UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Master Degree Project in Finance

Stock Name Changes and Abnormal Returns:

An empirical study of the Chinese stock market

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Supervisor: Dawei Fang
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Abstract

Recently, in the Chinese stock market, changing stock names has become a popular investment trend. Some Chinese listed companies change their stock names in attempt to increase company's value. In order to find the correlation between stock name changes and abnormal returns, we select 97 listed companies in both Shanghai and Shenzhen Stock Exchanges from 2011 to 2014 and sort the companies according to the reasons of stock name changes. Name changes are classified into five categories according to motivations: subjective wills, future development, main business changes, asset reorganization and other reasons. The first two categories are defined as subjective reasons and others are objective reasons. We test the significance of average and cumulative average abnormal returns by using market adjusted model. We find that there are abnormal returns and overreactions in the Chinese stock market. Regression analyses are made to examine the different impact on cumulative abnormal returns for subjective reasons and objective reasons. We observe that no dummy variable is significant, which means that subjective reasons and objective reasons do not have significantly different impact on cumulative abnormal returns.

Key words: stock name changes; abnormal returns; Chinese stock market

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1. Introduction:

In recent years, with the development of economy, the Chinese stock market plays a more important role in Chinese economic activities than ever before. However, there is an interesting phenomenon in the Chinese stock market that some listed companies are trying to increase their firms' value only by changing their stock names. It is observed that the number of Chinese listed companies that changed their names has been increasing in the last five years (Figure 1-1).

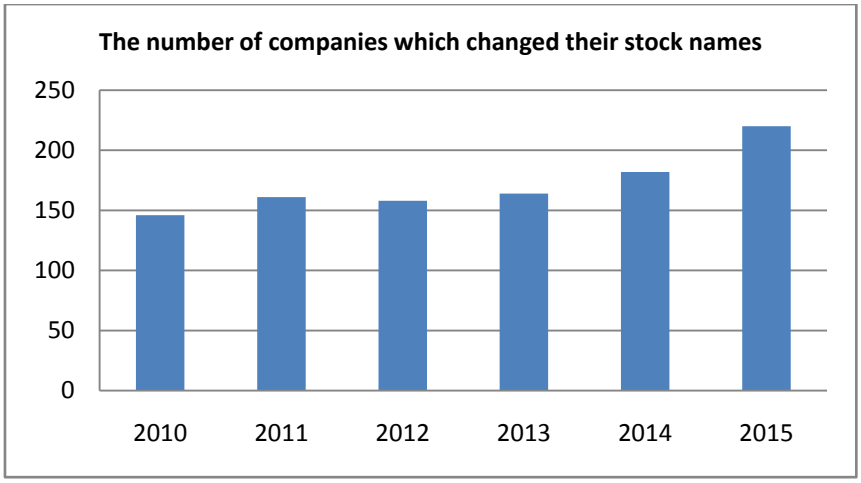

Figure 1-1: The number of companies which changed their stock names in China from 2010 to 2015.

The popularity of name changes has been increasing in the Chinese stock market. Figure 1-1 shows that the number of listed companies which changed their stock names increased in the recent five years. In 2010, the number of listed companies which changed their stock names was 146 and in 2015 this number increased to 220 making 50% increase compared to 2010 number. In China, the number of listed companies is 1540 and 14.29% of them changed their stock names in 2015 (Da Zhi Hui Database).

The stock name changes in the Chinese stock market are always accompanied with the increase of stock price. In other words, stock markets have significant reaction to the stock name changes. For example, SACE, a game company, changed its stock name to You Jiu Game in 2014. The acquisition of SACE had been completed before the announcement date and the announcement of stock name change did not contain any new information. However, the stock price of SACE still increased dramatically after the announcement. The market saw a 31.45% increase within 10 days (Tong Hua Shun Database, 2014). Another example is that ST Tianlong changed its name in April 8th, 2014 to Shanshui Culture. The company did not

have any changes in its main business. However, the stock price increased from 7 Yuan to 9.5 Yuan only within 15 days (Tong Hua Shun Database, 2014). Therefore, the main question in this thesis is whether there are abnormal returns in the Chinese stock market when the listed companies change their stock names. Beaver (1968) finds that stock price has significant fluctuation one week after the announcement date and the trading volume increases dramatically. In China, Deng and Zeng (2006) find that stock market has abnormal trading volume and abnormal returns before and after the stock name changes. This indicates that there exist speculations in the Chinese stock market.

In this thesis, we identify a sample of 97 listed companies that changed their stock names over the period of 30th December 2011 and 31th December 2014. Stocks are classified into different groups according to their different reasons of name changing. There are very simple reasons for listed companies in developed countries to change their stock names, such as the main business change, asset reorganization, and other changes in economics activities. However, by studying the stock name change announcements in China, we find that many of the listed companies do not have any major business changes. We classify the stocks into five groups according to five different types of reasons: “Main Business Changes”, “Asset Reorganization”, “Future Development”, “Subjective Wills” and “Other reasons”. Main business changes and asset reorganization are considered as objective reasons and Future development, subjective wills and others are considered as subjective reasons. However, the group of other reasons contains too few firms for us to get the accurate results. Therefore, we do not consider the other reasons in this thesis.

In this thesis we address two questions. The first question is whether there exist abnormal returns before and after the announcement date of stock name changes and how the stock price changes in the event window before and after the announcement date. The second question is whether subjective reasons and objective reasons have different impact on cumulative abnormal returns. In order to analyze the first question we use event study method to test the average abnormal returns and cumulative abnormal returns of the sample companies. The second question is examined by using regression analysis.

The main results of this thesis are given as follows. First, we find that there exist significantly positive abnormal returns on the announcement date and after the announcement date the abnormal returns decrease and turn to be negative one or two days after the announcement date. This implies that there exists overreaction on the announcement date and the stock

market makes reverse adjustment after the announcement date. Second, the tests of cumulative average abnormal returns (CAAR) in different event windows and different reasons indicate that both subjective and objective reasons have positive reaction on the announcement date. This rejects the null hypothesis that there is difference between the abnormal returns of subjective reasons and objective reasons.

The rest of the thesis is organized as follows. Section 2 introduces the theoretical frameworks and the empirical results from previous studies. Section 3 describes the data and methodology. The econometrics results and analyses are provided in Section 4. Section 5 concludes.

2. Literature review

2.1 Theory

The analysis of the effect of stock name changes on stock price started very early in developed countries. Howe (1982) finds that the event of stock name changes does not contain any valuable financial information. Therefore, he defines stock name changes as a neutral financial activity. However, Karpoff and Rankine (1994) find that the stock name changes have positive impact on the stock prices, but the impact is insignificant. In a sense, if the stock market is efficient and the stock name changes do not contain any useful financial information, the stock market should not have any reaction to the stock name changes. In order to examine if the Chinese stock market does not have any reaction to stock name changes, we need to review some theories first.

2.1.1 Efficient market hypothesis

Efficient market hypothesis was first proposed by Samuelson (1965). Fama made clear definition of efficient market theory in 1970. Fama classifies efficient market into three types: (1) Weak-form efficient market. Weak-form efficient market means that stock prices fully reflect all publicly available information. Kendall (1953) tests the serial data of stock return by using random walk theory and confirms that in efficient market, future stock prices cannot be predicted by using history prices. Chinese economists also make empirical studies on testing the efficiency of the Chinese stock market. By using random walk theory and Box-pierce test they find that the Chinese stock market is inefficient (Wu and He, 2003). (2) Semi-strong efficient market. In semi-strong efficient market, public information could not achieve abnormal returns. The conclusions of empirical studies on semi-strong efficient market in the Chinese stock market are similar. The Chinese stock market is not semi-strong efficient. The

market has slow reaction after the announcement of information (Chen, 1999). (3) Strong-form efficient market. In strong-form efficient market, both public and private information could not achieve abnormal returns. In strong-form efficient market, there are no excess returns (Fama, 1970). Fama believes that the efficient market hypothesis should be tested by using expected returns. The results of empirical studies indicate that insiders could get abnormal returns by using insider information (Wu, 2003) and market operators can get more abnormal returns than insiders. This conclusion confirms that the Chinese stock market is not strong-form efficiency (He, 2003).

