私募宣告對股東財富及溢(折)價幅度之影響

Effects on Shareholders' Wealth and Premium (Discount) of Private Placement Announcement

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摘要: 本研究針對金管會修訂私募法規後宣告辦理私募之上市(櫃)公司,採用事件研究法檢驗私募宣告對股東財富影響效果,並進一步探討影響異常報酬及溢(折)價幅度之因素。實證結果顯示:私募宣告前 30 日至宣告後 30 日的累計平均異常報酬率達 9.38%,顯示金管會加強事後資訊揭露規範後,私募宣告對股東財富具有顯著正面影響。此外,董事會決議辦理私募前 27 天起股價已明顯呈正向反應,由於董事會決議前一般投資人無從得知該訊息,其公告前之異常報酬意謂存在資訊不對稱情形。再者,「經營權是否易主」為影響私募宣告異常報酬之重要因素。經營權易主公司於事件期累計異常報酬平均高達 40.28%,小額投資人雖未能成為特定人參與私募獲得可能之投資利得,惟可依此實證結論作為得知私募宣告訊息後,是否跟進投資取得異常報酬及持有期間之參考指標。最後,「內部人應募比率」與溢(折)價幅度相關性並不顯著,未如過去研究文獻所認為:折價與經理人自利交易(self-dealing)攸關,顯示自金管會針對私募訂價強化規範後,企業並無明顯透過私募大幅折價圖利應募內部人情形。其中在折價發行樣本中,「應募人取得之董監事

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席次」為影響私募折價幅度之因素，顯示企業有以折價增資吸引外部人投資並進入公司經營管理階層之現象。

關鍵詞：私募宣告；股東財富；溢(折)價幅度；事件研究法

Abstract: The study examines the effects of shareholder's wealth and premium (discount) from private placement announcements after the Financial Supervisory Commission (FSC) announced regulations at October 2005, and analyzes the factors of cumulative abnormal returns and premium or discount on private placement announcement. The findings can be summarized as follows: Firstly, the average cumulative abnormal return of private placement announcement is significantly positive, and the stock price shows rising before 27 days of the announcement, it implies that the information content of private placement announcement exists with early information leakage and asymmetry. Furthermore, it shows that "the change of ownership" is a significant factor affecting the cumulative abnormal return from private placement announcement. The average cumulative abnormal return is up to 40.28%. Investors could take the result as a reference to make decision after receive the information of announcement. Finally, the ratio of insider purchasers is not significantly related to the discount on private placements, which reject the hypothesis of managerial self-dealing by literatures. The firms did not benefit managerial insiders though larger discount of private offerings after the FSC announced new enforced regulations. The findings show that "the changed numbers of chairs in board of directors" is a significant factor affecting private placement discount. It further evidenced that firms offer lower offering price to attract new investors to participate into the managerial board.

Keywords: Private placement announcement; Shareholder's wealth; Premium or Discount；Event study

1. Introduction

In order to provide Taiwan's enterprises access to simpler, more convenient, and diversified channels to financing capitals, in Jan., 2002, the Securities and Exchange Act was amended to include an article allowing public offerings companies to make private placement of marketable securities. Because the procedures and the management of private placement are rather loose, in recent years, the number and amount of private placement cases of listed and OTC companies have both been increasing rapidly year by year. Till 2005, the number and amount of private placement cases had already exceeded those of public offering, which is a way to increase cash capital, and become one of the most important ways of financing.

Although the private placement system has the advantage in financing efficiency, some enterprises take advantages of its characteristics, leading to issues such as the right and interests of shareholders being harmed, insider trading, driving up stock prices, or shell companies. For example, Xepex Electronics Co. issued private placements to attract investors in 2005. By raising the energy resource issue of Biodiesel, the stock price was driven up. After that, it financial crisis broke up. It is obvious that issuing private placement has become a tool for majority shareholders to embezzle company money. Or by declaring private placement related information, it is used to drive up stock prices and create abnormal return in stock market. This is unfair to minority shareholders and may cause their right and interests being threatened.

In the past, if an enterprise is to issue private placements, the only requirement is to report to the authority for reference within 15 days after completing payment[2]. After the Xepex event, in October, 2005, the authority had made the "Directions of Private Placement of Marketable Securities for Public Offering Companies," according to which, the content of disclosed information on marketable securities has been extended, the rule to calculate reference prices for

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[2] The rule of private placement for marketable securities is according to the article 43-6 of the Securities and Exchange Act.

private placements has been set up[3], and notices of shareholders' meeting are requested to include the principle that price for private placement cannot be lower than reference price, temporary price, pricing basis, justifiability, and investors' method choice and intentions. Also, three years after settlement date, companies issuing private placements must obtain an agreement letter from a securities exchange or OTC market which meets the publicly listed or OTC standards to complete the procedure for public offering. As far as private placement system is concerned, the newly made rule is much more active than the rules made before. However, it still cannot put an end to issues such as listing lower price private placements causing threats to minority shareholder's interests. Take Allied Material Technology Corp. for example. In 2007, because of the company's financial crisis, a new person marched in and took over to be in charge. However, under the circumstance that the person with management rights had only two shares and still made an announcement of private placement worth 3 billion with the per share price of \$0.129, causing the inflation of the company's paid-in capital from 11.5 billion to 244.1 billion[4], and the dilution of equity of the original shareholders. Although the private placement was not completed, still, from that case, it is very obvious that, under the rather loose private placement system, there are phenomena of enterprises taking advantages of private placements, selling stock rights to specific investor with unreasonable price for private placements, diluting minority shareholders' equity, and threatening their interests. This is enough evidence to say that the completeness of private placement management

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[3] The "reference price" in the "directions" is calculated in publicly listed and OTC companies by the arithmetic average of common stock closing prices in one of the days including 1, 3, or 5 business days before the pricing date. As for emerging company or unlisted companies with public offerings, because there is no clear and definite market price, this kind of companies calculate "reference prices" by the book value per share from the financial report signed by CPA in a date closest to the pricing date

[4] The original paid-in capital of Allied Material Technology Corp was 11.511 billion (increased to 25 billion in March, 2007). The company planned to raise capitals worth 3 billion dollars, with the per share price of 0.129, it needed to issuing another 23.256 billion shares. The face value of each share is 10 dollars. Therefore the paid-in capital would be increased to 232.56 billion dollars. Plus the original paid-in capital of 11.511 billion dollars, it would be up to 244.071 billion dollars. Besides, on April 17, 2007, the board of directors approved the increase of paid-in capital to 280 billion dollars. The space for lowering private placement price or future increase/decrease capital has been preserved.

system is still in doubt, and there is still space for improvement.

Prior literatures emphases of researches on private placement system were mostly on whether or not the announcement of issuing private placement has influences on the creation of abnormal returns. For example, both Hertzel and Smith (1993) and Wruck (1989) had come up with the conclusion of positive influences on abnormal returns. In addition, Hsu (2003) had probed into the abnormal returns of private placement and the discount rate, Lu (2005) had probed into whether insiders[5] make profit in private placements, Lu (2005) and Lin (2006) had probed into the information content of private placement announcements, etc. Summarizing the above-mentioned researches on private placement issues, it is found that some of them had been restricted by the small sample of private placements (for example, there were only 13 companies in Hsu's (2003), and 42 in Lu's (2005). Furthermore, Lin (2006) analyses the law was amended during the period of March, 2002 to February, 2006, due to the information content such as private placement announcements, the choice of financing channel, and active management, therefore the problem of different effects had occurred.

Accordingly, considering the laws had been amended in October, 2005, the analysis of this study was conducted with only listed and OTC company data collected after the amendment, in order to explore whether the abuses such as driving up prices through private placement information and pricing low which may harm original shareholders' interests have been stopped, after the authority improved the management in private placement pricing and information disclosure, as the reference of future amendment for the authority and the suggestion of determining private placement information content for investors. In summary, the objectives of this study includes: (1) exploring the influences of private placement announcements on shareholders' wealth after the management system of private placement was changed. (2) Analyzing the influential factors of abnormal return of private placement announcement. (3) Analyzing the influential factors of discount and premium of private placements pricing.

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[5] Insiders includes as follows: Board of directors, supervisory, managers, block shareholders with shares holding more than 10%.

The remainder of this study is structured as follows: Section 2 summarizes the literatures on the abnormal return of private placements and the Causes, and the premium (discount) and Causes of the Offering Price. Section 3 introduces the current conditions of the Taiwan's private placement market. Section 4 describes our empirical methodology, including event study method and regression analysis had been applied in this study. Section 5 discusses empirical results analysis. Section 6 concludes the study.

2. Literature Review

2.1. Abnormal return and the Causes of Private Placements Announcement

Wruck (1989), Hertzel and Smith (1993), and Wu et al. (2005) studied the abnormal return of private equity placement had indicated that, within a short term after the announcement of private placements, the abnormal return is significant. In addition, Hsu (2003), Lu (2005), and Lin (2006) proposed that the abnormal returns of the companies issuing private placement of shares are significantly positive in short term. Table 1 summarizes the empirical results of the abnormal returns of private equity placement.

