
<tr>
<td>3</td>
<td>00939</td>
<td>Construction Bank of China</td>
</tr>
<tr>
<td>4</td>
<td>00941</td>
<td>China Mobile</td>
</tr>
<tr>
<td>5</td>
<td>02318</td>
<td>China Ping An</td>
</tr>
</tbody>
</table>

Source: HKEx data, author.

### 3.4.4 Regulation and Supervision in HKEX

Hong Kong’s securities and futures markets is regulated by the China Securities Regulatory Commission (CSRC) and Futures Commission (SFC). What makes HKEX special is that it is a market builder and regulator, but it is also a listed company. This means that HKEx needs to look at the big picture, not only to promote the prosperity of the whole market through reform and innovation, but also to formulate policies to protect the interests of investors, and at the same time to create profits for shareholders. The development of the Hong Kong market has inherent limits. There are a lot of small cap companies, but the cap size is small. Large-cap companies are dominated by traditional sectors such as finance, energy and telecommunications, while small-cap companies are concentrated in consumer, technology and healthcare sectors. However, large market value companies are more abundant in liquidity, small market value companies are light turnover, average daily turnover is significantly low. From the perspective of activity, the turnover rate of small-cap stocks is much higher than that of large-cap stocks, which also shows the retail-dominated trading characteristics are like A-shares.
3.5 Comparison of market data of the three major stock exchanges in China (2017)

These market data of the three stock exchanges is compared mainly from the number of listed companies, the total market value, the total turnover share and turnover, and the average price/earnings ratio.

**Figure 3.9 Some Market Data of The Three Major Stock Exchanges in China**

<table>
<thead>
<tr>
<th></th>
<th>Hong Kong Stock Exchange</th>
<th>Shanghai Stock Exchange</th>
<th>Shenzhen Stock Exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Main Board</td>
<td>GE M</td>
<td>A Share</td>
</tr>
<tr>
<td>No. of listed companies</td>
<td>1,936</td>
<td>388</td>
<td>1,452</td>
</tr>
<tr>
<td>Total market capitalization (Bill. dollars)</td>
<td>26,979</td>
<td>144</td>
<td>28,201</td>
</tr>
<tr>
<td>Total turnover (Mil. shares)</td>
<td>397,787</td>
<td>692</td>
<td>15,934</td>
</tr>
<tr>
<td>Total turnover (Mil. dollars)</td>
<td>91,474</td>
<td>176</td>
<td>135419</td>
</tr>
<tr>
<td>Average P/E ratio (Times)</td>
<td>11.04</td>
<td>26.21</td>
<td>13.08</td>
</tr>
</tbody>
</table>

Source: SSE data, SZSE and HKEx data, author
According to the comparison figure above, we can see that Shanghai stock exchange is relatively weak in competitiveness in this year. The total turnover of shares is lower than that of Shenzhen stock exchange and Hong Kong stock exchange. The total market capitalization and total market turnover are slightly higher than that of Hong Kong stock exchange and lower than that of Shenzhen stock exchange. Although the Shanghai stock exchange remains the largest in China, it is less attractive to listed companies and has little advantage in comparison.

**Figure 3.10 No. of listed companies**

![No. of listed companies (2017)](image)

Source: SSE data, SZSE and HKEx data, author

**Figure 3.11 Total market capitalization (Bill. dollars)**

![Total market capitalization (Bill. dollars)](image)

Source: SSE data, SZSE and HKEx data, author

From some data in SSE listed companies by industry, we know that the manufacturing industry has the largest number, only one in the health and social work industries, and few in the education industry, in the lodging and catering industry.
According to this table, it is not difficult to find that among the companies listed on the Shanghai stock exchange, there are big differences between manufacturing and education enterprises, which directly reflects the uneven economic development of the industry.

3.6 Stock Exchanges Connect in China

In recent years, the links between China's major stock exchanges have become stronger and stronger, and they have gradually formed a mutually beneficial and win-win cooperation. 2014, the Shanghai-Hong Kong stock connect mechanism linking the Hong Kong and Shanghai stock markets was launched. 2016, The Shenzhen-Hong Kong stock connect mechanism, which connects the Hong Kong and Shenzhen stock markets, was launched.

3.6.1 Shanghai-Hong Kong stock connect

A new joint program between the Shanghai Stock Exchange (SSE) and the Hong Kong Stock Exchange (HKEx) will allow non-resident investors to invest in Chinese companies whose shares are listed on the SSE and denominated in Renminbi only, so-called "China A-shares". Investors will be able to invest without having to apply for a status as a Qualified Foreign Institutional Investor (QFII) or Renminbi Qualified Foreign Institutional Investor (RQFII). As a result, the Shanghai-Hong Kong Stock Connect Program will enable Chinese firms to further broaden their investor base, who in return will gain another access opportunity to a desirable asset class.

Simultaneously with the launch of the program in the market on November 17, Clear stream will be able to offer a range of settlement and custody services for China A-shares via its existing Hong Kong link, Citibank, for the first time.