2.1.2 Behavioral finance theory

In China, stock name change is a common phenomenon in recent years. Behavioral finance scholars provide a new perspective on this phenomenon. They divide the investors into two types: full attention investors and limited attention investors (Engelberg et al, 2010). Full attention investors are investors who pay full attention to the information of certain financial activities. Limited attention investors cannot get full information due to their own capacity constraints (Engelberg et al, 2010). In reality, most of the investors cannot get full information about a certain financial event, so most of the investors are limited attention investors (Peng and Xiong, 2009). Horsky and Swyngedow (1987) find that stock name changes have positive effect on the bad performance companies. Koku (1997) studies 28 companies in 1980-1990 and tests the average return. He finds that the average return after the announcement date is significantly higher than the average return before the stock name change. This implies that stock prices increase after the changing of stock names.

2.1.3 Overreaction theory and abnormal returns

Overreaction means that investors and traders have abnormal reaction to the information of a certain security. This will cause significant changes on the stock price and the prices could not reflect the true value of the company (Ferri, 1996). According to Fama's theory (1965), under the efficient market hypothesis, the average abnormal returns should be zero. However, under the overreaction situation, the average abnormal returns will be more or less than zero. Therefore, a market with overreaction is not an efficient market. The empirical study in China shows that Shanghai stock market has overreaction to favorable news (Zhao, 1998). By testing the data from 1993-2000, some scholars find that the Chinese stock market has overreaction (Zhang and Chen, 2001).

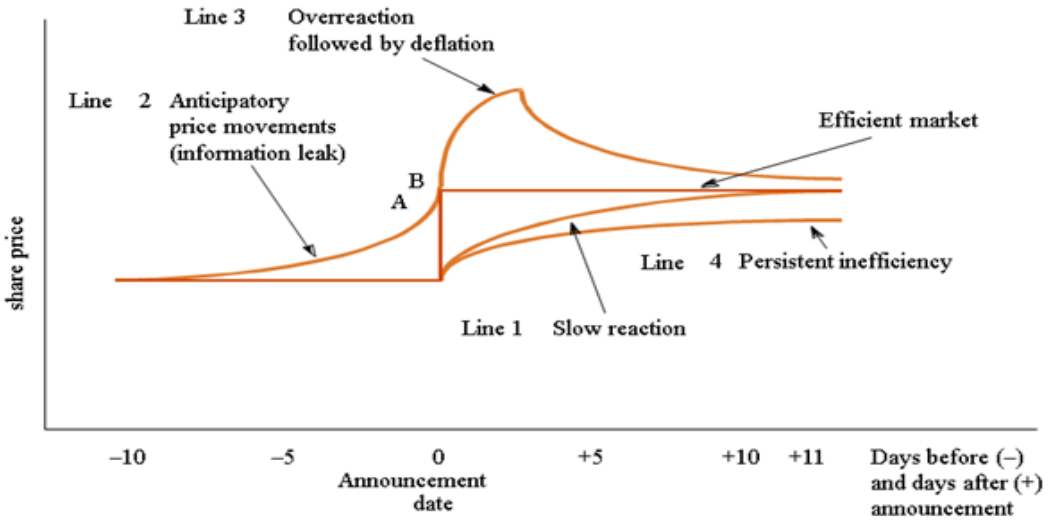

Figure 2-1: Share price reactions to information announcements (Arnold, 2013)

Figure 2-1 shows the stock price changes in event window (-10, 11) towards stock name changes. Line 3 in Figure 2-1 shows the changes of share prices under the situation of overreaction. Line 2 shows the market reaction with information leak before the announcement date. The stock market has reverse reaction after the dramatic increase of the stock prices. This means that there exist a large number of speculators in the stock market. However, in efficient markets, there is no reverse reaction in the market and the change of stock price is much smaller than the inefficient market. In the Chinese stock market, we find from the previous empirical studies that the change of stock price is the combination of Line 2 and Line 3. The analysis will be provided in Section 4.

2.2 Empirical results from previous studies

Andrikopoulos et al (2007) examine the impact of corporate name changes in the UK stock market during the time period of 1987---2002. They adopt buy-and-hold model to measure long-term market performance. They find that the name-changed companies follow the zero abnormal returns. There exists a time lag between stock market reactions and the name changes announcements. Karpoff and Rankine (1994) also find weak evidence between corporate name changes and positive average stock price reaction. They find a significantly positive abnormal return of 0.4 percent reaction over a 2-day window. However, the results vary according to which sample is used. They conclude that there is no significant signaling effect containing in the name-changed events.

Cooper et al (2001) investigate whether the stock price reacts to the company' name changes to the "dotcom" during the internet bubble. They choose the sample from NYSE, AMEX, Nasdaq and the OTC Bulletin Board and get 95 firms that announced dotcom name changes during 1998-1999. By computing the abnormal returns and market-adjusted abnormal returns, their results contradict with previous studies and they find that companies earn abnormal returns during the event windows around the announcement date. Their result shows that the cumulative abnormal returns are positive and significant in the event windows. They also support the hypothesis of investors' irrationality behavior. Cooper et al (2005) find the similar results. They examine whether mutual fund name changes will influence the inflows and returns. The results show that although nothing changes on the company's performance, the name changes cause the cumulative average abnormal flow of 28% in the event window. Clearly, this result implies positive correlation between the rename of the mutual funds and the abnormal returns. It also implies that investors are irrationally influenced by cosmetic effects.

Furthermore, Lee (2001) examines the stock prices and trading activity reactions to ".com" name changes during 1995-1999. He uses the nonparametric event study method and chooses 114 ".com" name-changed companies. The results imply that changing firm names could be one of the investment strategies. The results also show that the announcements of '.com' name changes will lead to significant increases in stock prices and trading activities.

We use event study to test if there are abnormal returns in the Chinese stock market after the stock name changes. In the previous studies, stock name changes have different reaction to stock prices and abnormal returns.

3. Data and Methodology

3.1 Data collection

We collect the name changed companies by using Da Zhi Hui Database and get the stock's closing prices by using yahoo finance. Stock name changes could be divided into two types: active name changes and passive name changes. Active name changes mean that the public companies change their stock names actively. For example, most of the public companies in A-share stock market change their stock names due to replacement of assets, equity transfer, and the main business changes. Passive name changes mean that the public companies receive special treatment (ST) from the stock exchange. (Listing rules in both Shenzhen

Stock and Shanghai Exchange). If listed companies have two consecutive annual losses, "ST" will be automatically added in front of the stock abbreviation. It can remind investors that the company has investment risks. The maximum daily stock price change of the ST stocks will be reduced from 10% to 5% [2](Listing rules in both Shenzhen Stock and Shanghai Exchange). If the listed company has three consecutive annual losses and ST* will be added in front of the stock name. It means that this stock has delisting risk[3]. In this thesis we aim to examine the impact of active stock name changes. Therefore, we delete the passive name changes companies that change their stock names due to ST and ST*. We get 97 listed companies from 2011 to 2014 in both Shenzhen Stock Exchange (SZSE) and Shanghai Stock Exchange (SSE) in China.