Shleifer and Vishny (1986) proposed that companies can attract external investors by private replacement, and corporate values can be promoted through supervision, management or professional consultant and suggestion by external block shareholders. Wruck (1989) found that private placement usually comes with a huge amount of equity transfer; the average percentage of equity transfer with voting-right is 19%. Results of cross analysis shows that there is a significant relationship between the changes of corporate value and ownership concentration when private placement is announced. Consequently, this study concludes that the "change of ownership structure" is one of the causes of abnormal return which occurs when private placement is announced. Furthermore, Hertzel and Smith (1993) argued that private placement can function as a signal to the market saying

that company values are being underestimated. The higher the degree of value underestimation is, the stronger the signal effect of private placement would be. Corporate value changes with assets and changes in investment opportunities.

Table 1
Evidences of abnormal return on private placement

Authors	Study County	Period	Obser vation	Abnormal Return	Event Window
Wruck (1989)	U.S.A.	1979-1985	99	CAAR = 8.95%	-60 to +20 days
Hertzel and Smith (1993)	U.S.A.	1980-1987	106	CAAR = 8.78%	-29 to +10 days
Wu et al. (2005)	Hong Kong	1989~1997	99	CAAR = 8.35%	-15 to +15 days
Hsu (2003)	Taiwan	2002~2003	13	CAAR = 6.73%	0 to +1 days
Lu (2005)	Taiwan	2002-2004	59	CAAR = 3.5%	-4 to +100 days
Lin (2006)	Taiwan	2002-2006.2	75	CAAR = 8.30%	-30 to +10 days

Source: Summarized by this study.

Abnormal returns reflect positive internal information of companies. Thus, the "information asymmetry" theory does exist in private placement. Folta and Janney (2004) found that new technology companies through private placement can deliver information of corporate values, and ease the problem of information asymmetry. As a result, this study concludes that the "information asymmetry" is one of the causes of abnormal return which occurs when private placement is announced. Finally, Hertzel et al. (2002) found that in the short term, there is significantly positive abnormal return in private placement. However, the average abnormal return among three years is -23.8%. If companies with poor operating performances haven't improve their performances within three years after issuing private equities, but in the short term the market-to-book ratios are rather high and the abnormal returns are significant. This means market investors are over-optimistic about improving operating performances of the companies issuing private equities. Therefore, this study concludes that the "investor over-optimism" is one of the causes of abnormal return which occurs when private placement is

announced.

In summary, the causes of abnormal return which occurs when private placement is announced are including the change of ownership structure, information asymmetry, and investor over-optimism.

2.2. The Premium (Discount) and Causes of the Pricing in Private Equity Placement

The premium (discount) is calculated by dividing private price by stock price of the record benchmark date. Although the benchmark date used in previous researches are different, it's found by Barclay et al. (2007) and Wu (2004) that most of private equities have been sold with discounts. In Taiwan's empirical studies, most of the researches on the pricing of private equities have shown that averagely private price is issued with discounts. For example, Hsu (2006) found that the average discount of private equity placement is 19.76% of the first day after the day of private placement announcement. Lin (2006) showed that the average discount of private equity placement is 21.29% of the 10th day after the day of private placement announcement. Table 2 shows the empirical results of discount of the pricing by private equity placement.

In the aspect of the factors with influences on premium (discount) of private placement, Wruck (1989) showed that on the average, unregistered stocks are sold at a discounted of 86.5% of the market price on the date before the private placement announcement, while that of registered stocks is at a premium of 104% of the market price on the day before the private placement announcement. Because there is a 2~3 year liquidity limitation on unregistered stocks, private placement investors would ask for discounts to compensate for the transfer limitation. As a result, this study concludes that the "compensation for limited liquidity of private equity placement" is one of the causes of premium (discount) of private placement being made. In addition, Wruck (1989) found that the In the aspect of the factors with influences on premium (discount) of private placement, Wruck (1989) showed that on the average, unregistered stocks are sold at a discounted of 86.5% of the market price on the date before the private placement

announcement, while that of registered stocks is at a premium of 104% of the market price on the day before the private placement announcement.

Table 2

Evidence of the discount on private equity placement

Authors	Study County	Period	Observation	Discount Rate
Wruck (1989)	U.S.A.	1979-1985	99	Unregistered equity is 86.5% of -1 day; Registered equity is 104% of -1 day.
Hertzel and Smith (1993)	U.S.A.	1980-1987	106	Discount rate is 20.14% of +10 days.
Barclay et al. (2007)	U.S.A.	1978~1997	594	Discount rate is 18.7% of +1 day. If people should be raised is manager, the discount rate is 24.2% of +1 day.
Wu (2004)	Hong Kong	1986~1997	360	Discount rate is 8.7% of +10 days. If people should be raised is manager, the discount rate is 17% of +10 days.
Hsu (2003)	Taiwan	2002~2003	13	Discount rate is 13.26% of -1 day; 9.54% of +10 days; 8.89% of +20 to +30days mean price.
Hsu (2006)	Taiwan	2002~2006	99	Discount rate is 19.76% of +1 day.

Source: Summarized by this study.

Because there is a 2~3 year liquidity limitation on unregistered stocks, private placement investors would ask for discounts to compensate for the transfer limitation. As a result, this study concludes that the "compensation for limited liquidity of private equity placement" is one of the causes of premium (discount) of private placement being made. In addition, Wruck (1989) found that the average shareholding percentage of directors, managers, and block shareholders who hold over 5% of stocks has been increased from 31% to 37% because of

private equities. Although the increase of ownership concentration will bring supervision benefits for companies, however, supervision costs also occur at the same time. The discount on private placement reflects the compensation for proving professional suggestions or supervision services to private placement investors. Consequently, this study concludes that the "concentrated in ownership" is one of the causes of premium (discount) of private placement announcement being made.

On the other hand, Hertzel and Smith (1993) argued that, discounts on private placements reflect the information cost investors spend on evaluating of corporate values. The harder it is to find out the corporate value, the more cost will be spent on valuation. Therefore, higher discount will be requested. As a result, this study concludes that the "compensation for investors' information costs" is one of the causes of premium (discount) of private placement announcement being made. Furthermore, Hertzel et al. (2002) argued that discounts reflect the results of investors' valuation on corporate intrinsic values. Because of the poor performances after private placement, investors believe the intrinsic values are supposed to be lower. Therefore, investors ask for discounts on private placements. Thus, this study concludes that the "reflection of investors' valuation on corporate intrinsic values" is one of the causes of premium (discount) of private placement announcement being made.

Finally, Wu (2004) showed that the discount rate for managers who are also private placement investors is significantly higher than those who are not. The reason is managers' self-dealing. Especially when managers holds minority amount of shareholdings, the incentive to participate in huge-amount discounts of private placement and commit self-dealing is stronger. So that through diluting existing shareholders' equities, the shareholders' wealth can be transferred to oneself. Therefore, this study concludes that the "managerial self-dealing" is one of the causes of premium (discount) of private placement announcement being made.

In summary, this study concludes that the causes of premium (discount) of private placement announcement being made include: Compensation for limited liquidity of private equities, concentrated in ownership, compensation for the

investors' information costs, reflection of investors' valuation on corporate intrinsic values, and managerial self-dealing.

3. The Private Placement System in Taiwan

In order to solve corporate financing problem, in January, 2002, the Securities and Exchange Act was amended to update an article allowing public offering companies to make private placement of marketable securities. The related articles are listed below.

3.1. The Definition, Targets, and Investors of Private Placement

According to the provisions of item 1 and 2, article 43-6, the definition of "private placement" is the behavior of companies which have issued shares, following the Securities and Exchange Act, issuing securities in private placement to specific targets. The targets of private placements include: (1) banking industry, bills finance industry, trust industry, insurance industry, securities industry, or other legal person or organization authorized by the authority. (2) A natural person, a legal person, or a fund[6] who/which meets the requirements of the authority. (3) Board of directors, supervisors, or managers of the companies or affiliated companies which issue securities in private placement. The total number of investors aforementioned in second and third category in should not exceed 35.

3.2. Inspection Procedure, Resolution Procedure, and Resale Restrictions of Private Placement

Issuing securities in private placement does not require declaration or approval in advance. The only thing that needs to be done is to report to the

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[6] A natural person, a legal person or a foundation should meet the following conditions: (1). The natural person himself/herself has net asset value over 10 million NT dollars or total net asset value with his/her spouse over 15 million NT dollars. Or in the recent two years, with average income over 1.5 million NT dollars, or with total average income with his/her spouse over 2 million NT dollars. (2). The legal person or foundation has total asset value over 50 million dollars, or trust asset value over 50 million NT dollars.

authority for memorandum within 15 days after payment is complete. Not only the approval from the board of directors is required for private placements, half of the shareholders also have to attend meetings, and two thirds of the attendance must agree.