The Shanghai-Hong Kong Stock Connect program responds to the financial markets strong interest in the Chinese currency. As a core market infrastructure provider, it is a cornerstone of Clear stream’s strategy to support our customers’ increasing demand to invest in Asia and to facilitate their business in those markets," (Anne-
Pascale Malréchauffé, Head of Network Management at Clear stream)

3.6.2 Shenzhen-Hong Kong Stock Connect

Like Shanghai-Hong Kong Stock Connect, Shenzhen-Hong Kong Stock Connect is a stock trading link between Shenzhen and Hong Kong. The link gives investors outside Mainland China another trading channel to the world's largest emerging market, allowing investors to trade over 800 stocks on the Shenzhen Stock Exchange. Mainland Chinese brokers will also gain access to transactions in 417 stocks in Hong Kong. Shenzhen-Hong Kong Stock Connect is a cross-boundary investment channel that connects the Shenzhen Stock Exchange and the Hong Kong Stock Exchange. Under the program, investors in each market can trade shares on the other market using their local brokers and clearing houses. Chinese Premier announced the programmer on 16 August 2016. The scheme launched on 5 December 2016.
4 Development of Stock Exchanges in the USA

The US economy is highly developed, and the people have reached a high standard of living in the world. The US financial market is characterized by both capitalism and a mixed economy. Within this system, companies and the private sector make major microeconomic decisions, and the government's role in domestic economic life is less important; however, the sum of governments at all levels accounts for 36% of GDP; in developed countries, American society the welfare network is relatively small, and the government's regulation of business is also lower than that of other developed countries.

Figure 4.1 GDP in the USA

![GDP in the USA (trillion dollar)](image)

Source: NYSE data, author

4.1 Financial Market in the USA:

The US stock market is the most developed stock market in the world. Whether it is the stock issuance market or the circulation market, whether it is the number of shares issued and traded, the stock market capacity or the degree of market development, it is second to none in the world. The US stock circulation market is mainly divided into a centralized trading market and a diversified trading market. The former mainly refers to stock exchanges, the latter includes the over-the-counter market and the third and
fourth markets, and the US circulation market is the redistribution market of issued shares (LIN, Jian, 2018). Its main task is to provide venues, equipment and professionals to facilitate and facilitate secondary transactions in securities.

There are five national stock exchange markets in the United States. Regardless of the size of the company, with the support of investment banks, there are opportunities for listing financing. The United States has no currency control, the US dollar goes in and out of the United States, and the policy encourages foreign companies to participate in investment behavior and become the world's financial capital. Many institutional and individual investors of different sizes are looking for different investment targets in different stock markets according to their respective requirements and purposes, providing the US stock market with the largest capital base in the world, thus making the US stock market very active. Financing and M&A activities are frequent; the US stock market is divided into four markets. The primary market is the issuance market, also known as the primary market. Depending on the issuing company, the issuance of the primary market can be divided into initial sales and secondary sales. The initial sale refers to the initial issuance of shares by a newly established company; the secondary sale refers to the issuance of shares by a company that has issued shares, that is, the issuance of new shares at the market price of the issued shares. The secondary market in the United States can be divided into an organized trading market and the Over the Counter (OTC). Organized trading markets mainly refer to various stock exchanges, such as the National New York Stock Exchange and the American Stock Exchange; and the local Midwest Stock Exchange, the Philadelphia Stock Exchange and so on. The purpose of the stock exchange is to ensure that companies with large scales and good financial positions have a fair and reasonable stock price and an active trading market and can provide information about the company so that investors can make choices.

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6 Source: World Stock Exchange/in the USA
4.2 New York Stock Exchange

The New York Stock Exchange (NYSE) is the largest listed company by market capitalization, the largest by IPO volume and volume, and the second largest by transaction volume. There are about 2,800 companies listed here, and the global market value is 15 trillion dollars. By July 2004, all but two of the 30 companies in the Dow Jones industrial average were listed on the NYSE. In late April 2005, the NYSE merged with Archipelago to create a for-profit group. New York stock exchange co., ltd. is headquartered in New York City, New York City, the United States, 11 Broadway, on the south side of the corner of Wall Street. On June 1, 2006, NYSE announced its merger with Euronext to form NYSE Euronext. Nowadays, the New York stock exchange has a huge influence on the U.S. economy and even the policy decisions of the federal reserve.

4.2.1 History of NYSE

The origins of the New York stock exchange date back to May 17, 1792, when 24 brokers signed the sycamore agreement under a sycamore tree outside no. 68 Wall Street in New York. On March 8, 1817, the group drew up a charter and changed its name to the New York securities and exchange commission. On black Thursday, October 24, 1929, the U.S. stock market crashed, and panic caused by falling stock prices precipitated the great depression. After black Monday, the one-day economic recovery on Wednesday October 30th did little to stop the bleeding. Earlier that week, from Monday through Tuesday, the Dow Jones industrial average posted its biggest drop in history. The stock didn't stop trading until 7:30 p.m. on Tuesday because of the volume of trading that day. The New York stock exchange closed at 2 p.m. on Oct. 31, allowing companies to catch up. On October 1, 1934, the exchange was registered with the U.S. securities and exchange commission as a national stock exchange, with a chairman and a 33-member board of directors. Since 1953, membership has been limited to 1,366. Only companies that earn $2.5million (before tax), give ordinary shareholders the right to vote and regularly publish their finances qualify for an
exchange listing. On February 18, 1971, *the nonprofit corporation* was formed, and the number of board members was reduced to 25. The new company is headquartered in New York. It was the largest exchange until it was *overtaken by NASDAQ* in trading volume in 1996. In late April 2005, the New York stock exchange took over Archipelago to become *a for-profit organization*. The New York stock exchange is headquartered at 18 Broadway in New York City, New York, on the south side of the corner of Wall Street. On June 1, 2006, NYSE and Euronext announced the merger of NYSE and Euronext to form NYSE Euronext. Euronext is the parent company of Europe's *second largest derivatives exchange*, forming the world's first the transatlantic *NYSE-pan-European Stock Exchange*, the merger of the NYSE and the Euronext stock exchanges the US's most prestigious stock exchange, NYSE, with real derivatives trading ability. The NYSE Euronext Holding Corporation was created on April 3, 2007 with the merger of NYSE Group, Inc., the world’s leading cash equities market, and Euronext N.V., the leading pan European stock exchange. In 2008, NYSE Euronext *merges with American Stock Exchange*. Nowadays, the New York stock exchange has a huge influence on the U.S. economy and even the policy decisions of the federal reserve.