We choose the listed companies by using the following standards: (1) There are no other big economic activities during the event window of stock name change, such as the announcement of annual report and allotment of shares. (2) We remove the listed companies which have suspension of trading during the event window. (3) We remove the listed companies which do not have enough data of stock prices. (4) We remove the listed companies which change stock names because of ST and ST*. (5) If the stock name is changed more than once in one year, we choose the first time of the rename. We get 25 stocks in 2012, 28 stocks in 2013 and 46 stocks in 2014.

By using the method of event study, we also calculate the average abnormal return（AAR）and cumulative average abnormal return (CAAR) of the selected stocks. We do not choose the data too long before or after the announcement date because the prices may affect by other factors. The announcement date is denoted by t=0. Ten days before announcement date are denoted by t= -10, -9, -8, -7, -6, -5, -4, -3, -2, -1 and 15 days after the announcement date are denoted by t= 1, 2, 3, 4…13, 14, 15. Some listed companies announce the stock name changes on non-trading days and we define t=0 as the first trading day after the announcement date for these listed companies.

[2] Price limit: a regulation in Chinese stock market to avoid excessive speculation and stabilize the stock market. The limit on daily price variation should be less than 10%. The variation of daily stock price for special treatment stocks should be less than 5%.

[3] Delisting rules: in both Shanghai and Shenzhen stock exchanges, ST* stocks will be delisted if they could not fulfill the standards of relisting in a certain time period.

3.2 Event study

Event study is a statistical method to assess the effect of an event on the value of a firm. It was first used by Dolley (1933). He studies the price changes at the split time. By testing 95 stocks from 1921 to 1931, he finds that there are 57 of them increased and 26 of the stock prices decreased. Myers and Bakay (1948) improve the method of event study. They put forward a new kind of event which is called confounding event. In 1960s, the event study became more advanced. Ball and Brown (1968) and Fama et al. (1969) further develop the event study. Ball and Brown consider dividend in event studies and Fama removes the effect of simultaneous dividend increase. Standard event study methodology is the most common methodology used in finance and strategy studies (Asquith and Mullins, 1986). Almost all the previous studies of economic changes and abnormal returns use the method of event study (Cooper et al., 2001; Kot, 2011).

In this thesis, we follow Cooper et al. (2001) and use the event study method to examine the effect of stock name changes on the price of renamed stocks in the Chinese stock market.

3.3 Abnormal return and hypotheses

The rate of return is calculated by the following equation:

$$\mathbf{R_{jt} = (P_{jt} - P_{jt-1})/P_{jt-1}} \qquad \textbf{(3-1)}$$

(t=-10 -9, -8…0, 1, 2…13, 14, 15)

P_{jt} = The closing price of stock j at time t

P_{jt-1} = The closing price of stock j at time t-1

We calculate the rate of return of the selected 97 stocks by using equation (3-1) and get the rate of return from t = -10 to t= 15.

In this thesis we use the market adjusted model by following Cooper et al. (2001) and Kot (2011). They calculate the abnormal return by the following equation:

$$\mathbf{AR_{jt} = R_{jt} - R_{mt}} \qquad \textbf{(3-2)}$$

(t= -10, -9, -8…0, 1, 2…13, 14, 15)

The market adjusted model does not consider other parameters except the market return (De Bont and Thaler, 1985). We compute the rate of market returns by using index SSE and index SZSE.

Consistent with Kot (2011) when we study the CAAR we choose three event windows (-10, -2), (-1, 1) and (2, 15).

The AAR_t of n stocks at time t in this essay is given by

$$\mathbf{AAR_t = \frac{1}{n}\sum_{j=1}^{n} AR_{jt}} \quad \text{(t= -10, -9, -8…0, 1, 2…13, 14, 15)} \quad \textbf{(3-3)}$$

AAR_t = the average abnormal return for all N stocks at each time t.

We denote cumulative average abnormal return over event window (t_1, t_2) by $CAAR_{t_1}^{t_2}$ which is defined as:

$$\mathbf{CAAR_{t_1}^{t_2} = \sum_{t=t_1}^{t_2} AAR_t} \quad \textbf{where } \mathbf{-10 \le t_1 < t_2 \le 15} \quad \textbf{(3-4)}$$

If the stock name changes have no influence on the stock price, the AAR and CAAR should follow the normal distribution with mean 0. Therefore, we choose to test if AAR and CAAR equal zero to find if the stock name change has influence on the stock price. The null hypothesizes are defined as:

(1) H_0: The average abnormal returns equal zero so the rename of the stocks does not affect stock prices.

$$\mathbf{H_0: AAR_t = 0 \quad where \ -10 \le t \le 15}$$

$$\mathbf{H_1: AAR_t \neq 0 \quad where \ -10 \le t \le 15}$$

(2) H_0: The cumulative average abnormal returns equal zero so the rename of the stocks does not affect stock prices.

$$\textcircled{1}\ \mathbf{H_0: CAAR_{-10}^{-2} = 0} \quad \mathbf{H_1: CAAR_{-10}^{-2} \neq 0}$$

$$\textcircled{2}\ \mathbf{H_0: CAAR_{-1}^{+1} = 0} \quad \mathbf{H_1: CAAR_{-1}^{+1} \neq 0}$$

$$\textcircled{3}\ \mathbf{H_0: CAAR_{+2}^{+15} = 0} \quad \mathbf{H_1: CAAR_{+2}^{+15} \neq 0}$$

3.4 Regression framework

We use Ordinary Least Square (OLS) regression to test the difference between subjective reasons and objective reasons. In order to run the OLS regression, we first calculate the cumulative abnormal return (CAR) for each stock:

$$\mathbf{CAR}_{\mathbf{j}}^{\mathbf{t_2}}_{\mathbf{t_1}} = \sum_{\mathbf{t_1}}^{\mathbf{t_2}} \mathbf{AR_{jt}} \qquad \textbf{(3-5)}$$

We estimate the relationship of subjective reasons and objective reasons in different event windows. Therefore, the dependent variables are CARs in event window (-10,-2), (-1, 1) and (2, 15). REASON is used as a dummy variable. It means that if REASON is equal to one, the coefficient represents the impact of subjective reasons on CAR compared to the impact of objective reasons. The OLS model is given as below.

$$\mathbf{CAR} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1} * \mathbf{REASON} + \boldsymbol{\varepsilon} \qquad \textbf{(3-6)}$$

4. Econometric results and analysis

4.1 The test of abnormal returns for the whole sample

First, we test the significance of overreaction for the whole sample from 2011 to 2014. Table 4-1 shows the t statistics of AAR for the whole sample at each time t from t= -10 to t=15.

t	AAR	T statistics for AAR	P value
-10	-0.00231	-0.56816	0.51460
-9	-0.00187	-0.80843	0.42109
-8	0.00067	0.31595	0.75273
-7	-0.00636	-0.98228	0.32955
-6	-0.00064	-0.25243	0.80158
-5	-0.00336	-1.11362	0.26806
-4	0.00299	0.82614	0.41077
-3	0.00484	1.64560	0.10312
-2	0.00024	0.08341	0.93370
-1	0.00402	1.30147	0.19621
0	0.01152	3.09087 ***	0.00261
1	0.00024	0.07969	0.93665
2	-0.00148	-0.54757	0.58496
3	-0.00304	-1.27876	0.20398