Under the reason for subject described in the convening, the followings must be included: (1) the basis and rationality of pricing. (2) The criteria to choose specific targets. If investors were scheduled to be raised, the relationship between investor and company should be described. (3) The reason why private placement is necessary. In addition, investors cannot resale their securities in private placement until holding them for at least three years. For those who hold their securities for less than three years, if there are no other securities of the same category are available in the public market, it is allow to resale their securities to other qualified investors. Or those who meet the authority's requirements of holding period and trading amount are allowed to resale their securities to specific targets.

3.3. "Notes of Private Placement of Marketable Securities for Public Offering Companies" Improving the Management in Information Disclosure

In order to protect the right and interests of existing shareholders of public offering company, on Oct. 11, 2005, Financial Supervisory Commission (FSC) announced "Notes of Private Placement of Marketable Securities for Public Offering Companies" with FSC certification No. 0940004469 order, enhancing the information content of marketable securities in private placement, and specifying the rules of pricing for private placement[7]. In the aspect of enhancing information disclosure, the rules of pricing must be included in the convened

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[7] As for the "reference price" under "guidelines", for public and OTC companies: Choosing one of the days which is one, three, or five days before the business day to calculate the arithmetic average closing price of common stock. Because this kind of market price doesn't exist for emerging market or unlisted companies, for this kind of companies, the reference price is defined as "the book value per share" from the financial report signed by CPAs which is the closest to the pricing day.

meeting of shareholders. Besides that, if private placement investors are already chosen, the relationships between them and the companies and the reasons not to choose public offering should also be listed. After the date the prices of private placement are decided, information related to actual price of private placement, reference price, and investors should also be disclosed. If the difference between private placement price and reference price is over 20%, independent expert's opinions should also be disclosed.

Alternatively, in Jan. 5, 2006, Taiwan Stock Exchange had updated "Guidelines of Information Reporting Practices for Listed and OTC Companies," requesting listed or OTC companies to submit information on marketable securities in private placement to the "private placement area" of "Market Observation Post," within 2 days after notification for shareholders meeting is sent out, within 2 days after pricing, within 15 days after payments of shares are collected[8], and within 10 days after the end of every season., so that pubic investors can search for publicly listed or OTC companies' private placement related information online.

4. Empirical Methodology

4.1. Hypotheses and Empirical Models

According to the research results from Wruck (1989), Hertzel and Smith (1993), and Wu (2004), and by referencing previous cases of private placement in Taiwan and the current condition of the market, this study had summarized the causes of abnormal returns and premium (discount), proposes the following hypotheses and empirical models.

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[8] For private placement of marketable securities, within 15 days after the payment is made, the following information must be submitted: type of private placement, date of the board of directors resolution, settlement date, price per unit, pricing basis, number of shares issued in private placement, payment complete date, payment date, due date, reasons for private placement, target, percentage of shares hold by investors, the relationship between investors and issuing company, and expected number of seats of board of directors or supervisors owned by investors. If the investor is a legal person, the shareholders of the legal person with shares over 10% or the top 10 shareholders must be listed.

4.1.1 Self-Dealing Hypothesis

Wu (2004) proposed that the cause of abnormal returns and discount in private placement is related to managers' self-dealing. When managers hold a minority amount of shares, they'd have very high incentive to conduct self-dealing. Through the method of buying low and selling in high prices, transfer existing shareholders' wealth to themselves. Therefore, this study proposes the following hypothesis.

H_1^1: *The higher the percentage of insiders among private placement investors is, the higher the discount of private placement share price is, and the higher the cumulative abnormal return would be.*

4.1.2 Ownership Structure Hypothesis

Wruck (1989) argued that there is a strong relationship between corporate values when announcing private placements and changes in ownership concentration after private placements. The higher ownership concentration before private placements are, the higher degrees of corporate value increases would be. Private placement is a method to financing capitals in a short term for the issuing company. To investors, a huge amount of equities can be altogether. Because a large number of shares transferred are involved, private placement can be used as a method of mergers and acquisitions, transfer managerial rights, and backdoor listing between enterprises. According to Wruck (1989) and the practice of private placement, this study proposes following hypotheses and empirical models:

H_1^2: *If the private placement causes the transfer of managerial rights, then the higher private placement discount is, the higher cumulative abnormal return would be.*

H_1^3: *The higher number of directors and supervisors seats obtained in the private placement, the higher discount of private placement and cumulative abnormal return would be.*

H_1^4:The higher percentage of private placement shares in total number of issued shares is, the higher discount of private placement and cumulative abnormal return would be.

4.1.3 Information Asymmetry Hypothesis

Hertzel and Smith (1993) put forth the information asymmetry hypothesis in private placement. They argued that abnormal return and discounts of private placement price reflect information asymmetry phenomenon. If a manager of a company knows about the companies with investment opportunities in the future or the underestimation of corporate value, managers tend to go with private placement to avoid the stockholders' wealth being transferred to public investors. Therefore, the announcement of private placement can deliver the signal of the corporate value being underestimated to the market. The higher the degree of underestimation is, the stronger the private placement signal would be.

On the other hand, private placement discount reflects costs occur when investors collect information to evaluate a corporate value. Because private placement investors need to spend more resources evaluating a corporate value, they usually request higher discount. Hertzel and Smith (1993) found that the average abnormal return is 18.7% for private placement companies with "financial crises," and the average private placement discount rate is 34.8%. In addition, Folta and Janney (2004) found that the information asymmetric problem exists in new technology companies, because it is not easy for external investors to evaluate their values. However, participation by professional investors to assess and complete the private placement may deliver the message of the value of technology companies, and reduce the information asymmetry. Furthermore, Folta and Janney (2004) showed that it is easier for technology companies which have completed private placement to attract financial capitals, research and business partners. The shorter the time period which has passed after private equity placement is, the stronger the power to attract resources, such as capitals and strategic partners, would be, and the higher abnormal return would be.

This study summarizes the literatures above and finds that, attracting strategic partners via private placement, and evaluating and participating investments through strategic partners, as mentioned in Folta and Janney (2004), can deliver the information of a corporate value, and reduce the problem of information asymmetry. As for managers of companies with financial crises, under the circumstance that knowing about positive information such as companies with investment opportunities in the future and value underestimation, they would choose private placement instead of public offering. In addition, private placement discount reflects the costs occur when investors collect information to evaluate corporate values. According to the literatures mentioned above, this study proposes the following hypotheses and empirical models:

H_1^5: When the purpose of a private placement is to attract strategic partners (for example, Upstream and downstream alliance in the technology industry), then the higher private placement discount rate is, the higher abnormal return would be.

H_1^6: For companies which had financial crises before, the higher private placement discount is, the higher abnormal return would be.

4.2. Multiple Regression Analysis

According to the above hypotheses, this study puts forth the following empirical models:

$$CAR_{iE} = \beta_0 + \beta_1 * ISD_{id} + \beta_2 * CCR_{id} + \beta_3 * NCR_{id} + \beta_4 * PCT_{id} + \beta_5 * SA_{id} + \beta_6 * FC_{i0} + \varepsilon_{iE} \tag{1}$$

$$DC_{id} = \beta_0 + \beta_1 * ISD_{id} + \beta_2 * CCR_{id} + \beta_3 * NCR_{id} + \beta_4 * PCT_{id} + \beta_5 * SA_{id} + \beta_6 * FC_{i0} + \varepsilon_i \tag{2}$$

Where CAR_{iE} is the cumulative abnormal return of the i th private placement share issuing company on the tth day. $i = 1,2,3.....N$. E is the duration of the private placement announcement event. ($E = -30 \sim +30$ days)

DC_{id} is the private placement discount of the ith private placement share issuing company, $i = 1,2,3.....N$; d is the date when the payment for private placement shares is completed.

ISD_{id} is the percentage of private placement amount of insiders in the total private placement amount of the ith private placement share issuing company; d is the date when the payment for private placement shares is completed.

CCR_{id} is whether or not the managerial rights of the ith private placement share issuing company are transferred; d is the date when the payment for private placement shares is completed.

NCR_{id} is the number of directors and supervisors that private investors obtain from the ith private placement share issuing company; d is the date when the payment for private placement shares is completed.

PCT_{id} is the percentage of number of private placement shares in total number of shares issued for the ith private placement share issuing company; d is the date when the payment for private placement shares is completed.

SA_{id} is whether or not the ith private placement share issuing company wants to attract strategic partners; d is the date when the payment for private placement shares is completed. If the ith private placement share issuing company wants to attract strategic partners, the value of SA is 1, otherwise, 0.

FC_{i0} is whether or not the ith private placement share issuing company has had financial crisis on the day of announcement. If the ith private placement share issuing company has had financial crisis before announcement, the value of FC is 1, otherwise, 0.

β_0 is the constant; β_1 is the influential coefficient; ε is the error term.

4.3 Definition of Operational Variables

This study verifies the hypotheses above and explores the causes of abnormal return and premium (discount) rate of private placement. Event study and multiple regression had been conducted, and the variables are defined below.

