An Empirical Study of the Announcement Effect of Private Placement and Influencing Factors

Zhiyun Zeng *

College of Business and Economics, Australian National University, Canberra, 0200, Australia

* Corresponding Author Email: zhiyun.zeng@anu.edu.au

Abstract. Due to the special characteristics of the issuance targets and pricing methods of private placement, it has become a means for listed companies to transfer benefits, which is often accompanied by the phenomenon of abnormal returns. This phenomenon is contrary to the needs of the benign development of the financing market, and often hides insider trading, transfer of benefits and other issues behind it. Therefore, this paper studies the influencing factors of the abnormal returns of private placement in the Chinese market and explore the underlying reasons. This report examines the market reaction to the announcement of private placement of listed companies through the standard event study method. The empirical results show that the average cumulative 10-day abnormal return of the company's stock in the 10-day window before the announcement date of the private placement proposal is 1.8197%, and the average abnormal return on the announcement date is 2.6%, i.e., there is a significant positive announcement effect of the private placements of Chinese listed companies. The multiple regression model analysis reveals that book-to-market ratio, price-to-book ratio, and controlling shareholders have a significant effect on the cumulative abnormal return.

Keywords: Announcement Effect; Private Placements; Chinese Listed Companies.

1. Introduction

A private placement is a type of secondary stock offering in which a listed business issues shares to a designated target in a way that is not publicly disclosed. Bonds, equities, and other financial items would be offered through private placement to a select group of sophisticated institutional or individual investors. Private placement is highly favored in the refinancing activities of Chinese enterprises due to the advantages of low issuance threshold, low issuance costs and simpler issuance procedures, and has now replaced the rights issue and public offering as the most important financing method for Chinese companies. Private placement of new shares, the primary method for SEO of Chinese listed businesses since the equity separation reform, has a significant effect on the growth and share price of the business. Wealthy individual investors, banks and other financial institutions, mutual funds, insurance companies, and pension funds are among the investors asked to take part in private placement programs. Private placements are now a typical method used by startups, particularly those in the finance and Internet industries, to raise funding. They spare these businesses from the intense public scrutiny that accompanies an initial public offering (IPO), allowing them to expand and thrive. A fledgling business can raise capital through a private placement and escape many of the annual disclosure and regulatory obligations that come with an IPO. As a result, the company can raise cash more quickly and the underwriting process is quicker. The issuer also saves time and money by not having to pay a bond agency for a credit rating if it decides to sell the notes.

However, due to the special nature of the targeted issuers and pricing methods, it has also become a means for listed companies to channel their interests, often accompanied by the phenomenon of abnormal returns. This phenomenon is contrary to the needs of the benign development of China's financing market, behind which often hides insider trading, transfer of benefits and other issues. Therefore, it has been a popular direction of financial research to study the influencing factors of abnormal returns of private placement and to discover its inner reasons.

This report uses a sample of all A-share private placement events from January 2010 to December 2019 in order to investigate the specific effects of private placement announcements on abnormal

returns and the causes behind them. Multiple regression analysis and the standard event study method are used to analyze the abnormal returns of private placement events and the factors that influence them.

2. Literature Review

Wruck originally discovered, through analyzing the private equity sales of US corporations, that the announcement of a private sale of equity is accompanied by an average anomalous return of 4.5% [1]. When Fields and Mais looked into how share prices responded to news of private placements of convertible debt securities in particular, they found that there was a notable positive average anomalous return of 1.80% [2]. The stock market's response to the news of seasoned equity private issues under Japan's special market mechanism was then examined by Kato and Schallheim, who discovered that the average abnormal return of the Japanese stock market during the private placement announcement period was 5% and significantly positive [3]. Furthermore, Hertzel and Smith expanded the time window to five days prior to the private increase's announcement date and discovered that there is an abnormal return prior to the private issue's announcement date, which is significantly positive. They also discovered that private equity placements come with a discount, the magnitude of which is positively correlated with proxies for information asymmetry [4]. According to Habib and Johnsen's prediction, equity private placements ought to be conducted at a discount in order to furnish external investors with the informational rent required to persuade them to divulge their personal details honestly [5]. Hertzel, Lemmon, Linck, and Rees looked at the longer-term stock-price performance of companies that sell equity through private placements. They discovered that while there was a positive stock-price reaction during the announcement, companies that issue equity privately underperform significantly over the next three years in comparison to multiple benchmarks [6].