### 4.2.2 Market Overview in NYSE

The market overview of the NYSE is mainly about following three main stock indices.

**Stock Indices**

Following part is about NYSE Composite, NYSE TOP US 100 and NYSE International 100, we can see the obvious changes.
The NYSE 100 index contains 100 of the largest U.S. common stocks listed on the NYSE. The index is designed to help investors diversify US assets across 10 industries, as defined by the Dow. It tracks the trading of the top 100 U.S. stocks. U.S. stocks traded on the New York stock exchange. The total free float of these companies is nearly $7.3 trillion, or 36 percent of the total value of all the shares listed on the New York stock exchange. It covers more than 62 percent of U.S. companies listed on the
NYSE. From these statistics, we can see the importance of the NYSE 100 index. In fact, for the past five years, the New York stock exchange (NYSE U. The S100 has outperformed both the S&P 500 and the S&P 100. Unlike NYSE U.S 100 Index which tracks only top 100 U.S stocks trading on the NYSE and its holdings only across 10 industry sectors, the NYSE International 100 Index tracks the top 100 non-US common stocks trading on the NYSE in the form of ADRs and its components are diversified across all economic sector. The total value of companies represented in NYSE International 100 index is $4.3 trillion in 2004. It is over a quarter of the total market capitalization of U.S companies. The NYSE International 100 Index is an ideal benchmark for U.S. institutional investors who are restricted from purchasing foreign stocks, and for those who choose to use ADRs to obtain international diversification.

Figure 4.4 NYSE International 100

Source: NYSE data, author.

7 Source: http://www.nyse.com/
4.2.3 Issuing conditions and IPOs in NYSE

Applicant company may submit its formal listing application to the New York stock exchange at any time within 6 months from the date of receipt of the formal notification of approval of the qualification examination. Non-us companies can choose between two criteria when applying for listing: the New York stock exchange listing criteria for domestic companies and the alternative listing criteria for non-us companies. One is listing standards for domestic companies in the United States: listing under the listing standards for domestic companies in the United States requires the issuance of the minimum number of shares in the United States. Stock offerings can take many forms, such as a public offering of stock in the United States or a merger or acquisition of a company in the United States. The other is proxy listing standards: the proxy listing standards are developed for large non-us companies, whose main requirements are that the shares of listed companies be issued not only in the us but also around the world, and in the broad floating market of the country in which they were issued. The total number of shareholders in the United States shall be 2,000; Or a total of 2,200 shareholders in the us, where the average monthly trading volume (in the last six months) are 100,000 shares; Or 500 shareholders in the United States, where the average monthly trading volume reached 1 million shares in the last 12 months. The number of public shares to be issued in America is 1.1m. In an initial public offering, the underwriter submits a guarantee that the offering will meet or exceed this standard, with a market value of $40 million for public shares issued in the United States. The net tangible assets of a public company would be $40m. To have pretax income of $2.5 million in the most recent year and $2 million in the last two years, or $6.5 million in the three years combined, and a minimum income of $4.5 million in the most recent year, and to be profitable in all three years.

As the founder of the U.S. equity markets, the New York Stock Exchange has a 225+ year track record of supporting IPOs and innovating in the capital markets. NYSE-Listed companies enjoy a host of benefits including our unique market model, innovative visibility opportunities and cutting-edge technology solutions. (Coibion,
These advantages continue to attract many of the world’s leading companies year after year. IPOs are a proven method of connecting companies, employees and economies with the capital they need to expand their businesses, build more jobs in their communities, retain top employees and elevate their brands. It’s a process that fuels innovation, drives growth and encourages healthy competition.

A company must follow all the requirements of Section 303A as of the date the company’s securities first trade (trading may be regular way or when issued) on the NYSE (the “listing date”) unless a transition period is provided. Section 303A provides a transition period for, among others, a company listing in conjunction with an IPO.

**Figure 4.5 Companies with the biggest IPOs**

<table>
<thead>
<tr>
<th>Rankings</th>
<th>Code</th>
<th>Name of Stocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BRKA</td>
<td>BERKSHIRE HATHAWAY INC DEL</td>
</tr>
<tr>
<td>2</td>
<td>AMZN</td>
<td>AMAZON COM INC</td>
</tr>
<tr>
<td>3</td>
<td>XOM</td>
<td>EXXON MOBIL CORP</td>
</tr>
<tr>
<td>4</td>
<td>JNJ</td>
<td>JOHNSON &amp; JOHNSON</td>
</tr>
<tr>
<td>5</td>
<td>GE</td>
<td>GENERAL ELECTRIC CO GE</td>
</tr>
</tbody>
</table>

Source: NYSE data, author.

### 4.2.4 Regulation and Supervision in NYSE

The federal securities law of the United States has established a relatively complete system for the regulation of the securities market and market participants. The first layer is the self-regulatory body of the NYSE regulator. The second layer is SEC.

