

2019

## Controlling shareholders, the non-tradable share reform and private placements: their impact on cash dividends of publicly listed firms in China

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**CONTROLLING SHAREHOLDERS, THE  
NON-TRADABLE SHARE REFORM AND PRIVATE  
PLACEMENTS: THEIR IMPACT ON CASH DIVIDENDS  
OF PUBLICLY LISTED FIRMS IN CHINA**

This thesis is presented as part of the requirement for the conferral of the degree:

**DOCTOR OF PHILOSOPHY (Integrated)**

**By**

Hao Jiang

Principal supervisor: Dr. Aelee Jun

Co-supervisor: Dr. Shiguang Ma

The University of Wollongong

School of Accounting, Economics and Finance

March 2019

## **Certification**

*I, Hao Jiang, declare that this thesis submitted in fulfilment of the requirements for the conferral of the degree Doctor of Philosophy (Integrated), from the University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. This document has not been submitted for qualifications at any other academic institution.*

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***Hao Jiang***

*25<sup>st</sup> March 2019*

## **Dedication**

This thesis is dedicated to my parents

**Xiaoyan Liu and Yuesen Jiang**

and to my late grandparents

**Xuezheng Liu and Shulan An**

## **Acknowledgement**

I would never get this far in my PhD study without the help of many people.

I sincerely thank my principal supervisor Dr Aelee Jun for her ever-lasting support and encouragement throughout my journey in UOW. For every difficult position that I had ever been in on this journey, Dr Aelee Jun had helped to pull me out like a superwoman. Just like what she told me when my PhD study began. She always guides me in the right way not just in research but also in life. She has inspired me as a dedicated academic, a responsible supervisor and a lovely person. She showed me the charm of sophisticated and precise analysis and just the way to achieve that. Dr Aelee Jun has put tremendous efforts in helping me to obtain my scholarship offered by the International Postgraduate Tuition Award. She is the biggest backbone in my PhD study, and I would not have completed this thesis without her dedication. I am grateful that I have her on this journey.

I would like to express my thanks to my co-supervisor Dr Shiguang Ma for accepting my application of PhD study. He helped me to start the most important journey in my life. He was always there along my journey in UOW, offering support and guidance. Dr Ma follows a tough-love approach in education, he may not always have the nicest things to say, but he always cares.

I have come across many amazing staff at UOW. I would like to thank Associate Professor Dr Corinne Cortese for helping me with my scholarship application and for

giving me confidence at my research proposal review presentation. I also want to thank our HDR Coordinator Jodi Barrie, Administrative Officer Danielle O'Neill and Administrative Assistant Samantha Constantinou for their service which made my life at UOW much smoother.

My biggest support in this journey came from my mother, Xiaoyan Liu. Her love and warmth were how I got through my not-too-often bad days and quite-a-few sleepless nights. Her cute emoticons, heart-melting texts and inspiring words beat the long-distance and made me feel that I can do anything. I also want to thank my father, Yuesen Jiang, for his impeccable taste in choosing his life partner and his awkward expression of love to me.

I want to thank my late grandmother Shulan An. She was my first teacher. She planted my dream of pursuing an academic career. My grandmother told me to say "I want to be a Post-Doc" if people ask me what I want to do after I grow up. I said so without knowing what a Post-Doc was when I was 2 years old. I guess having a dream does work (kind of). My grandmother was a truly amazing lady who grew up during World War II and valued the power of knowledge like no other. She was my first-ever inspiration, and I will carry on my research in her honour. I would also like to thank my late grandfather Xuezheng Liu. He was my lifeguard, my biggest source of joy and many other wonderful things. No need to say much, he knew.

I would like to express my thanks to my late friend Dr Xi Chen. He was my high

school buddy who was unlucky enough to sit behind me in class and got annoyed by me all the time. While I was still struggling on my second research topic, this talented friend of mine had obtained his PhD degree in Chemistry from Tsinghua University. It was always a huge comfort to take his wise and amusing advice during my study. This amazing(-ly silly) guy chose to cheer me up instead of telling me his condition in his last days. I did not get to say goodbye. My friend left this universe as a fighter. He will forever be my motivation and pride.

## **Abstract**

Different from agency conflicts between managers and investors (Jensen & Meckling, 1976), interest conflicts between controlling and minority shareholders tend to prevail facing a concentrated ownership structure (Faccio et al., 2010). Notably, the problem of firm resources being transferred to controlling parties is described as tunnelling (Johnson et al., 2000).

In China, cash dividends are argued to be tunnelled by controlling shareholders who had discounts for the subscription of non-tradable shares (Chen et al., 2009a). My study adds further evidence by investigating the influence on dividends of the non-tradable share (NTS) reform. Different from previous studies, I also consider the heterogeneity of state and non-state shareholders.

Zhao et al. (2015) argue that cash dividends issued after private placements also expose to tunnelling, especially with the subscription of controlling shareholders. Yet, to preserve such an argument, further examination of the information effect of private placements (Hertzel & Smith, 1993) and the incentive held by participating shareholders (Wruck, 1989; Barclay et al., 2007) appears necessary.

Whether controlling shareholders view dividends as an option of interests transfer and whether events concerning controlling shareholders' holdings alter their attitude towards dividends motivate this research. These issues are addressed via the following



studies.

Using the NTS reform as an experimental setting, the first study of this thesis looks into whether cash dividends are subject to influences of agency conflicts and capital constraints associated with controlling shareholders. The result shows that dividends decreased after the reform. This is in line with i) a reduced incentive to use dividends to “materialise” non-tradable holdings and ii) a stronger alignment between controlling and minority shareholders via the united pricing of their holdings. The implications of the heterogeneity of controlling shareholders are examined next. The evidence shows that state-owned enterprises (SOEs) directly controlled by capital-constrained local governments pay higher dividends, suggesting a potential remedy for local governments’ lack of income. Yet, family firms are shown to be reluctant to pay dividends, possibly because of the tendency to transfer interests via excessive cash holdings (Liu et al., 2015). It is inferred that controlling shareholders would be inclined to demand (suppress) payouts if higher (lower) cash dividends better serve their personal interests.

My second study examines the impact of private placements on cash dividends using a multivariate difference-in-difference approach. Contrary to Zhao et al. (2015), my results show that the placements reduce dividends. Further investigation reveals that private placements enhance long-term stock performance. The opposite directions of treatment effects on dividends and firm performance are in line with Hail et al. (2014); an enhancement in the information environment, in this case private

placements (Hertzel & Smith, 1993), lowers the need to signal profitability via dividends. I also find that private placements result in higher announcement returns of dividends. This further corroborates the signalling function of private placements, as an improved information environment is shown to emphasise the announcement effect of dividends (Dedman et al., 2015).

My third study addresses how participating investors' affiliations with issuing firms and offering discounts relate to post-offering dividends. Tracing 120 days after announcements of private placements, I find that higher discounts for controlling shareholders lead to better stock performance. This reflects the optimism of the market. Further results document higher payouts, greater earnings and better corporate governance when larger discounts are received by controlling shareholders. This implies that discounts granted to controlling shareholders could be the reward for incremental monitoring (Wruck, 1989).

Overall, this thesis examines whether dividends are exposed to tunnelling by controlling shareholders. Though the discount of controlling shareholders' non-tradable holdings once pointed to dividends as fund transfer, it seems that this tendency was restrained after the NTS reform. Despite the concern that private placements inviting controlling shareholders cause aggravated agency conflicts, when examining the post-offering practice, evidence indicates higher discounts granted to existing controlling shareholders result in higher dividends accompanied by greater earnings. This thesis points to incremental monitoring provided by existing

controlling shareholders as the most likely explanation. In general, this thesis suggests that following the NTS reform, controlling shareholders have a weak incentive towards tunnelling via dividends. Also, controlling shareholders' impact on dividends could be influenced by their governance intentions and financial capability.

## Abbreviations

NTS	Non-tradable share
SOE	State-owned enterprise
DID	Difference-in-difference
IPO	Initial public offering
CSRC	China Securities Regulatory Commission
SEO	Seasonal equity offering
ROE	Return on equity
SASAC	State-Owned Assets Supervision and Administration Commissions
CSMAR	China Stock Market Accounting Research Database
ST	Special treatment
PT	Particular transfer
TSLLS	Two-stage least square
OLS	Ordinary least square
PPC	Private-placement-conducting
IFRS	International Financial Reporting Standards
AMISLC	Administrative Measures for the Issuance of Securities by Listed Companies
ADR	American Depository Receipt
CAPM	Capital Asset Pricing Model
CAR	Cumulative abnormal return

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# CHAPTER ONE. INTRODUCTION

## 1.1 Motivation of research

The separation of control and ownership exposes shareholders to agency costs which result from the misconduct of managers, forming a “manager-to-principal” agency problem. In dealing with such conflicts, cash dividends may act as a solution. The traditional agency theory argues that cash payouts can reduce discretionary funds and invite active monitoring provided by creditors (e.g. Easterbrook, 1984; Jensen, 1986). Dispersed ownership structure is found to be less prevalent in European and Asia markets (La Porta, Lopez-de-Silanes & Shleifer, 1999; Faccio & Lang, 2002). Instead, firms listed in these markets tend to exhibit a concentrated ownership structure that grants control rights to large shareholders. This gives rise to the “principal-to-principal” conflicts, as controlling shareholders are enabled to abuse their power to pursue private interests regardless of how it affects minority shareholders. Particularly, La Porta et al. (2000) and Johnson et al. (2000) describe the problem of firm wealth being transferred to controlling shareholders as “tunnelling”.

In the context of China, substantial evidence confirms that the tunnelling problem is highly relevant given the concentration of control (e.g. Jiang et al., 2010; Ma, Ma & Tian, 2013). Additionally, the literature also identifies the role served by cash dividends in the face of the conflicts between controlling shareholders and minority shareholders (e.g. Lee & Xiao, 2003; Chen et al., 2009a; Wei & Xiao, 2009;

Huang et al., 2011; Zhao et al., 2015). Despite the progress contributed by these studies, some puzzling questions remain to be answered.

First, heated debates have been held around the question of whether cash dividends add exclusive benefits to controlling shareholders in China. Before 2005, the ownership of controlling shareholders was defined as non-tradable, meaning that their holdings could not be exchanged on the open market. This indicates that controlling shareholders were unable to realize capital gains and their investment returns were limited to cash payouts. Several studies find a positive association between the proportion of non-tradable shares and cash payouts (Lee & Xiao, 2003; Chen et al., 2009a; Wei & Xiao, 2009; Huang et al., 2011). The argument of tunnelling via cash payouts arose when the market-driven price of tradable shares was usually higher than that of non-tradable shares. That is, dividend yields vary for different categories of investors, with non-tradable/controlling shareholders being able to enjoy higher yields than tradable/minority shareholders (Chen et al., 2009a). However, Huang et al. (2011) argue that the tunnelling incentive is less likely to explain controlling shareholders' preference for cash dividends. This is because the profitability of listed firms is shown to be a stronger determinant of cash payouts than controlling shareholders. Therefore, whether the non-tradable feature and the price difference of controlling shareholders' holdings account for their attitude towards cash dividends remain inconclusive. To address this question, this study used the NTS reform as an experimental event. This reform not only eliminates non-tradable shares



and unites the pricing of outstanding shares, but also promotes more aligned interests between controlling shareholders and minority shareholders (Liu & Tian, 2010; Huo et al., 2012; Jiang & Habib, 2012; Chen et al., 2015; Sun et al., 2017).

Second, the literature lacks attention to the heterogeneity of controlling shareholders in term of their influence over cash dividend practice. Most dividend studies divide Chinese controlling shareholders as state-related and non-state related, which corresponds to the SOEs and non-SOE categories (e.g. Chen et al., 2009a; Huang et al., 2011). Yet, such classification forms a less informative reflection of institutional realities (Green, 2004; Wang, 2003). For one, some SOEs are found to issue loans on behalf of their controlling shareholders, namely financially-distressed local governments (Fan & Lv, 2012). This case is less likely to occur among central-government-controlled SOEs which are associated with more effective governance (Chen, Firth & Xu, 2009b). For another, among non-SOEs, family firms are exposed to greater tunnelling risk (Liu et al., 2015). Yet, how differently local government control and family control affect cash dividends remains an open question.

Third, given the rapid growth of private placements as an option for equity refinancing, some discussion on the determinant of cash dividend policy after private placements began to emerge. The study of Zhao et al. (2015) documents that issuing firms tend to pay higher cash dividends after private placements. Mainly, this tendency is more likely when controlling shareholders participate in private

placements.

However, the above interpretations may overlook some alternatives. On the one hand, private placements are shown to release positive information about issuing firms (Hertzel & Smith, 1993), indicating a signalling function similar to that of cash dividends. Based on a similar role served by private placement and cash dividends, how private placements influence cash dividend policies is an empirical question. On the other hand, private placements are demonstrated to invite incremental monitoring performed by large shareholders given the close connection between investor wealth and firm values (Wruck, 1989). Yet, the possibility that the enhancement in corporate governance led by private placements influences cash dividends has not been discussed.

With respect to the institutional realities in China, this study fills these gaps by investigating the influences of the NTS reform, private placements, and most importantly, the incentive of controlling shareholders on cash dividend practice.

## **1.2 Institutional background**

The Chinese stock market has grown into one of the largest economies in the world. The Shanghai stock exchange (SSE) and Shenzhen stock exchange (SZSE) are two stock exchanges operating independently in the mainland of China. By February

2019, there were 1463 firms listed on the SSE with a market capitalization of ¥ 32627 billion, making the SSE the world's 4<sup>th</sup> largest stock market by market capitalization. Around the same time, there were 2144 firms listed on the SZSE with a market capitalization of ¥ 20716 billion, making the SZSE the world's 8<sup>th</sup> largest stock market by market capitalization.

When stepping into the modern corporate world, problems unavoidably occur before institutional regulations are fully implemented for the market to grow. The establishment and refinement of regulations, therefore, provide exogenous experiment settings for this study. Additionally, one of the intentions behind the establishment of the Chinese stock market was to increase the value of state-owned assets and so the operation of this market reflects upon the Chinese government. This gives credence to a unique institutional background of the Chinese stock market.

### **1.2.1 The split share structure and the non-tradable share reform**

In the early 1990s, the Chinese government started to corporatize and partially privatize SOEs through the establishment of the SSE and the SZSE. At that time, only a minority of shares were issued to the general public. The majority of shares were held by the government to maintain the state's control over listed SOEs. State-owned shares and individual-owned shares had two main differences. First, is the price difference. The administrative position of the government enables its claim on

state-owned shares which were priced according to the face value ( ¥ 1). Individual shareholders purchase the shares at the market value during the initial public offerings (IPOs). This implies a higher subscription price paid by individuals compared to the price paid by the state. Second, is the trading restriction. Because of the administrative nature of the state holdings, state-owned shares did not have public trading rights. The transfer of non-tradable state-owned shares was undertaken by private negotiations between designated parties. These transactions also needed approval from the relevant regulatory authorities before being executed. Apart from this non-tradable feature, the shares held by the government are the same as those held by individuals in terms of cash-flow rights and voting rights. In the later stage, privately-owned enterprises started to go public. Similar to state-owned shares, holdings of founders and individual controlling shareholders were also defined as non-tradable. Therefore, the co-existence of non-tradable and tradable shares built a split share structure.

This split share structure is, however, exposed to severe agency problems. Being unable to realize capital gains, controlling shareholders who held non-tradable shares lacked concern about market performance (Liu et al., 2015). Investors investing in tradable shares, however, showed a relatively short average holding period of two months (Chen et al., 2002). Such speculative trading behaviours suggest active monitoring by tradable shareholders is less likely.

Realizing that the split share structure failed to properly facilitate the best interests of both non-tradable and tradable shareholders, in April 2005 the China

Securities Regulatory Commission (CSRC) launched the non-tradable share reform (NTS reform). The direct function of this reform is the elimination of non-tradable shares. At the executive level, the critical issue is to protect the interests of tradable shareholders who paid a higher price than their counterparts during the IPO process. Accordingly, before the trading right is granted, non-tradable shareholders were required to provide compensations to tradable shareholders who decided if the compensation was acceptable. The compensations may include extra shares and cash payments transferred from non-tradable shareholders to tradable shareholders (Bortolotti & Beltratti, 2007). The non-tradable shares transferred to tradable shareholders as the compensation of the reform are immediately tradable. For the rest of non-tradable shares that are still held by non-tradable shareholders, a problem is that once the reform is completed, a dramatic increase in share supply would form. This could result in great dilution of liquidity premium. To address this problem, the CSRC imposed a lockup period totalling to 36 months for the trading of converted non-tradable shares, within this period the trading rights would be gradually released.

One direct outcome of the NTS reform is that after the execution of the compensation, non-tradable shares were priced as tradable ones. This aligns the financial interests of controlling shareholders and minority shareholders as after the reform their holdings are both subject to market fluctuations. Following the reform, reductions in excessive debt (Liu & Tian, 2010), information asymmetry (Huo et al., 2012), earnings management (Jiang & Habib, 2012) and stock price crash (Sun et al.,

2017), and the improvement in the pay-for-performance sensitivity (Chen et al., 2015) were documented. This indicates that the NTS reform has resulted in an upward shift in the quality of corporate governance. Therefore, this present study adopted the NTS reform as an exogenous experimental setting to examine its influence on cash dividends.

### **1.2.2 Options for equity refinancing**

Before the CSRC approved the use of private placement in 2006, public equity offerings were the only viable option for listed firms to conduct equity refinancing in the Chinese market. There have been two forms of public equity offerings. The first is seasonal equity offering (SEO) which refers to additional securities issued by a listed firm to the general public. New shares issued by SEOs adopt the market price. The second form of public offerings is rights issue which can be viewed as a special form of SEO. It allows a listed firm's existing shareholders to acquire additional shares in proportion to their current holdings. Typically, in a rights issue, existing shareholders enjoy a discount relative to the market price.

Contrary to the US market which runs a registration system for requests of equity refinancing, the Chinese market runs an application system. When applying for equity refinancing, firms are required to follow the CSRC's regulation. Notably, eligibility to conduct public offerings is harder to acquire compared to that of private offerings.

Public offerings require prospective issuers to show a certain level of profitability before the application. The eligibility to apply for rights issues includes a minimum return on equity (ROE) of 10%, and this ratio is 6% for the case of SEOs. Additionally, firms are required to have distributed cash dividends for three consecutive years before they submit the application of SEOs. In contrast, private placements are exempt from the requirements of profitability and dividend-paying status. Also, private placements frequently provide a discounted subscription price to participating shareholders. In short, for Chinese listed firms, private placements represent an easier way to raise new equity compared to public offerings. Still, shareholders participating in private placements are subject to a temporary trading restriction. Subsequent to the subscription, participating investors face a lockup period during which they are prohibited from trading their holdings. This lockup period is up to 36 months for controlling shareholders, and 12 months for non-controlling shareholders. As targeted equity issues, private placements can increase the holdings of existing large shareholders or/and create new block shareholders.

To examine controlling shareholders' influences over cash dividends, this study considers two events, namely the NTS reform and private placements, both of which can affect the holdings of controlling shareholders. The NTS reform is expected to lead to a drop in controlling shareholders' ownership while private placements that invite controlling shareholders suggest the opposite.

### **1.2.3 Controlling shareholders**

According to La Porta et al. (1999), controlling shareholders may hold various governance incentives. Given their substantial holdings, controlling shareholders can be motivated to enhance a firm's profitability, which helps to increase a firm's value and individual wealth. Alternatively, when the controlling power is misused to expropriate a firm's resources, minority shareholders are left to cover the costs while controlling shareholders gain private interests.

One essential characteristic of Chinese listed firms is the concentrated ownership structure which usually results in the holdings of the largest shareholders greatly exceeding that of the second largest shareholders. Further, when the holdings of controlling shareholders are above 30% of the total outstanding shares, they are defined absolute controllers who can dominate the managerial work. Based on 8514 firm-year observations from 2004 to 2015, this research reports an average holding percentage of about 37% for controlling shareholders. It indicates that controlling shareholders of Chinese listed firms hold the key to determining firm policies and corporate governance. This raises the concern of agency conflicts between controlling shareholders and minority shareholders.

The categorisation of the controlling ownership should go beyond the level of holding percentage or the legal definition of shares, namely state-owned or privately-owned. The incentive held by controlling shareholders when supervising firm



operations is worth attention (Chen et al., 2009b). Being state-controlled naturally forms a political connection that can ease the process of raising long-term debts and public equity (Brandt & Li, 2003; Gul, 1999; Bradford et al., 2013). However, it is difficult for SOEs to deviate from serving the goal of social welfare and increasing the employment rate, even when pursuing such goals fails to maximise firm values (He, Li & Tang, 2012). In addition, the impact of state control on corporate governance differs between the central government and local governments. According to Jiang et al. (2010), the central government acting as the controlling shareholder tends to cause less severe agency conflicts. It is possible that SOEs controlled by the central government usually serve a core function in the national economy, therefore inviting stricter monitoring from the regulatory department.

As to non-state-controlled firms, individual controlling shareholders are more motivated to devote to maximising shareholder values (He et al., 2012). Yet, facing the risk of surrendering control rights to the state, individual controlling shareholders may engage in tunnelling activities before they cash in their holdings (Liu et al., 2015). Particularly, this tunnelling problem is more severe among firms controlled by a family who may have a succession problem because of the one-child policy (Liu et al., 2015). As a result, family business owners tend to hoard excessive cash and seldom make capital investments or issue cash dividends (Liu et al., 2015).

Given the critical status of controlling shareholders in management and in devising firm policies, this study establishes one of its research frameworks based on

the segment of controlling shareholders. Four categories of controlling shareholders are formed: the central government, local governments, family business owners and non-family business owners. This segment is set according to the controlling shareholders' different governance intentions. Accordingly, this study investigates the implication of this segment on cash dividend policies.

### **1.3 Research questions**

Over the past decade, a large body of literature has emerged to address how the concentration of control affects corporate governance. Despite the progress, evidence of controlling shareholders' influence over cash dividend policy and how that affects minority shareholders is still mixed. To provide some clarity to the above issues, this thesis establishes the following research questions.

First, studies that argue cash dividends are used for tunnelling by controlling shareholders is based on the non-tradability and the subscription discount of controlling shareholders' holdings (Lee & Xiao, 2003; Chen et al., 2009a; Wei & Xiao, 2009). The fact that both features were removed by the NTS reform calls for further investigation. Yet, as suggested by Liu, Uchida and Yang (2014), despite the reform of non-tradable shares, controlling shareholders' preference for cash dividends is because of the inherent illiquidity embedded by "hold-to-control". Therefore, whether the discount or the inherent illiquidity of non-tradable shares is responsible for

controlling shareholders' preference for cash dividends is to be determined. This research also considers an alternate case in which the incentive of cash payouts is to regulate the practice of managers. All these are to be addressed by examining the change in cash dividends after the NTS reform.

Additionally, this thesis investigates how various governance incentives of controlling shareholders affect cash dividends. Questions to be addressed include whether local governments' financial burdens affect their controlling SOEs' cash payouts, the impact of family business owners on dividend policies, whether cash dividends are still influenced by tunnelling by controlling shareholders after the reform, and whether the answers vary depending on different categories of controlling shareholders.

Second, this thesis looks at whether firms conducting private placements follow a particular tendency in devising cash dividend policies before and after the offerings. United States firms tend to announce cash dividends in the issuing year of public equity offerings in order to gain better announcement returns for the offerings (Booth & Chang, 2011). This motivates the question of whether Chinese firms adopt this strategy for the case of private placements. Following a univariate propensity score matching (PSM) approach, Zhao et al. (2015) find that Chinese firms tend to increase cash dividends after private placements. Whether this effect of private placements on cash dividends will remain valid under a multivariate PSM approach is of interest in this study. The present study also considers the information-releasing effect of private

placements and its potential impact on cash dividend policy. Accordingly, whether the signal conveyed by private placements can be verified by stock performance and whether the expected improvement in the firm-level information environment led by private placements alters the announcement effect of cash dividends are examined. In addition, this study examines whether private placements aggravate the tunnelling problem as a consequence of the formation of new blocks or the increase in holdings of existing blocks.

Finally, this study examined whether discounts offered to different categories of investors result in differences in post-offering firm performance (stock performance and profitability) and firm decisions of fund allocations (tunnelling, investments and payouts). Private placements as targeted equity issues are suggested to create active block shareholders, which suggests the offering discount as the compensation for incremental monitoring (Wruck, 1989). Yet, the offering discount may serve various functions depending on the affiliation between participating shareholders and issuing firms. In the case of a lack of affiliation, discounts can be offered to passive investors as compensation for protecting the entrenchment in place (Barclay et al., 2007). But, for participating shareholders who have a pre-existing affiliation with issuing firms, offering discounts may serve as a buffer against entrenchment. According to Krishnamurthy et al. (2005), the subscriptions of affiliated shareholders in private placements are related to stronger firm performance as the risk of being sued for insider trading may surface if discounts were offered to affiliated shareholders before

stock underperformance. Despite the progress made by previous studies, the implication of participating shareholders' various incentives on post-offering cash dividend policy remains an open question. Differentiating the affiliation between participating shareholders and issuing firms, whether the market reaction around private placements vary according to whom the discount is offered to is examined. The examination is also extended to post-offering accounting performance and fund allocations. By doing so, this present study addresses whether tunnelling or incremental monitoring theory explains the observed market reactions, firm profitability and firm decisions of inter-corporate loans, capital expenditure and cash dividends.

## **1.4 Key findings and contributions**

### **1.4.1 Key findings**

This study investigates whether, and how, controlling shareholders affect cash dividends with consideration given to the institutional realities in the Chinese market. The findings show that following the NTS reform, controlling shareholders are less likely to tunnel firm resources via cash dividends. Still, the impact of the concentrated ownership structure may vary according to controlling shareholders' governance incentives. Additionally, cash dividends are also influenced by the institutional event of the NTS reform, and firm event of private placements. Some of the key findings

are listed below.

Using the NTS reform as the natural experiment setting, the study first examines how controlling shareholders associated agency conflicts and capital constraints affect cash dividend policy. The empirical evidence confirms that there has been a decrease in cash dividends after the NTS reform. This finding supports the argument that the non-tradability and discounts of controlling shareholders' holdings influenced the preference for cash dividends before the reform (Chen et al., 2009a; Huang et al., 2011). And, the aligned interests between controlling and minority shareholders reduce excessive cash dividends. Considering the financial distress experienced by local governments, despite that their controlled SOEs may inherit this burden (Fan & Lv, 2012), these SOEs are found to pay higher cash dividends. It is possible that cash dividends are preferred by capital-constrained local governments as a feasible form of income. Consistent with family business owners' tunnelling via excessive cash-holdings (Liu et al., 2015), a higher level of family control is associated with lower cash dividends. Notably, neither local governments nor family business owners seem to alter their attitude towards cash dividends after the NTS reform. This presents two cases of cash dividends under the influence of tunnelling, which remain active after the reform. These results indicate that whether or not cash dividends facilitate tunnelling can be determined by the incentive and the identities of controlling shareholders, and the impact of tunnelling on the level of cash dividends is non-monotone.

Turning to private placements, this study investigates whether issuing firms follow particular patterns in paying cash dividends before and after the offerings. Results show that firms tend to issue higher cash dividends when private placements are in the near future. According to Booth and Chang (2011), this represents issuing firms' efforts to lower the information uncertainty before the offerings. Following a multivariate PSM approach used in the present research, evidence suggests that private placements lead to a downward trend for the payment of cash dividends and act as a contributor for stronger long-term stock performance. These results indicate that based on the signalling function served by private placements, the information certification effect of private placements may contribute to the reduced demand for cash payouts. Additionally, private placements are demonstrated to boost the announcement returns of cash dividends. This lends support to the notion that an improved firm-level information environment allows the announcement effect of cash dividends to be more pronounced (Dedman et al., 2015).

Lastly, this study examined whether discounts offered to different categories of investors result in differences in post-offering firm performance and firm decisions of fund allocations. Results suggest that when firms offer higher discounts to existing controlling shareholders, it leads to better stock performance within the long event window, greater profitability, more regulated use of inter-corporate loans, higher capital expenditure and higher cash dividends compared to when discounts were only offered to passive investors. This supports the idea that the discount of private

placements acts as a reward to participants who are likely to contribute to incremental monitoring (Wruck, 1989). It also fits the notion that subscriptions of shareholders who have a pre-existing affiliation with issuing firms are less likely to provoke entrenchment (Krishnamurthy et al., 2005).

#### **1.4.2 Contributions to the literature**

The findings of this study make the following contributions to the literature. First, this study helps to understand the association between controlling shareholders' holdings and cash dividends. Chen et al. (2009a) find that more concentrated ownership leads to higher cash dividends. Liu et al. (2014) report that the reduction in the largest shareholder's ownership after the NTS reform is related to a reduction in cash dividends. Both studies interpret the direct association between controlling shareholders' holdings and dividends as the consequence of the abuse of power by controlling shareholders. Contrary to previous studies, the present study finds that this association is not necessarily causal. The drop in cash-flow rights following the NTS reform indicates that following the reform, controlling shareholders collect a smaller proportion of the total cash dividends. To maintain the pre-reform level of cash dividend incomes, controlling shareholders would demand higher total cash dividends after the NTS reform. Yet, the observed drop in cash dividends after the reform suggests otherwise. This study offers a possible explanation.



Evidence supporting the enhancement in corporate governance led by the NTS reform is extensive (Liu & Tian, 2010; Jiang & Habib, 2012; Sun et al., 2017; Chen et al., 2015). It is plausible that the reduced tunnelling incentive of controlling shareholders leads to the reduction in cash dividends that were influenced by a weak governance incentive before the reform. This enriches the current literature by showing that the change in ownership concentration may not be responsible for the change in cash dividends, and the incentive of controlling shareholders can be fundamental in interpreting their influence over cash dividends.

Second, previous studies mainly divide Chinese firms into SOEs and non-SOEs, which reflects less institutional reality. The present study provides evidence that state ownership and individual ownership are both heterogeneous, which has implications for cash dividend practice. The direct control of capital-constrained local governments incurs higher cash dividends, and since state agencies have limited sources of income, cash dividends represent an accessible source of funds. Family control is associated with lower cash dividends, as individuals have more efficient options for tunnelling, such as inter-corporate loans and holding excessive cash (Liu et al., 2015). The study adds to previous results that suggest controlling shareholders' attitudes towards cash dividends are influenced by their financial capability and governance intentions. This also accounts for the heterogeneity of controlling shareholders.

Third, the information effect of private placements as a determinant of cash dividends is largely overlooked in the current literature. The present study contributes

to the literature by identifying that private placements lower cash dividends and argues that this is due to their mutual function of signalling. Filling the void in existing studies, the study shows that the positive signal conveyed by private placements is in line with the offerings' association with stronger long-term stock performance. It also provides a new finding; that the announcement effect of cash dividends is enhanced because of private placements. This informs that the effectiveness of signalling via cash dividends is conditional on the quality of the information environment. This has attracted little attention in previous studies.

Fourth, no previous studies investigate how discounts received by shareholders participating in private placements affect post-offering cash dividends. Empirical results show that unlike the case of offerings which grant discounts to multiple non-controlling shareholders, offerings that grant higher discounts to existing controlling shareholders are followed by stronger firm performance, less tunnelling, more active capital investments and higher dividends. This result is consistent with a strong affiliation leading to incremental monitoring provided by controlling shareholders (Wruck, 1989). It is also in line with Krishnamurthy et al. (2005) who suggest that the risk of being sued for insider trading can regulate affiliated shareholders' governance behaviours if substantial discounts were offered before stock underperformance occurs. It is a different result to that of Liu et al. (2016) who suggest that the discount offered to controlling shareholders implies tunnelling. Corresponding to the results on the NTS reform, further evidence is provided for the

notion that the size of holdings of controlling shareholders is a less effective indicator of agency conflicts. The implication is that the Chinese market's specific institutional environment, and internal and external pressures faced by controlling shareholders, should be considered when interpreting controlling shareholders' influence over cash dividend practice.

### **1.5 Structure of this thesis**

This thesis is organized as follows. Chapter 2 examines how various governance incentives of controlling shareholders affect cash dividend practice. The NTS reform is used as a natural experimental setting. Chapter 3 investigates whether, and how, private placements alter issuing firm's cash dividend policies, and what the nature of this treatment effect of private placements is. Chapter 4 explores whether the identity of participating shareholders and their granted discounts in private placements determine the post-offering cash dividend practice and other firm characteristics. Chapter 5 concludes the thesis.