4.3.1. Dependent Variables

The dependent variables used for the empirical models of this study include:

cumulative abnormal return and premium (discount) rate, whose operational definitions are listed below.

Cumulative abnormal return is measured according to the market model from event study. With reference of Wruck (1989), the "event period" is defined as the period from 30 days before announcement to 30 days after it. The "estimation period" is from 200 days before announcement to 60 days[9] before it. In addition, in this study, the "cumulative abnormal return (CAR)" is defined as:

$$CAR(\tau_1, \tau_2) = \sum_{E=\tau_1}^{\tau_2} AR_E \qquad\qquad (3)$$

Where AR_{iE} is the abnormal return of the ith company, $i = 1,2,3.....N$; τ_1 means the date the event begins, which is 30 days before announcement; τ_2 means the date the event ends, which is 30 days after announcement.

Wruck (1989) compared private placement share prices with stock prices on the day before announcement day, to calculate premium (discount) rate. Hsu (2003) used the average excess returns and the average stock prices from the period with the smallest standard deviation (on the twenty to thirty days after announcement) after announcement of private placement and cash capital increase, on the first day before announcement and the tenth day after announcement, as basis, to calculate the corresponding premium (discount).

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[9] The previous literatures related to private placement include: Wruck (1989), Hertzel and Smith (1993), Barclay et al. (2007), etc. Wruck (1989) did a private placement empirical study on NYSE & AMEX. Hertzel and Smith (1993) research samples include Nasdaq, which is a small-scale company, and is not consistent with the research targets of this study. The estimation period is -500~-30 days. Barclay et al. (2007) used -120~-11 as estimation period, and -10~120 as event period, which is longer. And its observation purpose of long-term abnormal return is different from this study's. Considering the fact that many researches later had followed Wruck's (1989) method (e.g. Kato and Schallheim, 1993; Alli and Thompson, 1993; Hertzel and Rees, 1998; Chen et al, 2002), Hertzel and Smith's (1993) sample subjects are different from this study's, and the purpose of AR observation in Barclay et al. (2007) is different from this study's, the definition by Wruck (1989) was therefore used in this study. In other words, Wruck's (1989) estimation period is -200~-60 and the event period is -59~20. The result shows that AR and CAAR during the -59~-20 period are not significant. In this study, research was conducted with the period of 60 days before the event date to 60 days after the event date. And it is found that CAAR is not significant from 60 days before the event date to 30 before that. Therefore, the event date used in this study was set up to be -30~30.

The samples of this study are the listed and OTC companies in Taiwan. In the "Directions of Private Placement of Marketable Securities for Public Offering Companies" announced in October, 2005, the "reference price" for listed and OTC companies is specifically defined as the arithmetic average of common stock closing prices from the first, the third, or the fifth business day before pricing day. And it is requested to submit information such as reference price and actual private placement share price to the "private placement area" of "Market Observation Post (MOPS)" to make known to shareholders and the external investors. Therefore, in this study, the private placement premium (discount) is calculated with the reference prices and actual private placement share prices announced in the "Market Observation Post (MOPS)".

$$DC_{id} = \frac{P_{ip} - P_{ia}}{P_{ia}} \qquad\qquad (4)$$

Where DC_{id} is the premium (discount) rate of the ith private placement share issuing company, $i = 1,2,3.....N$; d is the date when the payment for private placement shares is completed; P_{ia} is the reference price for the ith private placement share issuing company[10] (arithmetic average of common stock closing prices from the first, the third, or the fifth business day before pricing day); P_{ip} is the actual private placement share price of the ith private placement share issuing company; $P_{ip} < P_{ia}$ means discount (the focus of this study), while $P_{ip} > P_{ia}$ represents premium.

4.3.2. Independent Variables

The operational definitions of the independent variables of the models in this study are listed below:

Insiders include: board of directors, supervisors, managers, and block shareholders with 10% holdings or more.

ISD (Insider private placement ratio) = Insiders' private placement amount

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[10] It was calculated according to the "Directions of Private Placement of Marketable Securities for Public Offering Companies". The reference price of the sample company is from the price announced by "Market Observation Post (MOPS)".

/ total private placement amount

"Whether managerial rights are transferred" is a dummy variable. The value is 1 if transferred, while its 0 otherwise. Because private placements must be launched within a year after announcements, the sample companies in this study are the ones with changes in board chairman or over half of directors or supervisors seats within a year after announcements for private placements. And with the major information announced in the "Market Observation Post (MOPS)," the Listed and OTC Companies Financial Event Database from Taiwan Economic Journal, and annual reports of the sample companies, whether managerial rights have been transferred can be confirmed.

Retrieving information on the number of directors or supervisor seats investors obtained after private placements from the information published in the "private placement area".

With the information published in the "private placement area," retrieving the ratio of number of private placement shares to number of total shares after that private placement.

PCT = Number of private placement shares / number of total shares after that private placement

"Financial crisis" is a dummy variable, with the value of 1 if a company has faced / is facing a financial crisis before / on the day of announcement, and is listed as a company with financial crisis by TEJ, while 0 otherwise. The definition of financial crises is from TEJ's definition of companies with financial crises, which includes the following conditions: (1) announcing bankruptcy of a company (2) applying for restructuring a company (3) checks being bounced or having a run on a bank (4) asking for outside relief help (5) a company being taken over by outsiders (6) CPAs' opinion having doubts about a company's continued operation (7) net value of a company being negative (8) securities being re-listed as securities settled in full delivery of share or leaving the market (9) financial shortage with suspension.

"Whether purpose of private placement is attracting strategic partners" is a dummy variable. Data source is the information of the sample companies

published in the "private placement area" of "Market Observation Post (MOPS)". If the announced purposes include: strategic alliance, attracting strategic partners, enhancing cooperation relationship between upstream and downstream or vertical integration, etc, the value of that dummy variable is 1. Otherwise, if the purposes mentioned above are not included, the value is 0.

4.4. Study Targets, Period, and Data Sources

In this study, analyses in the effects of private placement announcement and premium (discount) had been conducted with data collected after the "Directions of Private Placement of Marketable Securities for Public Offering Companies" was established in October, 2005. Private companies with non-listed and non-public offering were excluded in this research because the information on their private placement and stock price trading is insufficient, and their financial characteristics and supervision are different between financial industries and general industries.

Overall, from October, 2005 to March, 2008, 214 listed and OTC companies (except financial companies) which have issued common stocks in private placement and announced by the Market Observation Post's (MOPS) were used research targets of this study. Among the original 214 sample companies, 15 were excluded by the even study model for their estimation periods were not long enough (10 of them had completed private placements, while 5 hadn't.). 199 sample companies were then included in the abnormal return statistical tests. In addition, in the aspect of the causes of abnormal returns: the data of other variables (e.g. "Ratio of Insiders' Share Amount in Private Placement") can only be retrieved when data of abnormal return is available and private placement must be completed. Originally there were 199 sample companies being included in the event study, among them, 77 were then excluded for prospectus operation cannot successfully completed after private placements announcements. Therefore, the sample size for research the causes in abnormal return was 122. Finally, in the aspect of the causes of premium (discount): because among the original 214 sample companies, 82 hadn't completed the payments. Therefore there were only

132 sample companies[11] which had completed private placement payments and can be used for analysis in the causes of premium (discount).

The data of the dependent and independent variables were retrieved and summarized from the "private placement area" of the "Market Observation Post (MOPS)" and the database from Taiwan Economic Journal, and with the sample companies' annual reports and major information announcements to confirm the accuracy of the information is classified.

4.5. Definition of Event Date

The items which should be announced by public offering companies in Taiwan all must be disclosed in the "Market Observation Post (MOPS)," for it has already become investors' starting point to look for information on private placement events. Therefore, in this study, the event date for research was set to: The dates being public disclosed and announced in Market Observation Post after the board of directors meetings approves private placements.

In addition, after refer to Wruck (1989), the "event period" was defined as the period from 30 days before announcement to 30 days after that, and the "estimation period" was defined as the period from 200 days before the event date to 60 days before that.

4.6. Statistical Methods: Event Study[12]

Event Study method was used to explore whether the occurrence of certain events would cause abnormal changes in stock prices, leading to abnormal returns (AR). This information can be used to find out whether security prices are related

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[11] The sample for analysis on the cause of premium (discount) contains 132 companies while that on the cause of AR is 122. The 10-company difference is due to: When calculating AR, 10 companies which had launched private placements didn't have enough estimation days. So they were not included in the sample used to study the cause of AR. Because of the above-mentioned reason, in empirical study, there is no single sample can be used to analyze all three purposes mentioned above. It is the same in the previous literatures (Hertzel and Smith, 1993; Wruck, 1989; Huang, 2006).

[12] Please refer to: Shen and Li (2000), Event Study Method: A Necessity for Finance and Accounting Researches, Taipei: Hwa Tai Publishing Co.

to certain event.