**SEC (U.S. Securities and Exchange Commission)**

The U.S. Securities and Exchange Commission (SEC) is an independent agency of the United States federal government. The SEC holds primary responsibility for enforcing the federal securities laws, proposing securities rules, and regulating the securities industry, the nation's stock and options exchanges, and other activities and organizations, including the electronic securities markets in the United States.
The securities and exchange commission are the government agency that regulates and operates the New York stock exchange. Therefore, all rules and rule amendments proposed by the New York stock exchange must be submitted to the SEC. The decision was made by the SEC. However, the SEC will not make new rules or rule changes. The new rules and any changes to them are overseen by NYSE. The SEC's goal is to create financial transparency for public companies so that they are accountable for business and financial transactions. All public companies, including those that trade securities on the New York stock exchange, are required to submit annual and quarterly financial reports to the SEC. The department's trading and market performance is also monitored by the New York broker-dealer market to identify representatives of illegal activities or companies listed on the New York stock exchange, such as insider trading and market manipulation. The SEC's trading and markets division oversees the day-to-day operations of all U.S. stock exchanges, including the New York stock exchange. The division of trading and market division reviews and approves any rule changes, proposes new rules, and the NYSE documents its rules with the SEC.

**NYSE regulation (NYSER)**

NYSE Regulation is responsible for monitoring activities on the NYSE’s equities, options, and bonds markets – i.e., the New York Stock Exchange LLC (equities and bonds), NYSE Arce, Inc. (equities and options), NYSE American LLC (equities and options), NYSE National, Inc. (equities), and NYSE Chicago, Inc. (equities) (collectively, the “NYSE Exchanges”) – and for addressing non-compliance with the NYSE Exchanges’ rules and federal securities laws. NYSER enforces both the NYSE Exchanges’ and their members' compliance with NYSE Exchange rules and applicable federal securities requirements. It also monitors and enforces listed companies’ compliance with applicable listing standards of the NYSE Exchanges. By performing these duties, NYSER supports the NYSE Exchanges’ efforts to promote just and equitable principles of trade, encourage free and open markets, and protect investors and the public interest. Many of these regulatory functions are performed directly by NYSER; others are performed by FINRA or other self-regulatory organizations pursuant to a regulatory services agreement, national market system plans, or other
arrangements.

NYSE Regulation has also a responsibility for NYSE market surveillance to ascertain any illegal behavior of NYSE broker dealers and NYSE listed companies. The New York stock exchange regulates trading irregularities on the floor of the New York stock exchange, as well as irregularities in electronic trading. When market regulators spot any type of trading violation, they report it to NYSE regulatory enforcement, which will investigate the allegations further.

4.3 NASDAQ

The NASDAQ stock exchange is an electronic stock exchange in the United States. It was founded in 1971 and is now the second largest stock exchange in the world. It used to stand for the National Association of Securities Dealers Automated Quotations. NASDAQ is the world's first stock electronic trading market and an important part of the US capital market. After more than 40 years of continuous development, Nasdaq has grown from an over-the-counter (OTC) market to a global securities trading market. Market construction and institutional reforms have continued to evolve, starting from the beginning of the OTC market and trading in New York in recent years. The securities firm recognized as one of the most successful capital markets in the world.

The market allows market makers of promissory notes and shares to trade directly over the telephone or the Internet without being restricted to the trading floor, and the trading content is mostly related to new technologies, especially computers.

4.3.1 History of NASDAQ

NASDAQ stock market was established on February 8, 1971, with an index of 100 points. On October 13th Intel went public on NASDAQ, raising $8.2m. On December 12, 1980, apple Inc. went public on NASDAQ. It issued 4.6 million shares and closed at $29, creating four billionaires. Nasdaq has since been called a hotbed for billionaires.
October 19, 1987, the NASDAQ falls 11.5 percent, the biggest drop in a single day, as the Dow Jones industrial average plunges. At the end of the year, it was 330. On March 10, 2000, it created the highest record of 5048.62 points. On the 13th, on Monday, due to the bursting of the Internet bubble, large-scale selling of technology stocks, 500 companies listed on the NASDAQ bankrupt, 40% delisted, 80% of companies fell more than 80%, evaporating 3 trillion US dollars. On May 18, 2012, Facebook raised about $16 billion through its listing on NASDAQ, making it the second-largest IPO in the US after Visa (about $17.9 billion) in 2008. On April 1, 2013, NASDAQ spent US$750 million in cash to acquire eSpeed, the electronic brokerage trading platform, from currency broker BGC Partners, making it the first time to engage in a daily trading volume of US$500 billion. market, it is the first electronic stock exchange in the world. The companies listed on NASDAQ are mainly high-tech companies, such as Microsoft, Apple, Intel, Dell, Cisco and so on. Although NASDAQ is an electronic stock market, but it is still a typical trading center, the center is located in New York's Four Times Square next to the building and is often referred to as Condé Nast Building, Four Times Square and no general stock exchange is often a variety of hardware facilities, instead, a large studio, with high-tech projection screen and Europe and the United States the main financial news television reporter in an instant market. Nowadays, NASDAQ has become the world’s biggest OTC stock exchange market.

4.3.2 Market Overview in NASDAQ

The market overview of the NYSE is mainly about following two main stock indices, NASDAQ Composite Index and NASDAQ 100 Index.

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8 Source: https://m.nasdaq.com/
From the above figure, we can see that the NASDAQ composite index has changed over the past decade, and the overall volatility has risen. In 2008, it was affected by the economic crisis, and there was a slight decline in 16 years.

The NASDAQ Composite Index is an average stock price index that reflects changes in the NASDAQ Stock Market. The basic index is 100. NASDAQ's public companies cover all new technology industries, including software and computing, telecommunications, biotechnology, retail and wholesale trading. It is made up of hundreds of the fastest growing advanced technology, telecommunications and bio companies in the United States, including Microsoft, Intel, AOL, and Yahoo, which are well-known high-tech companies, and thus become synonymous with the US new economy. The NASDAQ Composite Index is a barometer of changes in the market
value of various industrial sectors. Therefore, the NASDAQ Composite Index is more comprehensive than the Standard & Poor's 500 Index and the Dow Jones Industrial Index (which includes only 30 well-known large industrial and commercial companies, 20 transportation companies and 15 utility companies). The NASDAQ Composite Index includes more than 5,000 companies, more than any other single securities market. Because it has such a broad base, it has become one of the most influential securities market indices.