Table 1.1 The logic-route map of Chapter 2

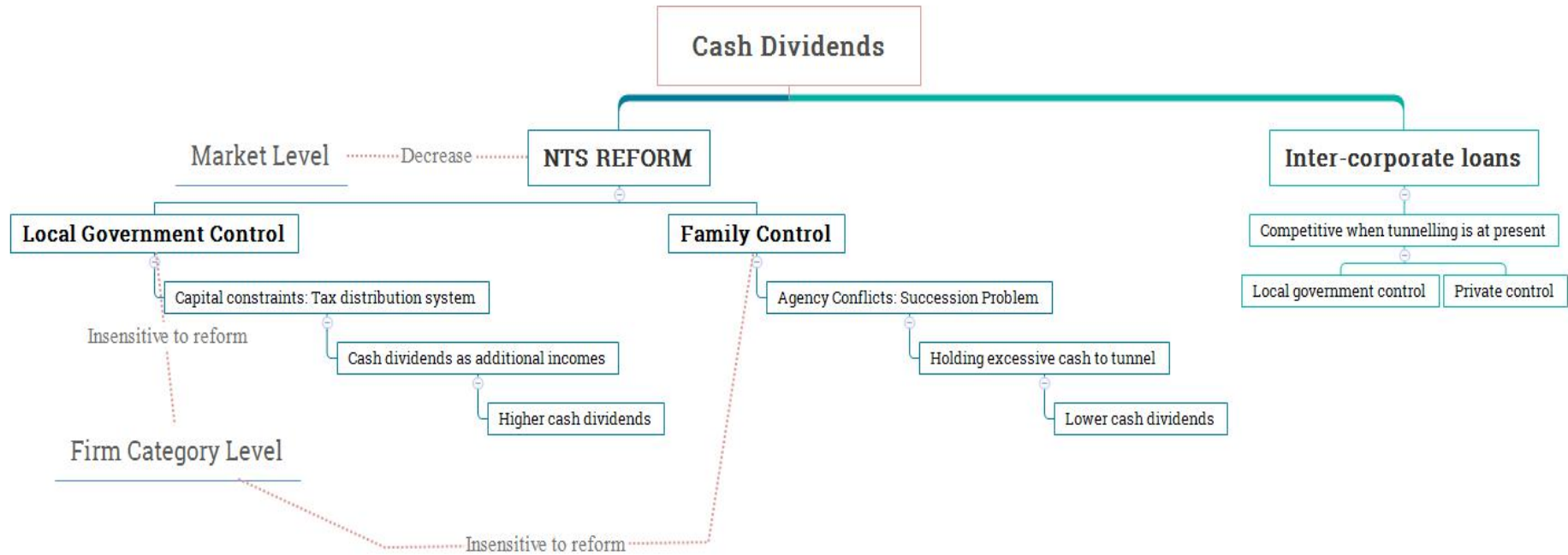
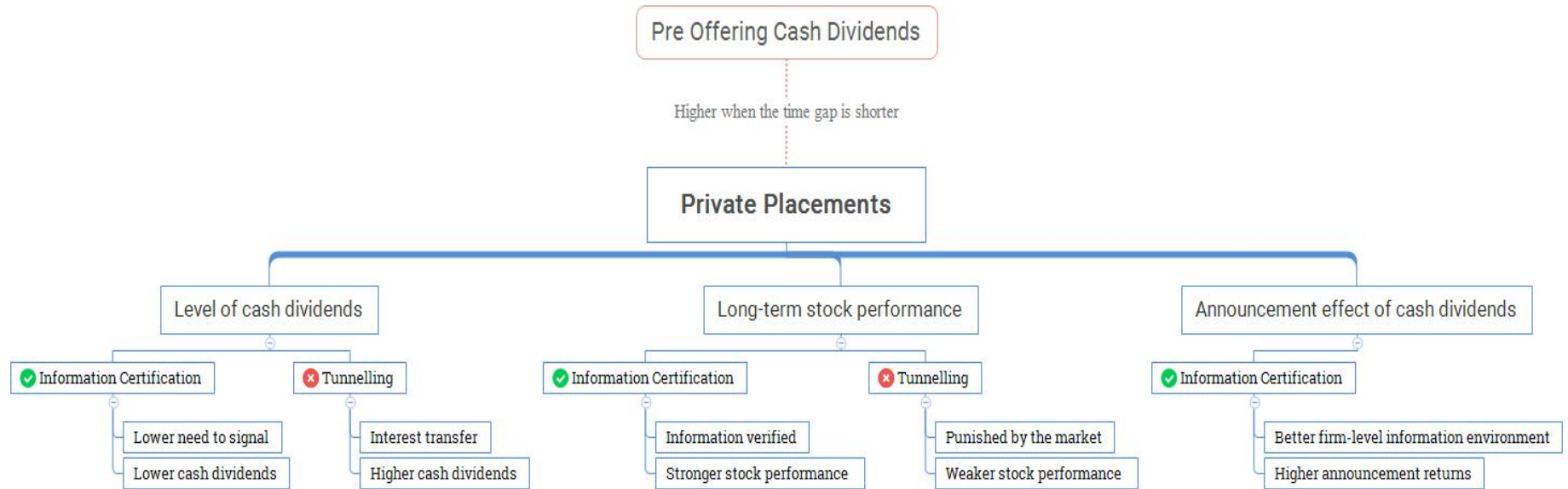
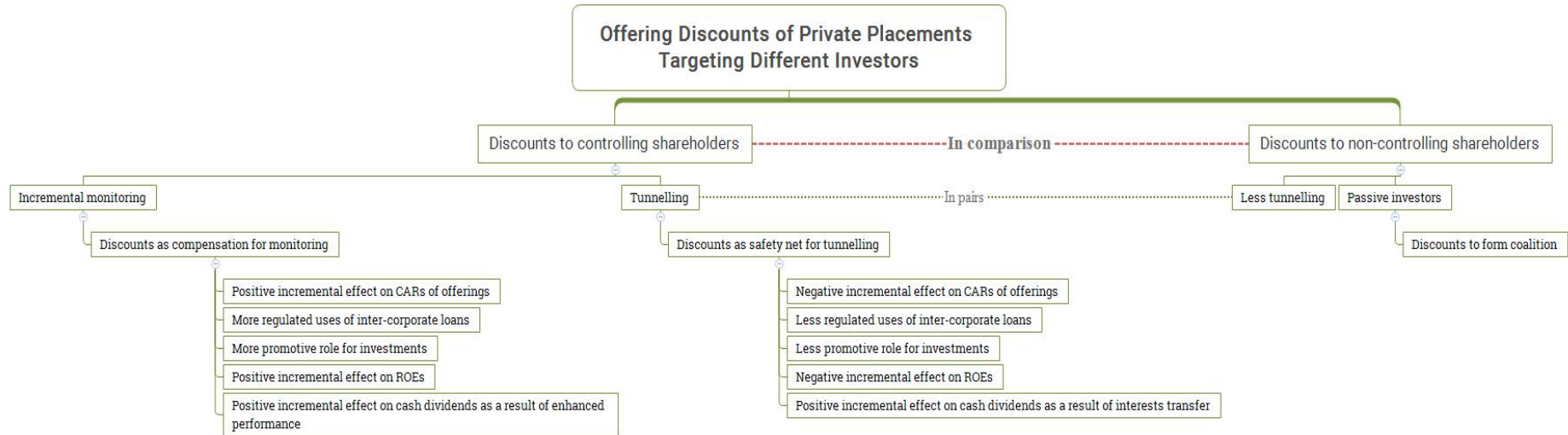


Table 1.2 The logic-route map of Chapter 3



**Table 1.3 The logic-route map of Chapter 4**



# **CHAPTER TWO. TUNNELLING VIA CASH DIVIDEND AND ITS RELATION WITH THE NTS REFORM AND INTER-CORPORATE LOANS**

## **2.1 Introduction**

Why firms pay cash dividends and whether these payments benefit shareholders have been frequent topics in the literature. Traditional agency theory, also known as the free-cash-flow theory, suggests that cash dividends can mitigate agency conflicts between shareholders and managers (Easterbrook, 1984; Jensen, 1986). Another growing body of research stresses that in a market characterised by a principal-to-principal relationship, the primary agency conflicts consist of controlling shareholders' expropriation of minority shareholders' interests (Faccio & Lang, 2002; La Porta, Lopez-de-Silanes & Shleifer, 1999). Showing consistency with this contention, cash distributions in China can come at the expense of minority shareholders. This applies to cases in which higher cash dividends are paid after public equity offerings that are not subscribed by controlling shareholders (Lee & Xiao, 2004; Chen et al., 2009a).

Apart from the timing of cash payouts, Chen et al. (2009a) argue that the split segments of tradable and non-tradable shares also leads to cash dividends becoming a form of interests transfer to controlling shareholders. Three institutional facts underlie

their contention. First, holders of non-tradable shares typically serve as controlling shareholders, which enables them to pursue their preference at the expense of minority shareholders when deciding cash dividend policies. Second, non-tradable shareholders are unaffected by the fluctuations on the secondary market, thus controlling shareholders tend to form a dormant governance incentive (Firth, Lin & Zou, 2010). Third, non-tradable shares are priced according to the book value of net assets, which usually leads to a price lower than the market price of tradable shares. Though this price setting generates a lower price-earnings ratio for non-tradable shares, it results in an exclusively higher implied dividend yield for controlling shareholders. Accordingly, Chen et al. (2009a) demonstrate that firms with a larger discount for non-tradable shares and a higher proportion of non-tradable shares tend to have greater cash dividends. Given the setting of the split share structure, they propose a causal link between controlling shareholders' tunnelling incentive and cash dividends.

A competing study from Huang, Shen and Sun (2011) suggests that the propensity to pay dividends and the level of cash payouts in China have few differences compared to those in other countries. This implies that cash dividends are not particularly high in China and offers limited support to the view of tunnelling. Alternatively, Huang et al. (2011) interpret the positive association between cash dividends and the proportion of non-tradable shares as a form of compensation for being unable to realize capital gains.



In 2005, the Chinese government implemented the non-tradable shares reform (hereafter the NTS reform) to enable the public trading of non-tradable shares. This reform removed the discount applied to non-tradable shares and allowed the holdings of controlling shareholders to circulate. That is, these changes eliminated the factors considered to cause cash dividends to be used for tunnelling in Chen et al. (2009a). Thus, the first purpose of this study is to examine how the NTS reform influences cash dividend payments.

This study starts from the origin of principal-to-principal agency conflicts generated when controlling shareholders' roles are pronounced under a concentrated ownership structure, to identify the incentive behind the issue of cash payouts. The study considers that cash distributions display the nature of tunnelling when the decision of such payments depends on the need of controlling shareholders rather than on the motivation to reward all investors equally. Therefore, the second research question is, after the NTS reform which eliminated the chance to exploit price difference to acquire higher effective dividend yields, whether cash dividends are still influenced by the tunnelling incentive of controlling shareholders. The last research question is how cash dividends interact with a form of direct tunnelling known as inter-corporate loans (Jiang, Lee & Yue, 2010). Given that cash payouts and inter-corporate loans compete for a given level of free cash flows, how the tunnelling incentive affects the association between cash dividends and inter-corporate loans is worth investigating.

Empirical studies of dividend policies of Chinese firms tend to focus on issues of ownership structure, such as intervention from independent directors (Bradford, Chen & Zhu, 2013) and the degree of ownership concentration (Chen et al., 2009a; Huang et al., 2011). Extending the impact of structural characteristics, this study demonstrates the importance and implications of the incentive of controlling shareholders when determining dividend policies. One essential feature of the Chinese market is the common presence of state ownership. Accordingly, Chinese firms can be divided into two categories: SOEs and non-SOEs. SOEs have different operating objectives and agency framework compared to non-SOEs (Lin et al., 1998). Further, sub-categories within state ownership and sub-categories within private ownership are devised to reflect various agency conflicts, capital constraints and their implications on cash dividends.

Testing the impact of the NTS reform on cash dividends, results show a decrease in dividends at the market level after the reform. This is consistent with: First, united pricing of shares removes high implied yields for controlling shareholders; Second, controlling shareholders are more willing to reserve more cash to invest so as to increase the value of their holdings which are now priced by the market.

This study examined the impact of various categories of controlling shareholders on cash dividends. Local government control is distinguished from central government control, as local governments are relatively capital constrained (Fan & Lv, 2012; James, Qi & Zhang, 2015) and are less active monitors (Cheung et al., 2006)

compared to the central government. The results show that local government control influences firms to pay more cash dividends compared to central government control, and this tendency is less influenced by the NTS reform. This suggests that cash dividends might serve as the solution to the financial distress of local governments, for which the NTS reform has not been an effective remedy. Notably, the evidence showing unregulated uses of cash dividends is more apparent when SOEs are directly owned by local governments than the case when they have an administrative relationship with local State-Owned Assets Supervision and Administration Commissions (SASACs hereafter). This part of evidence including cash distributions are weakly tied to firms' financial conditions and the NTS reform when local governments act as direct control. This further highlights the preference of local governments in cash dividends, which is more pronounced when local SASACs are not in the chain of demand, forming less resistance for the abuse of power by local governments. This also indicates a case of tunnelling via cash dividends, which is still active with the control of local governments after the NTS reform.

For the case of private control, families acting as controlling shareholders have been found to cause more severe tunnelling because of a succession problem (Liu, Luo & Tian, 2015). Particularly, tunnelling by family owners can take the form of holding excessive cash which is ready to be transferred to related parties (Liu et al., 2015). Consistent with previous findings, this present study finds that the level of family control negatively affects cash payouts compared to other types of private

control. A possible explanation is that free cash-flows can be transferred to family owners in more efficient options such as inter-corporate loans (Jiang et al., 2010; Liu et al., 2015) which can direct 100% of cash outflows to families' related parties.

Here is a summary of the impacts of various categories of controlling shareholders on cash dividends. Serving the function of a convenient source of revenue, high cash dividends are pursued by capital-constrained local governments. As a buffer against interests transfer, lower cash dividends are observed with higher control of tunnelling prone family owners. That is, the impact of tunnelling on cash dividends appears to be primarily influenced by what best fits the personal agenda of controlling shareholders.

Lastly, this study examined the interaction between cash dividends and inter-corporate loans which are a form of direct tunnelling via cash outflows (Jiang et al., 2010). Results show that non-SOEs tend to suppress cash dividends in order to issue higher inter-corporate loans. Inter-corporate loans instead of cash dividends can better serve the tunnelling intention of private controlling shareholders, hence forming a competitive relationship between the two for a given level of free cash-flows. For the case of government control, inter-corporate loans as private lending cannot incur financial interests for public organizations. Still, this does not stop cash dividends from competing with inter-corporate loans among local SOEs. This might be that local governments demand high cash dividends and therefore passively suppress the cash available to be issued as inter-corporate loans. For the category of central

government control, cash dividends are weakly related to inter-corporate loans. This is expected. The central government is less likely to rely on dividends to replenish incomes and the rigid monitoring on central SOEs indicates regulated uses of inter-corporate loans.

This study contributes to the literature by showing that the NTS reform has helped to regulate the excessive issues of cash dividends. It also shows that this beneficial influence of the NTS reform might be invalid given tunnelling incentives of local governments and family business owners. Notably, this study is among the first to embrace the heterogeneity of local government control within the category of state control and the heterogeneity of family control within the category of private control in a dividend study. The results are consistent with the view that the capital constraint of local governments and the succession-problem-induced tunnelling of family owners, both of which cannot be addressed by the NTS reform, lead to higher cash dividends for local SOEs and lower cash dividends for family firms, respectively. This demonstrates that the impact of tunnelling on cash dividends varies, depending on whether these payouts add to or obstruct the optimal private interests of controlling shareholders. Unlike previous studies such as that of Chen et al. (2009a) and Huang et al. (2011), this study follows the agency conflicts and capital constraints associated with controlling shareholders rather than the level of cash distributions (alone) as the intrinsic indication of tunnelling.

The remainder of this chapter is organised as follows. Section 2.2 introduces

relevant institutional backgrounds. Section 2.3 lists relevant literature review and hypothesis development. Section 2.4 describes the research sample, variables, and methodology. Section 2.5 presents the empirical results and interpretations, and Section 2.6 summarises and concludes this chapter.

## **2.2 Institutional background**

### **2.2.1 The non-tradable share reform**

The Chinese domestic stock market was established in 1990, with the goal to help under-performing SOEs to gain easier access to financing resources (Sun & Tong, 2003). At the beginning of this market, only a minority of shares were issued to individual investors who are allowed to trade their holdings on the open market. The majority of shares, however, were distributed among different levels of governmental agencies, legal person entities and founders, and they were all defined as non-tradable. As the name suggests, non-tradable shares cannot be traded on the open market. All the other features remain identical in regard to cash-flow rights, voting rights and dividend rights. Under this arrangement, the co-existence of non-tradable and tradable shares built a split-share structure.

Apart from preserving a controlling position, Liao, Liu and Wang (2014) have discussed other reasons why the Chinese government designed state-owned share as non-tradable. First, the transfer of state-owned shares appeared impractical when they

were meant to grant administrative power to the government. Second, during the initial stage of the Chinese stock market, greater focus was put on the administration and management of SOEs. The listing of SOEs was to raise capital and to perform trial tests for government-controlled management mechanisms rather than to conduct complete privatization.

The reality was non-tradable shareholders who owned about two-thirds of the total outstanding shares could not realize capital gains because their holdings were non-tradable (Chen, Firth & Gao, 2002). This leads to a lack of incentive for non-tradable shareholders to monitor corporate governance as stock performance does not affect non-tradable shareholders in the way it affects tradable shareholders (Firth et al., 2010; Kuo, Ning & Song, 2014; Liao et al., 2014). On top of that, non-tradable shareholders cannot be threatened by adverse market reactions because: first, their financial gains are not directly affected by stock price fluctuation which is a direct measurement of tradable/minority shareholders' wealth and, second, the power of tradable shareholders is limited when control dilution, mergers and acquisition are less common practice.

Apart from the concern that non-tradable shareholders cannot be held accountable for monitoring; the circumstance could get worse when these investors also own a controlling position that grants access to private interests. Facing unattainable capital gains, non-tradable shareholders are argued to have an incentive to receive cash dividends as a way to materialize their holdings (Chen et al., 2009a;

Huang et al., 2011; Wei & Xiao, 2009). Non-tradable shares were priced according to a firm's net assets, which leads to lower price-earnings ratios and higher (implied) dividend yields for non-tradable shareholders exclusively. Thus, Chen et al. (2009a) ascribe non-tradable shareholders' preference for cash payouts as an opportunistic transfer of firm resources. In summary, the presence of non-tradable shares created a less functional governance system which invites passive investment strategies and controversial payments of cash dividends.

After a few failed attempts to promote in-depth privatization and a market economy (Liao et al., 2014), the Chinese government gradually accepted that to liberalize state-owned shares in full circulation was essential. Accordingly, the NTS reform was introduced in 2005 to grant trading rights to non-tradable shares. This transformation needed tradable shareholders' approval after the execution of negotiated compensation terms. The most common compensations for tradable shareholders included receiving additional shares and cash payments from non-tradable shareholders, and supplementary compensations including stock options and warrants (Bortolotti & Beltratti, 2007). By the end of 2007, 1260 firms had accomplished the NTS reform (Liao et al., 2014).

With non-tradable shareholders transferring part of their holdings to tradable shareholders, the concentrated ownership in China started to show signs of dilution. This study finds that the NTS reform led to a decrease in the mean of the largest shareholders' holding from 41.84% in 2004 to 36.10% in 2007. Beltratti and Bortolotti



(2007) evaluated the market reaction around announcements of the NTS reform conducted by 368 firms. They find that the market reacted favourably to the reform with an average abnormal return amounting to 8% cumulated within the event window of [-1, +1] in relation to the announcement day 0. They identify this outcome was contributed by the anticipation of improved corporate governance given by the circulation of non-tradable shares.

Market expectation revealed by the positive announcement returns of the NTS reform is consistent with the post-reform growth in firm financial and operational performances. Liao et al. (2014) find that after the reform, listed firms experienced boosted outputs, increased profits and employment rates, with SOEs significantly outperforming non-SOEs. They attribute the success of SOEs to government agents' incentive to raise the value of state-owned shares.

Given the expected relief in principal-to-principal agency conflicts, this study relies on the NTS reform as the exogenous shock to test how a shift in corporate governance affects cash dividend practice. Notably, by investigating the specific direction of change in cash dividends after the NTS reform, some clarity is expected for the question about whether higher or lower cash dividends were in favour of minority shareholders' interests within the pre-reform period.

### **2.2.2 Heterogeneity of controlling shareholders**

Prior studies of the attitude of investors towards cash dividend policies mostly adopt the categories of tradable and non-tradable shareholders (e.g. Chen et al., 2010; Huang et al., 2011) or the categories of state and non-state shareholders (Bradford et al., 2013). The above classification mainly relies on the legal definition of shares to categorize the types of owners and is questioned to be a less reliable reflection of institutional realities (Green, 2004; Wang, 2003). Thus, this study delivers a more detailed assessment of the categorization of controlling shareholders that is more appropriate for dividend study.

### ***State versus non-State controlling shareholders***

At first glance, the distribution of firms' controlling rights can be either across the hierarchical organisations of government agencies or among individuals in the Chinese stock market. Precisely, to avoid reputational costs, the state, as a controlling shareholder, is supposed to monitor the operations of SOEs strictly. To do so, the central government controls SOEs via its institution of central SASAC. The SOEs owned by the central government (hereafter central SOEs) are usually nation-wide and have substantial economic significance. Their crucial status is expected to invite stricter monitoring from the authority. Still, the state as the controlling shareholder might put the macro objectives of social welfare and employment rate ahead of the operational goal of maximising firm values and this compromises the efficiency of SOEs (He, Li & Tang, 2012). As to the performance evaluation, SOEs' stock performance was not a big concern for the state compared to the book value of assets

before the NTS reform. Also, government agencies, especially the central government, are usually very large organisations that have limited ways to generate revenues other than through taxes. This setting further separates the performance of SOEs from the financial condition of the state. One other problem underlies the fact that the market value of SOEs was not linked to the performance of the relevant government officials prior to the reform.

Compared to the case in which the state is a controlling shareholder, non-state shareholders are more attached to operational goals rather than to political concerns. Also different from state shareholders, non-state controlling shareholders can benefit from firm operations. Still, being manager-controller, private interests are directly applicable to non-state controlling shareholders with the presence of abuse of power. Consistent with this concern, the use of inter-corporate loans, a form of private lending, indicates that Chinese non-SOEs are subject to more fund embezzlement than are SOEs (Jiang et al., 2010).

Non-state shareholders also differ from state-shareholders in terms of their influence over cash dividend policy. Because they receive fewer preferential treatments from banks which are mainly state-owned, non-SOEs face more obstacles in raising long-term debts (Brandt & Li, 2003; Gul, 1999). The resulting pressure makes non-SOEs rely more on the internal financing system, thus further limiting the funds available to be distributed as cash dividends.

With regard to public equity refinance, seasonal equity offerings and rights issues are regulated by the China Securities Regulatory Commission (CSRC) which is an institution of the Chinese State Council. The CSRC uses a merit-based system, such as to meet a series of requirements for accounting performance, to evaluate a firm's eligibility to conduct public equity refinance. These evaluations can be flexible, as firms that fail to comply with the requirements can still be allowed to issue new shares after providing an acceptable explanation. The CSRC as a state agency lends support to SOEs when such flexibility is needed (Bradford et al. 2013). Under this setting, Chinese non-SOEs stand a smaller chance of acquiring eligibility for public offerings (Green, 2003). Given the substantial obstacles when refinancing via debts and equity, non-SOEs are shown to issue lower cash payouts compared to SOEs (Bradford et al., 2013).

### ***The segment of state control***

The official website (English version) of SASAC states that "SASAC is responsible for ... directs and supervises the management work of local state-owned assets according to law." Following this regulatory setting, the central government, represented by the central SASAC, is in charge of funding and managing the operations of central SOEs, while the case for local SOEs is slightly different. The jurisdiction of local SASACs goes to local governments, but the course of action followed by local SASACs is entirely determined by the central SASAC. Thus, local governments only have administrative power over SOEs owned and managed by local

SASACs.

In the meantime, local governments are also allowed to make investments in firms without involving local SASACs. In this case, local governments are equity holders acquiring ownership through commercial investments. This study conjectures that SOEs funded by local governments should receive more commands from local governments. In the meantime, local governments also face external supervision. In the administration system of the Chinese government, local governments are at a lower level than the central government. Facing pressure to accomplish the quota set by the central government, the competition among local governments for national resources is unavoidable. On top of that, local governments are not granted full fiscal freedom. For example, they are not allowed to issue national bonds regardless of their financial situation. The impact of the pressure experienced by local governments on the cash dividend policy among local SOEs, especially those directly controlled by local governments, is one of the research questions addressed in this study.

### ***The segment of the non-state control***

Within the category of non-state firms, family firms are distinctive. He et al. (2010) have summarised five advantages of firms operated by a family. First, family wealth is closely attached to firm performance (e.g., Alchian & Demsetz, 1972). Therefore, family business owners are considerably active in pursuing maximized firm values and avoiding possible losses. Second, family control can alleviate the

agency conflicts caused by the separation between ownership and management, particularly among large firms (e.g., Berle & Means, 1932). Third, the dual setting of ownership and management granted by family control imposes fewer internal constraints for managerial discretion, such as investment flexibility (e.g., Carney, 2005). Fourth, family businesses normally want to be continuous for future generations. This requires a dedicated and long-term investment strategy for a firm's operations (e.g., Reynolds 1992). Fifth, a family business is often the signature of the area where the family resides (e.g., Mandl 2008). Family business owners would try not to damage their reputation while running the family business.

However, the advantages of family firms might not be fully exploited in China. According to Liu et al. (2015), the protection of property rights of family firms is weakly enforced, and their founders could face substantial risk of surrendering their control rights under the pressure of government intervention. These obstacles point to a lower possibility of family business being handed to founders' descendants. Instead, family business owners have a strong incentive to transfer firm wealth to their descendants who reside in other countries, which results in expropriation activities (Liu et al., 2015). Also, family business owners' dominance of boards and management make external monitoring almost dormant.

Under the less ideal institutional environment, Liu et al. (2015) find that Chinese family firms tend to hoard cash when the families enjoy excessive control rights. With substantial cash-holdings at hand, inter-corporate loans issued to other entities

controlled by family members, more tunnelling-prone related-party transactions, fewer capital expenditures and scant issues of cash dividends are found among family firms. Liu et al. (2015) suggest that family business owners in China, unlike those from other countries, can invite more tunnelling activities from controlling shareholders.

Based on the heterogeneous nature of controlling shareholders regarding their associated agency conflicts and capital constraints, this study establishes the following investor categories: i) the central government, ii) local governments, iii) local SASACs; iv) family firms and v) non-family firms to test the impact of controlling ownership on cash dividend practice.

## **2.3 Literature review and hypothesis development**

### **2.3.1 Free-cash-flow theory and tunnelling theory**

In a practical sense, managers do not always act to maximise shareholder wealth. Managers can obtain substantial perks via over-investing, which is frequently facilitated by excessive free cash flows. In such a case, cash payouts can confine managers' investment flexibility (Easterbrook, 1984). When payout ratios rise, higher liquidity risk presents, and this can lead to higher interest rates and stricter monitoring by creditors (Jensen, 1986). Thus, the free-cash-flow theory predicts that cash dividends can force managers to choose a decrease in agency costs over an increase in

transaction costs for external financing, and are in favour of outside shareholders (Easterbrook, 1984). Later literature adds to this theory; cash dividends may not help shareholders curb managers' self-seeking activities unless there is active enforcement of investor protection laws (La Porta et al., 2000).

The free-cash-flow theory is widely applied to firms with diffusely-held ownership structures that are common in the US market. Thus, this theory might reach its limit for firms with concentrated ownership structures. In Asia and Eastern Europe, a substantial number of listed firms grant controlling rights to large shareholders (La Porta et al., 1999; Claessens et al., 2000; Faccio & Lang, 2002). Similar to the interest conflicts presented in the relationship of principal-to-manager, agency conflicts also underlie the relationship of principal-to-principal. Controlling shareholders might not view the overall profitability as their primary concern, as the abuse of power can provide on-the-job consumption. Specifically, large shareholders may gain private interests from the apparent theft and fraud, and hard-to-detect ones include assets sales, transfer price of related-party transactions and favourable loan guarantees for their affiliated firms. The problem of firm resources being transferred to controlling parties is described by La Porta et al. (2000) and Johnson et al. (2000) as tunnelling. Notably, the misaligned interests of controlling shareholders and minority shareholders are caused by the concentration of control rights, rather than by management (La Porta et al., 1999).

In China, concentrated ownership highlights the role of controlling shareholders



as their private agenda could be decisive in determining firm policies. With respect to cash dividend policy, Wei and Xiao (2009) identify a positive relationship between state control and cash payouts. This finding is consistent with the findings of Lee and Xiao (2004). To explain why the state as the controlling shareholder prefers cash dividends, Lee and Xiao draw a link between cash payouts and the difficulty of transferring state ownership. The holdings of controlling shareholders were defined as non-tradable within the sample of Lee & Xiao. That is, neither state nor non-state controlling shareholders could realize capital gains on the open market. The transfer of their holdings required negotiated contracts. Still, the state-owned non-tradable shares were even harder to liquidate compared to privately-owned shares, as the authorization to transfer state-owned holdings normally involves a third-party governmental organization. Under this circumstance, Lee and Xiao (2004) suggest that holders of state-owned shares are inclined to higher cash payouts as the compensation for bearing a higher liquidity risk.

Lee and Xiao also conducted an event study to measure the abnormal stock returns around announcements of unexpected dividend increases. They view this part of the results as evidence of how Chinese tradable shareholders respond to seemingly positive cash dividend surprises. Conditional on the positive role of cash dividends in alleviating agency conflicts, a price premium should be carried for stocks that pay higher cash dividends (Dewenter & Warther, 1998). However, this notion is not supported by the results of Lee and Xiao. They find insignificant announcement

returns cumulated around the event window for unexpected dividend increases. They conjecture that the absence of price premiums for dividend-increasing stocks indicates a lack of preference for cash payouts among tradable shareholders. This adds more weight to the idea that the issue of cash dividends is a better fit for the interests of controlling shareholders who held non-tradable shares before the NTS reform.

Lee and Xiao also relate the level of cash payouts to the timing of these payments in China. The timing of cash dividends could be problematic when payments are issued after recent equity offerings to which controlling shareholders choose not to subscribe. Such payments divert funds from operations in need and transfer firm wealth to controlling shareholders. The tunnelling argument also receives support from later studies. Given the differential pricing for tradable and non-tradable shares, lower-priced non-tradable shares (as measured by net asset per share) held by controlling shareholders stipulate high cash dividends to exploit the implied dividend yields.

The studies mentioned above analyse how controlling shareholders' preference in cash dividends is formed. However, they tend to overlook the overall level of cash dividends in the Chinese market. Using data from La Porta et al. (2000) as the baseline, Allen, Qian and Qian (2005) find that the cash dividends in China are comparably lower. They attribute this observation to the weak internal and external governance mechanisms in the Chinese stock market. Also, this finding casts doubt on the tunnelling argument. If cash dividends are used to acquire private interests, they

should be higher than payouts that are used to mitigate principal-manager agency conflicts. Otherwise, the financial gains from tunnelling via cash dividends would be economically trivial.

The results from empirical studies of the tunnelling theory are mixed. After tracing data for an 11-year period, Huang et al. (2011) do not find evidence of abnormal cash dividends following equity refinances. This result renders the argument of tunnelling via cash dividends issued after equity refinances (e.g. Lee & Xiao, 2004) less plausible. Although Huang et al. (2011) re-confirm the preference for cash payouts among non-tradable shareholders, they do not consider this to be the consequence of tunnelling. This is because they find little difference in the tendency to pay cash dividends between China and other countries. More importantly, the level of cash dividends in China is heavily influenced by firms' financial conditions. Chinese listed firms tend to issue lower dividends and even skip payments because of loss of revenue. Thus, Huang et al. (2011) argue that cash dividends are less likely to be used for wealth transfer in China, as controlling shareholders do not, or cannot, increase cash dividends when facing weakened profitability.

### **2.3.2 The impact of the non-tradable share reform on corporate governance**

Studies that characterize Chinese firms' cash payouts as tunnelling-induced are mostly predicated on the features of non-tradability and the lower prices of the

holdings of controlling shareholders. The fact that both features are embedded in non-tradable shares calls for a close examination of the NTS reform. Since controlling shareholders are able to sell their holdings after the reform, they are expected to be more concerned about stock performance, which invites proactive monitoring. The benefits of the NTS reform apply to non-controlling shareholders as well. When ownership becomes dispersed, the voice of minority shareholders can have a greater impact. A large body of literature suggests that the NTS reform can improve corporate governance in light of the alignment of interests between controlling shareholders and minority shareholders.

Liu and Tian (2010) tested to see if the NTS reform affects the debt-financing decisions of Chinese non-SOEs. Controlling shareholders of non-SOEs do not seem to avoid debt that can bring in external pressure, which might relate to the weakly enforced legal protection for creditors. Accordingly, Liu and Tian document a positive association between controlling shareholders' excessive control rights and leverage. This leads to the problem that the funds provided by debt financing are tunnelled rather than properly invested among non-SOEs. Following the NTS reform, the authors find a decrease in excessive debts taken by non-SOEs. This may indicate that tunnelling via borrowed funds by controlling shareholders with excessive control rights is reduced among non-SOEs after the reform. Notably, Liu and Tian (2010) suggest that the drop in excessive leverage after the reform is more pronounced among firms suffering from tunnelling by controlling shareholders. Additionally, the

improved market reactions to the announcement of related-party transactions also support the positive influence of the NTS reform.

The literature also provides evidence for the positive impact of the NTS reform on the performance of SOEs. For example, Huo, Kuo and Lee (2012) examined the influence of the NTS reform over information asymmetry experienced by outside investors. The separation of ownership and control puts external stakeholders at an information disadvantage (Jensen & Meckling, 1976). Carrying self-serving incentives, managers and controlling owners tend to withhold the relevant information or exaggerate firm performance (Shleifer & Vishny, 1997). Such behaviours should be reduced if the NTS reform enhanced corporate governance. Using firm-specific stock return variation relative to market-wide variation as a proxy for corporate transparency, Huo et al. (2012) confirm that share price informativeness is enhanced after the NTS reform. Their results also reveal that for firms with a higher proportion of state ownership, a more significant enhancement in their information environment is identified following the reform. They attribute this outcome mainly to the aligned interests of controlling and minority shareholders among SOEs, but not necessarily to changes in ownership structure or the replacement of control. This is because such alignment is not impeded by the gradual implementation of the reform or state shareholders who intend to maintain the controlling position.