The liquidity risk component seen in public equity is linked to the return on private equity, according to Franzoni, Nowak, and Phalippou [7]. Chinese studies in recent years have also confirmed the existence of abnormal return. Dai found that there are positive cumulative abnormal returns in all phases of the implementation of the private placement by studying the whole process of the private placement [8]. Zhang conducted a study during the same period, looking at the announcement effect, and discovered that in the issue stage, the private placement had greater anomalous returns and, on average, a positive announcement effect [9]. According to Wei and Na, a private placement company's stock price performs worse than the market during the 20 trading days before the proposal from the board of directors is announced, and the cumulative abnormal return is noticeably negative [10]. Using the event study method, Gu and Wu empirically examine the variables influencing the announcement effect of private placement of listed companies. They discover that the announcement effect of private placement is positively correlated with the issue's size, purpose, and discount rate of the issue's price; however, it is not significantly correlated with the return on net assets or the shareholders' equity ratio [11].

3. Data

3.1. The Stock Price Effect of Private Placement Announcements

Private placement events, individual daily returns and CSI 300 market index returns of all A-shares from January 2010 to December 2019 are obtained from CSMAR database, and then the following screening is performed:

(1) Due to the different business scope between financial and non-financial listed companies, the samples of new issue of new shares of financial listed companies are excluded;

(2) The samples of new shares issued by ST and *ST listed companies are excluded because ST and *ST companies are in abnormal period and their operating conditions are unstable;

(3) Samples with incomplete data during the study period are excluded;

(4) The first trading day following the announcement date is chosen as the study's base of data if the listed company's proposal announcing the private placement is made on a day when business is closed or when trading is suspended;

(5) If there are suspension days in the 60 trading days up to the first 11 trading days before the announcement date of the proposal of the listed company announcing the private placement, the data of first trading day with trading data will be deferred forward until the full 50 trading days with trading data are taken.

The final sample obtained contains a total of 4018 private placement events.

3.2. The Influencing Factors of the Announcement Effect of Private Placement

From the CSMAR database, it gets the controlling shareholder change identifier and the actual controller change identifier of all A-share private placement events from January 2010 to December 2019, as well as the price-to-earnings ratio, the price-to-book ratio, and the book-to-market ratio of the listed companies corresponding to the private placement events in the period when the events occurred.

4. Methodology

4.1. Study of the Stock Price Effect of Private Placement Announcements

In order to quantify the normalized return of individual stocks impacted by the overall market, this research first employs a market model in conjunction with the conventional event study methodology to examine the market's response to the news of listed businesses' planned private placements. The market effectiveness is analyzed by studying the cumulative excess (abnormal) returns of private placement stocks and plotting the cumulative abnormal return curve.

The listed company has to make a number of significant announcements prior to the private placement due to CSRC laws and regulations governing the disclosure of major business events. These announcements include the pre-proposal of the private placement, the announcement of the shareholders' meeting, the announcement of the CSRC's approval, and the announcement of the issue's outcome. Since the date of the pre-proposal announcement is the first time when public investors can learn from public channels about the company's decision to carry out a private placement and specific information about the issue, this report chooses the date of the pre-proposal announcement of the private placement as the event date (t=0). If the day of the announcement of the proposal is a non-trading day or a trading suspension day, the data of the first trading day after the announcement day is selected as the event day.

This paper sets 50 trading days before the window period i.e. (-60; -11) as the event estimation period. This step regresses the data of 50 trading days as a sample using single factor market model (1) to get the $\alpha_{i,t}$ and $\beta_{i,t}$ of individual stocks at window period t which is used as a basis for normal return calculation.