### 4.3.3 Issuing conditions and IPOs in NASDAQ

For US company listing standards, the applicant company should have a net asset value of more than 4 million US dollars. The total market value of the stock must be at least US$1 million. The company needs more than 300 shareholders, and the minimum of the previous fiscal year is 750,000 USD. Pre-tax income, the company's annual financial statements must be submitted to the Securities and Exchange Commission and the company's shareholders for reference. At least three Market Makers must participate in the case (each registered Market Maker must be able to buy or sell more than 100 shares under normal bid and offer prices and must be in each All the transaction price and transaction volume will be returned to the US Securities Dealers Association (NASD) within 90 seconds after the transaction.

Non-us companies provide optional listing criteria

**Option 1:** financial position requires a tangible net asset of at least $4 million; In recent year (or two years of the last three years) pre-tax profits of not less than $700000, after-tax profits of not less than $400000, current market value of not less than $3 million, public shareholders holding more than 1 million shares, or in more than 500000 shares, and the average daily turnover in more than 2000 shares, but shareholders not less than 400 people in the United States, price is not lower than $5.

**Option 2:** tangible net assets shall not be less than 12 million US dollars, the value of public shareholders' shareholding shall not be less than 15 million US dollars, the amount of shareholding shall not be less than 1 million shares, and the number of
American shareholders shall not be less than 400. There is no uniform requirement for pretax profit; In addition, the company must have an operating record of not less than three years and share price not less than $3.

Although it usually takes four to six weeks to process the list application, if the application does not ask a question and the company responds quickly to the employee's opinion, then the time frame is variable and can be greatly shortened (BODIE, Z., A. KANE and A.J. MARCUS, 2014). In the first week, the company submitted a listing application for NASDAQ to start auditing the company's qualifications. In the 3 weeks, the employees completed the preliminary review and prepared a comment letter. In the third week, the company handled any questions raised by the employees. In the 5th-6th week, the employee completed the review and the company was approved to go public.

Figure 4.8 Companies with the biggest IPOs

<table>
<thead>
<tr>
<th>Rankings</th>
<th>Code</th>
<th>Name of Stocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AAPL</td>
<td>Apple Inc.</td>
</tr>
<tr>
<td>2</td>
<td>GOOGL</td>
<td>Alphabet Inc.</td>
</tr>
<tr>
<td>3</td>
<td>MCFT</td>
<td>Microsoft Corporation</td>
</tr>
<tr>
<td>4</td>
<td>FB</td>
<td>Facebook, Inc.</td>
</tr>
<tr>
<td>5</td>
<td>DELL</td>
<td>Dell Technologies Inc.</td>
</tr>
</tbody>
</table>

Source: NASDAQ data, author.

4.3.4 Regulation and Supervision in NASDAQ

As the world's second largest stock exchange, NASDAQ still has its own unique advantages in technology supervision or brings security guarantees for digital currency transactions. It is understood that NASDAQ's market surveillance system uses more than 40 procedures to find possible market misconduct or market manipulation, can process 200 million messages per day, and review more than 300,000 alarms per year. For most cryptocurrency exchanges on the market, the most difficult problem is to identify false transactions. NASDAQ hopes to use its technological advantages to help
the exchange *get rid of the false transactions*. NASDAQ has an extremely rigorous set of testing methods that not only pay attention to the identity background and past work experience of cryptocurrency exchange executives, but also require them to have a reliable process to support tokens on the shelves, *ensuring* that the cryptocurrency listed on the trading platform is in good standing. Under the rigorous evaluation criteria, only two cryptocurrency exchanges have so far revealed that they are using NASDAQ technology, namely Gemini and SBI Virtual Currency - in addition to five cryptocurrency transactions. It has passed the NASDAQ test and completed the contract and can use its transaction monitoring software. As the bitcoin industry continues to *evolve and become a mainstream cryptocurrency*, NASDAQ transaction monitoring software, or other similar products, must operate in the marketplace, and only then can we ensure that everyone follows *the same rules of the game*.

### 4.4 Comparison of market data of the major stock exchanges in the USA (2017)

These market data of the two stock exchanges is compared mainly from the number of listed companies, the total market value, the total turnover share and turnover, and the average price/earnings ratio.
### Figure 4.9 Some Market Data of The Two Stock Exchanges in the USA

<table>
<thead>
<tr>
<th></th>
<th>New York Stock Exchange</th>
<th>NASDAQ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>US Companies</td>
<td>Non—US Companies</td>
</tr>
<tr>
<td>No. of listed companies</td>
<td>1791</td>
<td>495</td>
</tr>
<tr>
<td>Total market capitalization (Bill. dollars)</td>
<td>220,800</td>
<td>100,400</td>
</tr>
<tr>
<td>Total turnover (Mil. shares)</td>
<td>618,000</td>
<td>792,432</td>
</tr>
<tr>
<td>Total turnover (Mil. dollars)</td>
<td>1,279,640</td>
<td>736,264</td>
</tr>
<tr>
<td>Average P/E ratio (Times)</td>
<td>15.86</td>
<td>18.41</td>
</tr>
</tbody>
</table>

Source: NYSE, NASDAQ data, author.