Departing from previous studies which follow a financial economists' approach, Jiang and Habib (2012) focus on the quality of accounting information to determine

the effect of the NTS reform. They choose the magnitude of earnings manipulation which is measured by the absolute discretionary accruals. Controlling shareholders might use earnings management to cover their interests transfer or to meet earnings thresholds promulgated by the CSRC in applications for initial public offerings (IPOs), rights issues or to avoid delisting (Yu, Du & Sun, 2006; Kao, Wu & Yang, 2009). To analyze this issue, they divide the research period into before, during and after the NTS reform. Consistent with this argument, Jiang and Habib (2012) find that the proportion of controlling shareholders' holdings is positively related to the extent of earnings manipulation in the pre-reform period. In light of the NTS reform, this positive association starts to wear off and becomes insignificant during the process of the reform. Ultimately, Jiang and Habib (2012) notice that given the rise in the weight of tradable shares, earnings manipulations are significantly reduced in the post-reform period.

Chen, Lin, Lu and Zhang (2015) examine how the NTS reform affects managers' pay-for-performance sensitivity. Higher pay-for-performance sensitivity is preferred as an indication of a stronger alignment of interests between management and shareholders. The presence of large shareholders can either increase the pay-for-performance sensitivity given their monitoring incentive (Shivdasani, 1993; Hartzell & Starks, 2003) or weaken this sensitivity because they pursue private interests (Johnson et al., 2000). When holdings cannot be liquidated at will, Chinese controlling shareholders are suggested to use inter-corporate loans (Jiang et al., 2010)

and cash dividends (Chen et al., 2009a) to add to personal gains. Thus, Chen et al. (2015) predict that controlling shareholders are less likely to contribute to the pay-for-performance sensitivity before the NTS reform.

Chen et al. (2015) use the logarithm of the cash compensation (base salary and bonus) for a firm's top three executives as the dependent variable to investigate the collective impact of the NTS reform and firm performance (measured by return on assets, ROA). They first use the ordinary least square regression to demonstrate that post-reform ROAs simulate higher compensation for executives than ROAs in the pre-reform period. Given that firms did not complete the NTS reform all at the same time, Chen et al. (2015) introduce year-fixed and firm-fixed effects to run a general difference-in-difference test. The results re-confirm an increased pay-for-performance sensitivity after the NTS reform. Further, Chen et al. (2015) find that the NTS reform results in a stronger improvement in the pay-for-performance sensitivity for firms that show a higher risk of tunnelling from controlling shareholders given the latter's excessive control rights. They also confirm that firms which suffer from weak corporate governance tend to receive greater benefits from the reform. For example, firms having a larger post-reform reduction in excessive cash holdings and tunnelling-prone related-party transactions tend to experience a more substantial improvement in the pay-for-performance sensitivity.

The study of Sun, Yuan, Cao and Wang (2017) investigates a trigger of stock price crash, bad news hoarding, before and after the NTS reform. The market can go

through a confidence crisis if firms are found to withhold bad information for an extended period. This prevents investors from choosing the best time to end losses. When all the previously hidden bad news comes to light, investors are eager to cut the loss by dumping shares all at once, thus causing a steep crash in stock price (Hutton, Marcus & Tehranian, 2009; Jin & Myers, 2006). Unlike previous studies which examined the formation of a stock price crash from a principal-agency problem, Sun et al. (2017) test this issue according to the principal-to-principal conflicts.

Before the NTS reform, the financial status of controlling shareholders was not influenced by stock price fluctuations in the secondary market. Therefore, they had a weak incentive to avoid stock price crashes as long as their interests were not involved. The NTS reform as an exogenous event provides a natural test setting when the financial interests of controlling shareholders start to unite with those of minority shareholders. That is, controlling shareholders should be more concerned about stock performance after the reform. Accordingly, the results of Sun et al. (2017) verify that the risk of a stock price crash is significantly reduced after the reform. This positive effect is more frequently observed among firms that grant larger cash-flow rights to controlling shareholders. That is, the NTS reform helps to form and strengthen the governance incentive of controlling shareholders.

Despite the difference in research subjects, the above studies support the enhancement of corporate governance led by the NTS reform. As an exogenous event, this reform builds a stronger alignment of interests between controlling and minority



shareholders, which can be verified by reductions in excessive debt (Liu & Tian, 2012), less information asymmetry (Huo et al., 2012), less earnings management (Jiang & Habib, 2012), fewer stock price crashes (Sun et al., 2017) and improvement in the pay-for-performance sensitivity (Chen et al., 2015).

### **2.3.3 The impact of the non-tradable share reform on cash dividends**

Controlling shareholders can directly influence a firm's cash dividend policy. Also, the governance incentive of controlling shareholders, which is particularly relevant under concentrated ownership, can affect the level of cash payouts (e.g., Lee & Xiao, 2004; Chen et al., 2009a). In this circumstance, the NTS reform is considered as the exogenous shock that has weakened the power of controlling shareholders by transferring a part of their holdings to tradable (minority) shareholders (Bortolotti & Beltratti, 2007). The reform also fundamentally affects the incentive of controlling shareholders by linking their financial gains to stock performance. As a result, an enhanced corporate governance system has been identified after the reform (Liu & Tian, 2012; Hou et al., 2012). Hence, the NTS reform serves as adequate research setting to test how a shift in corporate governance affects in firm cash dividend practice.

This study follows two competing agency theories to predict the changes in cash dividends after the NTS reform. Notably, the free-cash-flow theory is tested against

the tunnelling theory. Before the NTS reform, controlling shareholders' holdings were priced by the accounting measurement of net asset per share. After the reform, controlling shareholders' holdings became to be priced by the market. While accounting records are subject to manipulation, fluctuating market performance makes it more difficult for controlling shareholders to manipulate the value of their holdings. This external pressure might urge controlling shareholders to attach more importance to corporate governance. Following the free-cash-flow theory, controlling shareholders might demand higher cash dividends to promote a more effective internal financing system. Increased cash dividends can also bring in the attention of creditors, which invites additional monitoring on managers. That is, because of the inspired monitoring incentive of controlling shareholders, the NTS reform should lead to increases in cash payouts. Therefore, this study offers the following hypothesis:

*Hypothesis 1a. Under the influence of the NTS reform, there will be higher cash dividends in the Chinese stock market after the reform.*

Still, this may not be the case when non-tradable/controlling shareholders could only claim investment returns from cash payouts rather than capital gains before the reform. Based on the pre-reform observations, Huang et al. (2011) interpret the positive association between the proportion of non-tradable shares and cash dividends

as demonstrating that controlling shareholders prefer payouts because of the lack of liquidity. Consistent with this notion, Liu et al. (2014) report that firms reduced dividends around the NTS reform when there was a simultaneous reduction in non-tradable shares. However, further evidence suggests that the decrease in cash dividends is less related to the drop in non-tradable shares but is in direct association with the reduction in largest shareholders' holdings. Liu et al. (2014) argue that controlling shareholders favour cash payouts since the incentive to maintain control leads to inherent illiquidity, which suggests dividends are the only way to yield cash. That is, to simply reform non-tradable shares to be tradable might not fundamentally change controlling shareholders' preference of cash dividends as long as the case of hold-to-control remains.

In Liu et al. (2014), the argument that the controlling position leads to the preference for cash dividends, however, has a potential flaw. According to Liu et al. (2014), the decrease in controlling shareholders' holdings has a smaller magnitude relative to the reduction in non-tradable shares. Also, the NTS reform is not aiming to replace the controlling ownership, especially among SOEs. If controlling shareholders rely on cash dividends to gain private interests, such as using payouts to transfer firm wealth, this reliance should always be present as long as their control is maintained. Since controlling shareholders are less likely to surrender their position under the NTS reform, their incentive, as well as their capacity to devise cash dividend policies according to their private interests, are likely to remain intact. If this is true,

controlling shareholders would have a weak incentive to regulate the issue of cash dividends regardless of the NTS reform. Instead, given the observation that controlling shareholders have lower cash-flow rights after the reform, to maintain the pre-reform level of private interests in the form of cash dividends there should be an increase in payouts after the reform. Notwithstanding this argument, Liu et al. (2014) find a decrease in payouts after the reform. The result shown in Liu et al. (2014) suggests that the change in controlling shareholders' holdings may not account for the simultaneous change in cash dividends. Therefore, the present study argues that the change in cash dividends led by the NTS reform might have a different cause, considering the change in the governance incentive of controlling shareholders.

Given the non-tradability, and the lower price of non-tradable shares held by controlling shareholders, cash dividends have been questioned to pave the way for tunnelling at the expense of minority shareholders (Chen et al., 2009a). The NTS reform assigned trading rights and removed the differential pricing. These changes could reduce the chance of higher cash dividends being issued to take advantage of the lower pricing of non-tradable shares. More importantly, the united pricing of tradable and non-tradable shares makes the market value of firms a measurement of controlling shareholders' wealth. To maximize firm value, controlling shareholders might be willing to curb the excessive cash payouts and choose to retain cash internally to invest in positive net present value (NPV) projects. This predicts a decrease in cash dividends after the NTS reform. Accordingly, the present study has

the following hypothesis:

*Hypothesis 1b. Under the influence of the NTS reform, there will be lower cash dividends in the Chinese stock market after the reform.*

#### **2.3.4 The agency conflicts arising from local government control**

The impact of having state agencies as controlling shareholders might vary across different levels of the intra-government system. Therefore, merging all types of state controls simply adopts the legal definition of shares as a proxy for ownership category and may not adequately reflect essential institutional realities (Green, 2004; Wang, 2003).

The SOEs owned by the central government (hereafter central SOEs) are considered to have more desirable corporate governance (Jiang et al., 2010; Cheung et al., 2006). An institutional fact is that central SOEs typically serve a crucial function in essential industries. This subjects central SOEs to strict regulations and rigorous monitoring. Consistent with this point, Chen, Firth and Xu (2009b) find that the performance of central SOEs' is superior in almost every aspect to that of firms dominated by other types of ownership. However, the same expectation is unlikely to be met when local governments are in control.

Local governments are more concerned about regional economic development since this gives their officials an advantage in competing for national resources and higher political positions. As a result, to pursue apparent economic growth local governments may purposely overlook misconducts among local SOEs. Consistent with this notion, Cheung et al. (2006) reveal that local SOEs tend to have a higher level of expropriation than do central SOEs in manipulating the terms of related-party transactions. Hence, concerning state control, local governments are argued to have a weaker incentive to monitor or correct the misconduct of local SOEs (Cheung et al., 2006). Similar to the problem of related-party transactions (Cheung et al., 2006), there is also room for doubt about whether local governments use SOEs' cash dividends for private agendas. In particular, this doubt appears more relevant given the financial burden faced by local governments.

### **2.3.5 The capital constraints of local governments**

Among prior dividend studies, the intra-government system of China, regardless of its complexity, is considered homogeneous with respect to giving SOEs advantages in raising capital (e.g. Brandt & Li, 2003; Bradford et al., 2013). However, different financial conditions exist across various government agencies and should be taken into account when analysing the cash dividend policy of SOEs.

While each party collects half of the national revenue, the current tax system

(established in 1994) allows the central government to shift the major weight of responsibility for governmental expenditure to local governments. Under this mismatch, local governments have not been able to cover their debts for over a decade (James et al., 2015). Additionally, local governments are not allowed to issue bonds. To compensate for the ever-present fund shortage after the 1994 tax reform, local governments are found to use SOEs as a borrowing platform to take loans from banks or from the public (Fan & Lv, 2012). Thus, although the state connection grants local SOEs easier access to the capital market, it also costs them to be the inheritor of the financial burdens of local governments.

As discussed above, local SOEs can face higher debt obligations after taking over the financial burden of local governments, which might weaken local SOEs' ability to distribute cash payouts. However, this assumption appears less compelling when considering the setting of the Chinese credit market. In China, the primary source of debt financing is banks. Zhu and Yang (2016) report that in 2013, the central government exclusively owned about 43.34% of banking assets and this figure was 16.47% for local governments. The regulation of Chinese banks implies that the state is higher up in the chain of command, which gives credence to the relief of debt pressure on SOEs. Accordingly, undertaking loans for local governments may not necessarily make local SOEs financially constrained to a point where it damages their ability to issue cash dividends. On top of that, even with local SOEs serving as a borrowing platform, local governments still failed to meet their debt obligation for up

to ten years (James et al., 2015). The need for extra incomes might increase local governments' demands for cash dividends. That is, local governments as controlling shareholders could influence local SOEs to pay higher cash dividends.

Compared to the central government, local governments are more likely to view cash dividends as replenishment of incomes. This is because of the vertically-oriented bureaucratic structure of the Chinese government. With the central government being higher up in the chain of command and therefore disconnected from firm operations, a large proportion of local governments are at an executive level for the operation of SOEs. Notably, local governments can exert direct influence over SOEs when they obtain control rights through investments rather than administrative power (via local SASACs).

Capital constraints and tunnelling are both considered relevant when analysing the ultimate impact of having local governments as controlling shareholders. Given local governments' tendency to use local SOEs as a borrowing platform (Fan & Lv, 2012), if the resulting debt obligation is overwhelming, that is if the capital constraint hypothesis dominates, the cash dividends of local SOEs are expected to be lower than that of central SOEs. On this basis, *Hypothesis 2a* asserts:

*Hypothesis 2a. Local government control rather than central government control will result in lower cash dividends.*



However, the argument conveyed by *Hypothesis 2a* might be challenged if local governments have the authority to regulate banks, which overcomes the pressure from creditors. Compared to the central government, the heavier financial burden faced by local governments points to a greater need for extra income which can be provided by SOEs' cash dividends. Hence, if the incentive of local governments to exploit (tunnel) SOEs' resources dominates, cash dividends of local SOEs should be higher than that of central SOEs. Accordingly, this study offers *Hypothesis 2b* below:

*Hypothesis 2b. Local government control will result in higher cash dividends than would be the case with central government control.*

As discussed above, local governments' attitude towards cash dividends can be affected by their lack of tax revenues and their less active monitoring intention (Cheung et al., 2006). Unfortunately, the NTS reform does not affect the tax distribution system and therefore might not be able to address local governments' financial distress. As a result, the reform might deliver a weak impact on curbing local governments' reliance on cash dividends. Therefore, this study offers *Hypothesis 3* below:

*Hypothesis 3. The impact of local government control on cash dividends will be weakly influenced by the NTS reform compared to the case of central government control.*

### **2.3.6 The agency conflicts and capital constraints associated with family control**

Because they receive less preferential treatments from banks, non-SOEs face more obstacles in raising long-term debts and allocating the right to issue new shares (Green, 2003; Bradford et al., 2013). Bradford et al. (2013) consider that other things being equal, as a consequence of facing a higher level of capital constraints, non-SOEs should issue lower cash dividends than SOEs. An implication of this argument is that when tunnelling activities harm a firm's ability to distribute cash dividends, non-SOEs might not be capable of using loans to maintain a certain level of cash dividends as some SOEs might.

Apart from financial characteristics, the agency conflicts associated with non-state control are of a different nature to those associated with state control. Non-state controlling shareholders, as natural persons instead of organizations, can claim the private interests of control from multiple sources. For example, Jiang et al. (2010) report that a higher level of tunnelling-prone inter-corporate loans is observed

among non-SOEs than among SOEs. This threat of tunnelling appears more concrete when considering the fact that the private interests of control are more concentrated around individual shareholders than is the case in governmental organizations.

The control rights of non-SOEs may take various forms; diffusely distributed, or concentrated in a family, or with an individual. In particular, firms with the last two forms of control rights are considered as family firms (Bunkanwanicha, Fan & Wiwattanakantang, 2013). A strand of literature suggests that family business owners can lead to more aligned interests between managers and outsiders, thus contributing to a better quality of corporate governance (Shleifer & Vishny, 1986). However, this result might not apply to cases in which less protection is provided to minority shareholders (Faccio & Lang, 2002).

Chinese family firms are different from their peers in other markets. First, the highly regulated institutional environment and the weakly enforced property right protection both add complexity to firm operations (Liu et al., 2015). Second, the one-child policy results in the difficulty of locating an adequate family successor (Liu et al., 2015). Family firms that only last for one generation inevitably diminish the role of monitoring that is more likely to be formed by a long-term investment horizon. Under substantial pressure from both external and internal environments, Chinese family firms invite more tunnelling activities from their controlling shareholders compared to non-family firms (Liu et al., 2015).

Liu et al. (2015) report that family firms tend to issue lower cash dividends with the intention to hoard excessive cash which they can use for tunnelling at a lower cost. Given the capital constraints commonly experienced by non-SOEs (Bradford et al., 2013), a slimmer chance exists for Chinese family firms to use external financing to revive cash dividends. Under the co-existence of capital constraints and tunnelling, this study anticipates a negative association between the concentration of family control and the amount of cash dividends. Therefore, *Hypothesis 4* asserts:

*Hypothesis 4. Family control should lead to lower cash dividends compared to non-family control.*

### **2.3.7 Interactions between inter-corporate loans and cash dividends**

Tunnelling by controlling shareholders may vary in its forms (Cheung et al., 2006; Claessens et al., 2000). Liao et al. (2014) report that controlling shareholders tend to exploit raised funds through related-party transactions and therefore harm the interests of minority shareholders. These transactions might include asset sales and product purchases between listed firms and entities owned by controlling shareholders. Liao et al. (2014) find that 29.7% of their sample firms engaged in questionable related-party transactions under the background of the split-share structure.

As with related-party transactions, inter-corporate loans have also been criticised for being a form of direct expropriation by controlling shareholders (Jiang et al., 2010; Liao et al., 2014). Given a lack of monitoring mechanism established by a fair value test, inter-corporate loans may be misused. Liao et al. (2014) observe that 42.3% of their sample firms have granted loans to their controlling shareholders' related parties, and some might also issue loan guarantees. These transactions are not favoured by the market. Jiang et al. (2010) report significantly adverse economic consequences for firms with a high balance of inter-corporate loans. The CSRC had issued several warnings to curb the use of inter-corporate loans, including taking legal actions if top managers fail to resolve the outstanding loans before 2007 and demanding mandatory disclosure of such transactions. However, the weakly enforced regulation means that the misuse of inter-corporate loans has not abated entirely (Liu and Tian, 2012).

The severity of tunnelling via inter-corporate loans can be conditional on controlling shareholders. Jiang et al. (2010) report that non-SOEs tend to have more inter-corporate loans than SOEs do. Also, Jiang et al. (2010) find that higher excessive control rights for ultimate controlling shareholders stimulate more uses of inter-corporate loans. This is problematic, as the misuse of inter-corporate loans indicates a significant threat to minority shareholders who are at the receiving end of the financial consequences caused by controlling shareholders' corrupt practices.

As a commonly accepted measurement of tunnelling, inter-corporate loans are expected to impede or even have an adverse impact on the optimal payout policy. This

is because, first, inter-corporate loans and cash dividends are both cash outflows, suggesting a contest between the two for a given amount of funds. Second, inter-corporate loans can direct up to 100% cash outflows to controlling shareholders via their controlled entities. However, the payment of cash dividends is proportional to controlling shareholders' cash-flow rights. The present study finds that controlling shareholders' cash-flow rights averaged around 32% from 2004 to 2015. That is, wealth transfer via inter-corporate loans represents a more efficient tunnelling option for controlling shareholders. Accordingly, to accumulate discretionary funds for the issue of inter-corporate loans, entrenched controlling shareholders might demand managers to suppress cash dividends.

This study assesses the interaction between inter-corporate loans and cash dividends. The aim is to test whether firms' cash dividend behaviours are indicative of the concurrent issues of inter-corporate loans. Additionally, this present study is interested in whether the relationship between payouts and inter-corporate loans is affected by which of them better serves the private interests of controlling shareholders.

Jiang et al. (2010) find that non-SOEs tend to issue higher inter-corporate loans. And, the analysis of this present study shows that inter-corporate loans are a more efficient option of tunnelling compared to cash dividends. To transfer firm wealth, non-state controlling shareholders should show a stronger preference in issuing inter-corporate loans to their related parties rather than distributing cash dividends to

all shareholders. Thus, non-state controlling shareholders might suppress cash payouts to reserve more cash to issue inter-corporate loans, forming a negative relationship between cash dividends and inter-corporate loans. Accordingly, this study offers *Hypothesis 5* as follows:

*Hypothesis 5. There should be a negative relationship between cash dividends and inter-corporate loans among non-SOEs.*

Inter-corporate loans as a form of private lending cannot incur financial interests for organizations, such as the state. Therefore, inter-corporate loans issued by local SOEs are less likely to be used for providing funds to local government agencies. However, for financially constrained local governments, their preference in cash dividends is likely to result in lower free cash-flows. This leaves fewer funds available to be issued as inter-corporate loans, which should form a negative relationship between cash dividends and inter-corporate loans. Therefore, this study offers *Hypothesis 6* as follows:

*Hypothesis 6. There should be a negative relationship between cash dividends and inter-corporate loans among local SOEs.*

The central government is neither financially constrained nor able to acquire funds from inter-corporate loans. On top of that, central SOEs receive strict monitoring because of their crucial status in the national economy. This leaves less room for unregulated issues of cash dividends and inter-corporate loans, as neither of them is likely to be used for tunnelling by the central government. In other words, neither cash dividends nor inter-corporate loans would be preferred as a form of tunnelling by the central government, indicating the absence of a causal relationship between cash dividends and inter-corporate loans for central SOEs. Therefore, this present study expects a weak relationship between cash payouts and inter-corporate loans among central SOEs. This leads to *Hypothesis 7* below:

*Hypothesis 7. There should be a weak relationship between cash dividends and inter-corporate loans among central SOEs.*

## **2.4 Data, measurement of variables and methodology**

### **2.4.1 Sample selection**

Data used in this study consists of all publicly listed A-share firms on the Shanghai and Shenzhen stock exchanges between 2004 and 2015. This was the largest



sample obtainable when this study commenced. All the data is extracted from the China Stock Market Accounting Research (CSMAR) database. The sample begins in 2004 because it was the year when the CSRC required all Chinese listed firms to disclose the identity and the divergence between cash-flow rights and control rights of their ultimate controlling shareholders in annual reports. The time frame (2004 to 2015) also covers the data before and after the NTS reform. The selected firms only include those that had implemented the reform within the sample period and had at least one year count as pre-reform and post-reform, respectively. Particularly, the post-reform observations cover the period from the year of the NTS reform to 2015. For the selected sample firms, the earliest year of the conduction of the NTS reform was 2005 and the latest year was 2009. Therefore, the longest post-reform period is from 2005 to 2015 and the shortest one from 2009 to 2015. After excluding firms that have been labelled as special treatment shares (stock codes start with \*ST) and particular transfer shares (stock codes start with PT), and firms with missing data or from the financial industry, the final sample consisted of 8514 firm-year observations comprised of 717 firms in total. Data used in this study are all firm-year observations. This violates the independence assumption of ordinary least squares (OLS) regression. To produce robust results in the presence of the heteroskedasticity and autocorrelation, all the multivariate results use and report Newey-West adjusted t-statistics. The industrial fixed effect is controlled for in all models.

## **2.4.2 List of variables**

### ***Dependent variables***

*DY*: Following Bradford et al. (2013), dividend yield (*DY*) is used to quantify cash dividend policy because this measurement avoids distortions from extreme payout ratios when firms have close to zero or negative net incomes (Gul, 1999; Schooley & Barney, 1994). According to Eckbo and Verman (1994) and Gul (1999), dividend yield is calculated as cash dividend per share divided by stock price at the end of the year.

*ORTA*: Inter-corporate loans are adopted to measure a direct form of tunnelling which is driven by the agency conflicts associated with controlling shareholders. Following Jiang et al. (2010), inter-corporate loans are measured by other receivables scaled by total assets at the end of the year (*ORTA*).

### ***Controlling Shareholder identity***

The sampled firms are organised into four main categories based on the identities of their ultimate controlling shareholders. This study kept analysis of SOEs and non-SOEs separately, as these firms pursue different operational objectives and follow different agency frameworks (Lin et al., 1998). Within the category of SOEs, SOEs controlled by the central government (central SOEs) are used as the base/control group to examine the impact of local governments on determining the firm policies of

their controlling SOEs (local SOEs). Accordingly, *LOCAL* is equal to one if a SOE is ultimately controlled by local governments and other local government agencies in the year, and zero indicates it is ultimately controlled by the central government. Within the category of non-SOEs, family firms are defined as non-SOEs that are ultimately controlled by a family or an individual who owns more than 30% shares (Bunkanwanicha et al., 2013) in the year; non-SOEs that do not fit the above definition are viewed as non-family firms. Accordingly, *FAMILY* is equal to one if a non-SOE is ultimately controlled by a family or an individual who owns more than 30% shares in the year, and zero indicates otherwise.

From 2004 to 2015, 182 sample firms have been found to receive ultimate control from the central government, 450 sample firms from local government agencies, 140 sample firms from families and 209 sample firms from other private controllers. During this 12-year period, some changes of control had occurred among listed firms. To accurately reflect the nature of the ultimate control of firms, this study collected and organized this information based on firm-year observations. Among the total 8514 firm-year observations, 1735 observations are of the category of the central government control, 4413 are of the category of local governments and other local-level government agencies' control, 928 are of the category of family control and 1438 are of the category of other private control. Notably, no joint controls from different categories of controlling shareholders were found in firm-year observations.

### ***Ownership structure***

The holding percentage of the largest shareholder (*LARGEST*) is a proxy for the level of control of controlling shareholders (see Chen et al., 2009a). Following Jiang et al. (2010), this study uses the difference between control (voting) rights and cash-flow rights to measure ultimate controlling shareholders' excessive control rights (*EXCESS*), and as an indicator for the level of principal-to-principal agency conflicts. Concerning the potential monitoring role of non-controlling large shareholders (*NC\_LARGE*), the ratio of the sum of percentage shareholdings from the second to the fifth largest shareholders to the largest shareholder's holding percentage was chosen (Zhao et al., 2015).

#### ***Other key indicators and control variables***

*REFORM* is a dummy variable which receives a value of one when a firm has completed its non-tradable share transformation, and zero when this firm is still in the stage of pre-reform. A firm's earning ability (*ROA*) is measured by total profits plus financial expenses divided by the total assets at the end of the year. Firm cash level (*CASH*) is calculated as cash and marketable securities scaled by total assets at the end of the year. The ratio of total debt to total assets at the end of the year (*LEVERAGE*) is used to control for the effect of firm debt obligation. Firm size (*SIZE*) is proxied by the natural logarithm of the total assets at the end of the year. Market to book ratio (*MB*) is applied to depict a firm's growth opportunity. *NEW-FIRM* is a dummy variable that equals one when a firm has been listed for fewer than three years, and 0 otherwise. *SD* equals the stock dividend per share issued by a firm in a

particular sample year.  $DY_{-1}$  is the dividend yield in the previous year. Price-earnings ratio ( $P/E$ ) as a descriptive measurement is calculated as market value per share divided by earnings per share. Following Jiang et al. (2010), when analysing the use of inter-corporate loans, this present study also controls for the regional disparity that is caused by the difference in progress towards a market economy across each province. According to Fan et al. (2001), *MARKETISATION* is measured on a 0-to-10 scale, and each firm is assigned to the value of the province where it is registered. The industrial segment is also controlled for according to the industry classification provided by the CSMAR database.

#### *Instrument variables (IV) used in two-stage least square (TSLS) regressions*

Payout ratio (*PAYOUT*) is calculated as cash dividend per share divided by earning per share.  $DY_{-1}$  and  $DY_{-2}$  are lagged dividend yields.  $FCF/TA$  is the alternative of *PAYOUT* as an IV used in this test. It is measured by free cash-flows scaled by the total assets at the end of the year.

#### *Variables designed for robustness tests*

The industry-adjusted dividend yield  $DY_{(-1)-adjusted}$  replaces  $DY_{(-1)}$  as the new dependent variable in robustness tests.

### **2.4.3 Models**

### *The impact of the NTS reform on cash dividends*

This study first examines the impact of the NTS reform on cash dividend practice at the market level (Model 2.1). The equation that explicitly investigates this impact is as follows:

$$DY_{i,t} = \alpha_0 + \beta_1 REFORM_{i,t} + \beta_2 ControlVariables_{i,t} + \varepsilon$$

(Equation 2.1)

Model 2.1 tests *Hypothesis 1a & 1b*, which covers the pre-reform and post-reform periods. The key variable is *REFORM*. If cash dividend policy is heavily influenced by management discretion through which over-investment might occur (e.g. Easterbrook, 1984), an enhanced monitoring incentive of controlling shareholders following the NTS reform might effectively regulate the misconduct of managers. Therefore, the NTS reform should lead to an increase in cash dividends, indicating a positive coefficient of *REFORM*.

Alternatively, the non-tradable holdings of controlling shareholders can lead to their reliance on cash dividends as a convenient source of liquidation (Wei & Xiao, 2009). The lower price of non-tradable shares also creates a higher implied dividend yield exclusively for controlling shareholders (Chen et al., 2009a). When the NTS reform allowed non-tradable shares to be circulated and eliminated their implied dividend yields, controlling shareholders' preference of cash dividends should decrease accordingly. This supports a negative coefficient of *REFORM*, which is

consistent with *Hypothesis 1b*. The control variables used in Model 2.1 are *LARGEST*, *NC-LARGE*, *EXCESS*, *ROA*, *CASH*, *LEVERAGE*, *SIZE*, *MB*, *NEW-FIRM*, *SD*, *DY-1* and industry fixed effect.

### ***The impact of local government control on cash dividends among SOEs***

This study next looks into the cash dividend practice within SOEs (Model 2.2). Testing *Hypothesis 2*, the focus is to test if capital constraint or tunnelling is the main factor that differentiates the payout policies of central SOEs and local SOEs. The relevant equation is as follows:

$$DY_{i,t} = \alpha_0 + \beta_1 LOCAL_{i,t} + \beta_2 REFORM_{i,t} + \beta_3 LARGEST_{i,t} + \beta_4 LOCAL * LARGEST_{i,t} + \beta_5 LOCAL * REFORM_{i,t} + \beta_6 Control Variables_{i,t} + \varepsilon$$

(Equation 2.2)

The key variables are *LOCAL*, *LOCAL\*LARGEST*, *LOCAL\*REFORM* for Model 2.2. Particularly, *LOCAL* captures the cases in which local governments serve as the ultimate controlling shareholders; *LOCAL\*LARGEST* measures the level of local government control and *LOCAL\*REFORM* informs the tendency of local SOEs after the reform. If the capital constraint faced by local governments is managed by local SOEs (Fan & Lv, 2012), the resulting financial difficulty might lead to lower cash dividends for local SOEs than for central SOEs (*Hypothesis 2a*). If this is true, the coefficient of *LOCAL* will be negative.

A competing argument arises if the financial burden of local SOEs can be largely solved by local governments' authority over banks. On top of that, the role cash payouts of local SOEs plays in solving the capital constraints of local governments might still be present. Under such pressure, local SOEs can be expected to pay higher cash dividends to supplement the incomes of local governments (*Hypothesis 2b*). If this is true, the coefficient of *LOCAL* will be positive. Additionally, Model 2.2 also examines if local governments have altered their attitude towards cash dividends after the NTS reform. Given that local governments are likely to remain financially distressed without changes in the tax distribution system, the reform might have limited impact on their preference of cash dividends (*Hypothesis 3*). The control variables used by Model 2.2 are *NC-LARGE*, *EXCESS*, *ROA*, *CASH*, *LEVERAGE*, *SIZE*, *MB*, *NEW-FIRM*, *SD*, *DY-1* and industry fixed effect.

### ***The determinants of cash dividends of different categories of SOEs***

This study also investigates the determinants of cash dividend policy within a sub-category of SOEs. The equation used for this purpose is as follows:

$$DY_{i,t} = \alpha_0 + \beta_1 REFORM_{i,t} + \beta_2 Control\ Variables_{i,t} + \varepsilon$$

(Equation 2.1)

This equation is used to test observations of central SOEs (Model 2.3), local SOEs (Model 2.4), LSOE-GOVs (Model 2.5) and LSOE-SASACs (Model 2.6). The



control variables of Model 2.3 to 2.6 are *LARGEST*, *NC-LARGE*, *EXCESS*, *ROA*, *CASH*, *LEVERAGE*, *SIZE*, *MB*, *NEW-FIRM*, *SD*, *DY-I* and industry fixed effect.

***The impact of family control on cash dividends among non-SOEs***

This study next turns to non-SOEs with the focus on how family business owners affect cash dividend practice (Model 2.7). The equation that tests a joint sample of family and non-family firms and uses the latter as the control group is shown below:

$$DY_{i,t} = \alpha_0 + \beta_1 FAMILY_{i,t} + \beta_2 REFORM_{i,t} + \beta_3 LARGEST_{i,t} + \beta_4 FAMILY * LARGEST_{i,t} + \beta_5 FAMILY * REFORM_{i,t} + \beta_6 Control Variables_{i,t} + \varepsilon$$

(Equation 2.3)

The key variables of Model 2.7 are *FAMILY\*LARGEST* and *FAMILY\*LARGEST\*REFORM*. Particularly, *FAMILY\*LARGEST* measures the level of family control and *FAMILY\*REFORM* highlights the level of this control after the reform. Family firms are distinct from other non-SOEs as family business owners are prone to tunnelling because of the obstacles to protecting property rights and to identifying a successor (Liu et al., 2015). Accordingly, family business owners tend to hoard excessive cash to tunnel (Liu et al., 2015), suggesting there will be less cash available to be distributed as dividends. This study expects the coefficient of *FAMILY\*LARGEST* to be negative as a higher level of family control indicating a stronger ability to acquire private interests (*Hypothesis 4*). If the governance intention

of family business owners changes from tunnelling to active monitoring after the NTS reform, the coefficient of *FAMILY\*REFORM* is less likely to be negative. The control variables used in Model 2.7 includes *NC-LARGE*, *EXCESS*, *ROA*, *CASH*, *LEVERAGE*, *SIZE*, *MB*, *NEW-FIRM*, *SD*, *DY-I* and industry fixed effect.