$$r_i = \alpha_{i,t} + \beta_{i,t} R_{hs300} + \epsilon_i \tag{1}$$

In order to observe the short-term stock price reaction to private placement announcements, this report defines the (-10, 10) trading days before and after the event date as the event window. And observe the real return $r_{i,t}$ of individual stocks in this timeframe. Meanwhile, this report uses a market model to calculate the normalized return of individual stocks, i.e.:

$$\widehat{r_{i,t}} = \alpha_i + \beta_{i,t} R_{hs300} \tag{2}$$

And the individual stock window abnormal return $AR_{i,t}$ is defined as the difference between the actual return and the normal return, i.e.:

$$AR_{i,t} = r_{i,t} - \widehat{r_{i,t}} \tag{3}$$

The average abnormal return AAR_t for the sample aggregate is the arithmetic mean of the individual stock abnormal returns for all events, and N is the number of events in the sample:

$$AAR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{i,t} \tag{4}$$

The cumulative abnormal return $CAR_{i,t}$ of an individual stock over the window period (-10, 10) is then defined:

$$CAR_{i,t} = \sum_{t=t_1}^{t_2} AR_{i,t} \tag{5}$$

The cumulative average abnormal return $ACAR_{i,t}$ of the sample over the window period (-10, 10) is defined:

$$ACAR_t = \frac{1}{N}\sum_{i=1}^{N} CAR_{i,t} \tag{6}$$

This step obtains the abnormal return and cumulative abnormal return of the individual stocks that carried out the private placement, as well as the average abnormal return and average cumulative abnormal return of the entire sample. It tests the significance of abnormal return and cumulative abnormal return by performing t-test:

$$T(AAR) = \frac{AAR_i}{Sd(AAR_i)/\sqrt{N}} \tag{7}$$

$$T(ACAR) = \frac{ACAR_i}{Sd(ACAR_i)/\sqrt{N}} \tag{8}$$

The fundamental statistical test of the abnormal return (AAR) and cumulative abnormal return (ACAR) significance is obtained in this stage; that is, it finds out if the abnormal return and cumulative abnormal return deviate from zero. It is statistically demonstrated that the announcement effect of the private placement is significant if the t-statistic is significantly different from zero. Conversely, if the t-statistic is not significant, the private placement event has no discernible impact on the short-term stock price.

4.2. Study of Factors Influencing the Effect of Private Placement Announcement

To analyze the factors affecting the effect of private placement announcements, i.e., to explore why different firms have different abnormal returns and whether there are some common factors that can be summarized, it conducts a multiple regression analysis using the cumulative abnormal returns during the event window as the dependent variable.

Based on the common factors affecting Chinese stock returns analyzed in past reports, the following independent variables are selected: (1) book-to-market ratio; (2) price-earnings ratio; (3) market-to-book ratio; (4) the size of private placement; and (5) whether there is a change in controlling shareholders. The specific explanations of each variable are listed in Table 1.

Table 1. Regression Analysis Variable Selection and Definition.

Variable	Variable Name	Variable Definition
Dependent Variable	Cumulative abnormal return (CAR)	Cumulative abnormal returns during the (-10, 10) trading days before and after the announcement date of the private placement
Independent Variable	Book-to-market Ratio (BM)	Total assets divided by market value
	PE Ratio	Share price per share divided by earnings per share
	PB Ratio	Share price per share divided by net assets per share
	Issue Size	Amount raised from the targeted increase divided by the market value of the company at the end of the year
	Shareholder Change	Equals to 0 if change in controlling shareholders, 1 if not change

Table 2. Correlation coefficients of the variables in the regression model.

	CAR	BMR	PE	PB	Issuesize	Shareholder
CAR	1					
BMR	-0.17**	1				
PE	0.00	-0.24**	1			
PB	0.56**	-0.38**	0.33**	1		
Issuesize	-0.01	0.06	0.02	-0.05	1	
Shareholder	-0.11*	-0.32**	0.29**	0.24**	0.12*	1

Note: *, ** means the outcome is significant at 95%, 99% confidence level, respectively

Table 2 shows the matrix of linear correlation coefficients between the variables in the regression model, the dependent variable has a significant negative correlation with book-to-market ratio at 99% confidence interval, a significant positive correlation with price-to-book ratio at 99% confidence interval, a significant positive correlation with whether there is a change in controlling shareholders at 95% confidence interval, and a non-significant correlation with all other independent variables. The Durbin-Watson statistic is 2.108, indicating that there is no significant autocorrelation in the model.

Table 3. Stepwise regression analysis.