### Figure 4.10 No. of listed companies

<table>
<thead>
<tr>
<th>No. of listed companies(2017)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYSE 220,800 618,000 1,279,640 15.86 1791 US Companies</td>
</tr>
<tr>
<td>NYSE 220,800 618,000 1,279,640 15.86 495 Non—US Companies</td>
</tr>
<tr>
<td>NASDAQ 100,400 792,432 736,264 18.41 2545 US Companies</td>
</tr>
<tr>
<td>NASDAQ 100,400 792,432 736,264 18.41 404 Non—US Companies</td>
</tr>
</tbody>
</table>

Source: NYSE, NASDAQ data, author.

### Figure 4.11 Total market capitalization (Bill. dollars)
The number of listed companies on the NYSE is less than the number of NASDAQ’s, but total market capitalization and total turnover can be compared to the strength of companies listed on the NYSE. It shows that the NYSE *attracts a lot of world-class companies*. These companies choose NYSE to list their securities even the NYSE is *a highly regulated stock exchange and a high demanding exchange*.
5 Comparison of Selected Stock Exchanges

Shanghai Stock Exchange and New York Stock Exchange are the most influential stock exchanges in China and the United States. Following are some aspects of comparison, their histories, market capitalization, trading, numbers of listed companies, securities products, IPO, stock indices and supervisions.

5.1 Comparison of History in SSE and NYSE

Shanghai Stock Exchange was established in 1990. At that time, Shanghai needed to step up financial reforms and reproduce the style of the international financial center. The priority was to open foreign banks to enter and establish stock exchanges. The history of the New York Stock Exchange can be traced back to May 17, 1792, when 24 brokers signed the US Sycamore agreement under a sycamore tree. In contrast, the history of the NYSE is about two hundred years earlier than the Shanghai Stock Exchange.

New York Stock Exchange is in New York, the largest international financial center. NYSE is affected by NASDAQ and other electronic trading systems, and although it is still the world's largest market, there are insufficient electronic transactions. There are many well-known universities in the United States, and these universities are good at business all over the world. These universities output many talented people who know the world of finance to New York, to NYSE. Shanghai Stock Exchange is in Shanghai with the most dynamic economic development in China. It has a developed factor market, a sound financial ecosystem, and high-end international talents. The Traffic Circle in the Yangtze River Delta with Shanghai as the leader is convenient and efficient; the economic circle in the Yangtze River Delta is prosperous and active, and the regional economy is radiating across the country. The unique geographical advantages of the Shanghai Stock Exchange have made the Shanghai Stock Exchange market an important booster for China's economic growth and structural transformation. The aggregation effect has provided the most dynamic stage for enterprises.
The two stock exchanges are world-class stock exchanges. This is because there are *strict supervision of listing standards* and *continuous inventory standards; transparent operation; timely information disclosure; low transaction costs*. There are also *many professionals* who benefit from the good business environment provided by the government.

5.2 Comparison of Market Capitalization in SSE and NYSE

This following section will compare the market capitalization’s differences between these two exchanges through figure and discussion.

**Figure 5.1 Market Capitalization in SSE and NYSE**

![Market Capitalization in SSE and NYSE](image)

Source: NYSE and SSE data, author

As can be seen from the Figure 5.1, the market value of the SSE is changed to the US dollar unit at the published exchange rate. In terms of market capitalization, the New York Stock Exchange still *has an absolute advantage* over the Shanghai Stock Exchange. The figure is easier to see at a glance, and it proves that the New York Stock Exchange is the world's largest global stock exchange. This figure also reflects that the *US subprime mortgage crisis* is a huge blow to the New York Stock Exchange. The New York Stock Exchange gradually recovered from the subprime crisis of a decade...
ago. Of course, Shanghai Stock Exchange was also affected in the 2008 crisis. But the impact on the Shanghai Stock Exchange is not as big as the New York Stock Exchange. The market value of the Shanghai Stock Exchange began to grow slowly. Another issue with this chart is such a huge gap between the market values of the two exchanges. New York Stock Exchange's $18.5 trillion (2017) market capitalization ranks the world's largest stock market, accounting for 27% of the world's total. The total market value of SSE is less than one-fifth of NYSE.

5.3 Comparison of Trading and Numbers of Listed Companies in SSE and NYSE

This part compares the trading hours, transaction scale, daily trading volume and number of listed companies in SSE and NYSE.

5.3.1 Trading hours

Shanghai Stock Exchange: In the case of auction trading, 9:15-9:25 on each trading day is the opening auction time. 9:30-11:30, 13:00-15:00 is the continuous bidding time. Except for securities that are suspended and resumed during the market opening period. Closed on Saturdays, Sundays and holidays.

New York Stock Exchange: Summer time 9:30-16:00 Winter time 10:30-16:00 trading hours, 9:30 a.m. ET - Core Open Auction;3:45 PM to 4:00 PM ET - 123(c) Closing Imbalance Period;4:00 PM ET - Closing Auction, except for holidays, trading hours, five days a week, five days a week.

5.3.2 Transaction scale

From the perspective of the scale of capital transactions, the United States are still the largest and most active capital markets in the world. Especially for the relatively large-scale IPO issuance, it is also very important to be able to eat such a large financing project. considerations. Companies applying for listing are more likely to be listed on the stock exchanges with high transaction size, but the requirements of the NYSE are higher than those of the Shanghai Stock Exchange.
Figure 5.2 Daily Trades

Source: NYSE and SSE data, author

5.3.3 Number of Listed Companies in SSE and NYSE

By comparing the number of companies listed on the NYSE and the Shanghai Stock Exchange in the past decade, we know some gaps.