Event study using statistical methods to test whether the expected abnormal return is zero, the null hypothesis is expressed as: $H_0 : E(R_i \mid event) - E(R_i) = 0$, in which $E(R_i \mid event)$ and $E(R_i)$ means the expected rate of return whether or not there were events that happened, in order to explore the impact on the corporate stock price.

4.6.1. The Choice of Prediction Model with Event Study Method: Market Model

There are three types of prediction models in event study, including: mean-adjusted returns model, market index adjusted method, and risk-adjusted returns model. Among them, risk-adjusted returns model is the most wildly applied one. In this study, the market model of the risk-adjusted returns model is adopted to estimate the abnormal return for each event. The market model is a regression model built by ordinary least square (OLS) method with data from the estimation period:

$$R_{iT} = \alpha_i + \beta_i R_{mT} + \varepsilon_{iT} \tag{5}$$

Where R_{iT} is the actual rate of return of the ith private placement share issuing company on the Tth day of the estimation period $i = 1,2,3.....N$ (N is the number of sample companies); T is the number of the estimation period. $(T = t_2 - t_1 + 1)$, $T \in [t_1, t_2]$; In which T_1 is the first day of the estimation period, which is 200 days before announcement of private placement. T_2 is the termination day of the estimation period, which is 60 days before announcement of private placement (that is, $t = -200 \sim -60$ days). R_{mT} is the rate of return of market portfolio on the Tth day of the estimation period; α_i is the intercept of the market model for the ith private placement share issuing company; β_i is the regression coefficient of the market model for the ith private placement share issuing company; ε_{it} is the random error term, $\varepsilon_{it} \sim N(0, \sigma^2)$.

Estimation parameters $\hat{\alpha}_i$ and $\hat{\beta}_i$ were calculated through ordinary least square (OLS) method. Therefore, the predicted rate of return of the Eth period of certain event can be estimated with the market model:

$$E(\hat{R}_{iE}) = \hat{\alpha}_i + \hat{\beta}_i R_{mE} \tag{6}$$

$E \in [\tau_1, \tau_2]$, where τ_1 is the first day of the event period, which is 30 days before announcement of private placement; τ_2 is the termination day of the event period, which is 30 days after announcement of private placement.

4.6.2. Estimation of Abnormal Return

Abnormal return is calculated by actual rate of return minus expected rate of return in the event period, which is:

$$AR_{iE} = R_{iE} - E(\hat{R}_{iE}) \tag{7}$$

Where AR_{iE} is the abnormal return in the Eth term of the event period for the ith company; R_{iE} is the actual rate of return in the Eth term of the event period for the ith company; $E(\hat{R}_{iE})$ is the expected rate of return in the Eth term of the event period for the ith company.

However, many uncertain events may interfere during the process of estimation for every company. In order to lower the influences of these interferences on stock returns, before statistical tests are performed, average abnormal return (AAR) must be calculated first. It is defined as:

$$AAR_E = \frac{1}{N} \sum_{i=1}^{N} AR_{iE} \tag{8}$$

In addition, in order to explore the cumulative effects of abnormal return during announcement period, Therefore, in accordance with the purpose of cumulative average abnormal return (cumulative AAR, CAAR) can be used, which is defined as:

$$CAAR(\tau_1, \tau_2) = \sum_{E=\tau_1}^{\tau_2} AAR_E = \frac{1}{N} \sum_{i=1}^{N} \sum_{E=\tau_1}^{\tau_2} AR_{iE} \tag{9}$$

4.6.3. Test of Abnormal Return (AR)

The statistical test methods commonly used in event study include: traditional t-test, standardized-residual method, ordinary cross-sectional method, standardized cross-sectional method, cumulative abnormal return test, and sign

test. In this study, the t-test used to test the significant of abnormal return.

Testing if AAR of a certain term in the event period significantly equals to 0. The formula is as below:

$$t = \frac{AAR_E}{\frac{1}{N}\sqrt{\sum_{i=1}^{N}\hat{S}_i^2}} \tag{10}$$

Where $\hat{S}_i^2$ is the variance of the error term in the estimation period for the ith company, $\hat{S}_i^2 = \sum_{t=t_1}^{t_2}\frac{(\hat{\varepsilon}_{it} - \bar{\hat{\varepsilon}}_i)^2}{T_i - 1}$.

The traditional t-test was further used in this study. The formula is as below:

$$t = \frac{ACAR_{\tau_1,\tau_2}}{\sqrt{Var(ACAR_{\tau_1,\tau_2})}} = \frac{1}{\sqrt{N}}\sum_{i=1}^{N}\frac{\sum_{E=\tau_1}^{\tau_2}\left(\frac{AR_{iE}}{\hat{S}_i}\right)}{\sqrt{m}} \tag{11}$$

Where τ_1 is the first day of the event period, which is 30 days before announcement of private placement; τ_2 is the termination day of the event period, which is 30 days after announcement of private placement. There are a total of m terms, $m = \tau_2 - \tau_1 + 1$, that is, the event period days.

5. Empirical Results

Following describes the descriptive statistics of the sample, the results of the cumulative average abnormal returns of the private equities announcement, and the causes of abnormal returns after private placement announcements and private placement premium (discount), respectively.

5.1. Descriptive Statistical

The sample targets of this study are 214 listed and OTC companies (except

for financial companies) which had announced private equities during the period of October, 2005 to March, 2008. The data had been retrieved from the major information announcements and the private placement area of the Market Observation Post (MOPS). The sample was filtered according to the research purposes, a total of 199 companies were included in the sample for the event study analysis model, 122 for the analysis on the causes of abnormal return after private placement announcements, and 132 for the analysis on premium (discount) rate of private placement.

The descriptive statistics and frequency analysis for the sample companies are listed in Table 3~5. The average of cumulative abnormal returns for the 199 sample companies which had announced private placements during the research period is 10.05%. The phenomenon is in accordance with the results from literatures that the relationship between private placements and abnormal returns (for example, Hertzel and Smith (1993) and Wruck (1989) both had concluded that abnormal returns are positive.). In addition, the average discount rate of the 132 sample companies which had completed private placements is 13.82%, which is also consistent with the literatures about private placement share prices are usually at discounts. The statistics show that the percentage of insiders' private placement shares is 40.98% for the 132 companies which had completed private placements during the research period, and the average percentage of the private placement share amount is 29.34% of the paid-in capital. 14 companies had their managerial rights transferred because of the private placements. 41 companies fit the definition of having financial crises. And 41 companies were trying to attract strategic partners by private placements.

5.2. Test for Cumulative Average Abnormal Returns of Private Equities

In this study, the event date of private placement was set to "the date being public disclosed in Market Observation Post (MOPS) after the boards meetings approve private placements." The event study module derived from Taiwan

Table 3
Statistics summary

Variables	Obs.	Minimum	Maximum	Mean	Standard Deviation
Cumulative abnormal return of private placement announcement (CAR)	199	-179.76%	207.30%	10.05%	40.46%
Discount rate (DC)	132	-67.62%	128.31%	-13.82%	24.01%
Internal should raise ratio (IND)	132	0	100%	40.98%	41.73%
Ratio of private placement over paid-in-capital (PCT)	132	0	220.27%	29.34%	28.06%

Table 4
Analysis of frequency statistics

Variable	Frequency	Percentage	Effective Percentage	Cumulative Percentage
Do not change of managerial right	118	89.39	89.39	89.39
Change of managerial right	14	10.61	10.61	100.0
Financial soundness companies	91	68.94	68.94	68.94
Financial distress companies	41	31.06	31.06	100.0
Non-strategic partners on private placement	91	68.94	68.94	68.94
Strategic partners on private placement	41	31.06	31.06	100.0

Table 5

Statistics of directors or supervisors seat investors obtained in the private placement

Number of directors or supervisors seat investors obtained in the private placement (NCR)	0	1	2	3	4	5	6	7	8	9	Sum
Frequency	84	7	14	9	6	5	3	2	1	1	132

Economic Journal Database was adopted. The cumulative average abnormal returns during the announcement period were calculated according to the market model with the sample. In this study, the "estimation period" is from 200 days before announcement to 60 days before it, with data of at least 30 days. And the "event period" is defined as the period from 30 days before announcement to 30 days after it. The estimation and test for the cumulative average abnormal returns of listed and OTC companies which had launched private placements were performed.