Step 1	AIC=-125.83
-log(Issuesize)	-127.81
<none>	-125.83
Shareholder	-122.66
PE	-110.76
BMR	-109.8
PB	142.4
Step 2	**AIC=-127.81**
<none>	-127.81
Shareholder	-124.48
PE	-112.75
BMR	-111.78
PB	143.71

Next using the stepwise regression method to determine the independent variables, it will determine the choice of model variables by selecting the smallest AIC information statistic. Table 3 shows the process of stepwise regression analysis method, it can be seen that the AIC of the model reaches the minimum value after removing log(x_size), subsequently removing any variable will lead to an increase in AIC. Therefore, it finally chooses book-to-market ratio (BM), price-to-earnings ratio (PE), price-to-book ratio (PB) with whether the controlling shareholder changes (Shareholder) as the independent variables for multiple regression analysis.

Based on the selected variables, the following multiple regression model was constructed:

$$CAR = \beta_0 + \beta_1 BMR + \beta_2 PE + \beta_3 PB + \beta_4 Shareholder + \epsilon \quad (9)$$

The results of the statistic estimation of the regression model allow us to obtain the regression coefficients of the different independent variables on the cumulative abnormal returns of the private placement events and their statistical significance, so as to obtain the impact of these factors on the cumulative abnormal returns of the private placement events.

5. Empirical Results

5.1. Study of the Stock Price Effect of Private Placement Announcements

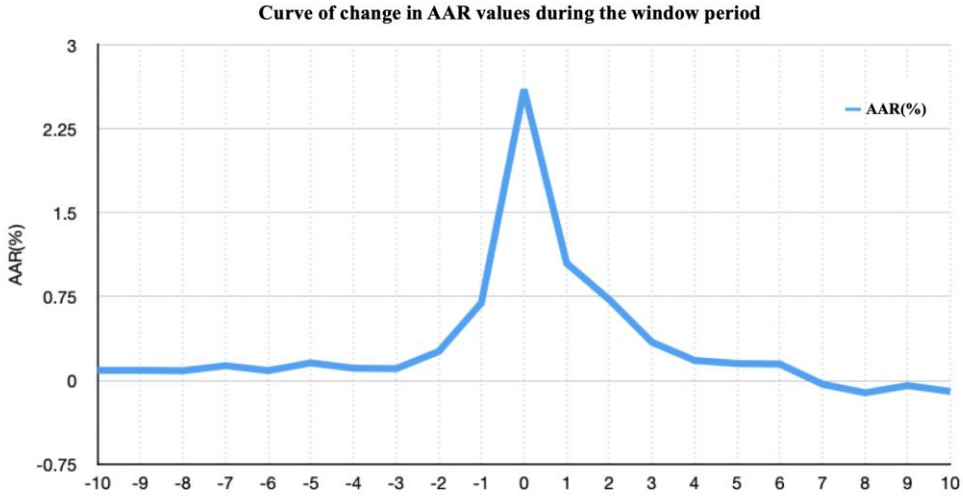

Fig 1. Average Abnormal Return Window Period Change Curve.

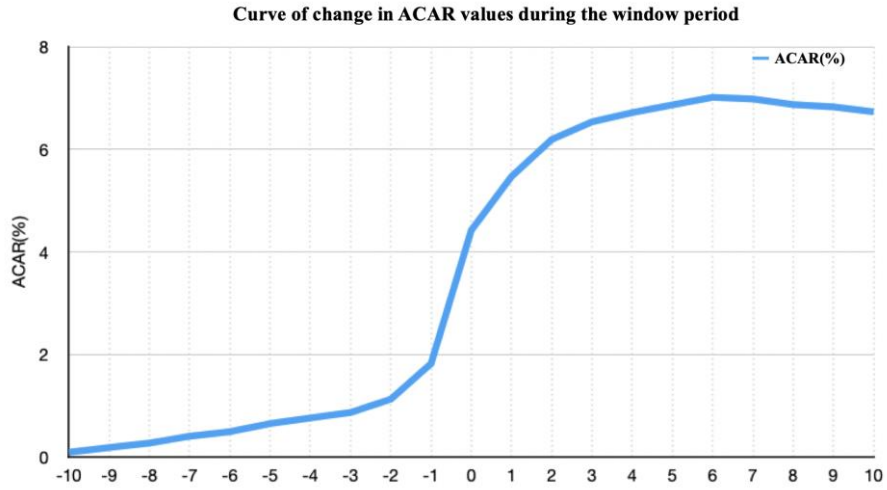

Fig 2. Cumulative Average Abnormal Return Window Period Change Curve.