Figure 5.3 Numbers of Listed Companies (in ten years)

Source: NYSE and SSE data, author
From the above figure, we can see that the gap between the Shanghai Stock Exchange and the NYSE has *narrowed* in the decade. The reason is that the listed companies on the NYSE have more delisting in recent years. The companies listed on the Shanghai Stock Exchange have *sustained growth*, and their competitiveness has gradually strengthened. Because of *the high listing conditions*, there are problems in management in recent years. The number of delisting companies and the delisting rate in mature capital markets have *increased*. The NYSE is no exception. Although there are also new companies listed, in the past 10 years, the number of cities exceeds 1,000, the delisting rate is between 4% and 5%, and the delisting rate of the Shanghai Stock Exchange is 0.3%.

Although the number of companies listed on the NYSE has decreased, its market value has *continued to grow*, proving its appeal to large and powerful companies, which is *highly competitive in the global stock exchange market*.

### 5.4 Comparison of Securities Products in SSE and NYSE

SSE and NYSE are important parts of financial markets. They afford trading platform for investors, specialists, and issuers to trade equities, bonds and derivatives. Securities Products include Stock, Bond, ETFs, IPOs and so on.

#### 5.4.1 Stocks

The following two figures are for comparing the number of stocks market shares in SSE and NYSE.
We can see that the daily stock market share of the New York Stock Exchange is *much more volatile* than that of the Shanghai Stock Exchange. The data of the Shanghai Stock Exchange has not been referenced before 1992, but it is generally less than the NYSE. In the past two years, *the gap has narrowed* and may narrow. Catch up with or exceed the NYSE.

Source: Ceicdata.com (the data in previous years was not found)
5.4.2 Bond

The following figure is for comparing Bond value of trading in SSE and NYSE.

**Figure 5.6 Comparison of Bond Value of Trading**

Source: SSE, NYSE data, author.

The trading volume of bonds on the Shanghai Stock Exchange showed a trend of sustained and stable growth. Compared with stocks, the differentiation of bonds is more obvious, which makes it difficult to achieve a high degree of standardization. Bond value of trading is very small. The NYSE bond trading platform has the following advantages: First, the transparency is higher, the transaction record of the NYSE bond platform It can be uploaded to the TRACE system 2 in real time, and the bond transactions reached in the OTC market are uploaded to the system within 15 minutes. As the regulatory authorities increase the transparency of the bond market, the advantage of the NYSE bond trading platform will be more prominent. Second, the transaction efficiency is higher. The NYSE bond trading platform adopts a centralized bidding method, and the transaction efficiency is very high. At the same time, because the limit price declaration can remain in the order book, it can also provide better liquidity support.
5.4.3 Exchange-Traded Funds (ETFs)

Transactional open-ended index funds are a special type of open-end funds. They combine the operational characteristics of closed-end funds and open-end funds. Investors can either purchase or redeem fund shares from fund management companies, and at the same time, they can *Closed-end funds* buy and sell ETF shares at market prices in the secondary market. However, purchase redemptions must be exchanged for a basket of stocks for fund shares or fund shares for a basket of stocks. (Frederic., 2013). The ETF index fund represents the ownership of a basket of stocks. It refers to index funds that are traded on stock exchanges like stocks. The trading price and the net value of fund shares are basically consistent with the index being tracked.

The New York Stock Exchange is the global leader in ETF trading. Compared with the New York Stock Exchange, the Shanghai Stock Exchange is obviously not good at TTF in terms of ETF listing. We know that there are *more than 1000 major ETFs* in the New York Stock Exchange (TIAN, Cheng, 2013). However, the Shanghai Stock Exchange has only a few hundred ETFs. In recent years, the number of ETFs listed on the two exchanges has continued to increase. Contrary to this rising trend of listing, ETF trading volume continues to drop sharply.
5.4.4 IPOs

The following figure is for comparing numbers of IPOs in SSE and NYSE.

Figure 5.7 Numbers of IPOs between NYSE and SSE (2008-2017)

Source: NYSE, SSE data, author

According to Figure, we can see that the listing number of IPOs on the Shanghai Stock Exchange has been less than that of the NYSE before 2012. The number of IPOs issued this year is slightly more. According to the figure, 2013 is the lowest point of the Shanghai Stock Exchange. The next five years has been increasing, and the number of companies that choose to be listed on the New York Stock Exchange is not so much. After 2015, the number of newly listed companies on the Shanghai Stock Exchange has achieved a big overtaking, attracting more companies to go public. This looks better in the future than that in New York Stock Exchange.
5.5 Supervision

The advantage and foundation of the stock exchange's supervisory function lies in the competitive pressure. In the long-term evolution of the exchange, the exchanges that insist on *these powerful regulatory measures*, such as the NYSE, have formed a certain reputation: if the company can list on such an exchange means that it has obtained a certain *quality certification*, which will attract more investors and make the stock sell better prices; and investors will be more willing to participate in these markets to achieve a relatively safe and rewarding investment.

Compared with the New York Stock Exchange, China has a problem of excessive government regulatory power and inadequate supervision. China's securities supervision is often affected by *macro-control purposes*, and securities regulatory enforcement itself is not fully effective. There is a *lack of competition* between the SSE and the other two major stock exchanges. The cooperation with the SZSE and the HKEx is not so much pressure. This has also led to the failure to implement some of the supervision. On the other hand, since the rapid development of NASDAQ, the supervision of the NYSE has not been lax, which is one of the reasons why it can always maintain market value growth.

5.6 Main Indices

These two stock exchanges have different indices to guide their exchange investment. The indices can not only *provide basic information* about markets and transactions, but also *serves as an economic barometer*. Proper information can help mark and exchange become fairer and more mature.