### ***The determinants of cash dividends of different categories of non-SOEs***

This study also examines the active factors that affect cash dividend policy within sub-categories of non-SOEs. The equation used for this purpose is as follows:

$$DY_{i,t} = \alpha_0 + \beta_1 REFORM_{i,t} + \beta_2 Control\ Variables_{i,t} + \varepsilon$$

(Equation 2.1)

This equation is used to test observations of family firms (Model 2.8) and non-family firms (Model 2.9). The control variables of Model 2.8 and 2.9 are *LARGEST*, *NC-LARGE*, *EXCESS*, *ROA*, *CASH*, *LEVERAGE*, *SIZE*, *MB*, *NEW-FIRM*, *SD*, *DY-I* and industrial effect.

### ***The interaction between cash dividends and inter-corporate loans of different categories of firms***

The equation that is used to examine the determinants of the issue of inter-corporate loans within a category of firms is as below:

$$ORTA_{i,t} = \alpha_0 + \beta_1 DY_{i,t} + \beta_2 REFORM_{i,t} + \beta_3 MARKETISATION_{i,t} + \beta_4 LARGEST_{i,t} + \beta_5 Control\ Variables_{i,t} + \varepsilon$$

(Equation 2.4)

This equation is used to test observations of central SOEs (Model 2.10), local SOEs (Model 2.11), family firms (Model 2.12) and non-family firms (Model 2.13). For non-SOEs, under the presence of active tunnelling from non-state controlling shareholders, firms might adopt a low cash dividend policy to reserve cash for the issue of inter-corporate loans (*Hypothesis 5*). If this is the case, coefficients of  $DY$  in Model 2.12 and 2.13 will both be negative. For local SOEs, local governments' reliance on cash dividends to replenish revenues is expected to suppress inter-corporate loans which compete for the same given free-cash flows (*Hypothesis 6*). If this holds, the coefficient of  $DY$  in Model 2.11 will be negative. For central SOEs, the central government control is likely to regulate the issues of both cash dividends and inter-corporate loans. If this is true, there should be a less competitive relationship between the two (*Hypothesis 7*), which should lead to an insignificant coefficient of  $DY$  in Model 2.10. The control variables used by Model 2.10 to Model 2.13 are *LARGEST*, *EXCESS*, *ROA*, *CASH*, *LEVERAGE*, *SIZE*, *MB*, *NEW-FIRM*, *SD*,  $DY$  and industry fixed effect.

## **2.5 Empirical results**

### **2.5.1 Descriptive statistics and univariate tests**

Table 2.1 displays the descriptive statistics of variables used in this study. As

presented in this table, 8514 firm-year observations show an average dividend yield of 0.010 for the period from 2004 to 2015. This figure is much lower than for US firms which maintained an average dividend yield around 0.034 from 1950 to 2008 (Engsted & Pedersen, 2010). It seems that cash dividends in China are less than those paid in developed markets. This also implies that the tunnelling-induced cash dividends, which should be higher compared to normal circumstance, might only account for a small number of Chinese firms.

**Table 2.1 Descriptive statistics**

This table presents the summary statistics of continuous variables. Statistics reported are the number of observations, mean, median, standard deviation (STDV), minimum (Min.), 25% percentile (P25), 75% percentile (P75) and maximum (Max.).

Variables	NO.	Mean	Median	STDV	Min.	P25	P75	Max.
LOCAL	8514	0.518	1	0.500	0	0	1	1
FAMILY	8514	0.109	0	0.312	0	0	0	1
DY	8514	0.010	0.005	0.013	0.000	0.000	0.014	0.069
ORTA	8514	0.025	0.012	0.035	0.000	0.005	0.028	0.203
LARGEST	8514	0.369	0.349	0.156	0.088	0.243	0.488	0.750
NC_LARGE	8514	0.500	0.300	0.517	0.010	0.110	0.750	2.360
EXCESS	8514	0.060	0.000	0.084	0.000	0.000	0.116	0.300
ROA	8514	0.037	0.031	0.051	0.000	0.013	0.056	0.191
CASH	8514	0.157	0.131	0.107	0.013	0.083	0.204	0.545
LEVERAGE	8514	0.507	0.519	0.180	0.809	0.385	0.642	0.864
SIZE	8514	22.139	21.986	1.198	19.950	21.265	22.866	25.571
MB	8514	2.996	2.301	2.210	0.691	1.523	3.692	12.719
SD	8514	0.016	0.000	0.073	0.000	0.000	0.000	0.500
DY <sub>-1</sub>	8514	0.010	0.006	0.013	0.000	0.000	0.015	0.235

Inter-corporate loans are used as a proxy for tunnelling activities. The sample used by this study reports the average use of inter-corporate loans scaled by the total asset as 2.5% from 2004 to 2015. This figure was as high as 8.1% from 1996 to 2004

according to Jiang et al. (2010). This comparison indicates that inter-corporate loans which can be used for tunnelling by controlling shareholders have decreased; possibly in response to a series of regulations from 2004 to 2006 (Jiang et al., 2010). However, despite the determined attitude of the CSRC in curbing the issue of inter-corporate loans, weakly enforced regulations have been found to be less effective to fulfil this request (Liu & Tian, 2012). In line with Liu and Tian (2012), this present study finds that sample firms still have an average balance of inter-corporate loans of ¥ 256 million on the firm-year level from 2007 to 2015. This observation from the post-regulation period indicates that the use of inter-corporate loans, which can transfer firm wealth to controlling shareholders (Jiang et al., 2010), is still a very serious problem in China.

Table 2.2 lists the results of univariate tests for dividend yields (*DY*) and inter-corporate loans (*ORTA*). Specifically, Panel A shows changes in *DY* and *ORTA* before and after the NTS reform. As evidenced by tests of difference in means, Chinese firms have lower dividend yields after the NTS reform, regardless of firm categories. This result is in line with the prediction in *Hypothesis 1b* which predicts lower cash payouts after the reform. Local SOEs have experienced an average decrease of 0.5% in dividend yields after the NTS reform. This decrease is significant at the 1% confidence level and is the highest level of decrease of all categories of firms. Still, further results are needed to verify the role served by local governments in the decreased cash dividends. Despite the tendency of decreased cash dividends, local

SOEs remain to have higher dividend yields compared to other firms (a t-statistic of 5.90) after the NTS reform. It is noted that, within non-SOEs, family firms experience a minor change in dividends after the reform given the observation of an insignificant difference in medians of dividend yield before and after the reform.

Also shown in Panel A, all categories of firms reduced the level of inter-corporate loans (scaled on the total asset) after the NTS reform. This is consistent with the notion that the NTS reform leads to improved corporate governance. Notably, family-firms used to have the highest level of inter-corporate loans before the reform. They also experienced the greatest decreases ( $0.52 - 0.21 = 0.31$ ) in these transactions after the reform.

Panel B of Table 2.2 presents the results of cross-category and within-category comparisons in cash dividends controlling for various degrees of ownership concentration. The within-category analysis shows a trend that is shared by all groups of firms, that is, greater holdings of controlling shareholders are associated with higher dividend yields. For the cross-category analysis, for both higher and lower ownership concentrations, SOEs tend to issue higher cash dividends than non-SOEs. Within SOEs, evidence mainly suggests that local government control is associated with significantly higher cash dividends than is the case with central government control, regardless of the level of ownership concentration. This result is more consistent with the prediction made by *Hypothesis 2b*.

As to the comparison between family firms and non-family firms, insignificant differences are found in dividend yields when both categories of firms have a lower degree of ownership concentration. However, family firms are reported to distribute greater cash dividends than do non-family firms when the degree of ownership concentration is higher. This observation is against the argument made by *Hypothesis 4*, and therefore casts doubt about this hypothesis.

Panel C of Table 2.2 presents the results of cross-category and within-category comparisons for the use of inter-corporate loans controlling for various levels of excessive control rights for controlling shareholders. Non-SOEs are shown to have higher of inter-corporate loans than do SOEs. This applies to both cases of higher and lower degrees of excessive control rights. This result is consistent with Jiang et al. (2010) who suggest that individual controlling shareholders can realize the private benefits of inter-corporate loans, and therefore lead to their preference for these transactions. For central SOEs and local SOEs, different degrees of excessive control do not lead to different tendencies in the use of inter-corporate loans. The use of inter-corporate loans of central SOEs and local SOEs is very similar regardless of the level of excessive control rights for their controlling shareholders.

**Table 2.2 Univariate tests of cash dividends and inter-corporate loans**

**Panel A. *DY* and *ORTA* before and after the NTS reform**

This panel presents the results of tests of equality in *DY* and *ORTA* before and after the NTS reform. “Difference tests” columns report the results of difference in mean and median, using T-test and Wilcoxon test, respectively. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels.

	Before NTS		After NTS		Difference tests	
	Mean	Median	Mean	Median	T value	Z value
	Central SOEs					
DY	0.013	0.009	0.009	0.005	-5.14***	-2.46**
ORTA	0.048	0.025	0.020	0.010	-12.49***	-9.83***
	Local SOEs					
DY	0.015	0.011	0.010	0.006	-10.05***	-5.83***
ORTA	0.042	0.022	0.019	0.009	-18.20***	-14.13***
	Family firms					
DY	0.013	0.007	0.009	0.005	-3.61***	-1.05
ORTA	0.052	0.024	0.021	0.011	-8.79***	-6.81***
	Non-family firms					
DY	0.011	0.004	0.007	0.003	-4.61***	-1.90*
ORTA	0.048	0.032	0.027	0.013	-7.71***	-7.56***

**Panel B. Tests of *DY* with subject to higher and lower degree of ownership concentration**

This panel presents the results of tests of equality in *DY* for firms with higher and lower levels of ownership concentration, respectively. “Higher (lower) concentration” refers to values of *LARGEST* being higher (lower) than the median of the full sample. “Difference tests” columns report the differences in mean and median between comparing groups using T-test and Wilcoxon test. “Differences” rows list the within-group differences along the dimension of ownership concentration. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels.

	<i>DY</i>				Difference tests	
	Mean	Median	Mean	Median	T value	Z value
	SOEs		Non-SOEs			
Higher concentration	0.013	0.008	0.010	0.006	5.56***	5.91***
Lower concentration	0.008	0.004	0.007	0.002	3.47***	4.53***
Differences	13.05***	13.44***	6.10***	7.35***		
	Central SOEs		Local SOEs			
Higher concentration	0.012	0.008	0.013	0.008	-1.83*	1.11
Lower concentration	0.007	0.003	0.009	0.004	-4.04***	-2.37**
Differences	8.83***	9.42***	11.23***	11.17***		
	Family Firms		Non-family firms			
Higher concentration	0.010	0.007	0.009	0.003	2.18**	3.95**
Lower concentration	0.008	0.004	0.007	0.002	1.16	1.63



Differences	2.86***	3.94***	2.29**	1.86*	
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**Panel C. Tests of *ORTA* with subject to higher and lower level of excessive control rights**

This panel presents the results of tests of equality of *ORTA* for firms with higher and lower levels of excessive control right, respectively. “Higher (lower) excess” refers to the value of *EXCESS* being higher (lower) than the median of the full sample. “Difference tests” columns report the differences in mean and median between groups using T-test and Wilcoxon test. “Differences” rows list the within-group differences along the dimension of excessive control rights. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels.

	<i>ORTA</i>				Difference tests	
	Mean	Median	Mean	Median	T value	Z value
	SOEs		Non-SOEs		Differences	
Higher excess	0.023	0.010	0.028	0.014	-4.24***	-5.90***
Lower excess	0.024	0.011	0.027	0.013	-2.78***	-2.26**
Differences	-1.42	-1.95*	0.29	1.57		
	Central SOEs		Local SOEs		Differences	
Higher excess	0.025	0.012	0.023	0.010	1.25	1.40
Lower excess	0.024	0.011	0.023	0.011	0.43	1.48
Differences	0.49	0.03	-0.31	-0.22		
	Family Firms		Non-family firms		Differences	
Higher excess	0.027	0.013	0.030	0.016	-1.49	-2.94***
Lower excess	0.022	0.010	0.029	0.014	-3.40***	-3.92***
Differences	2.14**	3.01***	0.41	2.32**		

Within non-SOEs, it is largely supported that non-family firms use more inter-corporate loans than family firms use. Higher excessive control rights for family business owners are associated with significantly higher inter-corporate loans. This observation is consistent with the tunnelling argument raised by Liu et al. (2015).

The present study also conducts partial covariance analysis between *DY* and *ORTA* with the rest of explanatory variables used in Equation 2.8 for conditioning. For the sample of non-SOEs, the correlation coefficient between *DY* and *ORTA* is -0.096 with a t-statistic of -4.67 (significant at the 1% level). This is expected as stated in *Hypothesis 5*. For non-state controlling shareholders who can financially benefit from

inter-corporate loans which can divert a higher proportion of given cash outflows compared to cash dividends, these loans should be preferred over dividends as a method of tunnelling. For the sample of local SOEs, the correlation coefficient between *DY* and *ORTA* is -0.093 with a t-statistic of -6.17 (significant at the 1% level), which is consistent with *Hypothesis 6*. It appears that when local governments cannot accrue the financial interests of inter-corporate loans, such transactions are passively suppressed by local governments' reliance on cash dividends. Lastly, for central SOEs, the correlation between *DY* and *ORTA* is insignificant (a t-statistic of -0.93). This supports *Hypothesis 7*. A possible explanation is that both the issues of cash dividends and inter-corporate loans are likely to be regulated under the control of the central government.

## **2.5.2 Multivariate analysis**

### **2.5.2.1 Cash dividend practice after the NTS reform**

This study also used multivariate analysis to investigate the changes in dividend yields led by the NTS reform. Firstly, this issue was examined using the full sample (Model 2.1). Shown by *REFORM* in Panel A of Table 2.3, its significantly negative coefficient (with a t-statistic of -6.61) indicates that Chinese listed firms' dividend yields generally decreased after the reform. The result suggests that cash dividends are reduced when controlling shareholders' holdings are tradable and priced by the market. This supports that the NTS reform reduces the case when dividends are paid to

compensate for unobtainable capital gains or to gain exclusive dividend yields led by the lower price of non-tradable shares. This is also in line with the notion that with the aim of maximising firm value, controlling shareholders choose to retain more cash, for example to invest in positive NPV projects, instead of paying out excessive cash dividends. After all, the value of controlling shareholders' holdings is directly determined by the market value of firms after the reform. This fits the prediction of *Hypothesis 1b* and is consistent with results from the univariate analysis. In the meantime, the absence of an increase in cash dividends given the improvement in corporate governance provided by the reform (Jiang et al., 2010; Liu & Tian., 2012) is not consistent with the prediction of the free-cash-flow theory (*Hypothesis 1a*).

#### **2.5.2.2 Determinants of cash dividend policy among central SOEs and local SOEs**

Panel B of Table 2.3 provides the results on a lumped sample of SOEs using central SOEs as the control group (Model 2.2). Given the significantly positive coefficient of *LOCAL* (a t-statistic of 2.29), local SOEs tend to issue significantly higher dividends compared to the payouts of central SOEs. This result suggests a causal link between local government control and higher cash dividends, which is more in line with the prediction of the tunnelling argument (*Hypothesis 2b*) than that of the inherited capital constraint argument (*Hypothesis 2a*). It appears that compared to central SOEs, local SOEs can still issue relatively high cash dividends despite facing the possible financial constraints formed by being a borrowing platform for

local governments (Fan & Lv, 2012).

This study further tested for the connection between the holdings (the level of control) of local governments and cash payouts by looking at the coefficient of *LOCAL\*LARGEST* (Panel B of Table 2.3). Larger stake inside SOEs indicates a higher level of discretion as well as accountability for local governments. The study is also interested in whether the impact of local government control on cash dividend policy changed after the NTS reform (shown by *LOCAL\*REFORM*).

The insignificant coefficient of *LOCAL\*LARGEST* indicates that the level of control is less relevant than the type of control (*LOCAL*) in determining the cash payouts of local SOEs. This could be that the power to demand payouts is determined by the controlling status (*LOCAL*) rather than the level of cash-flow rights (*LOCAL\*LARGEST*). As evidenced by the insignificant coefficient of *LOCAL\*REFORM*, the cash dividend practice of local SOEs received a weak influence from the NTS reform compared to the influence of the reform on the cash dividend practice of central SOEs. This fits *Hypothesis 3* which suggests that the NTS reform is less likely to alter local governments' preference in cash dividends without a change in the tax distribution system.

Next, this study takes a closer look into whether features of ownership structure and financial characteristics affect the dividend policies of central SOEs (Model 2.3) and local SOEs (Model 2.4). As shown in Panel C of Table 2.3, stronger profitability

(*ROA*), larger firm size (*SIZE*) and lower need to support growth opportunity (*MB*) lead to higher cash dividends for both central SOEs and local SOEs. *NC\_LARGE* testing on the sample of local SOEs (the last column of Panel C) has a significantly positive coefficient. This suggests that, for local SOEs, a more balanced ownership structure formed by multiple large shareholders leads to higher cash dividends (as well as for central SOEs as shown in the first column of Panel C). If non-controlling large shareholders are still inclined to high cash payouts when they have the power to restrain the discretion of local governments, this questions if tunnelling via cash dividends is dominant for local SOEs. It is possible that local SOEs' unregulated issues of cash dividends are mainly driven by a sub-sample. The observation that the coefficient of *REFORM* for the sample of local SOEs is significantly negative also raises the concern of a sub-sample effect (the coefficient of *LOCAL\*REFORM* is insignificant when testing on a joint sample of central and local SOEs). To address this concern and produce more robust results, this study identifies a group of local SOEs that is subject to more command from local governments.

The hand-collected data on the controlling ownership shows two ways for local governments to obtain controlling rights. In most cases, it is through local SASACs. Local governments have administrative power for SOEs owned and managed by SASACs operating in their areas. The second way is through direct commercial investments. In this case, local governments are equity investors of SOEs.

**Table 2.3 The effects of the NTS reform and controlling shareholders on cash dividend policy: Full sample and sub-samples of SOEs**

This table presents the results showing the impacts of the NTS reform and controlling shareholders on cash dividends, using the full sample and sub-samples of SOEs. The dependent variable is dividend yield. The definition of variables is detailed in Section 2.4.2. The industry fixed effect is controlled for in all regressions but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels.

Sample Variable	Panel A.		Panel B.		Panel C.	
	Full sample		SOEs		Central SOEs	Local SOEs
	DY		DY		DY	DY
C	-.021*** (-6.81)	-.024*** (-6.16)	-.022*** (-2.94)	-.023*** (-5.53)		
LOCAL	—	.003** (2.29)	—	—		
REFORM	-.003*** (-6.61)	-.002** (-2.09)	-.002** (-1.98)	-.003*** (-5.55)		
LARGEST	.007*** (5.85)	.011*** (4.96)	.013*** (4.94)	.007*** (3.98)		
LOCAL* REFORM	—	-.001 (-1.43)	—	—		
LOCAL* LARGEST	—	-.003 (-1.10)	—	—		
NC_LARGE	.001*** (3.92)	.002*** (4.25)	.002*** (3.35)	.001*** (2.98)		
EXCESS	-.002 (-1.47)	-.001 (-.30)	.003 (.91)	-.003 (-1.02)		
ROA	.054*** (13.68)	.066*** (13.71)	.063*** (7.19)	.068*** (11.46)		
CASH	.001 (.94)	.000 (.28)	-.001 (-.42)	.001 (.42)		
LEVERAGE	-.002** (-2.56)	-.002** (-2.07)	-.004** (-2.01)	-.001 (-1.23)		
SIZE	.001*** (8.53)	.001*** (7.21)	.001*** (3.36)	.001*** (6.87)		
MB	-.001*** (-17.31)	-.002*** (-16.96)	-.001*** (-9.18)	-.002*** (-14.26)		
NEW_FIRM	.005*** (3.77)	.004*** (2.68)	.002 (.80)	.005*** (2.66)		
SD	.010*** (5.10)	.008*** (3.61)	.011** (2.15)	.008*** (2.94)		
DY-1	.367*** (24.15)	.336*** (19.07)	.301*** (9.64)	.343*** (16.50)		
No. Obs.	8514	6148	1735	4413		
Adj. R <sup>2</sup>	.349	.356	.351	.357		

Overall, this study found 441 local SOEs that had been owned by local SASACs

(indicating administrative power only for local governments), and 85 that had been funded and directly controlled by local governments.

Given that the course of action of local SASACs is entirely determined by the central SASAC, this study conjectures that the management of local SOEs controlled by local SASACs should be similar to that of central SOEs regulated by the central SASAC. Notably, the authority of local SASACs should invite consistent monitoring and less discretion from local governments. Hence, it is expected that higher cash dividends are a sign of desirable corporate governance among SOEs managed by local SASACs rather than by local governments. To examine this, this study divides local SOEs into ones managed by local SASACs (LSOE-SASACs hereafter) and ones directly controlled by local governments (LSOE-GOVs hereafter).

As a point of interest, this study first performed a test of difference in means of *DY* between LSOE-GOVs and LSOE-SASACs. The comparison shows that LSOE-GOVs tend to issue higher cash dividends than LSOE-SASACs (with a t-statistic of 1.90). Next, this study conducted a multivariate analysis of both categories of local SOEs, and the results are shown in Table 2.4. This analysis provides two instructive observations. First, only the results of LSOE-SASACs report a significantly positive coefficient (a t-statistic of 3.29) for *NC\_LARGE* (Model 2.6 in Column 2). This observation indicates that the monitoring function served by multiple large shareholders, or non-controlling large shareholders to be specific, can promote higher cash dividends when firm management is performed by SASACs. As to

LSOE-GOVs (Model 2.5 in Column 1), the insignificant coefficient of *NC\_LARGE* suggests that non-controlling large shareholders are less relevant in determining the cash dividend policy when local governments are direct controlling shareholders. This observation provides little evidence that non-controlling large shareholders of LSOE-GOVs form a coalition with local governments to demand cash dividends. Still, these large shareholders are also inactive in reducing cash payouts that might be tunnelling-induced because of the financial stress of local governments. This result is in line with Lin et al. (1998) who suggest a lack of managerial autonomy among SOEs points to shirking as a particular agency problem.

The second instructive observation in Table 2.4 is that the coefficient of *REFORM* is insignificant for the sample of LSOE-GOVs. This shows that cash dividends of LSOE-GOVs are insensitive to the implementation of the NTS reform. The results are consistent with the view that cash dividends among LSOE-GOVs are less influenced by the non-tradability or the low price of non-tradable shares but are more affected by the capital constraints and the abuse of power of local governments. Particularly, neither the financial distress nor the controlling position of local governments can be altered or removed by the reform. This, again, supports that the tunnelling-induced cash dividends still exist among local SOEs after the NTS reform when the financial constrained local governments are in direct control of these firms.



**Table 2.4 The determinants of cash dividends of LSOE-GOVs and LSOE-SASACs**

This table presents the results on the sub-samples of LSOE-GOVs and LSOE-SASACs, with a specific focus on the various impacts of administrative ownership and commercial investment on cash dividends. The dependent variable is dividend yield. The definition of variables is detailed in Section 2.4.2. The industry fixed effect is controlled for in all regressions but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels.

Sample	(1).	(2).
	LSOE-GOVs	LSOE-SASACs
Variable	DY	DY
C	-.035* (-1.71)	-.025*** (-5.84)
REFORM	-.002 (-1.03)	-.003*** (-5.46)
LARGEST	.025** (2.48)	.007*** (3.68)
NC_LARGE	.001 (.70)	.002*** (3.29)
EXCESS	-.024** (-2.05)	-.001 (-.55)
ROA	.072*** (3.11)	.050*** (8.96)
CASH	-.005 (-.62)	.002 (1.07)
LEVERAGE	-.003 (-.62)	-.003** (-2.55)
SIZE	.001 (1.32)	.002*** (7.37)
MB	-.001*** (-3.33)	-.001*** (-12.98)
NEW_FIRM	.007* (1.80)	.005** (2.37)
SD	-.006 (-.61)	.009*** (3.50)
DY <sub>-1</sub>	.408*** (4.84)	.342*** (16.10)
No. Obs.	227	4186
Adj. R <sup>2</sup>	.524	.340

This study also searched for a connection between cash dividends and stock dividends as the concurrent issue of the two is believed to send out a reliable signal of strong future performance in China (Anderson et al., 2011). As shown in Column 2 of Table 2.4, the coefficient of *SD* is significantly positive. That is, for LSOE-SASACs

(and central SOEs in Table 2.3), higher stock dividends are associated with higher concurrent cash dividends. However, this is not the case for LSOE-GOVs.

### **2.5.2.3 Determinants of cash dividend policy among family firms**

Next, this study turns to an investigation of the cash dividend practice of Chinese non-SOEs with a particular focus on family firms. The literature suggests that Chinese family firms foster a tunnelling risk arising from unfavourable institutional settings and a succession problem flowing from the one-child policy (Liu et al., 2015). This background indicates less desirable corporate governance concerning the issue of cash dividends among family firms.

Panel A of Table 2.5 displays the results for the sample of non-SOEs (Model 2.7). Using non-family firms as a control group, the significantly negative coefficient of *FAMILY\*LARGEST* indicates that a more intensive family control results in lower cash distributions. This observation confirms family business owners' lack of preference for cash dividends (Liu et al., 2015), and is supportive of *Hypothesis 4*. The rationale behind the negative link between family control and cash dividends might be that cash distributions occupy discretionary funds which can be tunnelled by family business owners in convenient forms, such as through inter-corporate loans (Liu et al., 2015).

To deepen the findings on family firms, this study examined whether the NTS

reform affects the impact of family control on cash dividends. Given the insignificant coefficient of *FAMILY\*REFORM* in Panel A of Table 2.5, family firms' cash distributions seem to be less affected by the NTS reform compared to non-family firms. A plausible explanation is that Chinese family firms are prone to tunnelling because there is weak protection of property rights and a succession problem (Liu et al., 2015) for which the NTS reform does not seem to have been an adequate remedy. It also appears that this reform's expected outcome of an improvement in corporate governance (Liu & Tian, 2012) fail to deliver a change in payouts of family firms.

This study considers that cash dividends are less likely to be used for interests transfer among family firms whether before or after the NTS reform. Compared to cash dividends that are proportional to cash-flow rights, family business owners might prefer inter-corporate loans which can divert a greater proportion of funds to their controlling parties (Jiang et al., 2010; Liu et al., 2015). In this case, cash dividends may serve as an adverse tunnelling measurement for family firms. Still, given the insignificant coefficient of *REFORM* for the sub-sample of family firms (in the first column in Panel B of Table 2.5) the NTS reform, again, is shown to have an insignificant impact on their cash dividends. Thus, although family firms are found to reduce tunnelling via excessive cash-holdings after the NTS reform (Liu et al., 2015), the transition from reserving cash for tunnelling to distributing higher cash dividends does not seem to have happened.

**Table 2.5 The determinants of cash dividends of non-SOEs, family firms and non-family firms**

This table presents the results on the lumped sample of non-SOEs and sub-samples of family firms and non-family firms. The dependent variable is dividend yield. The definition of variables is detailed in Section 2.4.2. The industry fixed effect is controlled for in all regressions but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels.

Sample	Panel A.		Panel B.	
	Non-SOEs		Family firms	Non-family firms
Variable	DY		DY	DY
C	-.020*** (-3.86)		-.000 (-.00)	-.034*** (-4.76)
FAMILY	.001 (.44)		—	—
REFORM	-.003*** (-2.82)		-.001 (-.60)	-.004*** (-3.31)
LARGEST	.009*** (2.69)		.001 (.37)	.008** (2.43)
FAMILY* REFORM	.001 (.58)		—	—
FAMILY* LARGEST	-.007* (-1.78)		—	—
NC_LARGE	.001 (1.14)		-.000 (-.53)	.001 (1.11)
EXCESS	-.006** (-2.03)		-.007* (-1.88)	-.002 (-.40)
ROA	.030*** (5.42)		.033*** (3.05)	.028*** (4.56)
CASH	.003 (1.53)		.008** (2.15)	-.000 (-.03)
LEVERAGE	-.002 (-1.35)		.002 (.71)	-.005** (-2.47)
SIZE	.001*** (4.82)		.000 (.87)	.002*** (5.43)
MB	-.001*** (-7.70)		-.001*** (-6.83)	-.001*** (-4.42)
NEW_FIRM	.006*** (2.83)		.006** (2.01)	.006* (1.94)
SD	.013*** (3.66)		.010** (2.34)	.017*** (2.84)
DY-1	.435*** (15.42)		.396*** (9.08)	.454*** (12.06)
No. Obs.	2366		928	1438
Adj. R <sup>2</sup>	.337		.262	.390

This study reports an insignificant coefficient for *LARGEST* in the sample of family firms. Liu et al. (2015) show that most family firms in China are still in the hands of founding families. For the sample of family firms used by this present study, the number of family firms ranges from 63 to 88 from 2004 to 2015. Additionally, during this period, the average holdings of the largest owners of family firms range from 44.20% to 36.83% (the main variations are led by the NTS reform). This lack of significant variation in the degree of family control across family firms and through time may preclude the identification of a statistically significant relationship between family holdings and cash dividends in the family firm data alone.

#### **2.5.2.4 The interaction between inter-corporate loans and the concurrent cash dividends**

This section examines whether cash dividends interact with inter-corporate loans and whether this interaction varies according to the incentive of controlling shareholders. A potential endogeneity issue may arise from a reverse causality existing between cash dividends and inter-corporate loans. That is, they compete for the same given amount of free cash-flows and therefore might be jointly determined. To address this simultaneous influence, this study applied a two-stage least squares (TSLS) estimation for all regressions that use *ORTA* as the dependent variable and *DY* as an explanatory variable. This estimation uses payout ratio (*PAYOUT*) and lagged *DYs* (*DY-1* and *DY-2*) as IVs for *DY*. Results of both stages are reported and the

Stock-Yogo weak instrument test is performed for all TSLS regressions to examine the validity of IVs.

This study keeps separated analysis of SOEs and non-SOEs for the examination on inter-corporate loans. Public organisations, such as government agencies, cannot accrue the financial benefits of inter-corporate loans, as these transactions are in the form of private lending. Therefore, this study considers that inter-corporate loans are more likely to be misused by non-SOEs with the presence of individual controlling shareholders who can seize private interests via these transactions. Further, this study remains to categorise non-SOEs into family and non-family firms, as family firms are found to have more severe misuse of inter-corporate loans compared to other privately-held firms (Liu et al., 2015).

The results from sub-samples of non-SOEs, namely family (Panel A) and non-family firms (Panel B) are listed in Table 2.6. The first column of Panel A reports the results of the first stage OLS regression estimation on *DY* for family firms. Coefficients of IVs, namely *PAYOUT*, *DY-1* and *DY-2*, are all positively significant at the 1% level. The adjusted R-square of this regression is 0.541. In the second column, the Cragg-Donald F-statistic reports a value of 276.19 which is larger than the Stock-Yogo critical values using the bias method and the size method (Stock & Yogo, 2002). These results reject that the IVs for *DY* are invalid or weak. The results of the second stage IV regression estimation on *ORTA* report a significantly negative coefficient of *DY*. This confirms that lower payouts from family firms tend to be

associated with higher inter-corporate loans. This evidence is also consistent with previous findings of Liu et al. (2015).

In Panel B, IVs of *DY* are shown to be valid with a Cragg-Donald F-statistic greatly exceeding the critical values of the Stock-Yogo weak instrument test (Stock & Yogo, 2002). Further, in the second column of Panel B, the significant and negative coefficient of *DY* indicates that the negative interaction between cash dividends and inter-corporate loans applies to non-family firms as well. The findings on *DY* from sub-samples of family and non-family firms provide support to *Hypothesis 5* which predicts that lower cash dividends tend to be associated with higher levels of inter-corporate loans among non-SOEs. Inter-corporate loans are able to direct 100% of the cash out-flows to non-state controlling shareholders' related parties while cash dividends are to be shared by all registered shareholders. Therefore, under the dominance of private controlling shareholders' tunnelling, inter-corporate loans would be preferred over cash dividends, forming a negative relationship between the two. This can account for the observation that lower dividends are predictive for higher concurrent issues of inter-corporate loans among non-SOEs.

**Table 2.6 The interactions between inter-corporate loans and cash dividends: Sub-samples of family firms and non-family firms**

This table presents the TSLS regression results in testing the concurrent interaction between inter-corporate loans and cash dividends, using sub-samples of family firms (Panel A) and non-family firms (Panel B). In each panel, the first column reports the results of the first stage OLS regression estimation of *DY*; the second column reports the results of the second stage IV regression estimation of *ORTA*. The definition of variables is detailed in Section 2.4.2. The industry fixed effect is controlled for in models but the results are unreported. To test the validity of IVs, values of Cragg-Donald F-statistic, critical values of Stock-Yogo weak instrument tests using the bias method (5% level) and using the size method (10% level) are reported. The decision rule is that reject that IVs are weak if Cragg-Donald F-statistic is higher than the critical values of Stock-Yogo tests. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels.