4	-0.00782	-3.11669 ***	0.00205
5	-0.00623	-2.21058 **	0.02941
6	-0.00320	-1.50689 *	0.13509
7	-0.00565	-1.95100 *	0.05397
8	0.00014	0.05006	0.96018
9	0.00129	0.48982	0.62538
10	0.00281	1.08426	0.28096
11	0.00024	0.08079	0.93578
12	0.00496	1.83480 *	0.06963
13	-0.00192	-0.92985	0.35470
14	-0.00393	-0.70523	0.48252
15	0.00040	0.13533	0.89264

Table 4-1 The T statistics analysis of AAR after stock name changes
Note: *** significant at 1% level, ** significant at 5% level, * significant at 10% level, N=97

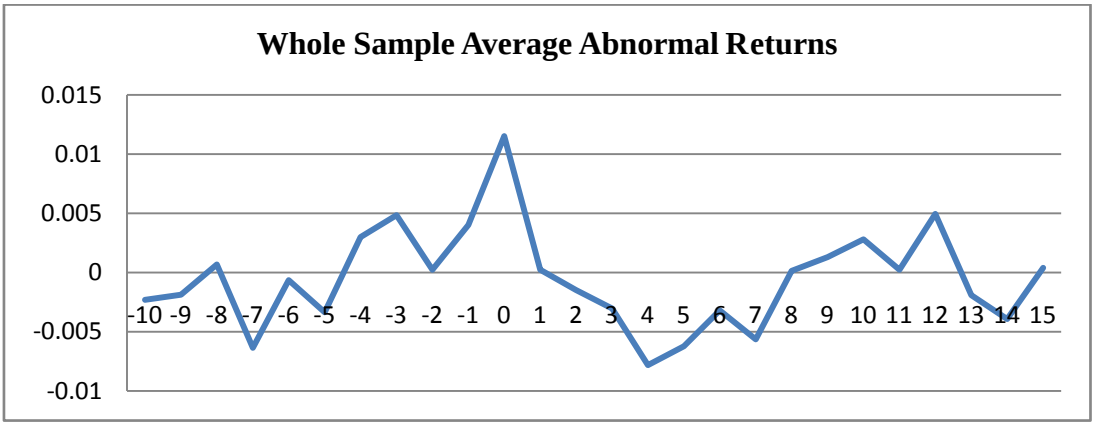

Figure 4-1 the changes of average abnormal returns from 2011 to 2014

Event Window for CAAR	T statistics of CAAR	Mean	P value
(-10, -2)	-4.407***	-0.006	0.0003
(-1, 1)	2.135**	0.008	0.0353
(2, 15)	-3.295***	-0.007	0.0014

Table 4-2 The T statistics of CAAR in different event windows

Note: *** significant at 1% level, ** significant at 5% level, * significant at 10% level, N=97

From 2012 to 2014, we find that AAR is significant at 1% confidence level at time 0. However, the abnormal returns at t=4, t=5, t=6 and t=7 are negative. This implies that market has reverse reaction after the announcement date. The opposite market reactions on the announcement date and after the announcement date mean that there is overreaction in the stock market. However, at other time points, the AARs are insignificant. In Table 4-2 we find that CAAR is significantly negative in event window (-10, -2). During the event window (-1,

1), the CAAR is positive and significant at 5% level. This also implies that the market has positive reaction on the stock name changes. CAAR in event window (2, 15) is negative at 1% level. The tests of AAR and CAAR indicate that there are abnormal returns before and after the stock name changed. Stock prices have opposite reaction on announcement date and four days after announcement date.

4.2 The test of stock name changes by reasons

According to different name change reasons we divide the selected companies into 5 groups. The five groups are main business change, subjective wills, asset reorganization, future development and other reasons. The reasons are classified in listed companies' stock name change announcements.

	Main business change		**Subjective will**		**Assets reorganization**		**Future development**		**Other reasons**	
Year	Obs.	Ratio	Obs.	Ratio	Obs.	Ratio	Obs.	Ratio	Obs.	Ratio
2012	2	8.00%	12	48.00%	4	16.00%	2	8.00%	5	20.00%
2013	8	28.57%	10	35.71%	4	14.29%	4	14.29%	1	7.14%
2014	10	21.74%	9	19.57%	10	21.74%	15	32.61%	1	4.35%
Total	20	20.62%	31	31.96%	18	18.56%	21	21.65%	7	7.21%

Table 4-3 the reasons of the firms to change their stock names from 2012 to 2014.

From Table 4-3 we find that the main reason for public firms to change their stock names is subjective wills. By reading the stock name change announcements, we find that 31.96% of the listed companies in our sample change their stock names without any changes of their companies' structure. However, this number decreases with years, there were 12 firms changed their stock names due to subjective wills in 2012 and in 2014 the number was 9. The second main reason for listed companies to change their stock names is the future development strategy. In stock name change announcements, these firms claimed that the new names are more appropriate to their development goals in the future and they hope the new name could help them attract more investors. This number was 2 in 2012 and in 2014 it was 15. Other companies change their stock names because of main business changes and asset reorganization. Some firms change their stock names due to other reasons, such as the change of business address. However, the number of firms that change their stock names due to other reasons is small. Therefore we do not run regression for other reasons. In order to get the appropriate results of the influence of the stock name changes, we test the t statistics of AAR and CAAR in different reasons separately.

4.2.1 Subjective wills

Subjective wills is the main reason for the selected listed companies to change their stock names. From 2011 to 2014, 31 public companies changed their stock names due to their subjective wills. These companies do not have any major business changes such as asset reorganization or main business changes.

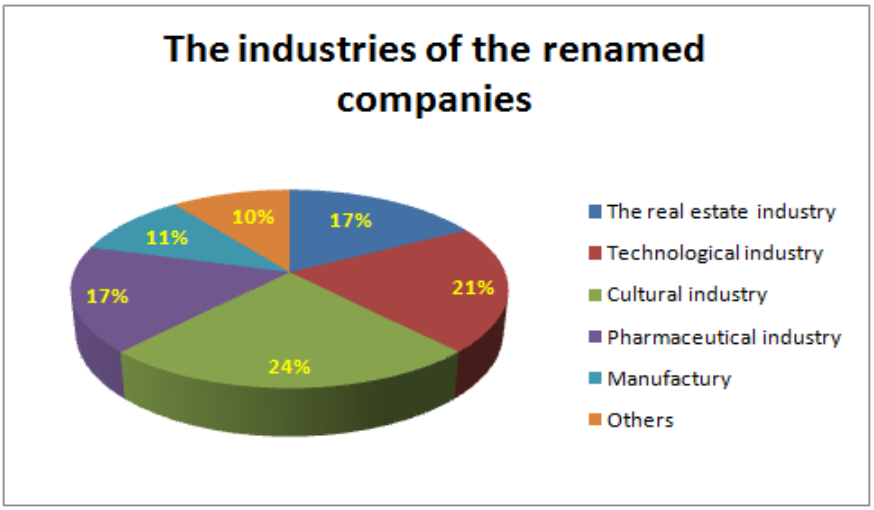

Figure 4-2 The industries of the renamed companies for subjective wills.[4]

In our analysis, we find that the companies which do not have clear explanation of why they change their stock names have some common characteristics. Figure 4-2 reports the industries of renamed stocks for subjective wills. First, from Figure 4-2 we find that 24% of the companies that change their stock names due to their subjective wills belong to cultural industry. The cultural industry in China developed very quickly during our sample period. In 2013, the added value of Chinese cultural industry increased by more than 2.1 trillion and this number accounted for 3.77% of the increase of the GDP in 2013 (The Annual Development Report of Chinese Cultural Industries, 2013). Chinese government promotes the cultural industry and many small and medium sized companies turn to develop cultural business to increase their companies' value. Second, 21% of the companies which changed their stock names are in technology industry. This is because the technology industry is also a hot sector in China in recent years.