NYSE owns many indices *in different industries and different products*. These indexes include the New York stock exchange stock index, the New York stock exchange Arce stock index, the New York stock exchange American stock exchange stock index and so on. The basic index provided by the New York stock exchange is the New York stock exchange composite index, which aims to measure the performance of all common stocks listed on the New York stock exchange, including ADRs, REITs and
tracking stocks. At the same time, there are many famous indexes that consider trading on the New York stock exchange, such as the Dow Jones industrial average and the standard & poor's index.

SSE provides a large number of indices, and some financial services companies no longer provide other indices. The Shanghai Composite Index is a price index, including the SSE 180 Index, the SSE 50 Index, the SSE Dividend Index, the Shanghai Composite Index, the Shanghai Composite Index, the Industry Index, the Shanghai Stock Exchange Index, the SSE Bond Index and the SSE Corporate Bond Index.

5.7 Summary

In terms of development history, the Shanghai Stock Exchange established the Shanghai Stock Exchange two hundred years later, and the New York Stock Exchange spent more time developing and improving itself. Time and history have brought them experience and lessons. The New York Stock Exchange has become the world's largest stock exchange. For its development and expansion, in 2006, it merged with Euronext. The Shanghai Stock Exchange has only 28 years of history, but in a short time, it has also become one of the largest stock exchanges in the world. However, experience cannot be replicated only from other countries or cultures. China's development is also its own experience. In the future, the Shanghai Stock Exchange still needs to learn and cooperate with other high-quality stock exchanges.

In terms of market value, the NYSE has always been a world-class exchange. The market value of the SSE has been growing in the past decade. It is a little fluctuating but has not fallen much. But there still has a big gap between the two exchanges. The SSE’s policy of attracting companies access and listing has also been in the past few years, it will continue to grow without major problems.

As for the transaction, the trading hours of the two stock exchanges are different. Although both are international exchanges, the trading scale of the NYSE is much larger than that of the Shanghai Stock Exchange. It may take few decades to catch up. The Shanghai Stock Exchange can learn from the successful experience of the NYSE.
There is no need to worry too much about the number of listed companies. From the example of the number of listed companies on the NYSE but the market value is still increasing, we can conclude that it is more important to attract more powerful companies.

Among these securities products, the New York stock exchange still gained a lot from share and profit, but the trading volume of bond products was not as large as that of the Shanghai stock exchange, which started to operate these products and the New York stock exchange relatively late.

The supervision of NYSE is suitable for exchanges in many countries and regions to learn from. The supervision of Shanghai stock exchange is not strong enough, but it has improved in recent years. NYSE is a self-regulatory organization. And it is also regulated by SEC. In China, the stock exchanges are regulated by CSRC. But still have some inside trade and financial fraud in China securities market.

Both these stock exchanges, which are still on the rise but have problems to improve, and the stock exchanges in the USA, which have been highly developed but occasionally unstable and unbalanced, need to reform and innovate when they run into problems and then become stronger.
6 Conclusion

Stock exchanges are financial intermediaries that play an important role in financial markets. The purpose of this thesis is to compare the main stock exchanges in the US and China, the New York Stock Exchange and the Shanghai Stock Exchange. The important part of this paper is the third part and the fourth part, focusing on some specific aspects, including history, market overview, listing conditions, IPO and supervision, and in the fifth part is the key part of comparison.

The American stock exchange has undergone a long process of evolution, from the long-established, well-structured NYSE to the fast-growing, low-threshold NASDAQ capital market, along with the more mature third and fourth trading markets. Stock exchanges in the USA have many advantages. China has mainly three stock exchanges, namely, SSE, SZSE and HKEX, stock trading still accounts for an absolute proportion. Although there are small and medium-sized board markets, the market capacity is obviously insufficient, and there is a lack of structure and hierarchy in the design of investment products. It is difficult to adapt to the current situation that the demand in China's securities market is expanding and the financing needs of investors at all levels are quite different.

As we all know, the NYSE is a stock exchange with a long history and strong strength. It has a relatively sophisticated trading mechanism that is relatively advanced compared to many other stock exchanges around the world. The New York Stock Exchange has attracted many world-class companies. More than 3,000 companies are listed on the New York Stock Exchange, ranking first in the world.

The SSE was established late, there are still many aspects that are not perfect, but the overall trend is still stable. If the management of supervision and other aspects is strengthened in the future, the stock exchange will have a good development.
Bibliography


Website:


List of Abbreviations

ADRs: American Depositary Receipt
AMS: Automatic disk matching systems
CSRC: China Securities Regulatory Commission
DJIA: Dow Jones Industrial Average
ETFs: Exchange-Traded Funds
FINRA: Financial Industry Regulatory Authority
HKEx: Hong Kong Stock Exchange
NASD: US Securities Dealers Association
NASDAQ: National Association of Securities Dealers Automated Quotations.
NYSE: New York Stock Exchange
NYSER: NYSE Regulation
OTC Market: Over-The-Counter Market
SEC (U.S. Securities and Exchange Commission)
SFC: Securities and Futures Commission
SSE: Shanghai Stock Exchange
SROs: Self-regulatory Organization
SPX: Standard & Poor’s 500 /S&P 500
SZSE: Shenzhen Stock Exchange
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Annexes 1 Multi-tiered Blue-chip Equity Market in SSE

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Annexes 2 NYSE Matching Engine (DBK)

NYSE receives hundreds of millions of orders to buy or sell securities each trading day. These orders and related message traffic go to NYSE’s matching engine, known as the Display Book, or DBK, for processing. DBK matches orders and generates executions, redirects orders for routing to other exchanges, and maintains limit orders in NYSE’s order book for possible future execution. In other words, the SEC has stated that exchanges must use the consolidated feed to check prices when determining order routing, and we know from the SEC diagram that the DBK system at the NYSE is what redirects orders for routing to other exchanges. But we highly doubt this is how routing actually works.