Sample Variable	Panel A.		Panel B.	
	Family firms		Non-family firms	
	1 <sup>st</sup> stage OLS regression estimation of <i>DY</i>	2 <sup>nd</sup> stage IV regression estimation of <i>ORTA</i>	1 <sup>st</sup> stage OLS regression estimation of <i>DY</i>	2 <sup>nd</sup> stage IV regression estimation of <i>ORTA</i>
C	-.004 (-.69)	.144*** (3.94)	-.023*** (-3.73)	.131*** (3.41)
DY	—	-.471*** (-2.95)	—	-.489*** (-2.85)
REFORM	-.001 (-1.37)	-.030*** (-4.66)	-.003*** (-3.21)	-.021*** (-4.47)
MARKETISATION	.000 (.89)	-.002* (-1.68)	.000 (.55)	-.001 (-.92)
LARGEST	-.001 (-.31)	-.003 (-.21)	.004 (1.47)	.000 (.02)
EXCESS	-.000 (-.16)	.030* (1.68)	-.001 (-.42)	.011 (.60)
ROA	.055*** (5.16)	-.093** (-2.34)	.039*** (5.92)	-.032 (-.87)



CASH	.005* (1.88)	-.030** (-2.47)	-.001 (-.36)	-.009 (-.75)
LEVERAGE	.008*** (3.51)	.008 (.64)	.001 (.43)	-.002 (-.12)
SIZE	.000 (.13)	-.003* (-1.89)	.001*** (4.25)	-.003 (-1.51)
MB	-.001*** (-6.88)	.000 (.08)	-.000*** (-3.94)	-.000 (-.12)
NEW_FIRM	.005** (2.34)	-.009 (-1.23)	.005** (2.02)	-.003 (-.29)
PAYOUT	.014*** (8.89)	—	.014*** (8.87)	—
DY-1	.198*** (5.94)	—	.258*** (7.66)	—
DY-2	.139*** (3.92)	—	.130*** (4.52)	—
Cragg-Donald F-statistic	—	276.19	—	350.34
Stock-Yogo CV (relative bias)	—	13.91	—	13.91
Stock-Yogo CV (size)	—	22.30	—	22.30
No. obs.	928	928	1438	1438
Adj. R <sup>2</sup>	.541	.178	.560	.115

The second column of Panel B in Table 2.7 reports a significantly negative coefficient of  $DY$  for the sample of local SOEs. This shows the negative interaction between cash dividends and inter-corporate loans among local SOEs. At first glance, inter-corporate loans are less likely to incur financial benefits for local governments and therefore could be subject to fewer distortions from local governments. However, these loans are shown to be passively suppressed by cash dividends which might be paid to alleviate the financial pressure of local governments. The “competitive” relationship between cash payouts and inter-corporate loans among local SOEs is due to the situation that the benefit of dividends, instead of that of inter-corporate loans, is more obtainable for local governments. This confirms the contention in *Hypothesis 6*.

In the second column of Panel A in Table 2.7, the coefficient of  $DY$  is insignificant for the sample of central SOEs. This indicates that cash payouts show a weak connection with inter-corporate loans among central SOEs. With the active monitoring associated with the control of the central government, issues of these transactions should be regulated. Additionally, the central government is not financially constrained and therefore is less likely to rely on cash dividends to provide extra incomes. These account for the lack of “competition” between cash payouts and inter-corporate loans among central SOEs, which is consistent with *Hypothesis 7*.

As a point of interest, this study next examines if the composition of shareholders’ control rights predicts the use of inter-corporate loans. Given the

significantly negative coefficient of *LARGEST* for the sample of central SOEs (the second column of Panel A in Table 2.7), the level of central government control has an adverse impact on the use of inter-corporate loans. This is expected for the case of central SOEs, as controlling shareholders who value firm performance should try to avoid inter-corporate loans which are documented to have adverse economic consequences (Jiang et al., 2010). This mitigating role, however, is found to be absent given insignificant coefficients of *LARGEST* among observations of local SOEs (the second column of Panel B in Table 2.7), family firms (the second column of Panel A in Table 2.6) and non-family firms (the second column of Panel B in Table 2.6).

For family firms, the significantly positive coefficient of *EXCESS* in the second column of Panel A in Table 2.6 indicates that inter-corporate loans are higher when families have greater excessive control rights. This result confirms the evidence in Liu et al. (2015). That is, the use of inter-corporate loans by family owners can be exaggerated when their excessive control rights are prominent. This suggests a higher risk of tunnelling. It is also congruent with the notion that family business owners' tunnelling stems from the composition of pyramid ownership structure (Liu et al., 2015). The significantly positive relationship between excessive control rights and inter-corporate loans is found for family firms only. This is supportive of the notion that given the presence of excessive control rights, family firms tend to make more questionable use of inter-corporate loans compared to non-family firms and SOEs.

**Table 2.7 The interactions between inter-corporate loans and cash dividends: Sub-samples of central SOEs and local SOEs**

This table presents the TSLS regression results in testing the concurrent interaction between inter-corporate loans and cash dividends, using sub-samples of central SOEs (Panel A) and local SOEs (Panel B). In each panel, the first column reports the results of the first stage OLS regression estimation of *DY*; the second column reports the results of the second stage IV regression estimation of *ORTA*. The definition of variables is detailed in Section 2.4.2. The industry fixed effect is controlled for in models but the results are unreported. To test the validity of IVs, values of Cragg-Donald F-statistic, critical values of Stock-Yogo weak instrument tests using the bias method (5% level) and using the size method (10% level) are reported. The decision rule is that reject that IVs are weak if Cragg-Donald F-statistic is higher than the critical values of Stock-Yogo tests. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels.

Sample Variable	Panel A.		Panel B.	
	Central SOEs		Local SOEs	
	1 <sup>st</sup> stage OLS regression estimation of <i>DY</i>	2 <sup>nd</sup> stage IV regression estimation of <i>ORTA</i>	1 <sup>st</sup> stage OLS regression estimation of <i>DY</i>	2 <sup>nd</sup> stage IV regression estimation of <i>ORTA</i>
C	-.019*** (-2.86)	.120*** (3.93)	-.020*** (-5.24)	.150*** (8.80)
DY	—	-.236 (-1.25)	—	-.393*** (-4.85)
REFORM	-.003*** (-2.94)	-.029*** (-5.35)	-.004*** (-6.68)	-.024*** (-10.21)
MARKETISATION	-.000 (-.67)	.003*** (2.94)	.000** (2.31)	-.001 (-1.42)
LARGEST	.005*** (2.89)	-.022** (-2.32)	.003** (2.20)	-.006 (-1.18)
EXCESS	.002 (.75)	.003 (.23)	-.003 (-1.16)	-.010 (-.99)
ROA	.071*** (7.57)	-.061** (-2.36)	.075*** (12.42)	-.042** (-2.12)
CASH	-.001	-.015	.003	-.003

	<i>(-.45)</i>	<i>(-1.57)</i>	<i>(1.52)</i>	<i>(-.48)</i>
LEVERAGE	.001	.013	.001	.020***
	<i>(.32)</i>	<i>(1.59)</i>	<i>(1.20)</i>	<i>(3.91)</i>
SIZE	.001***	-.003**	.001***	-.004***
	<i>(3.40)</i>	<i>(-2.13)</i>	<i>(6.05)</i>	<i>(-5.72)</i>
MB	-.001***	.000	-.001***	-.000
	<i>(-9.14)</i>	<i>(.08)</i>	<i>(-13.79)</i>	<i>(-.54)</i>
NEW_FIRM	.002	-.002	.005***	-.018***
	<i>(.93)</i>	<i>(-.26)</i>	<i>(2.62)</i>	<i>(-4.45)</i>
PAYOUT	.009***	—	.007***	—
	<i>(9.40)</i>		<i>(12.29)</i>	
DY-1	.177***	—	.243***	—
	<i>(5.95)</i>		<i>(12.37)</i>	
DY-2	.123***	—	.127***	—
	<i>(4.65)</i>		<i>(7.02)</i>	
Cragg-Donald F-statistic	—	219.39	—	636.19
Stock-Yogo CV (relative bias)	—	13.91	—	13.91
Stock-Yogo CV (size)	—	22.30	—	22.30
No. obs.	1735	1735	4413	4413
Adj. R <sup>2</sup>	.467	.198	.478	.158

### 2.5.2.6 Robustness check

As mentioned in Section 2.4.1, the longest post-reform period of a sample firm is from 2005 to 2015. This extended period raises the concern of a sub-period effect that the impact of the NTS reform on cash dividends fades as time goes by. If this is the case, then the findings on the NTS reform might be mainly led by the observations from years when the reform was recently executed. To address this concern, this present study designed a robustness test excluding observations from the first three years following the conduction of the NTS reform, which decreased the tested observations from 8514 to 5660. This design also excludes observations from years when trading restrictions were imposed on the reformed non-tradable shares. Accordingly, in this robustness test, the longest post-reform period is from 2008 to 2015, the shortest post-reform period is from 2012 to 2015.

Shown in Table 2.8, the coefficient of *REFORM* is significantly negative with a t-statistic of -8.49. This indicates that the impact of the NTS reform on cash dividends is still valid/consistent even when the reform was conducted at least three years ago. This also removes the concern of a sub-period effect. It appears that aligning the interests of controlling and minority shareholders via the united pricing of outstanding shares has served as a sustained force to regulate the issue of cash dividends.

**Table 2.8 The robustness test on the effect of the NTS reform on cash dividends**

This table presents the results showing the impact of the NTS reform on cash dividends, using observations from the pre-reform period and from the fourth year after the conduction of the reform to 2015. The dependent variable is dividend yield. The definition of variables is detailed in Section 2.4.2. The industry fixed effect is controlled for in all regressions but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels.

<b>Panel A.</b>	
Sample	Full sample
Variable	DY
C	-.026*** (-7.60)
REFORM	-.004*** (-8.49)
LARGEST	.004*** (3.04)
NC_LARGE	.001*** (2.59)
EXCESS	-.000 (-.26)
ROA	.051*** (12.45)
CASH	.000 (.10)
LEVERAGE	-.002** (-2.43)
SIZE	.001*** (8.73)
MB	-.001*** (-10.73)
NEW_FIRM	.004*** (2.85)
SD	.012*** (4.87)
DY-1	.482*** (20.90)
No. Obs.	5660
Adj. R <sup>2</sup>	.411

Despite that the course of actions followed by local SASACs is regulated by the central SASAC, local SASACs may be affected by local governments as they are both state agencies operated in the same administrative district. Therefore, for the first robustness check, this study examined the association between the holdings of

non-controlling large shareholders (*NC\_LARGE*) and cash dividends based on the sample of LSOE-SASACs. Non-controlling large shareholders as tradable shareholders are typically compensated with additional shares during the NTS reform. As a result, the submission, if present, is likely to fade after the reform because of a more balanced ownership structure. Hence, this robustness test uses observations after the NTS reform to investigate if the preference for cash dividends is still held by non-controlling large shareholders among LSOE-SASACs.

The results of the first robustness test are shown in Table 2.9. To be thorough, the test on post-reform observations was also performed on the sub-samples of LSOE-GOVs (Column 1) and central SOEs (Column 3). As suggested by the significantly positive coefficients of *NC\_LARGE* in Columns 2 and 3, the function of non-controlling large shareholders in promoting cash payouts appears to be active for LSOE-SASACs and central SOEs even after the reform, rendering the account of submission (coalition) less plausible. For the case of LSOE-GOVs, the insignificant coefficient of *NC\_LARGE* indicates that the enhanced status of non-controlling large shareholders after the reform still fails to affect cash dividend policies that may be dominated by decisions of local governments.



**Table 2.9 Robustness tests on the effects of administrative ownership and commercial investment on cash dividends using post-reform observations**

This table presents the results of testing the robustness of the effects of administrative ownership and commercial investment on cash dividends, featuring post-reform observations from the sub-samples of LSOE-GOVs, LSOE-SASACs and central SOEs. The dependent variable is dividend yield. The definition of variables is detailed in Section 2.4.2. The industry fixed effect is controlled for in all regressions but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels.

Sample Variable	(1).	(2).	(3).
	LSOEs-GOV	LSOEs-SASAC	CSOEs
	DY	DY	DY
C	-.025 (-1.26)	-.023*** (-4.95)	-.018** (-2.37)
LARGEST	.022* (1.93)	.007*** (3.82)	.014*** (5.29)
NC_LARGE	-.000 (-.16)	.002*** (3.33)	.002*** (3.29)
EXCESS	.002 (.17)	-.002 (-.87)	.003 (.69)
ROA	.048* (1.91)	.065*** (10.54)	.060*** (7.26)
CASH	.003 (.30)	.000 (.22)	-.002 (-.79)
LEVERAGE	.000 (.01)	-.002 (-1.14)	-.003* (-1.79)
SIZE	.001 (1.15)	.001*** (5.78)	.001*** (2.73)
MB	-.001*** (-3.82)	-.002*** (-14.21)	-.001*** (-9.03)
NEW_FIRM	.014*** (3.88)	—	.013 (1.07)
SD	-.005 (-.53)	.009*** (3.12)	.007 (1.51)
DY <sub>-1</sub>	.244** (2.21)	.291*** (12.87)	.278*** (8.25)
No. Obs.	146	3479	1457
Adj. R <sup>2</sup>	.457	.332	.354

Lastly, this study investigated whether the findings on determinants of cash dividend policies are robust to an alternative measurement of cash payouts. This test then adopts the industry-adjusted dividend yield. To be consistent, this study also updated explanatory variables  $DY_{-1}$  to be industry-adjusted. Given the results listed in Table 2.10, the main findings of this study are robust to an alternative measurement of cash dividend policy.

**Table 2.10 Robustness tests using an alternative measurement of cash dividends**

This table presents the results using industry-adjusted dividend yields when testing the impacts of the NTS reform and controlling shareholders. The dependent variable is *DY-adjusted*. The definition of variables is detailed in Section 2.4.2. The industry fixed effect is controlled for in all regressions but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels.

	Panel A.		Panel B.		Panel C.		Panel D.			
	Full Sample		SOEs		Private Firms		LSOE-GOVs		LSOE-SASACs	
	DY-adjusted		DY-adjusted		DY-adjusted		DY-adjusted		DY-adjusted	
C	-.025*** (-8.14)	-.029*** (-7.50)	-.021*** (-4.08)	-.028 (-1.33)	-.030*** (-7.03)					
LOCAL	—	.003** (2.28)	—	—	—					
FAMILY	—	—	.001 (1.46)	—	—					
REFORM	-.003*** (-6.61)	-.002** (-2.10)	-.003*** (-2.87)	-.002 (-1.03)	-.003*** (-5.46)					
LARGEST	.007*** (5.85)	.011*** (4.96)	.009*** (2.68)	.025*** (2.48)	.007*** (3.68)					
LOCAL* REFORM	—	-.001 (-1.41)	—	—	—					
LOCAL* LARGEST*	—	-.002 (-1.08)	—	—	—					
FAMILY* REFORM	—	—	.001 (.60)	—	—					
FAMILY* LARGEST*	—	—	-.007* (-1.81)	—	—					
NC_LARGE	.001*** (3.92)	.002*** (4.25)	.000 (1.08)	.001 (.70)	.002*** (3.29)					

EXCESS	-0.02 (-1.47)	-0.01 (-.30)	-0.005** (-1.99)	-0.024** (-2.05)	-0.01 (-.55)
ROA	.054*** (13.68)	.066*** (13.68)	.030*** (5.13)	.072*** (3.11)	.050*** (8.96)
CASH	.001 (.94)	.000 (.28)	.003 (1.50)	-.005 (-.62)	.002 (1.07)
LEVERAGE	-.002*** (-2.56)	-.002** (-2.06)	-.002 (-1.22)	-.003 (-.62)	-.003*** (-2.55)
SIZE	.001*** (8.53)	.001*** (7.21)	.001*** (4.79)	.001 (1.32)	.002*** (7.37)
MB	-.001*** (-17.31)	-.002*** (-16.95)	-.001*** (-7.87)	-.001*** (-3.33)	-.001*** (-12.98)
NEW_FIRM	.005*** (3.77)	.004*** (2.68)	.006*** (2.78)	.007* (1.80)	.005** (2.37)
SD	.010*** (5.10)	.008*** (3.61)	.013*** (3.71)	-.006 (-.61)	.009*** (3.50)
DY. <sub>-1</sub> -adjusted	.367*** (24.15)	.335*** (19.03)	.441*** (15.16)	.408*** (4.84)	.342*** (16.10)
No. Obs	8514	6148	2366	227	4186
Adjusted R <sup>2</sup>	.345	.353	.330	.500	33.73

## 2.6 Concluding remarks

This study examined cash dividend practice of Chinese firms under influences of the NTS reform and various governance incentives of controlling shareholders. Following 8514 firm-year observations which cover pre-reform and post-reform periods, empirical evidence shows that cash dividends are reduced at the market level following the NTS reform. This verifies the notion conveyed by *Hypothesis 1b*: Cash dividends are paid less when controlling shareholders can realize capital gains and are no longer entitled to high implied dividend yields. This also reflects that with the aim of increasing the value of holdings, controlling shareholders are more willing to reduce excessive cash dividends possibly to invest in value-building projects.

The prevalence of concentrated ownership underlies the conflicts between controlling shareholders and minority shareholders that may incur distortion of cash dividends. This motivated the examination of how controlling shareholders affect cash dividend policy and whether this impact has been altered by the NTS reform. By categorising controlling shareholders according to their associated agency conflicts and capital constraints, this study devised the following categories of controlling shareholders: the central government, local-level government agencies (local governments and local SASACs), family firms and other privately held firms.

This study kept analysis of SOEs and non-SOEs separately, as these firms serve different operational objectives and adopt different agency frameworks (Lin et al.,

1998). Within the category of SOEs, a comparison is held between central SOEs and local SOEs. The results show that payouts are statistically higher when local governments act as controlling shareholders. It is possible that local governments rely on dividends to alleviate their financial pressure caused by the tax distribution system. It is worth mentioning that local governments' preference in cash dividends may be accompanied by local SOEs serving as a borrowing platform for local governments (Fan & Lv, 2012). This further reveals the tunnelling risk signified by the higher cash dividends issued by local SOEs, which is consistent with *Hypothesis 2b*.

Also, compared to the central government control, local governments as controlling shareholders weakly react to the NTS reform in adjusting their reliance on cash dividends. This supports *Hypothesis 3*. Without a change in the tax distribution system, the reform is less likely to address the financial pressure of local governments or to alleviate their tunnelling via cash dividends. This study also finds that the cash dividend practice of local SOEs displays a sense of heterogeneity. Particularly, SOEs directly controlled by local governments tend to have higher cash dividends compared to SOEs controlled by local SASACs. Cash dividends issued by SOEs directly controlled by local governments are weakly accounted for by firms' financial conditions and are insensitive to the NTS reform. This highlights a case of tunnelling via cash dividends under the direct control of local governments, which remains active even after the NTS reform.

Within the category of non-SOEs, a comparison is conducted between family

firms and other privately held firms. The results show that a larger degree of family control results in lower cash dividends compared to other privately held firms. This shows consistency with *Hypothesis 4*. Family owners are prone to tunnelling because of a succession problem (Liu et al., 2015). Compared to cash dividends, family owners have more efficient ways to engage in fund transfer, such as through private lending of inter-corporate loans (Jiang et al., 2010, Liu et al., 2015). This might be why family owners show an aversion in cash payouts which are to be shared by all registered shareholders. In addition, the cash dividend practice of family firms receives insignificant influence from the NTS reform. A likely explanation is that the NTS reform has not been an effective remedy for the succession-problem-induced tunnelling among family firms.

This study investigated how inter-corporate loans, a form of private lending known to be tunnelling-related (Jiang et al., 2010), interact with cash dividends. This study is interested in this interaction, as they both can be used for tunnelling by controlling shareholders and they compete for a given level of free cash-flows. Given that cash dividends and inter-corporate loans might be jointly determined, this study followed a TSLS approach when examining the causal link between the two. The evidence suggests that for non-state controlling shareholders who are known to gain more private interests from inter-corporate loans than from cash payouts, lower cash dividends are indicative of higher inter-corporate loans. This verifies *Hypothesis 5*. Though inter-corporate loans are less likely to be driven by the private agenda of the

government, they can be suppressed by cash dividends when these payouts are subject to tunnelling by local governments. This evidence finds support for *Hypothesis 6*. Lastly, the interaction between cash dividends and inter-corporate loans is statistically insignificant among central SOE. This is expected as *Hypothesis 7*. The issues of these two types of cash outflows should be regulated under the desirable corporate governance associated with the control of the central government which is in a sound financial condition. The findings on the interaction between cash dividends and inter-corporate loans further support that the impact of controlling shareholders' tunnelling on cash dividends depends on what better fits the private interests of controlling shareholders. Cash dividends are preferred by local governments as they have limited ways to generate incomes, while family owners show an aversion in payouts as they have more efficient options of transferring firm wealth.

Overall, this study finds that the NTS reform contributes to reducing excessive cash dividends. Further, by comparing firms that vary in levels of agency conflicts and capital constraints associated with their controlling shareholders, this study provides direct evidence that tunnelling has a non-monotone impact on cash dividends. Local government control leads to higher cash dividends so as to replenish the incomes of financially distressed local governments. Family control results in lower payouts as dividends represent a much less efficient way of tunnelling for family owners. The implication is that the concentrated ownership structure points to controlling shareholders as an intrinsic determinant of the cash dividend practice in

China. Given the specific tunnelling incentives of controlling shareholders, the authority may consider customized regulations to restrain the discretion of controlling shareholders in devising cash dividends.

One limitation of this study is that it only analyses the association between cash payouts and one type of tunnelling, namely inter-corporate loans. Later studies may consider examining the interaction between cash dividends and other forms of tunnelling which may not directly occupy discretionary funds. This can help to identify tendencies of cash dividend practice under different qualities of corporate governance, especially when firms' cash-holdings (payout ability) are not interfered by tunnelling.



# **CHAPTER THREE. CASH DIVIDEND BEHAVIOURS AROUND PRIVATE PLACEMENTS: INTERACTIONS BETWEEN TWO INFORMATION-RELEASING EVENTS**

## **3.1 Introduction**

It is a long-standing theory that cash dividends are used by investors to predict future performance (Kane, Lee & Marcus 1984; John & Williams, 1985; Miller & Rock, 1985). This signalling function can also be served by other firm events. For example, private placements have been demonstrated to be indicative of participating shareholders' confirmation of firm values, which accounts for the positive announcement effect (e.g., Hertzels & Smith, 1993, for the US; Kang & Stulz, 1994, for Japan; Wu et al., 2005, for the Chinese Hong Kong Market). This present study finds that private placements provided about 82.48% of the funds raised by equity refinance between 2006 and 2015 in China, which proves the popularity of private offerings.

Chapter 3 intends to identify the interaction between two information events of cash dividends and private placements. Suggested by Booth and Chang (2011), the payouts prior to public equity offerings can relieve the concern of information asymmetry about the offerings and therefore help to obtain a higher offering price. This finding motivates this study to examine the role of cash dividends before private placements in China. Conditional on the assumption that cash dividends contribute to

higher prices of seasonal equity offerings (SEOs), Loderer and Mauer (1992) raise the hypothesis that all issuing firms should try to declare prior to SEOs. When examining if this would be the case for private placements, this present study observed a larger proportion of dividend-paying firms among issuers of private placements in China. Of 953 private-placement-conducting (PPC) firms examined, 695 (about 73%) distributed dividends within the 365-day period before the offerings. Also, similar to the finding of Lin, You and Lin (2008) that firms tend to time SEOs after announcements of payouts, this present research suggests that Chinese PPC firms are more likely to increase cash dividends when private placements are in the nearer future.

Apart from the pre-offering interaction which highlights the tendency of issuing firms to distribute higher cash dividends before private placements, the post-offering interaction may lie in the notion that both private placements and cash payouts can convey positive information about a firm's future performance (e.g. signal of cash dividends: John & Williams, 1985; signal of private placements: Hertzels & Smith, 1993). If managers consider that private placements are efficient in filling the information gap about the prospect of firms, cash dividends that provide a similar signalling function might be less needed. This leads to the hypothesis that with the information released by private placements, firms might issue lower cash dividends given the potential information overlap between private placements and cash dividends.

It is noted that the post-offering interaction between private placements and cash dividends might be affected by the regulatory setting in China. Compared to other markets, the China Securities Regulatory Commission (CSRC) requires a longer resale restriction (lockup of trading rights) on shares acquired from private placements. It is up to 36 months for controlling shareholders and 12 months for other shareholders. One concern that arises is that firms announce higher cash dividends within the lockup period to ease the concern of illiquidity faced by participating shareholders of private placements. Still, this concern is challenged by two arguments: i) the presence of a lockup period is pre-acknowledged and therefore can be managed before a buying decision is made and ii) shareholders are privileged to be offered a discount when buying privately-issued shares. Therefore, whether the resale restriction increases the demand for cash dividends as the solution for lack of liquidity is an empirical question.

The post-offering cash dividends may also be affected by the change in ownership structure led by private placements. Zhao et al. (2015) examined private placements between 2006 and 2009 in China and reported an increase in post-offering cash dividends. Yet, controlling for the presence of lockup periods, the resale restriction is not suggested to be responsible for this increase. Instead, they find that the increase in post-offering cash dividends is more pronounced when controlling shareholders subscribe to private placements. This leads to their conclusion that cash dividends are used as interests transfer to large shareholders after substantial funds are

raised by private placements. Apart from the unsolved puzzle about why large shareholders would engage in tunnelling despite the amount of invested equity at risk, Zhao et al. (2015) pay less attention to the change in post-offering firm performance.

This present study emphasizes the establishment of a link between the changes in cash dividends and the concurrent variations in firm performance to determine the justification of a revision in payout policy. The study uses propensity score matching (PSM) tests to estimate the outcome of control of condition and then to isolate the effect of the treatment, namely private placements. The main prediction relies on the signalling function of private placements; participating investors can assert their confidence in a firm's prospects by becoming block shareholders (Hertzel & Smith, 1993). Therefore, if a decrease in cash dividends is conditional on the already-in-place information released by private placements, a corresponding enhancement in stock performance should be observed because of the information certified by private placements. The other prediction is based on the theory that private placements intensify the conflicts between large shareholders and minority shareholders by causing a more concentrated ownership structure. If a rise in cash dividends is a form of fund transfer to participating shareholders, the negative impact of tunnelling should be associated with weaker stock performance that is also a result of private placements.

Following a multivariate PSM approach, the results are more in line with the signalling hypothesis. Private placements tend to cause a drop in cash dividends even

within lockup periods, suggesting that participating shareholders are less likely to rely on cash payouts to alleviate illiquidity. This observation is contrary to the tunnelling argument as the drop in cash dividends does not fit the incentive of interests transfer via payouts. In the meantime, evidence shows that private placements have a causal link with an improvement in firm performance, which is consistent with the positive information conveyed by private offerings. The robustness test further suggests that the information certification effect of private placements is more applicable to firms in a healthy financial condition. Financially constrained firms, which are more likely to rely on private offerings to solve their cash problems rather than signal prospect, show little to no change in payouts and firm performance associated with private placements.

To further examine this information-inspired interaction, this study combines an event study with PSM tests to check if private placements affect the announcement effect of cash dividends. This question is motivated by the results of Dedman, Jiang and Stark (2015) that suggests cash dividends became a stronger predictor for firm values after the International Financial Reporting Standards (IFRS) was adopted by the Chinese market in 2007. The implication is that the improvement in the information environment can allow cash dividends to be more informative in assessing the prospects of firms. Therefore, the market may view post-offering cash dividends as more favourable events given the alleviation of information asymmetry contributed by private placements. Consistent with this prediction, the study finds that

cash dividends issued by PPC firms earn higher announcement returns because of private placements.

This study contributes to the literature by providing evidence that managers are more likely to increase cash dividends with private placements in the nearer future. Unlike the study of Zhao et al. (2015), this study finds that PPC firms tend to drop cash dividends following private offerings and argues that this adjustment is information-based. Given that private placements are followed by stronger long-term performance, which is in line with the positive information sent by private placements, managers may find conveying information via higher dividends redundant. A more profound finding to support the signalling argument of private placements lies in the enhanced announcement effect of cash dividends after private placements. This verifies the notion that the expected improvement in the firm-level information environment enhances the signalling function of cash dividends (Dedman et al., 2015). This present study is among the first to cover a 10-year event period to verify the information-based link between private placements and cash dividends.

The remainder of Chapter 3 is organized as follows. Section 2 introduces the institutional background of the equity offerings in China. Section 3 describes the existing literature that motivates the discussion on private placements and cash dividends. Section 4 lists the theoretical path of testable hypotheses. Section 5 describes data selection, definitions and methodology. Section 6 discusses the results, and Section 7 concludes the findings.

### 3.2 Related institutional settings

Chinese listed firms have three main channels to conduct equity refinancing: rights issue (otherwise known as allotment of shares), seasoned equity offering (SEO) and private placement. Liu et al. (2016) have summarized the key features of each type of equity refinance in China. Unlike the US which runs a registration system for requests for equity refinancing, China has followed an approval system to regulate the issuing requests. Within the category of public equity offerings, rights issue was introduced in 1992. Rights issue is distinct from other forms of equity refinance in its ability to maintain ownership balance while expanding capitalization. Apart from this universal feature, rights issues in China also show peculiarities in its regulation.

The regulation “Administrative Measures for the Issuance of Securities by Listed Companies”<sup>1</sup> (AMISLC), requires prospective issuers to earn positive net profits for three consecutive years and to maintain an average return on equity (ROE) of no less than 10% before the application of rights issues. The size of rights issues is limited to no more than 30% of the firm’s outstanding shares at the year-end prior to the issuing. The restriction on issuing frequency is that for a given firm, rights issues cannot be held in two consecutive accounting cycles. Still, no regulation is imposed on the discount potentially available to shareholders, and the selection of the benchmark date

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<sup>1</sup> This regulation (2018 version) is available on the official English website of the CSRC. View this regulation at: [http://www.csrc.gov.cn/pub/csrc\\_en/laws/rfdm/DepartmentRules/201804/P020180427401543857135.pdf](http://www.csrc.gov.cn/pub/csrc_en/laws/rfdm/DepartmentRules/201804/P020180427401543857135.pdf)

for pricing is flexible.

In 1994, the CSRC updated the 1992 version of AMISLC and SEOs were put into a trial implement. Unlike rights issues, an SEO has no restriction on the size of funds that can be raised in a single offering. Still, the price offered by an SEO cannot be higher than the average closing price of the 20 trading days prior to the benchmark day. This helps to protect minority shareholders from price manipulation. During the past decade, the CSRC has gradually tightened the assessment of SEO applications. In 2001, the AMISLC was further revised, and prospective issuers were required to maintain a ROE above 6% and distribute cash dividends for each one of the three consecutive years prior to the application. In 2006, an extra restriction was made. Issuers were required to pay cash dividends totalling no less than 20% of the average allocable profits in each of the three years preceding the offering. In 2008, this threshold was raised to 30%. The intention behind the increased threshold is to motivate firms to issue cash dividends. Although cash payouts might contribute to more efficient cash-flow management, firms in a high-growth stage or with weak accounting performance might be impeded from SEOs when extra funds are much needed.

The rapid development of the capital market during the past decade calls for more diversified financing channels for Chinese listed firms. With the aim to optimise the allocation of marketable resources, the CSRC initialized the use of private placements in 2006. To protect the interests of both existing and prospective investors,



issuing firms are forbidden to withhold inside information or to manipulate the price prior to the offerings. Although the requirements of issuers' accounting performance to conduct private placements are less rigid than those for public offerings, Chinese firms still need to meet specific requirements to issue equity privately.

The AMISLC states that private placements permit up to 10 participating investors, with no restrictions on their identities or credentials. The subscription price can be subject to a maximum discount of 10% using the benchmark of the average closing price in the 20 trading days prior to the announcement day. Potential issuers must also submit an offering proposal to the CSRC as part of the application. This proposal needs to state an offering price of private placements based on the fair principles of justice. This requirement aims to protect the interests of both participating and non-participating shareholders. Other details listed in the proposal include the purpose of the offering, the number of new securities, the pricing method and the range of the offering price, the identity of prospective investors and their affiliations with the issuing firm, the amount of funds and the type and value of assets that need to be raised, whether the proposed offering is a part of the reallocation of major assets, and other relevant information. The proposal also needs to be approved by the board of directors and prospective investors who intend to participate in private placements before it is submitted to the CSRC. The CSRC evaluates the legitimacy of the need for refinancing of the issuing firms and assesses whether the offering terms present a threat to the interests of non-participating and minority shareholders before a

decision is made. The CSRC has the ultimate discretion to accept or deny the application. Without the mandatory approval from the regulator, firms need to announce a withdrawal of the proposal and cannot proceed with the offering.

Private placements usually have a resale restriction referred to as a lock-up period. Within this period, shares obtained from private placements cannot be transferred. Compared to the US which requires a minimum 6-month lockup, subscription of private placements in China incurs a minimum of 12-month resale restriction (Liu et al., 2016). If the stocks are bought by existing direct or ultimate controlling stockholders or shareholders that gain control rights via private placements, then this restriction is extended to 36 months.