[4]Figure 4-2 is based on the industrial information from Da Zhi Hui database.

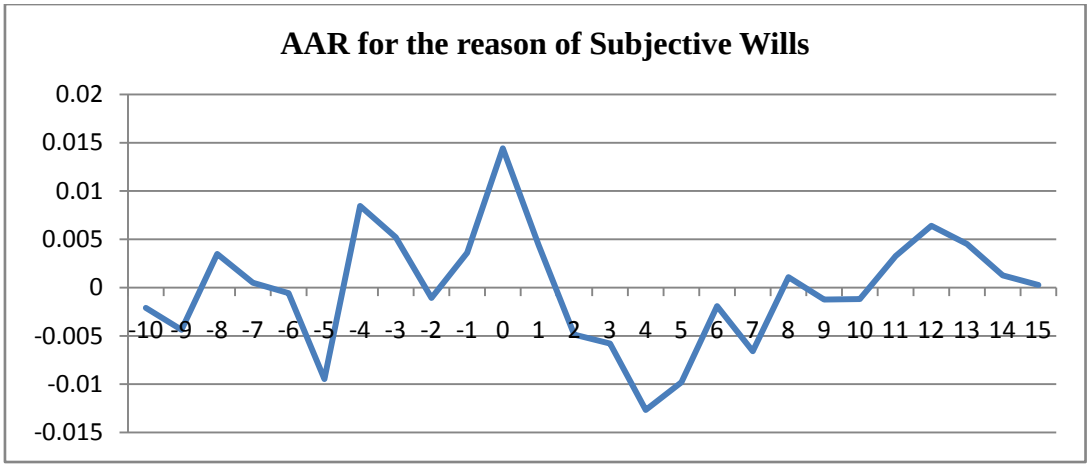

Figure 4-3 AAR for the reason of Subjective wills.

t	AAR	T statistics of AAR	P value
0	0.0144	1.9454 *	0.0615
4	-0.0127	-3.2776 ***	0.0027
5	-0.0098	-1.9889 **	0.0562

Table 4-4 T test on the average abnormal return for the firms changed their stock names because of their subjective wills.

Note: *** significant at 1% level, ** significant at 5% level, * significant at 10% level, N=31

Event Window for CAAR	T statistics of CAAR	Mean	P value
(-10, -2)	-1.1353	-0.0038	0. 2652
(-1, 1)	2.5932***	0.0148	0. 1221
(2, 15)	-2.6591***	-0.0083	0. 0197

Table 4-5 T test on the cumulative average abnormal return for the firms changed their stock names due to their subjective wills.

Note: *** significant at 1% level, ** significant at 5% level, * significant at 10% level, N=31

We test the average abnormal returns from t= -10 to t=15 and we only provide the significant data in our main text. Results on other time points are given in appendix. The change of AAR for the reason of subjective wills is shown in Figure 4-3. From Table 4-4 we find that the abnormal returns are insignificant before t=0. The t-statistics of AAR are significant at t=0, t=4 and t=5. AAR reaches to the maximum point at t=0 and AAR at t=4 and t=5 are significantly negative. This indicates that there are abnormal returns both on and after the announcement date. From Table 4-5 we also find that cumulative average abnormal returns are significantly positive in event window (-1, 1) and significantly negative in event window (2, 15). This reports that the stock market makes reverse adjustment after the overreaction of stock name changes and it also indicates that the market has overreaction on the stock name changes after the announcement date. T-statistics of AAR and CAAR on other time points

are insignificant.

4.2.2 Future development

The reason of future development represents the listed companies which announce that they change their stock names due to future development strategies and they do not have major economic changes such as main business change or main shareholders change. For example, Shi Lian Hang which is an estate agent changed its stock name to World Union Properties in January, 2014. The company announced that the stock name change was due to the future development strategy but it did not change its main business. The event of stock name change did not contain any new information. However, the stock price of Shi Lian Hang increased by more than 20% during the 13 days after the announcement date (Tong Hua Shun Database). The reason of future development could also be considered as a subjective reason because they change their stock names according to the subjective future development strategies.

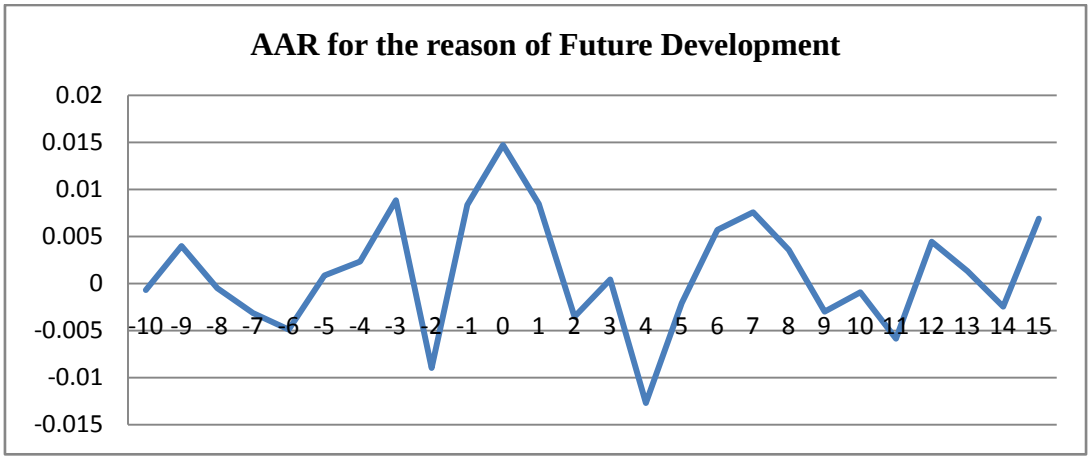

Figure 4-4 AAR for the reason of Future Development.

t	AAR	T statistics of AAR	P value
-2	-0.0091	-2.2201 **	0.0380
-1	0.0082	1.7442 *	0.0961
0	0.0154	2.0143 **	0.0583
1	0.0082	1.7254 *	0.1001
4	-0.0131	-2.1182 **	0.0472

Table 4-6 T test on the average abnormal return for the firms changed their stock names because of their future development.
Note: *** significant at 1% level, ** significant at 5% level, * significant at 10% level, N=21

Event Window for CAAR	T statistics of CAAR	Mean	P value
(-10, -2)	-0.1178	-0.0002	0. 9070
(-1, 1)	2.7731***	0.0188	0. 1092
(2, 15)	4.6499***	0.0195	0. 0006

Table 4-7 T test on the average abnormal return for the firms changed their stock names due to their future development strategies.
Note: *** significant at 1% level, ** significant at 5% level, * significant at 10% level, N=21

Figure 4-4 and Table 4-6 report the changes of AAR for the reason of future development from t= -10 to t=15. We only show the significant time points and results at other time points which are insignificant will be provided in appendix. AARs are significant at time t=-2 and t=-1. However, AAR has contrasting signs at time t=-2 and time t=-1. Therefore we cannot say that market has antedating reaction. AAR reaches the maximum point and is significantly positive at 5% confidence level at t=0. This means that the market has significantly positive reaction on the announcement date towards stock name changes. AAR remains positive at t=1 and significantly negative at t=4. From Table 4-7 we find that CAAR in event window (-10,-2) is insignificant. T statistic of CAAR in event window (-1, 1) is 2.7731 which is significantly positive. This is consistent with the previous result. CAAR in event window (2, 15) is also significantly positive. CAAR has same signs on and after the announcement date. This means that the market does not have opposite reaction towards stock name changes. The market reaction in event window (2, 15) is different from subjective wills.