The change curves for the average abnormal return (AAR) and cumulative average abnormal return (ACAR) over the entire window period are displayed in Figures 1 and 2, respectively. As can be seen from the figures, from 10 days before the event announcement date to the first three days, AAR is close to 0 and only has small fluctuations, indicating that the news of the targeted increase has not leaked to the market yet about a week before the announcement date of proposal or only a very small portion of the population learns about the information of the targeted increase in advance.

However, starting from the first three days, the average abnormal return starts to increase dramatically, and the magnitude of the increase gets bigger every day, peaking on the day of the announcement. This implies that investors responded favorably to some of the news that had leaked into the market around three days before to the release. The average abnormal return on the first day following the announcement day declines little but maintains its high position, suggesting that there is a period of time during which the public needs to assimilate the details of the private placement.

The positive increase in average abnormal return continues until the sixth day after the issuance, at which time it also reaches the peak of the cumulative average abnormal return, and from then on, the average abnormal return declines every day, indicating that the market has gradually absorbed the

information about the targeted increase in the issuance and the positive reaction is getting smaller and smaller.

The average abnormal return started to be less than zero and the cumulative average abnormal return curve started to decline one week after the announcement date. This suggests that there was a temporary negative impact of the issuance and that the market had fully processed the information about the intended increase in the issuance and had started to reduce its expectations.

Table 4. Examination table of basic statistical results of abnormal returns during the event window of private placement announcements (using CSI 300 as the market index).

Event Date	AAR(%)	t(AAR)	p(AAR)	ACAR(%)	t(ACAR)	p(ACAR)
-10	0.0912*	1.9961	0.0460	0.0912*	1.9961	0.0460
-9	0.0915*	1.9686	0.0491	0.1827**	2.6337	0.0085
-8	0.0874	1.9166	0.0554	0.2701*	3.1297	0.0018
-7	0.1332**	2.9445	0.0045	0.4033**	3.9407	0.0000
-6	0.0891	1.9465	0.0517	0.4924**	4.2009	0.0000
-5	0.1573**	3.3473	0.0008	0.6497**	5.0552	0.0000
-4	0.1104*	2.3231	0.0202	0.7601**	5.3933	0.0000
-3	0.1058*	2.1958	0.0282	0.8659	5.5878	0.0000
-2	0.2599**	5.2150	0.0000	1.1258**	6.5946	0.0000
-1	0.6939**	12.2440	0.0000	1.8197**	9.5689	0.0000
0	2.6000**	4.8249	0.0000	4.4197**	7.7755	0.0000
1	1.0479**	11.2520	0.0000	5.4676**	9.3280	0.0000
2	0.7229**	8.9147	0.0000	6.1905**	10.2400	0.0000
3	0.3429**	4.7377	0.0000	6.5334**	10.5100	0.0000
4	0.1801**	2.6953	0.0071	6.7135**	10.5840	0.0000
5	0.1514*	2.4002	0.0164	6.8649**	10.6220	0.0000
6	0.1474*	2.5001	0.0125	7.0123**	10.7090	0.0000
7	-0.0326	-0.5806	0.5615	6.9797**	10.5500	0.0000
8	-0.1093*	-1.9644	0.0496	6.8704**	10.2790	0.0000
9	-0.0446*	-0.8281	0.4077	6.8258**	10.1420	0.0000
10	-0.0972	-1.7963	0.0725	6.7287**	9.9430	0.0000

Note: The estimation period used is [-110, 11] and the window period is [-10, 10], with * and ** in the table denoting the t-test 5% and 1% significant levels, respectively.

From the results of the basic statistical tests on the average abnormal return AAR and the cumulative average abnormal return ACAR in Table 4, the positive effect of the additional issue is significant at the 5% or 1% level at t=-10, -9, -7, -5 days, confirming that there is a certain degree of information leakage before the announcement. However, its price increase is relatively small, suggesting that investors are relatively cautious about the leaked news.

Starting two days before the announcement, the market reaction becomes more and more intense and remains significant at the 1% level. It indicates that more and more people get the information about the targeted increase through non-public channels and make investment behavior accordingly before the announcement.