One of the main benefits of private placements is to grant access to the capital market for firms that are less likely to be approved for public equity offerings. This benefit is more pronounced in China, as the eligibility for conducting public issues depends on accounting performance plus the level and the frequency of cash payouts. Another significant advantage of private placements is that information can be exchanged directly from managers to prospective investors. This setting offers more initiatives to shareholders than the initiatives offered by SEOs. Additionally, private placements provide a chance to assess the true firm value (Hertzel & Smith, 1993), maintain existing relationships and build new relationships (Wruck & Wu, 2009). Positive information may also be sent by raising funds to gain a competitive advantage.

As suggested by Table 3.1, private placement has become the most frequently used equity refinance to the point that the refinancing options of SEO and rights issue have almost been entirely replaced by private placement. In 2015, nearly all the requests for equity refinances were finalised by private placements. For the period 2006 to 2015, this study finds that private placements provided up to ¥ 2.59 trillion to the Chinese stock market, which accounts for 82.48% of the total funds raised by all concurrent equity finances. Notably, the funds provided by private placements increased from ¥ 89.66 billion in 2006 to ¥ 1.47 trillion in 2013 with an average annual growth rate of 36.44% suggesting its popularity in China.

**Table 3.1 Summary of equity refinances conducted by Chinese listed firms from 2000-2015**

This table presents a summary of equity refinances conducted by Chinese listed firms from 2000 to 2015. The data source is the CSMAR database. The figures below display the number of each type of equity refinances by year.

Year	SEO	Private Placement	Rights issue
2000	16	—	160
2001	22	—	126
2002	28	—	22
2003	18	—	25
2004	13	—	23
2005	5	—	2
2006	7	49	2
2007	24	142	7
2008	34	105	9
2009	14	120	10
2010	10	155	18
2011	10	182	15
2012	5	154	8
2013	6	266	12
2014	1	447	15
2015	0	770	4

### **3.3 Related literature**

#### **3.3.1 The information-based interaction between public equity offerings and the pre-offering cash dividends**

For the past few decades, scholars have been keen to interpret the commonly observed stock-price drop around public equity offerings (Myers & Majluf, 1984; Miller & Rock, 1985). A popular explanation is that better-informed insiders have the incentive to exploit the overvaluation of firms by issuing new shares. Rational outsiders, then, would adjust their expectation downward, which lowers the price they are willing to pay for the new shares. Therefore, the risk of asymmetric information may relate to stock underperformance around public offerings.

Dierkens (1991) examined the existence of information asymmetry of issuing firms by adopting four proxies: the market reaction to earnings announcements, the residual variance of stock returns, the number of public announcements per period made by the firm and the trading intensity. Her cross-sectional tests prove that the level of information asymmetry has a prominent and direct relationship with the price drop observed at announcements of public equity issues. Dierkens also used time-series tests to confirm these issues as information-releasing events. Lastly, timing tests show that to lower the price-drop around announcements of public offerings, firms tend to announce the issues when the risk of asymmetric information is relatively low.

A later study by D'Mello and Ferris (2000) used two measurements of analyst activities to describe an issuing firm's information environment. The first measurement uses an issuing firm's number of analysts following as a direct measurement of its accessible information. The second measurement calculates the standard deviation of analysts' forecasts as a proxy for analyst consensus and, therefore, the quality of information available to the market. Their observations conclude that the announcement effect of public equity issues is significantly more negative for firms with a greater level of information asymmetry proxied by fewer analysts following and less consensus among analyst forecasts.

In a theoretical world with symmetric information, it may seem redundant to simultaneously arrange another information event to occur before the issue of new stocks. But, asymmetric information is a common reality that highlights the rationale presented by Dierkens (1991) and D'Mello and Ferris (2000). Less information uncertainty can create a friendlier time to conduct public equity issues.

Several studies attempt to determine if managers make an effort to drive up the announcement returns of public equity issues via seizing the timing of the most informed market. For instance, Korajczyk, Lucas, and McDonald (1991) chose the period subsequent to regular information disclosures as a timing proxy for the least level of uncertainty in assessing true firm values. Their choices of regular information events include annual reports, quarterly earnings announcements and dividend declarations. The findings mainly feature earnings announcements and report that

public equity issues are heavily clustered after such information releases. This supports the view that to reduce valuation uncertainty firms tend to time SEOs after regular information releases.

Apart from earnings announcements, cash dividends are also well accepted as information-releasing events. The supporting evidence shows that increases in cash dividends tend to result in stock-price appreciation and decreases to result in stock-price declines (e.g., John & Williams, 1985). It is implied that given the signalling function of cash dividends, the market should react less negatively to dividend payers' public equity offerings than to equity offerings from nonpayers. Also, it would be more plausible for managers to arrange a public issue to occur after dividend announcements.

Loderer and Mauer (1992) and Booth and Chang (2011) attempted to address whether cash payouts improve an issuing firm's information environment before public offerings. Using the US data from 1973 to 1984, the results from Loderer and Mauer's study do not support the argument that firms time cash dividends to obtain a higher price for SEOs. Booth and Chang (2011) provide two explanations for this evidence. First, the period 1973 to 1974 is when dividend payments were frozen under legal administration. Second, the proportion of dividend-payers decreased sharply from 1978 to 1999 (Fama & French, 2001). Fama and French also suggest a possible cause for the disappearing cash dividends; US firms shift in composition toward smaller firms with lower earnings and greater growth opportunities.

The study of Booth and Chang (2011) tested cash dividend behaviours in the US market between 1975 and 2002, which covers the period analyzed by Loderer and Mauer (1992) and the period of disappearing dividends suggested by Fama and French (2001). They first found a change in the general trend of payout policy. In the 1970s and early 1980s, the distribution of cash to shareholders was mainly finalized by dividends. After the mid-1980s, firms showed a greater reliance on share repurchases. Booth and Chang report that the proportion of firms that rely on dividends as the only option of payouts declined from 69% in 1972 to 20% in 2000. This change intensifies the disparity between the information environment of dividend-payers and non-dividend-payers, with the former having distinguishably less information asymmetry since the mid-1980s. In line with this structural change, Booth and Chang found that the difference in SEO announcement returns between dividend payers and non-payers changed from being at a minimum before the mid-1980s to being significant after the mid-1980s. Notably, the pronounced role in signalling served by cash payouts leads dividend payers to experience less negative market reactions to SEO announcements.

Lin et al. (2008) discuss whether pre-issue information releases, such as major investments, financial forecast revisions and dividends, affect the price and the trading volume reaction around SEOs in the Taiwan stock market. They first demonstrate that the time interval between pre-issue dividends and SEOs are negatively related to the probability of conducting SEOs. In other words, Taiwanese



firms time their public equity offerings after dividend announcements, possibly to lower the information asymmetry and to improve market reactions to SEOs. However, none of the tested signalling events is found to help alleviate the negative market returns around SEOs. Still, it is noticed that increased cash dividends are the only category of information release that can reduce the negative trading volume reactions following SEOs.

### **3.3.2 The agency-conflict-based interaction between private placements and post-offering cash dividends**

Some attention is paid to search for a causal relationship between private placements and post-offering cash dividends in China. For example, Zhao et al. (2015) have investigated the cash dividend practice from 2006 to 2009. These were the first three years after private placements were allowed in China. Zhao et al. mainly used a univariate approach to isolate the effect of private placements on PPC firms' cash distributions. They set PPC firms as the treatment group, and non-PPC firms as the control group, and then they matched each PPC firm with a comparable non-PPC firm. The matching rules include being in the same industry, having a comparable firm size and similar earning ability. Zhao et al. found that a higher cash dividend per share is paid by PPC firms after private placements and PPC firms are shown to be more generous in cash distributions than matching non-PPC firms in the post-offering period. Given these results, the researchers conclude that private placements increase

cash dividends in China.

Zhao et al. (2015) argue that higher post-offering cash payouts generate private interests for shareholders who participate in private placements. Generous cash payouts shift funds back to participating shareholders and therefore lower the effective price of new shares. Although the increases in cash dividends could signal positive information about the outcomes of private placements, Zhao et al. (2015) believe that these payments are a cover for interests transfer.

P. Li and G. Li (2014) examined the effect of private placements on cash dividends during the period from 2010 to 2011 in China. Their conclusions are highly consistent with the conclusions proposed by Zhao et al. (2015). P. Li and G. Li agree that immediate increases in cash dividends following private placements reveal more of a tunnelling incentive than a signalling purpose. Private placements are usually conducted by firms that lack connections to the public capital market but are still in need of additional funds. P. Li and G. Li argue that if firms are too financially constrained to issue cash dividends or maintain a 6% ROE rate (to be eligible for public issues), then raising cash dividends right after private placements is a contradicting move. They stress that an increase in cash dividends should be associated with stable growth in earnings, but this is less likely to be confirmed within a relatively short period. They describe an immediate increase in cash dividends after private placements as improper and conflicted, especially considering that these outflows weaken a firm's ability to fund new projects.

Zhao et al. (2015) and P. Li and G. Li (2014) focus on the short-term effect of private placements on cash dividends, perhaps because of lack of data. Both studies capture the change in cash dividends by using baseline data from the control group and the pre-offering period of the treatment group. This setting facilitates vertical and parallel comparisons in their research. Still, several potential deficiencies are evident in their empirical design. For one, the increases in cash dividends led by private placements might be insufficient as evidence of tunnelling without considering the concurrent changes in firm performance. The present study proposes a further step to examine whether the change in cash dividends is accompanied by a consistent change in firm performance. That is, an examination of the simultaneous change in long-term stock performance could facilitate an investigation of the nature of change in post-offering cash payouts.

Zhao et al. (2015) and P. Li and G. Li (2014) might have overlooked alternative explanations for their observations. Both studies report that PPC firms tend to out-perform their matching non-PPC firms, which are viewed as the reason why many controlling shareholders are willing to enlarge investments via private placements. Also, they both find that private placements with participation from controlling shareholders are followed by higher cash dividends than cases without such participation. Their interpretation of this observation is that the enhanced controlling position intensifies the chance of power abuse and therefore increases the risk of fund embezzlement via cash distributions. Still, both studies seem to pay less attention to

the fact that a more substantial holding of controlling shareholders also indicates that more equity is at stake. It seems irrational for controlling shareholders to embezzle funds from firms in which they have just enlarged investments based on a promising outlook, especially considering the potential long-term payback.

There is also room for further refinement in the methodology used by Zhao et al. (2015) and P. Li and G. Li (2014). In their studies, univariate analysis is the only method adopted to examine the differences between PPC and non-PPC firms<sup>2</sup> concerning their cash dividend practices before and after private placements. A more robust multivariate analysis could be conducted using an approach such as a difference-in-difference test. This regression typically includes one dummy variable to differentiate the event period, another one to capture variations between groups and, most importantly, a cross-term grouped by these two dummy variables. The cross-term is fundamental in this PSM test as it can subtract the noise from the dimensions of group and time to show the actual changes generated by the treatment event, in this case, private placements.

Zhao et al. (2015) and P. Li and G. Li (2014) both argue that private placements can further intensify ownership concentration and therefore raise the concern about the abuse of power by block holders. This makes an increase in post-offering cash dividends questionable. However, the interactions between private placements and cash dividends go beyond the account of agency conflicts. For example, one of the

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<sup>2</sup> The treatment group (PPC firms) and the control group (non-PPC firms) of P. Li and G. Li (2014) are not matched. The control group is four times larger than that of the treatment group.

possible connections underlies the notion that both private placements and cash dividends can signal positive information about a firm's future performance.

### **3.3.3 The information effect of private placements**

Apart from the facts that public offerings are open to the whole market and private placements are offered to a small number of pre-specified investors, public offerings and private placements are similar in term of being equity refinancing options for listed firms. Still, the market reacts to these two types of events differently. Public offerings are typically followed by adverse market reactions, while private placements tend to gain positive announcement reactions (the US market: Wruck, 1989; Hertzels & Smith, 1993; the Hong Kong market: Wu, Wang & Yao, 2005; the Chinese mainland market: Liu et al., 2016).

Conditional on the concern that prospective investors are disadvantaged in assessing firm value, Myers and Majluf (1984) demonstrate that public issues signal that an issuing firm's stocks are currently overvalued. The rational investors who believe that managers are issuing new shares at an inflated price will revise their expectation downwards and cause a drop in stock price around announcements of public offerings. According to Myers and Majluf, undervalued firms would avoid public offerings when the existing assets transferred to new shareholders exceed the increased firm value retained by existing shareholders. That is, managers from

undervalued firms will forego investment opportunities to protect the interests of existing shareholders. Ideally, if managers can find a costless way to convey their belief that firms are undervalued, this underinvestment problem should disappear.

Following Myers and Majluf (1984), Hertz and Smith (1993) propose that undervalued firms can use private placements to avoid the problem of wealth transfer that could occur when raising equity publicly. Through private placements, a well-informed investor buying a block of securities verifies approval of firm value, and it is expected to send out a positive signal. As a result, the downward adjustment in stock price around public equity offerings is replaced by an upward shift when managers decide to issue new equity privately. Hertz and Smith (1993) hold the view that such a shift in firm value assessment can be contributed by the alleviation of asymmetric information or signalling previously unavailable information to the market. On the contrary, a public offering issued to diversified investors is unlikely to form definitive certification of firm value. Instead, it might raise the doubt that managers are taking advantage of the overvaluation to raise new equity from less informed investors. These notions of Hertz and Smith are in line with their observations of positive stock-price reactions to private placements and negative reactions to public offerings.

Hertz and Smith outline that investors in private placements are informationally active because private issuers are usually small firms. Compared to large firms, small firms tend to have a higher level of information asymmetry but are easier and cheaper

to assess given the scope of the underlying asset. This makes small firms inclined to rely more on private placements when they attempt to access the equity market. Hertz and Smith emphasise the notion that private placements build effective communications with managers by inviting a small group of investors. This relieves information asymmetry and represents a solution to the Myers-Majluf under-investment problem.

Hertz and Rees (1998) tested whether the positive signal released by private placements is in line with an issuing firm's post-offering earnings. They find that firm earnings increase significantly after private placements. Specifically, the improvement in industry-adjusted earnings is particularly strong and significant in the offering year. For the following two years, though not significant, the change in earnings remains upward relative to the pre-offering observations. That is, despite the variations in the level of growth in post-offering earnings, the tendency of this growth is continuing and indicates that the signal sent by private placements is relatively consistent.

Hertz and Rees provide evidence that the positive announcement returns of private placements are indicative of the increase in post-offer earnings. As to public equity offerings, their negative announcement returns can be viewed as an indication of post-offering accounting underperformance. From the perspective of capital budgeting, they assert that public equity offerings are used to reduce leverage, whereas private placements are used to enlarge capital expenditures. This also helps to explain the disparate stock performances around the announcements of these two

types of equity offerings.

Goh et al. (1999) identified the information content of private placements by examining analysts' revisions in post-offering earnings forecasts. Security analysts tend to adjust their earnings forecasts for the placement year upward. Goh et al. also report that this upward revision in earnings forecasts has a causal relationship with the positive announcement returns of the offerings. This adds evidence to the information certification effect of private placements.

In the context of China, Liu et al. (2016) examined how the market reacts to various methods of equity refinancing, namely SEOs, rights issues, private placements and convertible bonds in the period from 1991 to 2010. Similar to the experience of the US market, they find that public offerings of SEOs and rights issues gain negative announcement returns in China. This stock underperformance is viewed as a reflection of the adverse-selection costs associated with the risk of the underlying assets.

As to private placements in China, Liu et al. noticed that the market reacts unfavourably during the pre-announcement period, while positive market reactions are observed during the post-announcement period. They interpret these contrasting market reactions as the concern of investors being alleviated by the strategic deployment of asset allocation, or cash invested by experienced investors via private placements. In short, the ultimate announcement effect of private placements is positive based on observations of the Chinese market. It is possible that this is due to



investor confidence given the expected positive outcomes led by the proceeds of the offerings (Liu et al., 2016).

### **3.3.4 The information effect of cash dividends**

The signalling effect of cash dividends was first identified by Miller and Modigliani (1961) who argue that dividends convey changes in managers' expectations about the prospect of firms. One body of the literature examines how the market reacts to dividend announcements. The findings include that the change in cash dividends results in a change in the same direction in stock prices around the announcement (John & Williams, 1985). Additionally, the cumulative abnormal returns around the event window are positively related to the size of cash distributions (Miller & Rock, 1985). The conclusion is that the market processes payouts as providing corroborative evidence for the announced earnings.

A difficulty in identifying the information content of cash payouts lies in the fact that dividends and earnings are usually simultaneously announced. Aharony and Swary (1980) tested observations of dividends and earnings that are declared on different dates within a given quarter. This helps to isolate the announcement effect of cash dividends, which is difficult to achieve when a joint announcement is made. They find that the market reaction is more pronounced for dividends than for the subsequent earnings, and that the market gives more credit to changes in quarterly

cash dividends than to the concurrent earnings figures. Kane et al. (1984) provide further evidence that investors rely on cash payouts to revise their assessment on firm values. When the information sent via earnings and dividends contradicts, investors are more inclined to rely on the signal implied by cash dividends.

Given the institutional settings of the Chinese market, studies examining whether cash dividends carry information content give different results. Cheng et al. (2009) investigated the joint announcement effect of earnings and dividends before the NTS reform. They find that the market responds to an unexpected increase in earnings more positively when an unexpected drop or omission of cash dividends is simultaneously announced. However, the market reacts positively to stock dividend announcements regardless of the direction of the unexpected change in concurrent earnings. Cheng et al. conclude that the evidence of the less favourable market reactions to cash dividends when an unexpected growth in earnings is present indicates the concern of tradable shareholders that cash dividends are used to transfer funds to non-tradable shareholders. On the contrary, stock dividends that involve zero cash-outflow are viewed as a trusted signal for earnings. Further, despite that the unexpected increase in cash dividends is positively related to the announcement returns, this relationship is insignificant. Therefore, they suggest that the commonly accepted causal link between growth in cash dividends and higher announcement returns could be weakly formed if such payouts are believed to be interests transfer by non-tradable shareholders.

Deng et al. (2017) examined the relationship between cash dividends and earnings quality in the Chinese market using observations from 2000 to 2010. They demonstrate that firms issuing dividends show more stable earnings, greater accrual quality and more substantial earnings informativeness. All are consistent with the signalling function of cash dividends in the context of China where earnings quality is considered to be lower than that in developed markets (Allen et al., 2005). Deng et al. (2017) make a further attempt to identify how the link between dividends and earnings quality change when dividends deviate from being a signalling device and a reward to shareholders. Given the institutional background which requires Chinese listed firms pay cash dividends before applying to conduct public equity refinance, Deng et al. (2017) find that the positive influence of cash distributions on earnings quality weakens for firms issuing public offerings.

Efforts are also made to examine the interaction between firm-level asymmetric information and cash dividends. Focusing on the Hong Kong market, Cheng, Davidson and Leung (2011) tested the connection between abnormal returns of insider trading and the following cash dividends given their mutual signalling function. Insiders can trade and gain based on their knowledge of private price-sensitive information about firm values. It follows that insider buys (sales) tend to be indicative of future price appreciation (decreases) (Fishe & Robe, 2004; Jeng, Metrick & Zeckhauser, 2003). Therefore, the magnitude of the abnormal returns around insider trades can be a continuous measurement of the level of information asymmetry.

According to Cheng et al. (2011), a positive correlation is found between insider returns and dividend changes when insiders trade firm securities within 40 days before announcements of payouts. This indicates that firms suffering from greater risk of asymmetric information tend to issue higher cash dividends, lending support to dividend signalling theory.

One of the other studies that tested the effect of the firm-level information environment on the signalling role of dividends is that of Aggarwal, Cao and Chen (2012). They chose foreign firms that cross-list on the US stock market in the form of American Depository Receipts (ADRs) as these firms tend to have a poorer information environment. First, this is because ADR firms are subject to different accounting standards than domestic US firms and, therefore, US investors may have less access to information about ADR firms for a given level of effort (e.g., Lang, Lins & Miller, 2003; Lang, Raedy & Wilson, 2006). Second, ADR firms tend to have limited channels to convey information to US investors. Therefore, Aggarwal et al. (2012) argue that the signalling function of dividends may carry a larger weight for ADR firms compared to signalling via dividends by domestic US firms. Aggarwal et al. find that ADR firms are more likely to increase dividends, particularly by larger amounts. This highlights the association between the larger firm-level information asymmetry of ADR firms and their greater need to send signals via cash dividends.

Regulatory reforms that require a change in a firm's operational transparency are also used as experimental settings to examine the information content of cash

dividends. Hail et al. (2014) traced exogenous shocks that improve the market-level information environment to investigate if such improvement results in lower pressure to pay dividends. They chose the mandatory adoption of IFRS (global-wise) and the initial enforcement of insider trading laws (country-wise) as two separate information events. They observe that, following the above two events, firms are less inclined to increase or pay cash dividends but are more likely to cut or stop these outflows. Hail et al. attribute this result to the improved public information because: i) changes in cash dividends tend to occur around the time of implementation of the relevant regulatory reforms, and only for firms affected by the new regulations and ii) the information content of cash dividends (signified by the 3-day absolute abnormal daily returns around the announcement date) decreases significantly after the regulatory reforms. The results suggest that if information about firm operations becomes more transparent given the exogenous shocks, cash dividends tend to carry less information content and therefore may be less needed.

### **3.4 Hypotheses development**

#### **3.4.1 Cash dividends as an information release before private placements**

Although there is scant evidence documenting a link between pre-issue cash payouts and private equity issues, the literature does offer evidence suggesting that dividends as an information-releasing event are used by managers to lower the

uncertainty about public equity offerings (Lin et al., 2008; Booth & Chang, 2011). The signalling theory of cash dividends stresses that managers use payouts to convey a positive signal about future earnings (John & Williams, 1985; Miller & Rock, 1985). In the meantime, the level of information asymmetry is found to be directly related to the extent of the negative SEO announcement-day returns (Korajczyk et al., 1991; Dierkens, 1991; D' Mello & Ferris, 2000). Booth and Chang (2011) connect these two bodies of studies and address the connection between a firm's dividend-paying status and its SEO announcement effect in the US market. They demonstrate that when dealing with asymmetric information, the market reacts less negatively to a firm's SEO announcement when a declaration of cash dividends is made in the year preceding public offerings. That is, the information gap filled by cash dividends can promote investors' confidence in public equity offerings. Although this finding is found to be less applicable to the Taiwanese market, Lin et al. (2008) still notice evidence of increases in cash dividends lowering the negative trading volume reactions around announcements of SEOs. Therefore, the studies of Booth and Chang (2011) and Lin et al. (2008) motivate examination of the presence of a connection between private placements and the pre-offering cash dividends in this present study.

This study first examines the cash dividends of PPC firms issued within a year prior to private placements. This test is taken from a managerial perspective, as managers hold the private information of the timing of private placements in advance given the application system of equity refinances in China. The aim is to determine if

managers of PPC firms time the payment of cash dividends to reduce information uncertainty and therefore to promote the upcoming private placements. Similar to the finding of Lin et al. (2008) about SEOs, managers should arrange cash dividends near the offerings. This highlights the time interval between a firm's private placement and its pre-offering cash dividends. Furthermore, to increase the quality of the firm-level information environment, managers are more likely to arrange an increase in cash dividends when the date of private placements is near. Thus, this study expects that the shorter this time interval, the greater the possibility of an increase in cash payouts to establish a favourable information environment for the upcoming private placements. Accordingly, the following hypothesis asserts:

*Hypothesis 1. The shorter the time gap between pre-offering cash dividends and private placements, the more likely the increase in cash dividends.*

### **3.4.2 The treatment effects of private placements on post-offering cash dividends**

#### **3.4.2.1 A temporary increase in cash dividends within lockup periods: illiquidity risk**

Given the resale restriction following the subscription of private placements, participating shareholders might demand cash dividends to provide liquidity. If this is true, their reliance on cash payouts should diminish after the resale restriction has

ended. Thus, if coping with illiquidity is one of the dominating determinants for a PPC firm's cash dividend practice, higher cash distributions should be identified within lockup periods compared to the case of pre-offering. Still, given that this increase is conditional on the resale restriction, it should be less relevant after the restriction is ended. On such basis, *Hypothesis 2a* asserts:

*Hypothesis 2a. The presence of lockup period should be positively related to cash dividends.*

This hypothesis, however, can be challenged when prospective investors of private placements can directly communicate with managers and the trading restriction can be acknowledged and prepared for before the issue is made. For example, participating investors may demand higher discounts when future illiquidity is anticipated. If liquidity risk is well managed before private placements, then increases in cash dividends, especially those that continue even after lockup periods are finalized, are less likely to be caused by the trading restriction.

#### **3.4.2.2 An increase in cash dividends since private placements: tunnelling**

Private placements as an event to change an ownership structure have the potential to alter the quality of corporate governance. In the US studies, the



observation that private placements create new blocks or strengthen the holdings of existing blocks leads to incremental monitoring (Wruck, 1989). Yet, for the same market, Barclay, Holderness and Sheehan (2007) express their concern that managers might purposely invite passive shareholders to guard the vested private interests. From the perspective of corporate governance, the results of the current Chinese studies on the link between private placements and the following cash dividends are more in line with Barclay et al. (2007).

Zhao et al. (2015) and P. Li and G. Li (2014) suspect that private placements aggravate the abuse of power by Chinese controlling shareholders. Similar to the case of managerial entrenchment (Barclay et al., 2007), tunnelling-prone controlling shareholders might invite passive investors to form a coalition (Zwiebel, 1995). Also, if the tunnelling incentive of controlling shareholders dominates, the incremental monitoring associated with the increased holdings (Wruck, 1989) could be invalid. Instead, this leaves cash dividend practice under the influence of foreseeable tunnelling.

Zhao et al. (2015) document that cash dividends increase following private placements in China. This increase is shown when compared to the pre-offering cash dividends of PPC firms and to the post-offering cash dividends of non-PPC firms. Under the premise of aggravated tunnelling, Zhao et al. interpret the increase in cash dividends after private placements as evidence of self-serving fund transfer.

Through private placements, if an active tunnelling incentive is instigated by the

strengthening of control power or by the coalition with participating shareholders, this would have a long-term impact on cash dividends conditional on compromised corporate governance. That is, compared to the time-sensitive need in alleviating illiquidity within lockup periods, tunnelling-induced fund-transfer is expected to lead to a sustained increase in cash dividends after private placements. Thus, the following hypothesis argues:

*Hypothesis 2b: Private placements should lead to higher post-offering cash dividends (inclusive of those announced during the lockup period and post-lockup period).*

Additionally, if liquidity risk and aggravated tunnelling both influence the post-offering cash dividends, a more prominent increase in dividends during lock-up periods should be observed. Still, a further examination of post-offering firm performance is needed to assess the nature of the concurrent change in cash payouts. It is considered that private placements have the potential to benefit firm profitability by bringing in additional funds, new assets and sophisticated investors. Thus, apart from the two incentives discussed above, an increase in cash dividends might also occur if private placements contribute to funding profitable projects and inviting incremental monitoring. That is, if an increase in cash payouts following private placements is accompanied by enhanced post-offering firm performance, then this alteration in cash dividend policy is somewhat truthful and consistent.

It is noted that a shift in cash distributions may not be the only outcome after private placements. The pre-acknowledged lock-up periods could be compensated by placement terms and therefore may not require a rise in cash dividends. Aggravated tunnelling established on the premise of enlarged holdings or collusion could also be constrained by the risk of negative market reactions, especially in the lockup period when the trade of holdings is forbidden. Apart from the arguments inspired by resale regulation and aggravated tunnelling, it seems necessary to discuss an alternative case of decreased cash dividends after private placements.

#### **3.4.2.3 A sustained decrease in cash dividends after private placements: information certification**

The signalling theory of cash dividends informs that a common motivation of issuing cash payouts is to mitigate the problem of asymmetric information (John & Williams, 1985; Miller & Rock, 1985). Cheng et al. (2011) used insider returns as the proxy for information asymmetry and find this measurement to be positively related to cash dividends announced in the 40-day interval after insider trades. In line with Cheng et al., Aggarwal et al. (2012) demonstrate that ADR firms which face a less desirable information environment show a greater reliance on cash dividends to signal future performance. Thus, in order to reduce uncertainty, the firm-level asymmetric information appears to have a positive relationship with the size of cash dividends issued. Further, Hail et al. (2014) find that when the concern about information

asymmetry is eased by reforms in regulations, managers tend to cut cash payouts. This provides market-wise evidence that improved availability of information about firm operations requires fewer cash dividends to serve the function of signalling. Additionally, Hail et al. report that investors do not react negatively to decreases in cash payouts when there is an improvement in public information. This also implies that a reduction in cash dividends, if mainly driven by more readily available information to assess firm value, should not be accompanied by weakened stock performance.

Similar to the signalling function of cash dividends, several studies argue that private placements can deliver previously unavailable information to the market. For example, Hertz and Smith (1993) attribute the positive announcement effect of private placements to information production. They also show how undervalued firms can adopt private placements to avoid the under-investment problem identified by Myers and Majluf (1984). Therefore, a private placement can lead to a release of positive information by inviting experienced investors who certify a firm's true values via block investments. That is, private placements can reduce the uncertainty about future firm performance.

The present study searched for an information related link between private placements and post-offering cash dividends. Managers might regard maintaining the level of pre-offering cash dividends as a costlier choice for signalling after the improvement in firm-level information environment is made by private placements.

As a result, this could lead to a reduction in cash payouts after private placements.

The information-certification effect of private placements (Hertzel & Smith, 1993), if it leads to less reliance on cash dividends as a signalling device, can be verified by the concurrent stock performance. According to Hail et al. (2014), if a decrease in cash dividends is the result of the improved information environment, this decrease should not disappoint shareholders. If the positive information conveyed by private placements is indeed responsible for the reduced demand for cash dividends, then a concurrent improvement in stock performance should follow. This not only certifies the information of private placements (Hertzel & Smith, 1993) but also provides a reason to decrease cash payouts without negatively affecting investor confidence. Following the information certification theory, this study develops a set of hypotheses:

*Hypothesis 3a: Private placements should lead to lower post-offering cash dividends (inclusive of those announced during the lockup period and post-lockup period).*

*Hypothesis 3b: Private placements should positively affect post-offering stock performance.*

If the case of liquidity risk management (*Hypothesis 2a*) and the case of

information certification (*Hypothesis 3a,b*) are jointly supported, then the expected decrease in post-offering cash dividends should be more prominent after the resale restriction is over.

#### **3.4.2.4 An increase in the announcement returns of post-offering cash dividends: information certification**

Dedman et al. (2015) examined the value relevance of cash dividends by relating current year payouts to the market value of Chinese firms between 2003 and 2011. During this sample period, the CSRC adopted the IFRS in 2007. Given this reform, Dedman et al. (2015) established a comparison between firm-year observations before the introduction of IFRS and firm-year observations after this standard was implemented. Upon the adoption of the IFRS, they notice that the current year cash dividend becomes a stronger predictor for the following year cash dividend and earnings given the improvement in the information environment. On top of that, after 2007 cash dividends are more positively related to market values of firms. In short, in China convergence with the IFRS contributes to a stronger signalling function served by cash dividends.

It can be inferred from the results of Dedman et al. (2015) that a better information environment may cause cash dividends to be a more informative signal. This motivates this study to examine whether the market reacts to announcements of cash dividends more favourably after private placements that have the potential to

release previously unavailable information (e.g. undervaluation) and lead to less asymmetric information (Hertzel and Smith, 1993).

Private placements might also affect the announcement effect of cash dividends from their mutual function of predicting accounting performance. The information contained in private placements is found to be credible for predicting future earnings. Hertzel and Rees (1998) demonstrate that PPC firms tend to experience earnings increases after private placements. This is consistent with the favourable market reactions observed when offerings are announced. Financial analysts also rely on private placements to adjust an issuing firm's earnings forecast upward (Goh et al., 1999). Therefore, the information conveyed by private placements can work jointly with the signal sent by cash dividends. As a result, the market could be more optimistic about cash dividend announcements made by PPC firms. That is, cash payouts are more likely to be interpreted as a positive signal for future earnings and therefore gain higher announcement returns after the positive information is hinted by private placements.

*Hypothesis 4. Private placements should increase the announcement returns of cash dividends.*

### **3.5 Data, methodology and measurements of variables**

### **3.5.1 Sample selection**

Data used for testing the treatment effects of private placements was acquired from the China Stock Market & Accounting Research (CSMAR) database. The sample consists of all publicly listed A-share firms on the Shanghai and Shenzhen stock exchanges from 2004 to 2015. Given that private placements were introduced to the Chinese stock market in 2006, the sample starts in 2004 to allow two years as the control (base) period. Firms that have been labelled as \*ST or PT<sup>3</sup>, firms with missing data and from financial industry are excluded.

### **3.5.2 Methodology**

#### **3.5.2.1 Propensity score matching (PSM) test**

From the perspective of methodology, a reliable policy evaluation should avoid being selective. For example, if a financially distressed PPC firm has lower cash dividends compared to a financially healthy non-PPC firm, it is hard to determine how much of this difference in cash dividends is led by private placements given the pre-existing difference in accounting performance. Without controlling for selection bias, the true effect of the policy might be amplified or shadowed (Jaffe, 2002; Blundell & Costa Dias, 2000). In order to avoid the selectivity problem, this study

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<sup>3</sup> \*ST is short for special treatment and is normally issued to firms which report financial loss and face the risk of becoming delisted. PT stands for particular transfer. PT shares are not included in the market index. These two categories of shares are subject to different trading rules compared to the ordinary outstanding shares and therefore are excluded from the examined sample.



adopts the propensity score matching (PSM) methodology. Recent studies have demonstrated the competence of the PSM approach in firm-level research (Yasar & Rejesus, 2005; Inha et al., 2009). Setting matching rules that control for pre-existing conditions, a PSM approach pairs a treated firm with the most comparable non-treated firm. That is, a PSM approach can help to estimate “what should have been” according to the control group and then compare to the observations of “what it is now” given by the treatment group.