4.2.3 The objective reasons

The objective reasons include main business change reason and asset reorganization reason. Main business change and asset reorganization are defined as the objective reasons, because they have real business changes before they change the stock names. The decision of stock name changes is not due to their subjective wills or subjective future development strategies. Thus we test the reason of main business change and asset reorganization together and we get the results in Figure 4-5 Table 4-8 and Table 4-9.

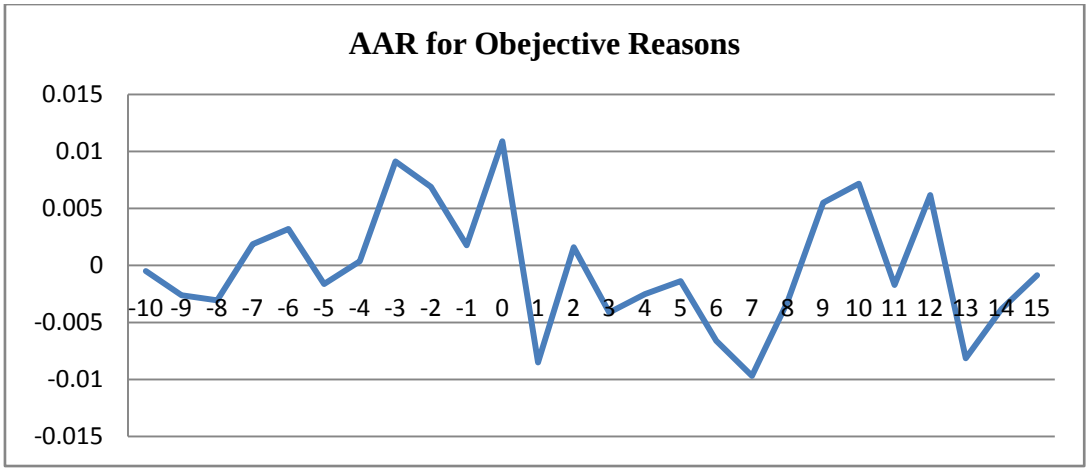

Figure 4-5 AAR for objective reasons.

t	AAR	T statistics of AAR	P value
-3	0.0091	1.8710*	0.0780
0	0.0111	1.8572 *	0.0803
1	-0.0092	-1.8710 *	0.0780
6	-0.0071	-1.8261 *	0.0842
7	-0.0100	-1.8511 *	0.0811

Table 4-8 T test on the average abnormal return for the firms changed their stock names because of main business change and asset reorganization.
Note: *** significant at 1% level, ** significant at 5% level, * significant at 10% level, N=38.

Event Window for CAAR	T statistics of CAAR	Mean	P value
(-10, -2)	0.0355	0.0001	0. 9722
(-1, 1)	2.8670***	0.0198	0. 0268
(2, 15)	1.8360***	0.0041	0. 0893

Table 4-9 T test on the cumulative average abnormal return for the firms changed their stock names because of main business change and asset reorganization.
Note: *** significant at 1% level, ** significant at 5% level, * significant at 10% level, N=38.

From Figure 4-5 and Table 4-8 we find that AARs are insignificant before t= -3 and the average abnormal returns turn to be significantly positive at t= -3. AAR is significantly positive at t=0 and decreases after the announcement date (t= 0). It is significantly negative at t=1, t=6 and t=7. The tests of CAAR in different event windows are shown in Table 4-9. From Table 4-9 we find that CAAR in event window (-10, -2) is 0.0355 which is positive but insignificant. It is significant positive in event window (-1, 1). The CAAR in event window is also significantly positive in event window (2, 15). The market reaction in event window (2, 15) is different from subjective wills but same with future development.

4.2.4 Comparisons of different reasons

In general, we test AAR and CAAR for subjective wills, future development and objective reasons and we get different results from the three tests. First, in event window (-10, -2), the CAAR of all the three reasons are insignificant. The objective reasons have the smallest and negative CAAR. Subjective wills and future development have positive CAAR in event window (-10, -2). This means that the antedating reaction in the market is insignificant for all the reasons. Second, in event window (-1, 1), all the three reasons have positive t statistics. The objective reasons have larger CAAR than subjective reasons. All the three reasons are significant at 1% confidence level. This indicates that the market has significantly positive reaction on the announcement date towards stock name changes. The stock price increases to the maximum point on the announcement date and market has optimistic attitude to the event of stock name changes. Third, in event window (2, 15), the reason of subjective wills has significantly negative CAAR at 5% confidence level. This represents that the market has significant reversed adjustment after the announcement date. Future development reasons still have significant positive CAAR in event window (2, 15). The market has strong reaction on the reason of future development and the reaction is more sustainable than subjective wills. This might because the listed companies provide a bright future to the investors and enhance the confidence of the investors. The objective reason in event window (2, 15) is also positive, and significant. In general, antedating reaction on CAAR is insignificant no matter why the companies change their stock names. However, in event window (-1, 1), the market has significantly overreaction. Subjective wills has significant negative CAAR in event window (2, 15) while the reason of future development is significant positive. T statistics of objective reasons is also significant.

Then we compare the impact of subjective reasons and objective reasons on CAR in three event windows. We use REASON as dummy variable. The coefficients represent the return difference between subjective reasons and objective reasons. Tables 4-10, 4-11 and 4-12 report the regression results of subjective reasons and objective reasons in different event windows. From the regression results, we find that the coefficient of the dummy variable is insignificant. This means that the difference of subjective reasons and objective reasons is insignificant. Therefore we do not have enough evidence to say that the CARs are different for subjective reasons and objective reasons. The market reaction is not affected by the subjective or objective reasons of stock name changes.

	Coefficients	T statistics	P value
Intercept	-0.0081	-0.5981	0. 5512
REASON	0.00872	0.4687	0. 6404

Table 4-10: The regression results of subjective reasons and objective reasons in event window (-10, -2).

	Coefficients	T statistics	P value
Intercept	0.0068	0.7194	0. 4737
REASON	0.0170	1.3061	0. 1947

Table 4-11: The regression results of subjective reasons and objective reasons in event window (-1, 1).

	Coefficients	T statistics	P value
Intercept	-0.0240	-1.4715	0. 1444
REASON	0.0010	0.0444	0. 9647

Table 4-12: The regression results of subjective reasons and objective reasons in event window (2, 15).

5. Conclusion

To conclude, in this thesis, we examine the relationship between stock name changes and abnormal returns in the Chinese stork market from 30th December 2011 to 31th December 2014. We get 97 name-changed listed companies in this time period and classified them into five groups: subjective wills, future development strategy, main business change, asset reorganization and other reasons. Then, we follow the research of Kot (2011) and use market adjusted model to calculate the abnormal returns. We examine the volatility of abnormal returns around announcement date. The abnormal returns are tested according to reasons. We find that average abnormal return does not have significant changes before the announcement date. Market has significantly positive reaction on the announcement date. However, stock prices start to decrease after the announcement date. This indicates that market sometimes makes reverse adjustments on the event of stock name changes. The market has overreaction on the announcement date. Subjective wills and future development strategy are classified to subjective reasons while main business change and asset reorganization are classified to objective reasons. We observe that no dummy variable is significant in the three event windows. The regression results report that subjective reasons and objective reasons do not have significantly different impact on cumulative abnormal returns.