Although there is some information leaking in China's securities market, the average abnormal return increases by 2.6% on the day of the announcement and is notably positive at the 1% level. It is on the day of the event that the market's reaction is the most intense. This may be due to two reasons: 1. just a limited number of individuals may have already been in possession of this knowledge, and the degree of information leakage is not significant; 2. investors are cautious about this kind of information and are skeptical about the authenticity of the news.

After the announcement date, the average anomalous return decreased to less than zero within a week. Except for the eighth and ninth day which is significant at the 5% level, the seventh and tenth day is not significantly less than zero, reflecting the rational adjustment of the market, but the

magnitude of the adjustment is not significant, suggesting that the market has a different expectation on the trend of its abnormal return.

5.2. Study of Factors Influencing the Effect of Private Placement Announcement

By estimating the results of the statistics of the multiple regression model, it obtains the regression coefficients of book-to-market ratio, P/E ratio, P/B ratio and whether the controlling shareholders have changed on the cumulative abnormal returns of the private placement events and their statistical significance, so as to obtain the specific impact of these factors on the cumulative abnormal returns of the private placement events.

Table 5. Coefficient Analysis of Cumulative Abnormal return Regression Model for Private Placement Events.

	$\boldsymbol{\beta(Estimated)}$	t value	p-value
(Intercept)	-1.4670***	-10.4920	<2e-16
BM	-1.1406***	-5.1690	8.27e-07
PE	-0.0011***	-4.294	3.34e-05
PB	0.1757***	28.168	<2e-16
Shareholder	-0.330*	-2.247	0.026
R_squared	0.1906		

As can be seen from Table 5, the p-value of each factor statistic is less than 0.05, i.e., the effect of each factor is statistically significant. In particular, the three factors of book-to-market ratio, price-earnings ratio, and whether the controlling shareholder changes are negatively correlated with cumulative abnormal return, i.e., the higher the current book-to-market ratio and the price-earnings ratio of a stock, the lower the cumulative abnormal return. As well as other things being equal, stocks with changes in controlling shareholders have lower cumulative abnormal returns. And P/B ratio is positively correlated with cumulative abnormal return, i.e., the higher the current P/B ratio of an individual stock, the higher the cumulative abnormal return.

In terms of coefficients, book-to-market ratio, P/E ratio, and controlling shareholders have a greater impact on cumulative abnormal return, while P/E ratio has a lesser impact on cumulative abnormal return: a 1% increase in P/E ratio will only result in a 0.001% decrease in cumulative abnormal return.

In the following, this paper will discuss the role and possible reasons behind each of the three factors: book-to-market ratio, price-to-book ratio, and whether or not there is a change in controlling shareholders.

Theoretically, the lower the book-to-market ratio, the lower the risk of the stock as it indicates that investors have good expectations for the future of the stock. Cumulative abnormal return shows a significant negative linear correlation with the book-to-market ratio, indicating that in the case of a private placement, the lower the book-to-market ratio of the listed company at the time of the event, the higher the cumulative abnormal return. This could be because investors believe that companies with high book-to-market ratios typically have weak market prospects. As a result, investors may be unduly pessimistic about these companies, which would explain why market prices are low in relation to net assets per share.

P/E ratio and cumulative abnormal return have a strong positive correlation when it comes to risk factors; the higher the P/E ratio, the higher the investment risk. Empirical findings indicate that a high P/E ratio corresponds to a higher abnormal return because of risk supplementation.

Controlling shareholders are those whose shares, or capital contributions, make up more than half of a joint stock limited company's total share capital or more than half of a limited liability company's total capital. Following the conclusion of the private placement, each shareholder's shareholding ratio will fluctuate to some degree, which could result in a change in the controlling shareholders. The nominal variable of whether there is a change in controlling shareholders is negatively correlated with the cumulative abnormal return, indicating that, all other variables being equal, the stocks of private

placement with a change in controlling shareholders have a lower cumulative abnormal return. To further investigate the impact of controlling shareholders' changes on the abnormal returns of the private placement events, it divides the sample into two categories according to whether the controlling shareholders have changed or not, and investigate their impact on the effect of the issue by comparison.