The first step in sorting the data used in a PSM test is to set up the divisions of the treatment group and the control group. Given that private placement is the treatment event, the treatment group consists of firms that have implemented a private placement between 2006 and 2015<sup>4</sup>, while the control group includes firms that have not done so within this period. Following Zhao et al. (2015), the treatment group and the control group are compared with respect to firm characteristics of profitability, firm size and industrial category. The matching rules listed below specify how the treatment group and the control group are paired.

- a) According to Zhao et al. (2015), a PPC firm’s matching non-PPC firm is restricted to an A-share firm that has not carried out a private placement, initial public offerings, rights offering, public offerings, or convertible bonds

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<sup>4</sup> For firms that have conducted multiple private placements during 2006 to 2015, their first private placements are selected as the treatment event.

during the period 2006 to 2015. The matching non-PPC firm should already be listed before the year when the paired PPC firm conducted a private placement. All non-PPC firms that fit rule a) are to be further selected by rule b).

b) A PPC firm's matching non-PPC firm should be in the same industry as the PPC firm. The size of the matching non-PPC firm needs to be within 20% to 200% of the size of its paired PPC firm. Lastly, the matching non-PPC firm should have the most similar earning ability<sup>5</sup> as its paired PPC firm among all the potential choices of matching non-PPC firms.

c) If, with the idea of "most similar earning ability", a matching non-PPC firm cannot be found for a particular PPC firm using the rules a and b, the restriction of "same industry" can be relaxed. In the meantime, the size of a matching non-PPC firm is further restricted to 70% to 120% of the size of this PPC firm.

d) For a particular PPC firm, if its matching non-PPC firm cannot be located according to rules a) to c), then this PPC firm is excluded from the research sample.

After selecting data according to rules a) to d), the final sample includes 15144

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<sup>5</sup> A firm's earning ability is measured by earnings before interest and taxes scaled on the total assets at the end of the year.

firm-year observations<sup>6</sup> that consist of 953 pairs of firms.

### 3.5.2.2 Fama-French three-factor model

The purpose of identifying the abnormal long-term stock performance contributed by private placements is to determine whether non-participating investors can benefit from trading on information conveyed by private placements. It also provides insights about whether the information carried by private placements can be certified by the resulting improvement in firm performance.

Following Fama and French (1993), firms' long-term stock performances are measured on a risk-adjusted basis using calendar-time regressions. Fama and French demonstrate that a three-factor model that includes the market risk premium, the return on a size factor, and the return on a book-to-market factor, may be more efficient in explaining the stock returns than the CAPM model. The data used in the Fama-French three-factor model is obtained from the CSMAR database. In the tested sample, the event day is any given trading day from 2004 to 2015 which covers both pre- and post-offering observations for both PPC firms and non-PPC firms.

The factor model that regresses a firm  $i$ 's daily excess stock return on day  $d$  in year  $t$  ( $d$  represents one of the trading days in the sample year  $t$ ) using the three Fama-French (1993) factors (which are all daily measurements) is as follows:

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<sup>6</sup> The use of firm-year observations violates the independence assumption of OLS regression. To take this problem into account, all regression analyses in this study uses and reports Newey-West adjusted t-statistics for all regression results. Also, all continuous variables are winsorized at the 1% level to control for the presence of outliers.

$$R_{i,d} - R_{fd} = \alpha_{i,d} + \beta_m(R_{md} - R_{fd}) + \beta_sSMB_d + \beta_{HML}HML_d + \varepsilon$$

Daily observations of all the trading days of firm  $i$  in year  $t$  are put into the regression. Each regression is performed at the firm-year level. For day  $d$  which is a trading day of firm  $i$  in year  $t$ , the dependent variable is firm  $i$ 's stock return ( $R_{i,d}$ ) minus the risk-free rate ( $R_{fd}$ ) on day  $d$ . The independent variables are the market premium ( $R_{md} - R_{fd}$ ),  $SMB_d$  and  $HML_d$  on day  $d$ . Particularly, market premium ( $R_{md} - R_{fd}$ ) is the difference between the daily market return minus the risk-free daily rate on day  $d$ .  $SMB_d$  is the return on a zero-investment size portfolio on day  $d$ , computed as the daily return on a portfolio of "small stocks" minus the daily return on a portfolio of "big stocks".  $HML_d$  is the return on a zero-investment book-to-market ratio portfolio on day  $d$ , computed as the difference in daily return on a portfolio of high book-to-market ratio firms and the daily return on a portfolio of low book-to-market ratio firms.

The intercept of this regression is interpreted as the daily risk-adjusted abnormal stock performance ( $DAY\alpha$ ) of firm  $i$  in year  $t$  (Krishnamurthy et al., 2005). This daily measurement is then converted to a yearly basis by adjusting for the number of the actual trading days ( $N$ ) of firm  $i$  in year  $t$ , which gives an estimation of firms' long-term stock performance.

$$YEAR\alpha_{i,t} = (1 + DAY\alpha_{i,t})^N - 1$$

This present study chose the Fama-French measurement instead of cumulated abnormal returns (CARs) to measure stock performance. The control group does not

have an event day for private placements, however, this group might experience other firm events around the date of private placements conducted by the treatment group, which might bring noises to the findings. Even for PPC firms, it is difficult to determine the event day when the tested year is not a placement year. The stock performance outside the placement year is crucial to determine the treatment effect of private placements. These are the problems that cannot be addressed by CARs studies. The superiority of using the intercept of Fama-French three-factor model as the proxy for stock performance is that doing so provides valid observations of long-term stock performance both before and after private placements for both treatment and control groups.

### **3.5.2.3 Event study**

The event study methodology is adopted to examine if the market reacts to announcements of cash dividends differently before and after private placements. Observations on non-PPC firms are also examined by this test to yield the treatment effect of private placements.

In this event study, the magnitude of market reactions is defined as the abnormal returns around various event windows, which is calculated as the difference between the realized returns and expected returns. Particularly, daily individual stock returns with dividends reinvested are used as the realized returns. Expected returns are given

by the prediction made based on pre-event observations. The public announcement day of cash dividends is the event day 0. Using pre-event observations from the [-89, -11] window as the estimation event time period (Wu et al., 2005), a firm  $j$  that announced above-zero cash dividends in year  $y$  has its announcement reaction to this payment estimated using the market-model as follows:

$$R_{j,t} = \alpha_{j,y} + \beta_{j,y} * R_{m,t} + \varepsilon$$

where  $R_{j,t}$  is the observed daily stock return of the common stock of firm  $j$  on an estimation day  $t$  from the [-89, -11] window,  $\alpha_{j,y}$  is the intercept and  $\beta_{j,y}$  is the coefficient, and  $R_{m,t}$  is the same-day market returns with cash dividends reinvested on the index of the stock exchange where the issuing firm is listed. The coefficients  $\alpha_{j,y}$  and  $\beta_{j,y}$  are ordinary least square estimates of the intercept and the slope of this model.

The estimated values of  $\alpha_{j,y}$  and  $\beta_{j,y}$  for firm  $j$  that paid cash dividends in year  $y$  are acquired to calculate the expected return ( $ER$ ) of firm  $j$  on an event day  $t^*$  as follows:

$$ER_{j,t^*} = \alpha_{j,y} + \beta_{j,y} * R_{m,t^*}$$

where  $ER_{j,t^*}$  is the expected daily return of the common stock of firm  $j$  on event day  $t^*$  assuming reinvested cash dividends.  $R_{m,t^*}$  is the daily market returns on the day  $t^*$  with cash dividends reinvested on the index of the stock exchange where the issuing firm is listed.

On an event day  $t^*$  within the announcement period, the daily abnormal return

$AR_{j,t^*}$  for the cash dividend announcements made by firm  $j$  is defined as the difference between the realized return  $R_{j,t^*}$  and expected return  $ER_{j,t^*}$ :

$$AR_{j,t^*} = R_{j,t^*} - ER_{j,t^*}$$

where  $R_{j,t^*}$  is the realized return of the common stock of the firm  $j$  on day  $t^*$  assuming reinvested cash dividends.

The cumulative abnormal return (CAR[t1, t2]) of the announcement of cash dividends made by firm  $j$  from a multi-day announcement window [t1, t2] is defined as the sum of the time-series of ARs within the event window [t1, t2], that is:

$$CAR_{t1,t2} = \sum_{t^*=t1}^{t2} AR_{t^*}$$

The choices of event windows for this test are [-3, 0], [-1, 0] and [-1, +1]. To control for the potential information overlap, observations of firms that issue announcements of earnings (annual report), seasoned equity offerings, right issues, mergers and acquisitions within the [-3, 0] announcement period of cash payouts are excluded. After excluding firms with incomplete daily trading data, 9082 events are selected to examine the announcement returns of cash dividends before and after private equity issues for both PPC firms and non-PPC firms.

### 3.5.3 List of variables

### ***Dependent Variable***

*DY*: Dividend yield, measured as the cash dividend per share divided by the stock price at the end of the year. This measurement reflects the return from cash dividends for investors who prefer payouts than capital gains when making investment plans.

*CDPS*: Cash dividend per share, calculated as the total cash dividend payment divided by the total number of outstanding shares at the issue of cash dividends. It reflects the amount of cash distributions scaled on the number of shares outstanding.

*PAYOUT*: Cash dividend payout ratio, depicted as cash dividend per share divided by earning per share. This ratio informs the return on dividends for investors who are more interested in the growth of stocks.

$\Delta DY$ : The year-to-year difference in dividend yield.

$\Delta CDPS$ : The year-to-year difference in cash dividend per share.

$\Delta PAYOUT$ : The year-to-year difference in dividend payout ratio.

*YEAR<sub>*it*</sub>*: For each sample firm, its abnormal long-term stock performance on a daily basis is measured by the intercept of the Fama-French three-factor model (Fama & French, 1993). This intercept is obtained by regressing the firm's daily excess return (the firm's daily return minus the risk-free daily rate) on the daily return of the market, size and book-to-market ratio factors in a calendar year. The intercept of this model, therefore, represents the average daily abnormal returns for the firm in a 12-month



period. This daily abnormal return is then converted to a yearly return by adjusting for the number of trading days a firm has within this calendar year.

*CAR [t1, t2]*: The cumulative abnormal return (CAR) for the cash dividends paid by a firm from a multi-day announcement window [t1, t2]. It is defined as the sum of the time-series of daily abnormal return within the event window [t1, t2]. The tested event windows are [-1, +1], [-1, 0] and [-3, 0].

### ***Key Independent Variables***

*LN(TIME-GAP)*: The natural logarithm of the time gap between the private placement in question and its last pre-offering cash dividends within 365 days.

*PP-GROUP*: This variable takes a value of 1 for a PPC firm, and 0 for a non-PPC firm,

*LOCKUP*: The timing dummy that controls for varying lockup periods which run for three years for controlling shareholders and one year for non-controlling shareholders. For a PPC firm, this variable takes a value of 1 when it is imposing a trading restriction on their participants in private placements, and 0 otherwise. For a non-PPC firm, this variable takes a value of 1 when its paired PPC firm is imposing a trading restriction on their participants in private placements, and 0 otherwise.

*POST-LOCKUP*: The timing dummy for the post-lockup period. For a PPC firm, this variable takes a value of 1 when the trading restriction on participating shareholders is finalized, and 0 otherwise. For a non-PPC firm, this variable takes a value of 1 when

its paired PPC firm has ended the trading restriction on participating shareholders, and 0 otherwise.

*LOCKUP\*PP-GROUP*: A cross-term between *LOCKUP* and *PP-GROUP*.

*POST-LOCKUP\*PP-GROUP*: A cross-term between *POST-LOCKUP* and *PP-GROUP*.

*PP-TIME*: The timing dummy for the post-private-placement period. For a PPC firm, this variable takes a value of 1 if a private placement has occurred, and 0 otherwise. For a non-PPC firm, this variable takes a value of 1 when its paired PPC firm has conducted a private placement, and 0 otherwise.

*PP-TIME\*PP-GROUP*: The cross-term between *PP-TIME* and *PP-GROUP*.

*UCDPS/P0*: The year-to-year change in *CDPS* adjusted by the industry-year average<sup>7</sup>, and then scaled on the closing price on the announcement day (day 0). According to Cheng et al. (2009), the unexpected cash dividends release previously unknown information when the market expects regular cash payouts.

$\Delta SD$ : The year-to-year change in SD.

*UEPS*: The year-to-year change in earnings per share (EPS) adjusted by the industry-year average.

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<sup>7</sup> Even though it is typical to use analyst forecasts to estimate earnings and dividends for markets where the Institutional Brokers Estimate System (I/B/E/S) provides enough coverage, very few A-share Chinese firms are covered by the I/B/E/S. Therefore, this study uses industry-average as expected earnings and dividends.

### ***Control Variables***

*LARGEST*: The holding percentage of the largest shareholder at the end of the year.

*NC-LARGE*: The ratio of the sum of percentage shareholdings from the second to the fifth largest shareholders to the largest shareholder's holding percentage at the end of the year.

*EXCESS*: Difference between controlling shareholders' voting rights and cash-flow rights.

*ROA*: The ratio of return on assets. The net profits scaled on the total assets at the end of the year.

*CASH*: Cash and marketable securities scaled on total assets at the end of the year.

*LEVERAGE*: The ratio of total debt to the total assets at the end of the year.

*SIZE*: The natural logarithm of the total assets at the end of the year.

*MB*: Market-to-book ratio.

*SD*: Stock dividend per share issued by a firm in a particular year.

*LN(ANN\_DATE)*: The natural logarithm of the number of days from the year beginning (January 1) to cash dividends announcement date. Chen et al. (2005) and Haw et al. (2000) find that Chinese firms tend to accord their announcements with a timing pattern. They are found to announce good news (such as growth in earnings) earlier and bad news later in a year.

*LN(BOARD)*: The natural logarithm of the total number of board directors is used as a determinant of firm performance. This figure is industry-adjusted to produce more robust results. A larger board size is shown to generate higher agency cost and lower efficiency, and therefore weaker firm performance (Lipton & Lorsch, 1992; Yermack, 1996; Jensen, 2010).

*IND-DIRECTOR*: The ratio of the number of independent directors over the total number of directors is used as a determinant of firm performance. The industry-adjusted ratio is used to produce more robust results. Following Li et al. (2015), the variable set of *LN(BOARD)* and *IND-DIRECTOR* are used as key explanatory variables when testing the determinants of firm performance.

*FIRM-RISK*: The standard deviation of residual between actual returns and estimated returns from the market model over 78 trading days in the estimation event period from day -88 to day -11 relative to the announcement day 0 (Cheng et al., 2009). This variable captures firm-specific risks.

The industry fixed effect is also controlled for according to the industry classification provided by the CSMAR database.

### **3.5.4 Models**

#### ***The last cash dividends before private placement***

The analysis of the interaction between private placements and cash dividends

begins with an examination of PPC firms that have announced non-zero cash dividends within the preceding year before private placements. The changes in these cash distributions, in particular, can help to identify whether firms coordinate dividends in conjunction with the upcoming private placements. Models 3.1 to 3.3 which feature the timing of the last cash dividends within one year before private placement are shown below.

$$\Delta DY_{i,t} = \alpha_0 + \beta_1 LN(TIME-GAP)_{i,t} + \beta_2 Control Variable_{i,t} + \varepsilon$$

(Equation 3.1)

$$\Delta CDPS_{i,t} = \alpha_0 + \beta_1 LN(TIME-GAP)_{i,t} + \beta_2 Control Variable_{i,t} + \varepsilon$$

(Equation 3.2)

$$\Delta PAYOUT_{i,t} = \alpha_0 + \beta_1 LN(TIME-GAP)_{i,t} + \beta_2 Control Variable_{i,t} + \varepsilon$$

(Equation 3.3)

The change in examined cash dividend practice is computed as the difference between the current payouts and payouts from the last accounting cycle. Three measurements are used to control for this change:  $\Delta DY$ ,  $\Delta CDPS$  and  $\Delta PAYOUT$ .  $LN(TIME-GAP)$  as the key independent variable is continuous, and therefore clearly depicts the length of the time gap. If *Hypothesis 1* holds, the coefficient of  $LN(TIME-GAP)$  will be significantly negative, indicating cash dividends are more

likely to increase when private placements are announced in the nearer future. The control variables here are *LARGEST*, *EXCESS*, *NC\_LARGE*, *CASH*, *LEVERAGE*, *SIZE*, *MB*, *SD* and industry fixed effect.

### ***The treatment effect of private placement on cash dividends***

*DY*, *CDPS* and *PAYOUT* are used as dependent variables to investigate the treatment effect of private placements on cash dividends. The lockup period is controlled for to capture the presence of the resale restriction. In particular, the lockup period is one year for participating shareholders who are non-controlling shareholders while it is three years for those who are controlling shareholders. Given the crucial status of controlling shareholders, if PPC firms invite both controlling and non-controlling shareholders in the placement, this study views the lockup period as three-year long. The key independent variables that help to interpret this treatment effect within lockup and post-lockup periods are *LOCKUP\*PP-GROUP* and *POST-LOCKUP\*PP-GROUP*.

Models 3.4 to 3.6 which simultaneously examine the within-lockup and post-lockup treatment effects of private placements on different proxies of cash dividend policy are:

$$DY_{i,t} = \alpha_0 + \beta_1 PP-GROUP_{i,t} + \beta_2 LOCKUP_{i,t} + \beta_3 POST-LOCKUP_{i,t} + \beta_4 LOCKUP * POST-LOCKUP_{i,t}$$

$$PP-GROUP_{i,t} + \beta_5 POST-LOCKUP * PP-GROUP_{i,t} + \beta_6 Control Variables_{i,t} + \varepsilon$$

(Equation 3.4)

$$CDPS_{i,t} = \alpha_0 + \beta_1 PP-GROUP_{i,t} + \beta_2 LOCKUP_{i,t} + \beta_3 POST-LOCKUP_{i,t} + \beta_4 LOCKUP * PP-GROUP_{i,t} + \beta_5 POST-LOCKUP * PP-GROUP_{i,t} + \beta_6 Control Variables_{i,t} + \varepsilon$$

(Equation 3.5)

$$PAYOUT_{i,t} = \alpha_0 + \beta_1 PP-GROUP_{i,t} + \beta_2 LOCKUP_{i,t} + \beta_3 POST-LOCKUP_{i,t} + \beta_4 LOCKUP * PP-GROUP_{i,t} + \beta_5 POST-LOCKUP * PP-GROUP_{i,t} + \beta_6 Control Variables_{i,t} + \varepsilon$$

(Equation 3.6)

If the treatment effect of private placements on cash dividends is heavily influenced by the illiquidity caused by resale restriction (*Hypothesis 2a*), then the coefficient of *LOCKUP\*PP-GROUP* will be significantly positive while the coefficient of *POST-LOCKUP\*PP-GROUP* will not be. If the treatment effect is driven by interests transfer of controlling shareholders (*Hypothesis 2b*), then the coefficients of these two cross-terms will be significantly positive. If private placements lead to lower cash dividends because of an improvement in the firm-level information environment (*Hypothesis 3a*), then coefficients of cross-terms will be significantly negative.

### ***The treatment effect of private placement on firm performance***

The measurement of stock performance is derived from the intercept of the Fama-French three-factor model (please see more details in Section 3.5.2.2). The change in stock performance contributed by private placements is examined to investigate if the information certification effect of private placements is valid and if the change in stock performance collaborates with the change in cash dividends.

Model 3.7 which tests the treatment effect of private placements on stock performance is:

$$\begin{aligned} YEAR\alpha_{i,t} = & \alpha_0 + \beta_1 PP-GROUP_{i,t} + \beta_2 PP-TIME_{i,t} + \beta_3 PP-TIME * \\ & PP-GROUP_{i,t} + \beta_4 LN(BOARD)_{i,t} + \beta_5 IND-DIRECTOR_{i,t} + \\ & \beta_6 ControlVariables_{i,t} + \varepsilon \end{aligned}$$

(Equation 3.7)

If the risk of illiquidity is responsible for the increase in cash dividends caused by private placements (*Hypothesis 2a*), this increase should be less related to the treatment effect of private placements on stock performance. Therefore, the coefficient of  $PP-TIME*PP-GROUP$  could either be positive or negative. If the increase in cash dividends is determined by interests transfer of controlling shareholders (*Hypothesis 2b*), then the coefficient of  $PP-TIME*PP-GROUP$  is expected to be significantly negative as the consequence of tunnelling. If private



placements result in a decrease in cash dividends because of the information certification effect of private placements (*Hypothesis 3b*), then the coefficient of *PP-TIME\*PP-GROUP* is expected to be significantly positive. The relevant control variables of Model 3.7 are *LARGEST*, *EXCESS*, *NC\_LARGE*, *CASH*, *LEVERAGE*, *SIZE*, *MB* and industry fixed effect.

***The treatment effect of private placement on the announcement effect of cash dividends***

Cumulative abnormal returns around announcements of cash dividends are used as a proxy for the announcement effect (please see more details in Section 3.5.2.2). The announcement returns are gathered from event windows of [-3, 0], [-1, 0] and [-1, +1] in relation to announcement day 0. Because investors who can trade around announcements of cash dividends are those who are not subject to resale restrictions, this test does not control for the presence of lockup periods. Therefore, the key independent variable which captures the treatment effect of private placements is *PP-TIME\*PP-GROUP*. Models 3.8 to 3.10 which test the treatment effect of private placements on announcement returns of cash dividends are:

$$CAR[-3, 0]_{i,t} = \alpha_0 + \beta_1 PP-GROUP_{i,t} + \beta_2 PP-TIME_{i,t} + \beta_3 PP-TIME * PP-GROUP_{i,t} + \beta_4 UCDPS/P_{0,i,t} + \beta_5 \Delta SD_{i,t} + \beta_6 UEPS_{i,t} + \beta_7 Control Variables_{i,t} + \varepsilon$$

(Equation 3.8)

$$\begin{aligned} CAR[-1, 0]_{i,t} = & \alpha_0 + \beta_1 PP-GROUP_{i,t} + \beta_2 PP-TIME_{i,t} + \beta_3 PP-TIME * \\ & PP-GROUP_{i,t} + \beta_4 UCDPS/P_{0,i,t} + \beta_5 \Delta SD_{i,t} + \beta_6 UEPS_{i,t} + \\ & \beta_7 Control Variables_{i,t} + \varepsilon \end{aligned}$$

(Equation 3.9)

$$\begin{aligned} CAR[-1, +1]_{i,t} = & \alpha_0 + \beta_1 PP-GROUP_{i,t} + \beta_2 PP-TIME_{i,t} + \beta_3 PP-TIME * \\ & PP-GROUP_{i,t} + \beta_4 UCDPS/P_{0,i,t} + \beta_5 \Delta SD_{i,t} + \beta_6 UEPS_{i,t} + \\ & \beta_7 Control Variables_{i,t} + \varepsilon \end{aligned}$$

(Equation 3.10)

Conditional on the improvement in the firm-level information environment contributed by private placements, cash dividends could be more informative and therefore more favoured by the market when issued by PPC firms (*Hypothesis 4*). Accordingly, the coefficient of *PP-TIME\*PP-GROUP* will be significantly positive. Alternatively, if the post-offering cash distributions are a form of interests transfer to large shareholders, the coefficient of *PP-TIME\*PP-GROUP* will be significantly negative, indicating that private placements have a negative impact on the usefulness of cash dividends as a predictor of firm prospects. Following Cheng et al. (2009), key explanatory variables for testing the market reaction of cash dividend announcements

are unexpected changes in cash dividends per share scaled on the closing price of announcement day ( $UCDPS/P0$ ), year-to-year change in stock dividend per share ( $\Delta SD$ ) and unexpected changes in earnings per share ( $UEPS$ ). The control variables of this test are  $LN(ANN-DATE)$ ,  $FIRM-RISK$ ,  $SIZE$ ,  $MB$  and industry fixed effect. The data used by Models 3.8 to 3.10 are firm-year observations of PPC firms and non-PPC firms which have valid CAR observations around announcements of cash payouts from 2004 to 2015.

### **3.6 Empirical results**

#### **3.6.1 Univariate tests**

This section discusses the results of the univariate analysis. In Table 3.2, the individual group-trend of cash payouts for PPC and non-PPC firms and the common time-trend of dividends for divisions of pre-private-placement and post-private-placement are investigated. This study uses three measurements of cash dividends: dividend yield ( $DY$ ), cash dividend per share ( $CDPS$ ) and payout ratio ( $PAYOUT$ ).  $DY$  is computed as dividend per share relative to the share price,  $CDPS$  measures the cash payments scaled on the number of shares outstanding, and  $PAYOUT$  describes the ratio of dividend per share and earnings per share.

In Table 3.2, for the cross-group analysis on tests of difference in mean and median, PPC firms tend to issue significantly lower cash dividends compared to their

matching non-PPC firms throughout the sample period of 2004 to 2015. Notably, this observation holds for the three measures of cash dividends. As to the cross-time analysis, the joint sample of PPC firms and non-PPC firms, in general, experiences a decrease in cash dividends after private placements. This result may be affected by an exogenous market-level change, such as the 2005 NTS reform, which leads to a systematic decrease in cash payouts discussed in Chapter 2. It should be noted that the results of the cross-group (cross-time) analysis in Table 3.2 show the combination of the treatment effect of private placements and the constant group trend (common time trend) on cash dividends.

**Table 3.2 The difference in cash dividend payments between PPC firms and non-PPC firms, and between before and after private placements**

This table presents the results of the cross-group (PPC and non-PPC firms) comparison of payouts in Panel A and the cross-time (before and after private placements) comparison on cash dividends in Panel B. The proxies of cash distributions are dividend yield (*DY*), cash dividend per share (*CDPS*) and payout ratio (*PAYOUT*). “Difference” columns report the mean (median) of group- and time-difference and the associated t-statistic (z-statistic) in testing the difference from zero (in parentheses). \*, \*\* and \*\*\* represent the difference is significant at the 10%, 5% and 1% levels, respectively.

**Panel A. The cross-group (PPC in relation to non-PPC) comparison of cash dividends**

	DY			CDPS			PAYOUT		
	PPC	Non-PPC	Difference	PPC	Non-PPC	Difference	PPC	Non-PPC	Difference
Observation	8238	6905	1333	8238	6905	1333	8238	6905	1333
Mean	0.010	0.011	-0.001 (-6.85)***	0.109	0.143	-0.034 (-11.39)***	0.0403	0.0476	-0.073 (-1.54)
Median	0.006	0.007	-0.001 (-7.55)***	0.074	0.100	-0.026 (-8.53)***	0.199	0.263	-0.064 (-9.34)***

**Panel B. The cross-time (Post-private-placement in relation to Pre-private-placement) comparison of cash dividends**

	Pre-private-	Post-private-	Difference	Pre-private-	Post-private-	Difference	Pre-private-	Post-private-	Difference
	placement	placement		placement	placement		placement	placement	
Observation	8210	6933	1277	8210	6933	1277	8210	6933	1277
Mean	0.011	0.010	-0.001 (-1.80)*	0.127	0.121	-0.006 (-1.82)*	0.445	0.425	-0.020 (-0.41)
Median	0.006	0.006	-0.000 (-1.27)	0.100	0.078	-0.022 (-1.77)*	0.240	0.216	-0.024 (-2.89)***

Table 3.3 compares dividends of PPC firms and non-PPC firms before and after private placements. Panel A reports results on *DY* and Panels B and C list results on *CDPS* and *PAYOUT*, respectively. The results in Panel A show that PPC firms experienced a drop in *DY* after the offerings, which is significant at the 5% level. Yet, their matching non-PPC firms are found to maintain the level of *DY* after private placements. The post-offering observation on non-PPC firm provides an indication of what *DY* would be like for PPC firms if the offerings did not occur. In fact, PPC firms are shown to have a similar level of *DY* compared to non-PPC firms before private placements, but PPC firms change to having significantly lower *DY* compared to their matching group after private placement (a t-statistic of -2.28). This suggests that the post-offering observations of PPC firms are less affected by pre-existing group conditions. Given the limitation of univariate analysis, current results are not able to isolate the treatment effect of private placements. Still, it is shown that PPC firms are not more likely to have higher dividend yields after the offerings.

The results in Panel B and C of Table 3.3 are consistent with the results in Panel A. The only difference is that PPC firms are shown to have lower *CDPS* compared to non-PPC firms since before private placements. Still, this cross-group difference in mean of *CDPS* has been enlarged from -0.031 to -0.039 after private placements. It is therefore safe to conclude that PPC firms tend to have lower cash dividends after private placements compared to themselves and compared to their matching group. And, it is more in line with the signalling/substitute argument (*Hypothesis 3a*).

**Table 3.3 The group trends and time trends of the payment of cash dividends**

This table presents the results of cross-group (PPC and non-PPC firms) comparison both before and after private placements, and cross-time (before and after private placements) within-group comparison on cash dividend policy. Panel A reports the comparison measured by dividend yield (*DY*), Panel B by cash dividend per share (*CDPS*) and Panel C by payout ratio (*PAYOUT*). “Difference” columns/rows report the mean of difference and the associated t-statistic in testing this difference from zero (in parentheses). \*, \*\* and \*\*\* represent the difference is significant at the 10%, 5% and 1% levels, respectively.

<b>Panel A. The group trend and time trend of <i>DY</i></b>			
	Before Private Placement	After Private Placement	Difference
PPC Firms	0.011	0.010	-0.002 (-2.24)**
Non-PPC Firms	0.011	0.011	-0.003 (-0.47)
Difference	-0.000 (-0.65)	-0.001 (-2.28)**	
<b>Panel B. The group trend and time trend of <i>CDPS</i></b>			
	Before Private Placement	After Private Placement	Difference
PPC Firms	0.113	0.102	-0.012 (-3.48)***
Non-PPC Firms	0.144	0.141	-0.003 (-0.77)
Difference	-0.031 (-8.56)***	-0.039 (-7.84)***	
<b>Panel C. The group trend and time trend of <i>PAYOUT</i></b>			
	Before Private Placement	After Private Placement	Difference
PPC Firms	0.451	0.338	-0.113 (-1.81)*
Non-PPC Firms	0.437	0.515	-0.078 (1.07)
Difference	0.014 (0.23)	-0.177 (-2.40)***	

The univariate analysis shown in Table 3.4 examines the individual group-trend of the announcement effect of cash payouts for PPC and non-PPC firms and the common time-trend of this effect before and after private placements. Three event periods are examined to determine the abnormal returns around announcements of cash dividends. They are  $[-3, 0]$ ,  $[-1, 0]$  and  $[-1, +1]$  relative to the announcement day 0. In Table 3.4, announcement returns from all of the three event windows are positive and statistically significant at the 1% level. In summary, the individual group trend and the common time trend are consistent in showing that the market reacts positively to cash dividend payments.



**Table 3.4 The announcement effect of cash dividends differentiated by PPC firms and non-PPC firms, and by before and after private placements**

This table presents the results of the cross-group (PPC and non-PPC firms) comparison and the cross-time comparison (before and after private placements) on the announcement returns of cash dividends from 2004 to 2015. The measurement of market reactions towards cash distributions is the difference between the realized returns and expected returns predicted by the market model. The mean and the median of market reactions over three event periods are listed. The announcement periods are set as [-3, 0], [-1, 0] and [-1, +1] relative to the announcement day 0. The associated t-statistic and z-statistic in testing the mean and median from zero (in parentheses) is examined to determine the significance of the announcement returns. \*, \*\* and \*\*\* represent the difference from zero is significant at the 10%, 5% and 1% levels, respectively.

	N	CAR[-3,0]				CAR[-1,0]				CAR[-1,+1]			
		Mean	t-stat	Median	z-stat	Mean	t-stat	Median	z-stat	Mean	t-stat	Median	z-stat
PPC	4999	0.412%	5.23***	0.196%	4.60***	0.478%	8.70***	0.199%	7.09***	0.674%	9.55***	0.365%	8.62***
Non-PPC	4083	0.435%	4.83***	0.190%	4.06***	0.475%	8.04***	0.256%	7.54***	0.682%	8.05***	0.400%	8.50***
Pre-PP	4705	0.445%	5.77***	0.311%	5.70***	0.529%	9.81***	0.256%	8.43***	0.742%	9.89***	0.432%	9.62***
Post-PP	4377	0.398%	4.37***	0.084%	2.87***	0.421%	7.00***	0.194%	6.11***	0.608%	7.71***	0.350%	7.42***

The next analysis is the comparison of the dividend announcement returns of PPC and non-PPC firms before and after private placements. Given the result on  $CAR[-3, 0]$  in Table 3.5<sup>8</sup>, PPC firms experience a little increase in the announcement effect of cash dividends after private placements. Non-PPC firms experience a minor decrease in the announcement returns of payouts after private placements<sup>9</sup>. Both results are insignificant. In short, the time trend on the announcement effect of cash dividends is less shown for both PPC firms and non-PPC firms. The difference in  $CAR[-3, 0]$  between PPC firms and non-PPC firms turns from being negative in the pre-offering stage to becoming positive in the post-offering period, but the differences are insignificant. The results in Table 3.5 show some consistency with the prediction given by *Hypothesis 4*. This study relies on further multivariate analysis to provide more conclusive results.

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<sup>8</sup> The results on  $CAR[-1, 0]$  and  $CAR[-1, +1]$  are omitted as they are highly consistent with the results on  $CAR[-3, 0]$ .