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Appendix

Table 1

Companies changed their stock names in 2012

Stock Code	Old Stock Name	Announcement date	New Stock Name
000791.SZ	Northwest Chemical	20121227	Gansu Power Investment
600532.SH	Huayang Technology	20121218	Hongda Mines
000665.SZ	Wuhan Plastics	20121211	Hubei Radio and TV
600706.SH	Chang'an Information	20120927	Qujiangwen lv
600180.SH	Jiu Fa Gu Fen	20120918	RuiMaoTong
600098.SH	Guangzhou Kong Gu	20120914	Guangzhou Development
600640.SH	Guomai	20120829	Pak Holdings
002173.SZ	Shan Xia Hu	20120702	Qian Zu Pearl
600602.SH	SVA Electron	20120621	Instrument Electronics
300143.SZ	Galaxy biological	20120620	Gu Mu Zhen
600981.SH	Jiangsu Kaiyuan	20120504	Che-hung Group
600435.SH	ZhongbingGuangdian	20120427	Northern navigation
600055.SH	Wandong Medical	20120302	China Resources Wandong
000809.SZ	Department of Medicine	20120104	Tieling Metro
000768.SZ	Xi'an Aircraft	20121227	AVIC Aircraft
600604.SH	Textile Machinery	20120915	High City North
000611.SZ	Time Technology	20120803	Universal Shares
000001.SZ	SDB A	20120802	Ping An Bank
000526.SZ	Sunrise Investment	20120329	Silver Eagle Investment
000736.SZ	Chongqing Industry	20121220	Real estate of China
002045.SZ	Guangzhou Guoguang	20120611	Guoguang Electric
000906.SZ	Southern Building Materials	20120823	Property Extension
600397.SH	Anyuan shares	20120731	Anyuan Coal
002049.SZ	Crystal electronic	20120723	TongfangGuoxin
600104.SH	Shanghai Automotive	20111230	SAIC

Table 2

Companies changed their stock names in 2013

Stock Code	Old Stock Name	Announcement date	New Stock Name
600112.SH	Changzheng Electric	20131218.00	Tiancheng Holdings
002501.SZ	Liyuan Aluminum	20131120.00	LiyuanJingzhi
600613.SH	Immortalized investment	20131017.00	ShenqiZhiyao
002521.SZ	Qi Feng shares	20130913.00	Qi Feng new material
600869.SH	Sanpu Medicine	20130910.00	Yuandong Cable
600562.SH	Gaochun Ceramics	20130710.00	States Rui Technology
002004.SZ	Winbond Pharmaceuticals	20130221.00	Winbond Health
600691.SH	East New Carbon	20130413.00	Yangchemical industry
002691.SZ	Stone Coal Equipment	20130924.00	Stone Equipment
002150.SZ	JiangsuTongrun	20130906.00	Tongrun equipment
600332.SH	Guangzhou Pharmaceutical	20130826.00	Bai Yun Shan
300076.SZ	Ningbo GQY	20130807.00	GQY Video
600771.SH	Dongsheng Technology	20130704.00	Guang Yu Yuan
000687.SZ	Baoding Swan	20130614.00	Hengtian Swan
601886.SH	Rivers wall	20130529.00	Create rivers
300263.SZ	Longhua heat transfer	20130425.00	Long-saving
300143.SZ	True mushroom wood	20130123.00	Galaxy biological
600621.SH	Shanghai Jinling	20130204.00	Huaxin Shares
600292.SH	Jiulong Electric Power	20130719.00	ZhongdianYuanda
000971.SZ	Hubei Maiya	20130419.00	Landing Holdings
600280.SH	Nanjing Zhongshang	20131017.00	Central Department Store
600490.SH	Branch of Hill	20130723.00	Peng Xin resources
000788.SZ	Southwest Synthetic	20130509.00	Beijing University of Traditional Chinese Medicine
002024.SZ	Suning Electronics	20130322.00	Suning Appliance
000409.SZ	Thai Industrial Complex	20131225.00	Shandong mine
002002.SZ	Shares of gold material	20130617.00	Hongda Industrial
000688.SZ	Zarva Group	20130531.00	The new mining
000669.SZ	High technology	20130513.00	Jinhong energy

Table 3

Companies changed their stock names in 2014

Stock Code	Old Stock Name	Announcement date	New Stock Name
000716.SZ	Southern Food	20141112.00	Heizhima
000810.SZ	China Resources of Jinhua	20141111.00	Tianwo Digital
600759.SH	Positive shares	20140821.00	Intercontinental Petroleum
000670.SZ	Shunyuan Industrial	20140818.00	Ying Fang Wei
300156.SZ	Tianli Environmental Protection	20140804.00	ShenwuHuanbao
600538.SH	North Sea National Development	20140606.00	GuofaGufen
000902.SZ	Chinese Clothing	20140512.00	New Yang Feng
300041.SZ	HuitianJiaoye	20140424.00	HuitianXincai
600206.SH	YouyanGuigu	20140313.00	YouyanXincai
000605.SZ	Sihuan Pharmaceutical	20140318.00	Bohai Shares
000802.SZ	Beijing Tourism	20141024.00	Beijing Culture
600509.SH	Tianfu Thermoelectric	20140625.00	Tianfu Energy
000042.SZ	Changcheng	20140314.00	Zhongzhou Holdings
600860.SH	Northern's shares	20140129.00	Share capital
002019.SZ	Xin Fu medicine	20141201.00	Xin Fu Yifan
300101.SZ	Proton Electronic	20140430.00	Core Technology
600398.SH	Quinones Technology	20140404.00	Sea Orchid House
600781.SH	Shanghai Furen	20140327.00	Fu Jen Catholic Pharmaceutical
000667.SZ	Mingliu real estate	20140228.00	Meihao Group
600072.SH	Zhongchuan shares	20140212.00	Steel Engineering
600313.SH	Middle resources	20140115.00	IFAD seed industry
600869.SH	Far East Cable	20140808.00	Smart Energy
002200.SZ	Green Earth	20140811.00	Yuntou ecology
600337.SH	Markor	20140728.00	Markor Home
002675.SZ	DongchengBiochemicals	20140617.00	East-Pharmaceutical
002276.SZ	Kazuma cable	20140604.00	Kazuma Shares
000046.SZ	FanhaiJianshe	20140430.00	FanhaiKonggu
300144.SZ	Songcheng shares	20140423.00	Songcheng Performing Arts
300370.SZ	AnchengGufen	20140422.00	Ankong Technology
000416.SZ	Minsheng Investment	20140414.00	Minsheng Holdings
000090.SZ	Tianjian	20140410.00	Tianjian Group
600873.SH	MeihuaGroup	20140402.00	MeihuaShengwu
002164.SZ	East Power Transmission	20140128.00	Ningbo Tonic
002379.SZ	Lu Feng shares	20140124.00	Lu Feng environmental protection

000413.SZ	A gem	20140103.00	Dongxu Optoelectronic
601113.SH	Huading Nylon	20131231.00	Ding Shares
002564.SZ	Zhang machine	20141211.00	Days Wal-technology
000837.SZ	Qinchuan development	20141031.00	Qinchuan Machine
000928.SZ	Carbon steel guitar	20141013.00	Steel International
000035.SZ	Kejian	20140624.00	China Tianying
002071.SZ	Jiangsu Hongbao	20140605.00	Great Wall Television
002174.SZ	Plum umbrella	20140605.00	Youzu Interactive
000582.SZ	Beihai Port	20140416.00	North Bay Port
002013.SZ	Aviation Precision Machinery	20140305.00	AVIC Electromechanical
002047.SZ	Cheng Lin shares	20140220.00	Bao Ying Shares
600728.SH	New Jia	20131226.00	Jia technology