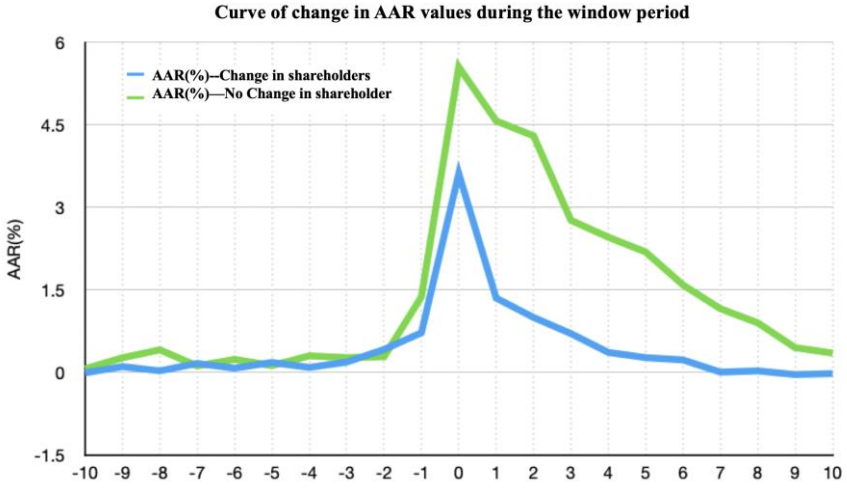

Fig 3. Average Abnormal Return Window Period Change Curve.

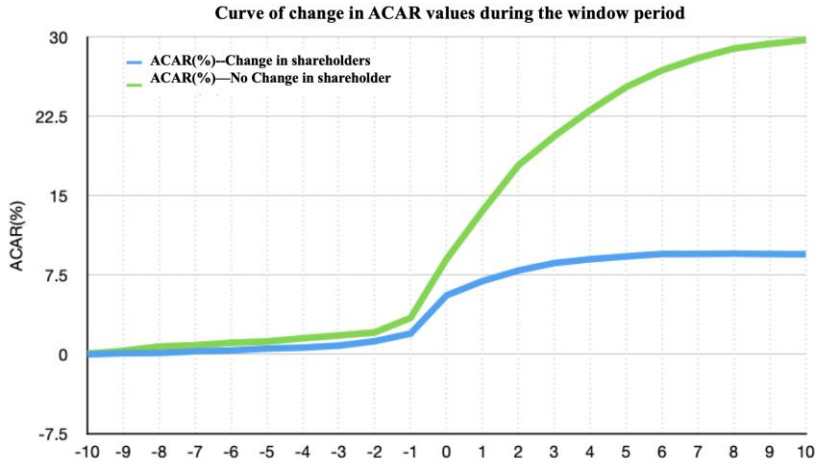

Fig 4. Average Cumulative Abnormal Return Window Period Change Curve.

As can be seen from Figure 3 and Figure 4, from ten days before the announcement date to two days before the announcement date of the proposal, the average abnormal return of change in controlling shareholders and the average abnormal return of no change in controlling shareholders are similar in trend and are not significantly different, so it indicates that the scope of leakage of the news of "whether there is a change in controlling shareholders" is relatively small. However, on the day of the announcement of the proposal, the average abnormal return with no change in controlling shareholders was 5.5520%, and the average abnormal return with a change in controlling shareholders was 3.6139%, a difference of about 1.94%, which proves that the factor of "whether there is a change in the controlling shareholders" is an important reason affecting the abnormal return.

The reason behind this may be that the change of controlling shareholders means that some major shareholders are taking advantage of the private placement to cash out and leave the market, which implies that the major shareholders are not optimistic about the development of the company. External investors may see this as a signal of poor business conditions, so the positive effect of private placement on abnormal return is significantly smaller in the case of change in controlling shareholders than in the case of no change in controlling shareholders.

6. Conclusion

This report examines the market reaction to the announcement of private placement of listed companies through the standard event study method and finds that there is a significant positive announcement effect of private placement of listed companies in China. The multiple regression model analysis reveals that book-to-market ratio, price-to-book ratio, and controlling shareholders have a significant effect on the cumulative abnormal return.

As a part of listed companies' information disclosure, the announcement of private placement is closely related to three major stock market participants: market regulators, listed companies, and investors. Based on the empirical research, this report provides some outlooks and suggestions in the three directions of Chinese stock market regulatory mechanism, listed company operation and investors.