Table 6

Results of Average Abnormal Return (AAR) and Cumulative Average Abnormal Return (CAAR)

Event day	AAR	*t*-value	*p*-value	CAAR	*t*-value	*p*-value
-30	-0.23	-1.01	0.31	-0.23	-0.95	0.34
-29	0.21	0.92	0.36	-0.05	-0.07	0.94
-28	0.31	1.35	0.18	0.27	0.66	0.51
-27	0.87	3.83	0.00***	1.22	2.34	0.02**
-26	0.42	1.84	0.07*	1.47	2.85	0.00***
-25	0.13	0.57	0.57	1.53	2.81	0.01***
-24	0.22	0.96	0.34	1.73	2.93	0.00***

-23	0.46	2.01	0.05**	2.31	3.37	0.00***
-22	0.36	1.57	0.12	2.62	3.66	0.00***
-21	0.17	0.73	0.47	2.68	3.69	0.00***
-20	0.15	0.67	0.50	2.74	3.70	0.00***
-19	0.23	0.99	0.32	2.90	3.81	0.00***
-18	0.62	2.72	0.01***	3.74	4.36	0.00***
-17	0.43	1.88	0.06*	4.25	4.67	0.00***
-16	0.37	1.61	0.11	4.67	4.90	0.00***
-15	-0.78	-3.40	0.00***	3.65	3.95	0.00***
-14	0.24	1.05	0.30	3.82	4.07	0.00***
-13	0.48	2.10	0.04**	4.47	4.42	0.00***
-12	0.41	1.82	0.08*	4.89	4.70	0.00***
-11	0.59	2.58	0.01**	5.39	5.13	0.00***
-10	0.50	2.205	0.03**	5.79	5.46	0.00***
-9	0.13	0.59	0.56	5.87	5.45	0.00***
-8	-0.52	-2.27	0.02**	5.49	4.89	0.00***
-7	-0.43	-1.87	0.06*	5.05	4.43	0.00***
-6	-0.16	-0.71	0.48**	4.88	4.20	0.00***
-5	0.53	2.32	0.02**	5.54	4.55	0.00***
-4	-0.16	-0.69	0.49	5.34	4.34	0.00***
-3	-0.06	-0.25	0.80*	5.11	4.22	0.00***
-2	0.57	2.52	0.01**	5.68	4.58	0.00***
-1	0.19	0.85	0.40	5.89	4.66	0.00***
0	0.42	1.82	0.07*	6.56	4.89	0.00***
1	0.42	1.85	0.07*	6.98	5.12	0.00***
2	0.32	1.39	0.17	7.51	5.27	0.00***
3	-0.29	-1.27	0.21	6.83	4.98	0.00***
4	0.49	2.14	0.03**	7.40	5.26	0.00***
5	-0.09	-0.38	0.70	7.32	5.13	0.00***
6	0.15	0.64	0.52	7.24	5.16	0.00***

7	-0.04	-0.20	0.85	6.29	5.06	0.00***
8	0.17	0.73	0.47	6.50	5.10	0.00***
9	0.38	1.66	0.10*	7.29	5.29	0.00***
10	0.18	0.78	0.44	7.07	5.34	0.00***
11	0.37	1.63	0.10	7.64	5.52	0.00***
12	0.01	0.03	0.97	7.59	5.46	0.00***
13	0.16	0.68	0.50	8.13	5.50	0.00***
14	-0.41	-1.79	0.08*	7.63	5.18	0.00***
15	0.28	1.21	0.23	7.72	5.30	0.00***
16	0.10	0.45	0.65	8.20	5.30	0.00***
17	0.09	0.38	0.71	8.24	5.30	0.00***
18	0.49	2.13	0.03**	8.10	5.53	0.00***
19	0.27	1.18	0.24	8.77	5.64	0.00***
20	0.37	1.62	0.11	9.22	5.80	0.00***
21	-0.36	-1.59	0.11	9.34	5.53	0.00***
22	0.05	0.23	0.82*	9.13	5.51	0.00***
23	0.31	1.37	0.17	9.76	5.63	0.00***
24	0.44	1.93	0.06*	10.37	5.83	0.00***
25	0.61	2.66	0.01***	10.94	6.12	0.00***
26	-0.31	-1.37	0.17	10.39	5.89	0.00***
27	-0.25	-1.11	0.27	9.72	5.70	0.00***
28	-0.34	-1.48	0.14	9.15	5.47	0.00***
29	-0.07	-0.30	0.77	9.00	5.39	0.00***
30	0.55	2.43	0.02**	9.38	5.64	0.00***

Note: *** significantly at 1%; ** significantly at 5%; * significantly at 10% (test of two-tail).

According to Table 6 and figure 1, the AAR of the period from two days before the announcement date to two days after that for the 199 sample companies are all positive. The ARRs on the day of announcement and the next day shows significant at 10%. The ARR on the 4th day after the announcement date even

reaches the significant level of 5%. It is obvious that the private placement information does have effects on the day of announcement and the next day. According to Table 6 and figure 2, the CAAR of the period from 30 days before the event date to 30 days after that (CAAR[-30,+30]) is 9.38%. This phenomenon is compatible with the results from literatures. It implies that private placement event messages still have information content. And the reaction period is longer. In other words, announcements of private placements have positive influence on shareholders' wealth.

Figure 1
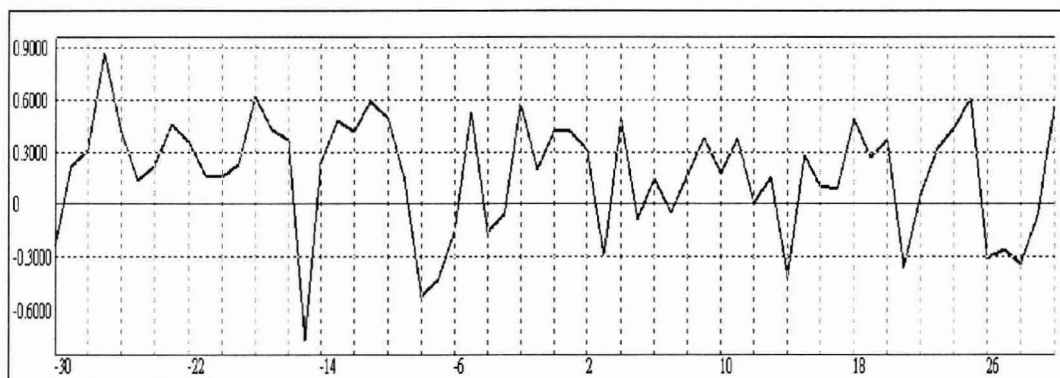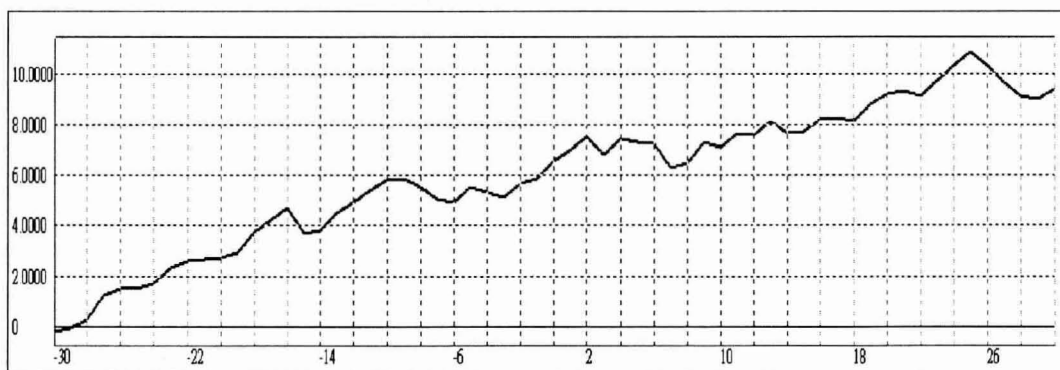**Average abnormal return (AAR) of event period.**

Figure 2
Cumulative average abnormal return (CAAR) of event period.

In Table 7, using event day as benchmark, by comparing the cumulative average abnormal return from the event period to the day before announcement

(CAAR[-30,-1]) with that from announcement day to 30 days after that (CAAR[0,+30]), it is found that the cumulative average abnormal return from the event period to the day before announcement (CAAR[-30,-1]) is 5.89%, while the cumulative average abnormal return from announcement day to 30 days after that (CAAR[0,+30]) is 3.66%, which is lower than the 5.89% of CAAR[-30,-1], although still positive. It shows that CAAR is higher before the announcement day than after that. And the cumulative average abnormal return since 27 days before announcement to 30 days after that reaches the significant level of 5%. This means since 27 days before submitting the proposal of private placement to the board's meeting, the stock price of the company has already started to show a positive reaction. Because before announcement, only insiders or investors being contacted can know about the private placement while general investors can't, the significant cumulative average abnormal return represents the information asymmetry does exist in private placement events. And those who know about it can obtain higher returns than those who know about it afterwards.

Table 7
Cumulative Average Abnormal Return (CAAR) Pre and Post Event Day

	CAAR[-30,-1]	CAAR[0,+30]	CAAR[-30,-30]
CAAR	5.89%	3.66%	9.38%

In summarize, although the Financial Supervisory Commission has already started to strengthen the management in private placement cases since October, 2005, because the time asking for information disclosure is usually posterior, for those who can know about private placement before announcement such as board of directors, there are still chances to participate before announcement and end up with abnormal returns, while ordinary investors can only participate and obtain abnormal returns after announcement, their chances and opportunities are influenced by information asymmetry. It is obvious that the current regulation of private placement still need to be improved, in order to lower the differences in returns due to the timing when assessing information, and further to reach the fairness of information disclosed and market transactions.