Table 4

Abnormal returns for subjective wills reason

t	T statistics of AAR	AAR	CAAR	P value
-10	-1.3968	-0.0021	-0.0021	0.3905
-9	-1.0727	-0.0044	-0.0065	0.2922
-8	0.6870	0.0035	-0.0030	0.4975
-7	0.0916	0.0005	-0.0025	0.9277
-6	-0.4772	-0.0006	-0.0031	0.0000
-5	-1.2126	-0.0095	-0.0125	0.2351
-4	1.0805	0.0085	-0.0041	0.2888
-3	1.0923	0.0052	0.0011	0.2837
-2	-0.2383	-0.0011	0.0001	0.8133
-1	0.6338	0.0036	0.0037	0.5312
0	1.9454*	0.0144	0.0181	0.0615
1	0.8238	0.0044	0.0225	0.4168
2	-0.8908	-0.0049	0.0177	0.3804
3	-1.4529	-0.0058	0.0119	0.1570
4	-3.2776***	-0.0127	-0.0008	0.0027
5	-1.9889**	-0.0098	-0.0106	0.0562
6	-0.6445	-0.0019	-0.0125	0.5243
7	-1.9670	-0.0066	-0.0191	0.0588
8	0.1645	0.0011	-0.0181	0.8705
9	-0.3155	-0.0012	-0.0193	0.7547
10	-0.2820	-0.0012	-0.0205	0.7800
11	0.5827	0.0033	-0.0172	0.5646
12	1.2539	0.0064	-0.0108	0.2199
13	1.1210	0.0045	-0.0063	0.2715
14	0.3614	0.0013	-0.0050	0.7204
15	0.0414	0.0003	-0.0048	0.9673

Table 5

Abnormal returns for future development reason

t	T statistics of AAR	AAR	CAAR	P value
-10	-0.3129	-0.0007	-0.0007	0.5907
-9	0.6139	0.0040	0.0033	0.5462
-8	-0.1325	-0.0005	0.0028	0.8959
-7	-0.6439	-0.0031	-0.0003	0.5270
-6	-1.5859	-0.0049	-0.0053	0.1284
-5	0.1840	0.0009	-0.0044	0.8559
-4	0.5713	0.0023	-0.0021	0.5742
-3	1.6426	0.0088	0.0068	0.1161
-2	-2.2200**	-0.0090	-0.0022	0.0381
-1	1.7442*	0.0084	0.0061	0.0965
0	2.0144**	0.0147	0.0209	0.0576
1	1.7255*	0.0085	0.0293	0.0999
2	-0.9363	-0.0035	0.0258	0.3603
3	0.0944	0.0004	0.0262	0.9257
4	-2.1180**	-0.0127	0.0135	0.0469
5	-0.3746	-0.0021	0.0114	0.7119
6	1.1952	0.0057	0.0171	0.2460
7	1.4965	0.0076	0.0247	0.1501
8	0.9862	0.0036	0.0283	0.3358
9	-0.6308	-0.0030	0.0253	0.5353
10	-0.2362	-0.0009	0.0244	0.8157
11	-1.1435	-0.0059	0.0185	0.2663
12	1.2663	0.0054	0.0239	0.2200
13	0.2654	0.0013	0.0252	0.7934
14	-1.0449	-0.0246	0.0006	0.3086
15	1.0938	0.0069	0.0075	0.2870

Table 6

Abnormal return for objective reasons

t	T statistics of AAR	AAR	CAAR	P value
-10	-0.2006	-0.0005	-0.0005	0.5040
-9	-0.8073	-0.0026	-0.0031	0.4301
-8	-1.0212	-0.0031	-0.0062	0.3207
-7	0.4934	0.0019	-0.0043	0.6277
-6	0.7516	0.0032	-0.0011	0.4620
-5	-0.4196	-0.0016	-0.0028	0.6798
-4	0.0549	0.0004	-0.0024	0.9568
-3	1.6827*	0.0091	0.0067	0.1097
-2	1.1614	0.0069	0.0136	0.2607
-1	0.3941	0.0018	0.0154	0.6981
0	1.8570*	0.0109	0.0263	0.0798
1	-1.8710*	-0.0085	0.0178	0.0777
2	0.3774	0.0016	0.0194	0.7103
3	-1.0480	-0.0041	0.0152	0.3085
4	-0.7417	-0.0025	0.0127	0.4679
5	-0.3246	-0.0014	0.0113	0.7492
6	-1.8263*	-0.0066	0.0047	0.0844
7	-1.8515*	-0.0097	-0.0050	0.0806
8	-0.8019	-0.0032	-0.0082	0.4330
9	1.0562	0.0055	-0.0027	0.3049
10	1.3527	0.0072	0.0045	0.1929
11	-0.3245	-0.0017	0.0028	0.7493
12	1.2391	0.0062	0.0090	0.2312
13	-1.3629	-0.0082	0.0008	0.0035
14	-1.1307	-0.0038	-0.0030	0.2730
15	-0.2076	-0.0009	-0.0039	0.8379

Table 7 Regression Results

Regression Statistics	
Multiple R	0.048030661
R Square	0.002306944
Adjusted R Square	-0.008195088
Standard Error	0.091588755
Observations	97

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.001842672	0.001842672	0.219666479	0.640367867
Residual	95	0.796907498	0.0083885		
Totalt	96	0.79875017			

	Coefficients	SE	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-0.008076805	0.013504025	-0.598103533	0.551194104	-0.034885684	0.018732074
REASON	0.008728627	0.018623616	0.468685907	0.640367867	-0.028243926	0.045701179

The regression results of subjective reasons and objective reasons in event window (-10, -2).

Table 8 Regression Results

Regression Statistics	
Multiple R	0.132818375
R Square	0.017640721
Adjusted R Square	0.007300097
Standard Error	0.064200527
Observations	97

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.00703148	0.00703148	1.705962896	0.194663678
Residual	95	0.39156223	0.004121708		
Totalt	96	0.398593711			

	Coefficients	SE	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.006809526	0.009465851	0.719378077	0.473673954	-0.011982564	0.025601616
REASON	0.017050819	0.013054506	1.306125146	0.194663678	-0.008865652	0.042967291

The regression results of subjective reasons and objective reasons in event window (-1, 1).

Table 9 Regression Results

Regression Statistics	
Multiple R	0.004555504
R Square	2.07526E-05
Adjusted R Square	-0.010505345
Standard Error	0.110389373
Observations	97

ANOVA

	df	SS	MS	F	Significance F
Regression	1	2.40248E-05	2.40248E-05	0.001971539	0.964677149
Residual	95	1.157652304	0.012185814		
Totalt	96	1.157676329			

	Coefficients	SE	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-0.02395053	0.016276025	-1.471522036	0.14445491	-0.056262524	0.008361465
REASON	0.000996671	0.022446526	0.044402021	0.964677149	-0.043565316	0.045558658

The regression results of subjective reasons and objective reasons in event window (2, 15).

Table 10 Regression Results

Regression Statistics	
Multiple R	0.089374587
R Square	0.007987817
Adjusted R Square	-0.002454417
Standard Error	0.150559576
Observations	97

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.017340095	0.017340095	0.764952898	0.383988733
Residual	95	2.153477664	0.022668186		
Totalt	96	2.170817758			

	Coefficients	SE	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-0.025217809	0.022198798	-1.135998823	0.258814739	-0.069287995	0.018852377
REASON	0.026776117	0.030614717	0.874615857	0.383988733	-0.034001779	0.087554013

The regression results of subjective reasons and objective reasons in event window (-10, 15).