In the process of the continuous development of China's stock market, regulators, as the supervisors to ensure the normal operation of the financial market, should continuously improve the regulatory mechanism, increase the transparency of market information, and improve the market environment to ensure the normal operation of the stock market. As found in this report, the existence of positive abnormal returns prior to the announcement date of the pre-proposal of the private placement event in China indicates the existence of information leakage in the Chinese stock market. Regulators need to severely punish listed companies and investors for using inside information for speculative behavior, and further improve the transparency of market information through the improvement of laws and regulations, so as to avoid the private placement becoming a tool for some major shareholders to cash in, and at the same time to avoid the opportunity for them to take advantage of the asymmetry of information to make profits.

Listed companies, as the main participants in the stock market, directly affect the healthy development of the entire stock market. As the main body of private placement, listed companies are the strong information party in the stock market, and should further strengthen the information disclosure to ensure the transparency of information. However, in this empirical study, it is found that there may be leakage of information before the first announcement, which is highly likely to be originated from the internal information leakage of the company. Listed companies need to further improve their internal integrity safeguard mechanism in order to further ensure their investors' interests.

China's stock market has a large proportion of individual investors, and small and medium-sized investors with lower risk tolerance are often the biggest victims of price fluctuations in the stock market compared to institutional investors with large capital and rich investment experience. In the future, further investor education is needed to make small and medium-sized investors realize that abnormal returns in the stock market are often positively correlated with high risks, and that they should be cautious about entering the market. It is also found through the research of this report that the market tends to have abnormal returns on information such as announcements. Therefore, investors should also conduct in-depth research on the information disclosed by listed companies, fully understand the company's operating conditions and financial status, and make rational investment decisions after fully understanding their own risk appetite and risk tolerance, so as to obtain abnormal returns.

Due to the limitations of research methodology and data acquisition channels, this paper has not studied the impact of industry, equity concentration, issue discount rate, use of funds and other factors on the abnormal return rate. Also, the specific impact of private placement announcements on abnormal returns and the reasons behind them may vary under different market states. Future research can delve deeper into the specific effects of private placement announcements on abnormal returns and the reasons behind them in the Chinese stock market by further categorizing the discussion and adding more variables.

References

[1] Wruck, K. H. (1989). Equity ownership concentration and firm value. Journal of Financial Economics, 23(1), 3–28.

[2] Fields, L. P., & Mais, E. L. (1991). The Valuation Effects of Private Placements of Convertible Debt. The Journal of Finance, 46(5), 1925–1932.

[3] Kato, K., & Schallheim, J. S. (1993). Private equity financings in Japan and corporate grouping (keiretsu). Pacific-Basin Finance Journal, 1(3), 287–307.

[4] Hertzel, M., Lemmon, M., Linck, J. S., & Rees, L. (2002). Long-Run Performance following Private Placements of Equity. The Journal of Finance, 57(6), 2595–2617.

[5] Habib, M. A., & Bruce Johnsen, D. (2000). The Private Placement of Debt and Outside Equity as an Information Revelation Mechanism. Review of Financial Studies, 13(4), 1017–1055.

[6] Hertzel, M., & Smith, R. L. (1993). Market Discounts and Shareholder Gains for Placing Equity Privately. The Journal of Finance, 48(2), 459–485.

[7] Franzoni, F., Nowak, E., & Phalippou, L. (2012). Private Equity Performance and Liquidity Risk. The Journal of Finance, 67(6), 2341–2373.

[8] Dai, S. (2007). Private placement: An Investment Theme Throughout ’07. Analysis of Stock Market Dynamics, 6, 12.

[9] Zhang, W. (2007). An Empirical Study of Private Placement of New Shares, Overall Listing and Short-term Market Performance of Stock Prices. Accounting Research, 12, 63-68+97.

[10] Wei, L., & Na, C. (2008). Research on Market Reactions to private placement Prospectus Announcement and Its Influencing Factors--Analysis Based on Data of Listed Companies in Shenzhen Stock Exchange.

[11] Gu, H., & Wu, D. (2014). Research on the Influencing Factors of the Announcement Effect of Private Placement of Chinese Listed Companies: An Empirical Analysis Based on the Event Study Approach. Economic and Management Review, 30(6), 82–88.