5.3. Multiple Regression of Private Placement Announcement on Cumulative Abnormal Return

The following discusses possible causes of abnormal returns on the day of announcement are explored with multiple regression analysis, as the indication for investors to decide whether to invest or not, and also as the reference of holding period.

As shown in Table 3, the lowest cumulative abnormal return (CAR[-30,+30]) of the 199 sample companies included into event analysis is -179.76% (that is, Ta-I Technology Co., Ltd.), while the highest is 207.30% (Prince Asset Management Corp. Limited, ex Kings Information, whose management rights were transferred to Uni President in 2007.) and the average CAR is 10.05%. 77

Table 8

Pearson correlation analysis of factors on cumulative abnormal return

	IND[a]	NCR[b]	PCT[c]	CCR[d]	FC[e]	SA[f]
IND	1					
NCR	-0.11 (0.11)	1				
PCT	-0.17 (.03**)	0.25 (.00**)	1			
CCR	-0.20 (.015**)	0.37 (.00***)	0.3 (.00***)	1		
FC	-0.09 (0.18)	0.13 (0.07)	0.28 (.00***)	0.18 (.03**)	1	
SA	-0.43 (.00***)	0.20 (.01**)	0.09 (0.15)	0.47 (.00***)	-0.13 (0.09)	1

Note: a. IND: Ratio of insiders.
     b. NCR: supervisors seats investors obtained in the private placement.
     c. PCT: numbers of private placement over total paid-in-capital.
     d. CCR: Change of managerial   rights.
     e. FC: Financially distress
     f. SA: Strategic partners.

companies' prospectus operation cannot successfully completed after the private placement announcement, therefore, the sample size being used in analyzing the causes of abnormal return after private placement announcement is 122.

It can be proved by the Pearson correlation analysis in Table 8 that there is no relationship of high degree between each two variables. Multiple regression analysis was performed for formula (22) and derived the regression coefficients and test statistics listed under model (1) in Table 9. In addition, in order to avoid positive and negative offset effects of CAR being neutralized, the sample was divided into two samples, with $CAR > 0$ and $CAR \leq 0$ respectively. Regression analyses were performed with these two samples, and the regression coefficients and test statistics are listed under model (2) and model (3) in Table 8. According to the information from model (1) the D-W test statistics value for regression is 2.01, which means that the variation of the residual is stable, and there is no auto-correlation. Furthermore, the VIF values of all the independent variables less than 10, which means these independent variables are not collinearity.

According to the regression coefficients in Table 9: The change of CAR is positive during the private placement period, when more directors or supervisor seats are obtained by private placement investors, when the management rights are transferred, and when there had been financial crisis for the company. This is consistent with the direction expected under hypotheses. On the other hand, the change of CAR is negative, which is the opposite of the expected direction, when more insiders of the company issuing private placement shares participate, when the percentage of private placement shares in total stock shares after private placement is higher, and when strategic partners have participated private placements. This result is different from the findings of Hertzel and Smith (1993) that "the ratio of private placement shares to total shares after that private placement" has positive influence on abnormal returns of private placement shares, and is also different from Folta and Janney (2004) findings that by delivering information of corporate value via private placement, there'd be higher abnormal returns for technology companies. The cause of the strategic alliance part might be that the sample companies had lowered the prices to seduce investors (the discount is 18.86% for investor as strategic partner.), and attract

companies with strategic alliance participating the investments. This leads to the fact that the companies with strategic alliance joining investments cannot deliver the information of growth-of-value to solve the problem of information asymmetry. The stock price cannot be push up with the growth-of-value information. Also the regression analysis result shows that the variable "whether managerial rights have been transferred" under model (1) and (2) had reached the significant level at 5%, which is consistent with the above-mentioned "Ownership Structure Hypothesis" and Shleifer and Vishny (1986) argument: A company can attract huge external investors by private placement, through outside large shareholders, to supervise and manage the company, and further facilitate to promote the enhancement of corporate value.

According to the regression analysis and the statistics in Table 10: the companies which had their managerial rights transferred because of the private placements have the average cumulative abnormal return of 40.43% during the event period. As for the companies whose managerial rights had not been transferred, although their CAR values are positive, the average of CAR is 8.09%. The difference between these two averages is as high as 32.35%. This phenomenon implies that after the update of the regulation by the Financial Supervisory Commission because of the Xepex case, under the circumstance which the private placement investors have obtained the managerial rights (including backdoor listing, mergers and acquisitions, …), the stock prices can still rising sharply.

The multiple regression analysis performed for formula (22) shows that: "whether managerial rights have been transferred" under model (1) and (2) are with significant positive abnormal returns. This proves the above-mentioned "Ownership Structure Hypothesis". This phenomenon implies that if small private placement investors know the information that a new management team will step in because of the private placement, they can obtain excess abnormal returns by using this information to make decisions about whether to invest or not after private placement announcement.

Table 9
Multiple Regression of Private Placement Announcement on Cumulative
Abnormal Return

Variables	Model I				Model II: CAAR > 0 on private placement				Model III: CAAR ≤ 0 on private placement		
	ß	*p*-value	VIF		ß	*p*-value	VIF		ß	*p*-value	VIF
Constant	11.64	.16			35.52	.00			-17.08	.019	
IND[a]	-5.09	.59	1.28		-5.45	.58	1.2		-3.00	.71	1.54
NCR[b]	1.16	.53	1.18		.94	.61	1.16		1.83	.25	1.22
PCT[c]	-.10	.48	1.2		.01	.96	1.29		-.19	.18	1.29
CCR[d]	**33.75**	**.01****	**1.47**		31.29	**.02****	**1.49**		3.18	.83	1.32
FC[e]	3.03	.71	1.17		-3.39	.67	1.11		-.06	.99	1.56
SA[f]	-4.58	.63	1.59		-15.27	.10	1.54		-9.93	.26	1.68
F- statistics	1.74				1.36				.64		
p-value	0.12				.24				.70		
D-W	2.01				2.09				2.45		
Adj-R²	.04				.03				-.052		

Note: *** Significantly at 1%; **significantly at 5%; *significantly at 10%.

    a. IND: means the ratio of insiders.

    b. NCR means Number of directors and supervisors seats investors obtained in the private placement.

    c. PCT means the ratio of number of private placement shares over total number of paid-in-capital.

    d. CCR means the change of managerial right; FC means the financially distress; SA means strategic partners.

    e. FC: Financially distress

    f. SA: Strategic partners.

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Table 10

Statistics summary of managerial right change and cumulative abnormal return

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Cumulative abnormal return of private placement	Obs.	Mean	Standard deviation	Minimum	Maximum
Change of managerial right	14	40.43%	56.18%	-41.07%	207.30%
Do not change of managerial right	108	8.09%	34.41%	-66.48%	120.60%
CAAR >0	77	32.25%	31.91%	0.16%	207.30%
CAAR ≤0	45	-23.89%	17.69	-66.48%	-1.09%

5.4. Discussion on the Causes of Premium (Discount)

From Table 3, it can be found that the highest discount of the sample companies from private placement is 67.62%, and the highest premium is 128.31%. Averagely, private placement share price is the reference price with 13.82% discount. The possible causes are discussed below with multiple regression analysis.

From the Pearson correlation analysis result in Table 11, it is found that there is no high degree correlation between any two of the variables. And the regression analysis result for model (1) in Table 12 shows that: the VIF values of all the independent variables are less than 10. The D-W value is 1.90, which means the independent variables are not collinearity. The variation of the residual is sable and there is no sign of auto-correlation. The result of multiple regression analysis for formula (23) shows that: from the regression coefficients and test statistics of model (1) in Table 12, it is found that the discount is higher, when the ratio of insiders is higher for a private placement, when the number of directors or supervisor seats are obtained by investors of the private placement, when the ratio of number of private placement shares to number of total shares after that private placement is higher, when the number of directors or supervisors seats investors obtained in the private placement is higher, and strategic alliance partners are drawn. Additionally, the managerial rights have been transferred for a private placement, which issued at a premium. The result is in line with the expected

direction of hypothesis.

On the other hand, when there is a financial crisis for a company, the private placement share price is higher than the reference price. This phenomenon is not consistent with the direction of hypothesis. Lin (2006) pointed out about this phenomenon that sometimes there is capital decrease during the period before or after private placement. Therefore extreme values may occur. Or the offset direction by positive and negative of premium (discount) may affect the result of regression analysis.

In this study, in order to avoid offset direction by positive and negative of premium (discount) may affect the result of regression analysis, the sample was divided into two samples, discount (DC<0) and premium (DC$\geq$0) respectively. Multiple regression analysis was performed for both samples (model (2) and model (3)) to further explore the possible factors which have influences on premium (discount). From the regression coefficient and test statistics in Table 11 and the correlation coefficient in Table 12, it is found that: in model (2) with the discount sample (DC<0), "the purpose of private placement is to attract strategic partners" and "number of directors or supervisors seats investors obtained in the private placement" are the important factors which facilitate the premium (discount) of private placement (both reach the significant level of 10%), and the influences effects are negative (that is, discount), which is consistent with the expectation of hypothesis.

Wu (2004) pointed out that: the reason why the discount is higher when the private placement investors are managers, should have something to do with managers' self-dealing. When managers have only a small amount of original shares, there is a strong incentive to make self-dealing. With the method of buying in a lower price and selling in a higher price, the stockholders' wealth is transferred from existing shareholders to managers themselves. However, it is found in this study of the Taiwan's private placement through the results of model (1) and (3) that: the relationship between "ratio of insiders' share amount in

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Table 11
Pearson correlation analysis of factors affecting on premium (discount)

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Variables	IND[a]	NCR[b]	PCT[c]	CCR[d]	FC[e]	SA[f]
NCR	-.12 (.09)	1.00				
PCT	-.13 (.08)	.24 (.00***)	1.00			
CCR	-.20 (.011**)	.38 (.00***)	.28 (.00***)	1.00		
FC	-.06 (.25)	.126 (.08*)	.28 (.00***)	.19 (.013**)	1.00	
SA	-.44 (.00***)	.18 (.02**)	.05 (.29)	.40 (.00***)	-.18 (.02**)	1.00

Note: Parentheses is p value. *** Significantly at 1%; **significantly at 5%; *significantly at 10%
    a. IND: Ratio of insiders.
    b. NCR: Number of directors and supervisors seats investors obtained in the private
        placement.
    d. PCT: Ratio of numbers of private placement over total paid-in-capital.
    e. CCR: Change of managerial right.
    f. FC: Financially distress
    g. SA: Strategic partners

Private placement to the total share amount in that private placement" and premium (discount) is not significant. The self-dealing behavior of managers cannot be proved exist significantly.

In summary, in the discount samples, "purpose of private placement is to attract strategic partners" and "number of directors or supervisor seats investors obtained in the private placement" are the important significant factors which have influences on discount of private placement. The phenomenon implies that the private placement share issuing company can attract strategic alliance partners with lower prices for capital increase. In addition, the higher the "number of directors or supervisors seats investors obtained in the private placement" is, the higher the discount is. However, because the relationship between "ratio of insiders' share amount in private placement to the total share amount in that private placement" and premium (discount) is not significant, which means the phenomenon of enterprises using capital increase with discount to attract "outsiders" to invest and joining the management teams of the enterprises.

Table 12
Multiple regression of private placement announcement on premium
(discount)

Variables	Model I			Model II (DC< 0)			Model III (DC ≥ 0)		
	ß	*p*-value	VIF	ß	*p*-value	VIF	ß	*p*-value	VIF
Constant	-11.	.03		-21.2	.00		19.42	.20	
IND[a]	-.19	.97	1.29	0.05	.22	1.27	-14.27	.34	2.10
NCR[b]	-1.3	.23	1.19	-1.33	.09*	1.13	-3.21	.21	1.59
PCT[c]	-.05	.54	1.19	-.00	.97	1.25	-.04	.84	1.35
CCR[d]	2.55	.75	1.41	-.15	.98	1.40	-9.24	.55	1.51
FC[e]	4.35	.39	1.20	-.49	.88	1.11	21.33	.15	2.33
SA[f]	-3.3	.56	1.56	-6.88	.07*	1.57	1.88	.89	2.42
F-		0.59			2.45			1.14	
P value		0.74			0.03**			0.37	
D-W		1.90			1.50			1.96	
Adj-R²		-.02			0.08			0.03	

Note: a. IND: Ratio of insiders.
　　　 b. NCR: Number of directors and supervisors seats investors obtained in the private
　　　　　 placement.
　　　 d. PCT: Ratio of numbers of private placement over total paid-in-capital.
　　　 e. CCR: Change of managerial right.
　　　 f. FC: Financially distress
　　　 g. SA: Strategic partners

6. Conclusions and Suggestions

6.1 Concluding Remarks

The purpose of this study is to explore whether or not private placement announcements have influence on shareholders' wealth, after the management system of private placement was amended in October, 2005, and to further analyze the influential factors of abnormal returns after private placement announcements and premium (discount) rate. The research targets are the listed

and OTC companies which have announced private common stock placement for the first time during the period from October, 2005 to March, 2008. The event date of private placement was set to "the date being public disclosed in Market Observation Post after the directors meetings approve private placements". Event study method was adopted to examine whether cumulative average abnormal returns exist after private placement announcements. The result shows that: the CAAR of the period from 30 days before the event date to 30 days after that, the CAAR[-30,+30] is 9.38%, which is consistent with the findings by Hertzel and Smith (1993) and Wruck (1989) that private placement announcements have information effects of positive influences on abnormal returns. It is found in this study that: after the Financial Supervisory Commission enhanced the management regulations of posterior information disclosure in 2005 due to the stock speculation to embezzle company money by private placement, the private placement announcement information has information content and has significant positive influence on shareholders' wealth.

In addition, the cumulative average abnormal return from the event period to the day before announcement, the CAAR[-30,-1] is 5.89%, while the cumulative average abnormal return from announcement day to 30 days after announcement (CAAR[0,+30]) is 3.66%. It is higher before announcement date CAAR (CAAR[-30,-1]) than after (CAAR[0,+30]). Furthermore, cumulative average abnormal return since 27 days before announcement to 30 days after shows significantly at 5%. This means since 27 days before submitting the proposal of private placement to the directors meeting, the stock price of the company has already started to show a positive reaction. Because before announcement, only insiders or investors being contacted can know about the private placement while ordinary investors can't, the significant cumulative average abnormal return represents the information asymmetry does exist in private placement events. For minority shareholders, under the influence of information asymmetry, the fairness of market transaction and investors' interests will be harmed. This phenomenon can be considered as reference for future amendment of private placement related regulations for the authority. Or by adopting disgorgement regulations, the fairness of market transaction can be

strengthened.

In the aspect of the influential factors of facilitating abnormal returns after private placement announcement, it is found that if a listed and OTC company serves its purpose of transferring managerial rights via private placement, then the cumulative average abnormal return in the event period is up to 40.28%. The cumulative average abnormal return of companies without transferring their managerial rights is only 8.12%, although positive. According to the result of multiple regression analysis, "whether managerial rights have been transferred" is an important influential factor which facilitates abnormal returns after private placement announcement. In general, although small investors cannot become particular private placement investors for potential abnormal return. This can be considered as a reference indicators to make decision of whether to invest and the holding period after knowing about there will be a new management team after private placement. The result in this study is consistent with Hertzel and Rees (1998): by announcing the launch of private equity placement, beneficial information on corporate future surplus can be delivered to external investors.

In the aspect of the influential factors of facilitating premium (discount) rate of private placement, it is found in this study that: the relationship between "ratio of insiders' share amount in private placement to the total share amount in that private placement" and premium (discount) is not significant, unlike Wu's inference (2004) that discount is highly related to managers' self-dealing. This implies that under the circumstance that the Financial Supervisory Commission had already enhanced regulations on private placement and requested independent experts' opinions being disclosed when the difference of private placement share price and the reference price is over 20%, there is no significant evidence of insiders taking advantages by high-rate discounts. In addition, "purpose of private placement is to attract strategic partners" and "number of directors or supervisors seats investors obtained in the private placement" are the significant influential factors which facilitate discount after private placement announcement. It shows that private placement equity issuing companies try to attract strategic alliance partners by increasing capital with lower share price. And there is evidence of

attracting outsiders to invest and join management teams of the companies by increasing capital in discounts.

6.2. Suggestions

Currently, although the authority has already set up standards for private placement information disclosure through laws, and created a "private placement area" in the "Market Observation Post," still there are neither statistical analyses nor summaries for private equities cases. Therefore, in retrieving study data, it is still necessary to interpretation and summarizes them with the help of company annual reports or major information before/after the period. In addition, because private placement can be launched within a year after the resolution day, in this period of time and after private placement, there is always capital decrease or managerial rights transfer and other important matters. It is suggested that in the future, researchers should also consider the major events before/after private placement announcement and include them into cross analysis as variables when colleting research samples, in order to identify more precisely the influence of private placement on shareholders' wealth, reasonability of private placement pricing, and information contents of private placement.

In this study, the premium (discount) is calculated with the difference of private placement actual price announced by issuing company and the reference price according to the law, however there is no specific regulations of the pricing day to calculate the reference price. And most private placement issuing enterprises still authorize the directors meeting to decide the pricing day. This leads to the fact that the directors meeting can choose a time point which is favorable to specific private placement investors as the pricing day. In order to further understand the factors of premium (discount) rate, it is suggested that in the future researches, the causes of stock price variation on the pricing date or the period of pricing data and directors meeting has announced the private placement, which should be included as adjustment reference, to find out whether the directors meeting chooses a date of low share price on purpose, so that specific private placement investors can buy shares in private placement with substantial discount. Also, for the private placement cases which have to disclose

independent experts' opinions according to the rule of the difference between private placement share price and reference price exceeding 20%, in the future researches, the reason why their premium (discount) is rather high can also be future explored.

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