<sup>9</sup> The median of the post-offering announcement returns is indifferent from 0 (z-statistic of -0.57) for non-PPC firms.

**Table 3.5 The group trends and time trends of the announcement effect of cash dividends**

This table presents the results of the cross-group (PPC and non-PPC firms) comparison both before and after private placements, and the cross-time (before and after private placements) comparison within groups of PPC firms and non-PPC firms on the announcement effect of cash dividends. The proxy for the announcement returns is CAR[-3, 0]. “Difference” columns/rows report the mean of difference and the associated t-statistic in testing this difference from zero (in parentheses). \*, \*\* and \*\*\* represent the difference is significant at the 10%, 5% and 1% levels.

CAR [-3,0] around cash dividends announcements			
	Before Private Placement	After Private Placement	Difference
PPC Firms	0.369%	0.464%	0.095% (0.60)
Non-PPC Firms	0.560%	0.320%	-0.240% (-1.33)
Difference	-0.191% (-1.22)	0.144% (0.79)	

The last part of the univariate analysis reports the difference between PPC firms and non-PPC firms based on other characteristics of firms. The results in Table 3.6 show that PPC firms are more leveraged (*LEVERAGE*) and have less cash (*CASH*) on hand than non-PPC firms with differences significant at the 1% level. Financially-constrained firms tend to have a smaller chance of being approved for public issues under the regulation settings in China, therefore private placements might be their only viable option to conduct equity refinance. It is noted that PPC firms tend to have a less concentrated ownership structure (*LARGEST*), but a larger board size (*L(BOARD)*) and fewer independent directors (*IND-DIRECTOR*) compared to non-PPC firms. Chinese PPC firms also tend to have a larger asset scale (*SIZE*) and lower growth opportunity (*MB*) compared to non-PPC firms.

**Table 3.6 Univariate tests of the cross-group analysis on firm characteristics**

This table presents the results of univariate tests of characteristics of PPC firms and non-PPC firms. “Difference” columns report the mean of difference and the associated t-statistic in testing its difference from zero. \*, \*\* and \*\*\* represent the difference is significant at the 10%, 5% and 1% levels.

	Firm characteristics						Difference
	PPC Firms			non-PPC Firms			
	Mean	Median	STDV	Mean	Median	STDV	In mean
LARGEST	0.362	0.345	0.150	0.372	0.355	0.154	-3.87***
NC_LARGE	0.632	0.460	0.578	0.628	0.460	0.579	0.38
EXCESS	5.141%	0.000%	7.914%	5.150%	0.000%	8.012%	-0.01
CASH	0.182	0.148	0.128	0.212	0.165	0.158	-12.90***
LEVERAGE	0.468	0.481	0.193	0.389	0.379	0.204	24.47***
SIZE	21.976	21.776	1.239	21.741	21.553	1.148	12.02***
MB	3.386	2.678	2.413	3.486	2.657	2.594	-2.46**
SD	0.016	0.000	0.074	0.015	0.000	0.072	0.96
LN(BOARD)	-0.004	0.000	0.196	-0.026	0.000	0.215	6.36***
IND-DIRECTOR	0.032	0.000	0.053	0.034	0.000	0.054	-1.92*

### 3.6.2 Multivariate analysis

#### 3.6.2.1 The most recent cash payouts before private placements

The multivariate analysis of this study begins with the examination of PPC firms that have declared cash distributions within the 365-day before private placements. Of 953 PPC firms, 695 (about 73%) announced non-zero cash dividends within this timeframe, and these are the sample firms used by this test. It should be noted that the CSRC's assessment of applications of private placements asserts no requirement on the pre-offering cash payouts. Still, the observation that up to 73% of PPC firms choose to pay dividends within the year preceding private placements gives some weight to the importance of these payments.

The test of the cash dividend practice within the year prior to private placements uses  $LN(TIME-GAP)$  as the key explanatory variable to control for the length of the time between the pre-offering cash dividends and private placements. The test uses the timing measurement of  $LN(TIME-GAP)$  as it reflects the private information held by managers, which is how soon are the future private placements. Column 1 of Table 3.7 shows the results when  $\Delta DY$  measures the change in the last dividend issued within the year before private placements (Model 3.1). The timing measurement  $LN(TIME-GAP)$  has a negative coefficient which is significant at the 5% level. This indicates that the smaller the time interval between the pre-offering cash dividends and private placements, the larger the upward change in dividend yield compared to the yield recorded in the previous accounting cycle.

**Table 3.7 The time gap between pre-offering cash dividends and private placements as a determinant of cash dividend payments**

This table presents the results of testing for a link between the last cash dividends before private placements and the time gap between the announcements of these two events. Data used in this test consists of the year-observation of PPC firms that announced non-zero cash payouts within 365 days before the private placements in question. The dependent variables are  $\Delta DY$  (in Column 1),  $\Delta CDPS$  (in Column 2) and  $\Delta PAYOUT$  (in Column 3), respectively. Definitions of variables are detailed in Section 3.5.2.4. The industry fixed effect is controlled for in all regressions but the results are omitted. Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	(1).	(2).	(3).
	$\Delta DY$	$\Delta CDPS$	$\Delta PAYOUT$
C	.042 (3.17)	.220** (1.99)	2.752*** (2.79)
Ln(TIME-GAP)	-.001** (-2.11)	-.010* (-1.74)	-.127*** (-2.52)
LARGEST	-.004 (-1.23)	-.027*** (-0.83)	-.745** (-2.33)
NC_LARGE	.000 (0.59)	.003 (0.25)	-.130 (-1.58)
EXCESS	.003 (0.67)	.039 (0.85)	.296 (.62)
ROA	.007 (0.69)	.310*** (2.77)	3.647*** (2.94)
CASH	.001 (0.38)	.035 (1.02)	.089 (.18)
LEVERAGE	.004* (1.76)	.090*** (3.78)	.339 (1.25)
SIZE	-.001*** (-2.88)	-.009* (-1.88)	-.092** (-2.45)
MB	-.000*** (-3.86)	-.002 (-1.47)	-.048*** (-2.58)
SD	.007* (1.90)	-.041 (-.93)	.534*** (2.61)
No. Obs.	695	695	695
Adj. R <sup>2</sup>	.297	.163	.324

Next, this study examines whether the link between private placements and pre-offering cash distributions is sensitive to alternative measurements of the change in cash dividends.  $\Delta DY$  is therefore replaced by  $\Delta CDPS$  (Model 3.2 in Column 2 of Table 3.7) and  $\Delta PAYOUT$  (Model 3.3 in Column 3 of Table 3.7). When the change in the last cash dividends before offerings is measured by the change in cash dividend per share ( $\Delta CDPS$ ), the negative association between dividend changes and  $LN(TIME-GAP)$  is significant at the 10% level. A stronger form of this negative association is observed when  $\Delta PAYOUT$  is the dependent variable. As shown by Model 3.3, the coefficient of  $LN(TIME-GAP)$  is negative and significant at the 1% level. That is, using three different measurements of the change in cash dividends, consistent evidence shows a larger increase in dividends when private placements are to be announced in the nearer future. Following Lin et al. (2008) and Booth and Chang (2011), this study interprets the negative coefficient of  $LN(TIME-GAP)$  as managers tending to use growth in cash dividends to create a favourable information environment based on their private information of the later announcements of private placements. This is consistent with *Hypothesis 1*.

### **3.6.2.2 The change in cash dividends led by private placements: illiquidity or tunnelling?**

This section discusses the treatment effect of private placements on cash dividends with a particular interest in testing whether this effect varies between



lockup and post-lockup periods. The proxies for cash dividend policy are *DY*, *CDPS* and *PAYOUT*. The results are presented in Table 3.8. In Column 1 where *DY* serves as the dependent variable (Model 3.4), the insignificant coefficient of *PP-GROUP* shows that the difference in dividend yields between PPC firms and their matching non-PPC firms before private placements is not statistically significant. This is consistent with the univariate results in Table 3.3. The result on *PP-GROUP* suggests that the cash dividend policies of PPC firms have a minimal pre-existing difference compared to the policies of non-PPC firms. *LOCKUP* and *POST\_LOCKUP* have negative coefficients, but only the coefficient on *POST\_LOCKUP* is significant. This shows that dividend yields of the control group (non-PPC firms) decrease significantly in years after the lockup periods of their matching PPC firms have been finalized. This difference is possibly led by post-offering concurrent events that are unrelated to private placements.

Examining the results for the interaction terms shown in Column 1, the significant and negative coefficient of *LOCKUP\*PP-GROUP* indicate that private placements lead to a downward change in *DY* within lockup periods. The descending trend in cash dividends within the lockup periods following private placements does not support *Hypothesis 2a* which predicts that increased cash payouts within lockup periods provide liquidity. The possible explanation is that illiquidity within lock-up periods is anticipated and may be managed before private placements. This lowers participating shareholders' need to rely on cash dividends to provide liquidity.

**Table 3.8 The treatment effect of private placements on cash dividend payments**

This table presents the results of PSM tests regarding the treatment effect of private placements on cash dividends, with a focus on the consistency of this effect within lockup and post-lockup periods. The sample period is 2004 to 2015 which covers an at least two-year pre-event period and post-event period for both PPC firms and their matching non-PPC firms. The dependent variable from columns 1 to 3 in order is *DY*, *CDPS* and *PAYOUT*. Definitions of variables are detailed in Section 3.5.2.4. The industry fixed effect is controlled for in all regressions but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	(1.)	(2.)	(3.)
	DY	CDPS	PAYOUT
C	-.029*** (-7.82)	-.572*** (-11.91)	.086 (.65)
PP-GROUP	-.000 (-0.35)	-.003 (-.70)	.025 (1.61)
LOCKUP	-.000 (-1.32)	.001 (.22)	.045*** (2.66)
POST-LOCKUP	-0.001** (-2.02)	-.002 (-.25)	.034 (1.60)
LOCKUP *PP-GROUP	-.003*** (-5.18)	-.028*** (-4.71)	-.107*** (-4.69)
POST-LOCKUP *PP-GROUP	-.002*** (-2.63)	-.015* (-1.77)	-.076*** (-2.74)
LARGEST	.015*** (11.50)	.146*** (9.46)	.486*** (9.65)
NC_LARGE	.003*** (9.24)	.033*** (9.54)	.103*** (7.81)
EXCESS	.001 (.82)	.057** (2.38)	.047 (.69)
ROA	.061*** (20.54)	1.061*** (23.32)	-1.275*** (-9.76)
CASH	.003*** (3.04)	.181*** (12.27)	.179*** (4.17)
LEVERAGE	-.005*** (-5.32)	-.088*** (-8.13)	-.566*** (-13.51)
SIZE	.002*** (9.06)	.026*** (11.49)	.017*** (2.54)
MB	-.002*** (-31.17)	-.002*** (-3.52)	-.012*** (-6.16)
SD	.005*** (3.62)	-.043*** (-2.49)	.339*** (4.38)
No. Obs.	15143	15143	15143
Adj. R <sup>2</sup>	.233	.320	.053

Given the negative coefficient, which is significant at the 5% level, for *POST-LOCKUP\*PP-GROUP*, the downward tendency of *DY* caused by private

placements continues even after lockup periods are complete. This indicates that after controlling for the effect of private placements over time and between groups, there is evidence to suggest that private placements lead to a decrease in cash dividends (measured by *DY*) which is observed in both the lockup and post-lockup periods. The results on the cross-terms of *LOCKUP\*PP-GROUP* and *POST-LOCKUP\*PP-GROUP* are in line with the prediction in *Hypothesis 3a*. It is not a surprise that the results do not support *Hypothesis 2b*, the argument of tunnelling, which predicts higher post-offering cash dividends as a means of interests transfer to participating investors (Zhao et al., 2015; P. Li & G. Li, 2014). More equity at stake for large shareholders could point to tunnelling as a less practical option in the long-run.

The results on control variables in Column 1 are highly consistent with the previous findings discussed in Chapter 2. In terms of ownership structure, more extensive holdings of the largest shareholder (*LARGEST*) and more balanced ownership among the top five large shareholders (*NC\_LARGE*) result in higher cash dividends. Firms in sound financial conditions, namely higher ROAs with greater cash levels (*CASH*) and lower debt obligations (*LEVERAGE*), tend to have higher cash distributions. The size factor (*SIZE*) is also highly relevant, as bigger firms are more generous with payouts. It is also expected that firms with high-growth (*MB*) have lower cash dividends and firms issuing stock dividends (*SD*) tend to announce payouts simultaneously.

The results listed in Column 2 and Column 3 of Table 3.8 are given by repeating PSM tests on alternative cash dividend measurements; *CDPS* as tested by Model 3.5 and *PAYOUT* by Model 3.6. Consistent with the univariate results (Table 3.3), the observation of the negative coefficients on cross-terms of *LOCKUP\*PP-GROUP* and *POST-LOCKUP\*PP-GROUP* when tested on *CDPS* and *PAYOUT* is consistent with the results using *DY*. That is, the decrease in cash dividends caused by private placements is robust to the use of alternative measurements for payout practices. Although the decrease in cash dividends led by private placements is evidential, the mechanism regarding what might trigger this change requires further examination.

As the results on control variables obtained from Model 3.4 to Model 3.6 do not vary much, most of the explanation is based on dependent variable *DY*, but opinions are expressed wherever there are major differences. For example, the coefficient of *SD* is significantly negative when tested on *CDPS*, indicating that stock dividends and cash dividends might be considered as each other's substitute.

### **3.6.2.3 The change in cash dividends led by private placements: information certification**

This section relies on the examination of the change in long-term stock performance led by private placements to interpret the concurrent treatment effect on PPC firms' cash dividend practices. Following previous studies, the Fama-French three-factor model is used to evaluate the abnormal long-term performance of both

PPC and non-PPC firms (Hertzel, Lemmon, Linck & Rees, 2002; Krishnamurthy, Spindt, Subramaniam & Woidtke, 2005; Wruck & Wu, 2009).

A PSM test on sample firms' abnormal long-term stock returns can demonstrate whether private placements realize the information certification effect that is supposed to benefit both participating and non-participating investors. This test design also isolates the treatment effect of private placements from that of other concurrent factors which might also affect stock performance during the sample period.

The results on the treatment effect of private placements on stock performance (Model 3.7) is shown in Table 3.9. The proxy of the abnormal long-term stock returns is firstly computed as the intercept from the Fama-French three-factor model using daily data and then adjusted to the number of trading days within a year to convert to  $YEAR_{it}$ . The insignificant coefficient of  $PP-GROUP$  suggests no substantial difference in abnormal long-term stock performance of PPC firms and their matching PPC firms before private placements. This also helps to relieve the concern that the effect of private placements on stock performance is driven by pre-existing conditions. The time dummy of  $PP-TIME$  reports a significantly negative coefficient. It is implied that non-PPC firms experience weaker stock performance after the year of private placements conducted by their matching PPC firms. The timing dummy of  $PP-TIME$  captures the time trend in stock performance experienced by the control group, which is not influenced by private placements.

For the cross-term that measures the treatment effect of private placements on stock performance,  $PP-TIME*PP-GROUP$  report significantly positive coefficients at the 1% level. The results are consistent with *Hypothesis 3b* and suggest that private placements tend to lead to stronger long-term stock performance. This evidence does not support the notion of aggravated tunnelling because of private placements, otherwise active tunnelling is most likely to incur negative long-term abnormal stock returns (Cheung, Jing, Rau & Stouraitis, 2006)<sup>10</sup> following private placements. Instead, the effect of private placements on long-term stock performance is more in line with the positive information conveyed by private placements (Hertzel & Smith, 1993). The implication is that firms suffering from information asymmetry may choose to issue equity privately to signal that they are undervalued.

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<sup>10</sup> Cheung et al. (2006) find that negative excess returns are earned by firms conducting tunnelling-related connected-party transactions even after 12 months have passed.

**Table 3.9 The treatment effect of private placements on long-term stock performance**

This table presents the results regarding the treatment effect of private placements on long-term stock performance, with a focus on the consistency of this effect within lockup and post-lockup periods. The sample period is 2004 to 2015 which covers a 2-year pre-event period and a post-event period for both PPC firms and their matching non-PPC firms. The proxy of firm long-term stock performance ( $YEAR_{it}$ ) is firstly computed as the intercept of the Fama-French three-factor model using daily observations and then adjusted for the trading days within a sample year. Definitions of variables are detailed in Section 3.5.2.4. The industry fixed effect is controlled for in the regression but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	$YEAR_{it}$
C	-1.030*** (-37.16)
PP-GROUP	.002 (.56)
PP-TIME	-.015*** (-4.50)
PP-TIME*PP-GROUP	.016*** (3.29)
LARGEST	.058*** (5.78)
NC_LARGE	.018*** (6.28)
EXCESS	-.006 (-.44)
ROA	-.079*** (-2.52)
CASH	-.054*** (-5.74)
LEVERAGE	.003 (.36)
SIZE	.007*** (4.86)
MB	.026*** (30.27)
LN(BOARD)	-.010 (-1.56)
IND-DIRECTOR	-.039 (-1.59)
No. Obs.	15048
Adj. R <sup>2</sup>	.195

Next, this study combines the findings regarding the impacts of private placements on cash dividends and stock performance. As discussed earlier, private placements can contribute to improving the information environment of issuing firms

by releasing previously unavailable information (Hertzel & Smith, 1993). Given that the size of dividends determined can be directly related to information asymmetry (Cheng et al., 2011; Aggarwal et al., 2012), private placements may serve as a justifiable reason to reduce cash payouts. On top of that, based on the evidence found so far, the decrease in cash distributions following private placements does not seem to be accompanied by stock underperformance. Instead, the evidence is more consistent with the information certification effect of private placements that predicts an improvement in stock performance (Hertzel & Smith, 1993). As a result, cash dividends which serve a similar signalling function may be considered a costly alternative (Hail et al., 2014). Consistent with *Hypothesis 3a* and *3b*, a decrease in post-offering cash dividends could be explained by the potential overlap in the information contents carried by private placements and cash dividends; notably, the information content of private placements is further supported by the resulting improvement in stock performance.

From observations on other explanatory variables, a bigger stake of the largest shareholders (*LARGEST*) and the presence of multiple large shareholders (*NC\_LARGE*) strengthen stock performance. This is expected, as large shareholders are more likely to attach importance to firm values when doing so has the potential to add to their financial gains. Larger firms (*SIZE*) and firms with a greater growth prospect (*MB*) tend to have stronger stock performance.



#### **3.6.2.4 The treatment effect of private placements on the announcement effect of cash dividends**

Unlike the observations documented in Hail et al. (2014), private placements in China, despite leading to lower cash dividends afterwards, do not necessarily induce PPC firms to become non-payers. For the group of PPC firms, 72 out of 953 firms changed from payers to non-payers after private placements (up to the year 2015); this figure is 64 for non-PPC firms. This result suggests that as far as the signalling effect is concerned, private placements may not be a perfect substitute for cash dividends.

In light of Dedman et al. (2015), cash dividends are found to have a stronger positive connection with firm values after the adoption of the IRFS standard, which represents an enhancement in information environment faced by Chinese listed firms. Therefore, this study is motivated to examine whether investors react to announcements of cash dividends differently given the potential relief in information asymmetry contributed by private placements.

Using  $CAR[-3,0]$ , the daily abnormal returns cumulated from day -3 to day 0 relative to the announcement date of cash dividends, the question of whether private placements influence the market's reactions to cash distributions is examined. The results of Model 3.8 are shown in Column 1 of Table 3.10. The significantly negative coefficient of *PP-GROUP* suggests that PPC firms tend to earn lower announcement returns around the issue of cash payouts compared to non-PPC firms before private placements are made. *PP-TIME* has a significantly negative coefficient, indicating a

time trend of less favourable market reactions to cash distributions paid by non-PPC firms.

As to the treatment effect of private placements identified in this test, *PP-TIME\*PP-GROUP* is significantly positive, suggesting investors react to cash dividend announcements more favourably given the private placements conducted. Informed by the signal released by private placements, investors may deem cash dividends to be a more reliable predictor for future earnings, which is shown by the higher announcement returns. This observation is consistent with the univariate results in Table 3.5 and the argument made by Dedman et al. (2015). It is also worth mentioning that the positive shift in market reactions for cash dividends contradicts the tunnelling argument raised by Zhao et al. (2015), as tunnelling-induced post-offering cash dividends should carry less value-building information.

**Table 3.10 The treatment effect of private placements on the announcement effect of cash dividends**

This table presents the results regarding the treatment effect of private placements on the announcement effect of cash dividends, with a focus on the consistency of this effect in lockup and post-lockup periods. The sample period is 2004 to 2015 which covers an at least two-year pre-event period and post-event period for both PPC firms and their matching non-PPC firms. The dependent variables from columns 1 to 3 in order are  $CAR[-3, 0]$ ,  $CAR[-1, 0]$  and  $CAR[-1, +1]$ . Definitions of variables are detailed in Section 3.5.2.4. The industry fixed effect is controlled for in all regressions but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	(1.)	(2.)	(3.)
	$CAR[-3, 0]$	$CAR[-1, 0]$	$CAR[-1, +1]$
C	.109*** (7.01)	.106*** (7.21)	.106*** (7.22)
PP-GROUP	-.003* (-1.92)	-.002 (-1.19)	-.002 (-1.19)
PP-TIME	-.004** (-2.37)	-.003** (-2.21)	-.003** (-2.21)
TIME*GROUP	.005*** (2.51)	.003* (1.81)	.003* (1.81)
UCDPS/P <sub>0</sub>	.404* (1.69)	.815*** (3.54)	.815*** (3.54)
UEPS	.000 (.34)	.001 (.80)	.001 (.80)
ΔSD	.018*** (3.26)	.024*** (4.85)	.024*** (4.83)
LN(ANN-DATE)	-.011*** (-4.49)	-.012*** (-5.62)	-.012*** (-5.63)
SIZE	-.001*** (-2.68)	-.001** (-2.23)	-.001** (-2.23)
FIRM-RISK	-.863*** (-10.19)	-.650*** (-8.26)	-.653*** (-8.28)
MB	.002*** (4.79)	.001*** (4.15)	.001*** (4.14)
No. Obs.	9082	9082	9082
Adj. R <sup>2</sup>	.024	.022	.022

Following Cheng et al. (2009), a set of control variables is chosen to examine the announcement effect of cash dividends. They are *UCDPS/P0*, *UEPS*, *ΔSD*, *LN(ANN-DATE)*, *FIRM-RISK* and *SIZE*. In Column 1 of Table 3.10, *UCDPS/P0* has a significantly positive coefficient. This supports the notion that the signal carried by the unexpected change in dividend yields leads to positive market reactions when the change is upward and negative when it is downward. Given by the significantly positive coefficient on *ΔSD*, the year-to-year differences in stock dividend per share tend to positively affect the announcement returns of the concurrently issued cash dividends. Consistent with Chen et al. (2005) and Haw et al. (2000), the negative coefficient of *LN(ANN-DATE)* (significant at the 1% level) strongly supports the notion that Chinese firms tend to announce good news earlier and bad news later in a year. The size effect (*SIZE*), with a significantly negative coefficient, shows that investors tend to react more positively to cash dividends issued by smaller firms. Similar to the finding of Cheng et al. (2009), the significantly negative coefficient of *FIRM-RISK* suggests that a higher level of firm-specific risks leads the market to adjust their reactions to cash dividends downward<sup>11</sup>. Although firms with a high-growth opportunity (*MB*) are known to issue lower cash dividends, payout announcements made by these firms tend to earn higher returns.

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<sup>11</sup> According to Cheng et al. (2009), this study considers the possibility that firm-specific risk is correlated with market-wide volatility. A robustness test is then conducted to ensure that the significant observation of *FIRM-RISK* still holds after including a control variable to capture the market risk. Following Cheng et al. (2009), the market volatility is computed as the standard deviation of the market returns over the 78-day estimation event period of [-88, -11] in relation to dividend announcement day 0. The results are highly consistent with what is reported in Table 3.11. That is, the firm-specific risk remains to be a significant determinant for the announcement effect of cash dividends after controlling for market volatility.

After testing Model 3.9 and 3.10 which use other event windows of [-1, 0] (Column 2) and [-1, +1] (Column 3), the significantly positive coefficients on *PP-TIME\*PP-GROUP* remain. The results on control variables are also highly consistent with those obtained from the event window of [-3, 0]. In conclusion, the results listed in Table 3.11 are supportive of *Hypothesis 4*. That is, because of the improved firm-level information environment following private placements, the market seems to have a reason to be more optimistic about PPC firms' cash dividend announcements.

### **3.6.2.5 Robustness test**

Private placements have a dual-purpose in the sense that they can be a re-financing option as well as a strategic move of signalling (Hertzel & Smith, 1993). Which purpose is a better fit might be firm-specific. Krishnamurthy et al. (2005) identify financial distress as an essential determinant here, as it can block firms from the public equity market and leave private placements as the only choice for refinancing. Thus, information asymmetry and the associated underinvestment problem may not be the primary reason for issuing equity privately when firms have to deal with both financial difficulty and the need for extra funds.

Krishnamurthy et al. (2005) highlight the notion that signalling purpose is more likely to be a primary contributor in the choice of private placements for financially healthy firms which can have access to both private and public equity markets. On the

contrary, the information certification effect may not apply to financially distressed firms. The robustness test, therefore, is designed to examine if the information certification effect applies to the cases in which financial trouble is a leading cause of private placements. To do so, only PPC firms that have reported negative earnings in the two-year period before private placements and their matching non-PPC firms are selected. The results of the robustness test of the treatment effect of private placements on financially distressed firms' cash dividend practices are listed in Table 3.11. The proxies of firm cash dividend policy remain *DY* (Column 1), *CDPS* (Column 2) and *PAYOUT* (Column 3). The results suggest that the coefficient on the key explanatory variable *PP-TIME\*PP-GROUP* is insignificant for all three regressions. This indicates that private placements hardly affect the cash payouts of financially distressed PPC firms. According to Krishnamurthy et al. (2005), the signalling function of private placements is less relevant for financially distressed PPC firms which are more likely to rely on private placements to fulfil their financing needs than to signal. Consistent with this argument, the results on financially distressed PPC firms show that when private placements are less likely to fulfil the role of signalling, financially distressed PPC firms might retain pressure to issue cash payouts after the offerings.

**Table 3.11 Robustness test on the treatment effect of private placements on cash dividend payments of financially distressed firms**

This table presents the results regarding the treatment effect of private placements on cash dividends, with a specialized focus on financially distressed PPC firms. The sample period is 2004 to 2015 which covers an at least two-year pre-event period and post-event period for both financially distressed PPC firms and their matching non-PPC firms. The dependent variables from column 1 to 3 in order are *DY*, *CDPS* and *PAYOUT*. Definitions of variables are detailed in Section 3.5.2.4. The industry fixed effect is controlled for in all regressions but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	(1.)	(2.)	(3.)
	DY	CDPS	PAYOUT
C	-.042*** (-4.55)	-.416*** (-5.29)	.071 (.21)
PP-GROUP	-.001 (-1.39)	-.029*** (-3.42)	-.021 (-.43)
PP-TIME	-.002*** (-2.32)	-.029 (-2.96)	-.007 (-.15)
PP-TIME*PP-GROUP	-.001 (-1.04)	-.007 (-.59)	-.096 (-1.49)
LARGEST	.020*** (6.59)	.156*** (5.09)	.824*** (5.63)
NC_LARGE	.003*** (3.55)	.027*** (3.63)	.110*** (2.92)
EXCESS	.002 (.43)	-.008 (-1.18)	-.062 (-0.28)
ROA	.050*** (7.18)	.684*** (9.30)	-.360 (-1.24)
CASH	.003 (1.08)	.113*** (4.18)	.083 (.63)
LEVERAGE	-.006*** (-2.59)	-.072*** (-3.53)	-.580*** (-5.05)
SIZE	.002*** (5.11)	.022*** (5.47)	.017 (1.03)
MB	-.001*** (-9.38)	-.001 (-1.12)	-.018*** (-2.74)
SD	.018*** (3.30)	.064 (1.37)	1.004** (2.37)
No. Obs.	2264	2264	2264
Adj. R <sup>2</sup>	.251	.266	.586

Further supporting evidence can be found in the results testing the effect of private placements on long-term stock performance ( $YEAR_{\alpha}$ ) shown in Table 3.12. The coefficient on *PP-TIME\*PP-GROUP* is insignificant suggesting that private placements have little impact on the performance of financially distressed firms.

Conditional on the main function of a refinancing tool, the signalling effect of private placements may be less applicable for financially distressed firms. The performance of firms posts private placements is consistent with this view. This, again, provides less support for the information certification effect of private placements on financially distressed PPC firms.<sup>12</sup>

Among 953 firms that have conducted private placements from 2006 to 2015, 279 firms have conducted multiple private placements. In previous PSM tests, the year of placement (the benchmark year to define *PP-TIME*) is determined as the year of the first private placement conducted by PPC firms. In these tests, the observations after the second private placement (if present) are not identified in particular as they are still the post-offering observations after the first private placement. Still, one may concern the compounding effect of multiple private placements. To address this concern, the last robustness test eliminates the observations after the second private placements of PPC firms that have conducted multiple private placements. For these firms' matching non-PPC firms, their observations are up to the year before their matching PPC firms conduct the second private placements. Observations of PPC firms that have conducted only one private placement from 2004 to 2015 and those of their matching non-PPC firms are kept for the test.

The results of PSM tests controlling for the possible compounding effect of

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<sup>12</sup> Repeated robustness tests are also performed on financially healthy PPC firms and their matching non-PPC firms, and the results are highly consistent with those reported by the whole sample. This verifies that the information certification effect of private placements is more present when financial difficulty is not in the way. Also, the information certification effect confirmed by the full sample is mainly contributed by firms in relatively sound financial conditions. This part of the results is not reported because of the high consistency with the results on the full sample.



multiple private placements are listed in Table 3.13. In this table, Panel A lists the results on cash dividend practice; Panel B features the results on long-term stock performance and Panel C for the announcement effect of cash dividends. In Panel A, the coefficient of  $PP-TIME*PP-GROUP$  is significantly negative regardless of the measurements of cash dividends. This indicates that private placements result in lower cash dividends, which re-verifies *Hypothesis 3a*. In Panel B, the coefficient of  $PP-TIME*PP-GROUP$  is significantly positive when tested on  $YEAR_{it}$ . This shows that private placements benefit firms' long-term stock performance, which is also in line with *Hypothesis 3b*. Lastly, in Panel C, the coefficient of  $PP-TIME*PP-GROUP$  stays significantly positive for three choices of event windows within which the announcement returns of cash dividends are calculated. This lends additional support to *Hypothesis 4*. Given the improvement in firm-level information environment led by private placements, the signalling effect (proxied by announcement returns) of cash dividends appears to be strengthened. This evidence adds more weight to the information certification effect of private placements (Hertzel & Smith, 1993). Overall, the key conclusions remain valid after controlling for the possible compounding effect led by multiple private placements.

**Table 3.12 Robustness test on the treatment effect of private placements on the long-term stock performance of financially distressed firms**

This table presents the results regarding the treatment effect of private placements on stock performance, with a focus on financially distressed PPC firms. The sample period is 2004 to 2015 which covers an at least two-year pre-event period and a post-event period for both financially distressed PPC firms and their matching non-PPC firms. The proxy of firm long-term stock performance ( $YEAR_{it}$ ) is firstly computed as the intercept of the Fama-French three-factor model using daily observations and then adjusted for the trading days within a sample year. Definitions of variables are detailed in Section 3.5.2.4. The industry fixed effect is controlled for in the regression but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	$YEAR_{it}$
C	-.953*** (-14.49)
PP-GROUP	.008 (1.11)
PP-TIME	.018* (1.88)
PP-TIME*PP-GROUP	.001 (.07)
LARGEST	.090*** (3.71)
NC_LARGE	.021*** (3.13)
EXCESS	.036 (1.00)
ROA	.262*** (3.20)
CASH	-.044 (-1.64)
LEVERAGE	.018 (.76)
SIZE	.001 (.18)
MB	.026*** (11.75)
LN(BOARD)	.018 (1.10)
IND-DIRECTOR	.076 (.93)
No. Obs.	2248
Adj. R <sup>2</sup>	.213

**Table 3.13 Robustness tests controlling for the presence of multiple private placements**  
**Panel A. Robustness test on cash dividends controlling for the presence of multiple private placements**

Following a PSM approach, this table presents the results of a robustness test regarding the treatment effect of private placements on cash dividends with a focus on firms that have conducted multiple private placements. For PPC firms that have conducted multiple private placements from 2006 to 2015, this test only keeps the observations before the second private placements (the same with their matching non-PPC firms). For PPC firms that have only conducted one private placement from 2006 to 2015, all observations are kept for the test (the same with their matching non-PPC firms). The dependent variable from columns 1 to 3 in order is *DY*, *CDPS* and *PAYOUT*. Definitions of variables are detailed in Section 3.5.2.4. The industry fixed effect is controlled for in all regressions but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	(1.)	(2.)	(3.)
	DY	CDPS	PAYOUT
C	-.029*** (-7.54)	-.589*** (-11.52)	.118 (.86)
PP-GROUP	-.000 (-0.13)	-.002 (-.52)	.026* (1.68)
PP-TIME	-.001 (-1.63)	.001 (.28)	.044*** (2.64)
PP-TIME	-.002***	-.022***	-.096***
*PP-GROUP	(-4.43)	(-3.68)	(-4.38)
LARGEST	.015*** (11.38)	.148*** (9.39)	.494*** (9.57)
NC_LARGE	.003*** (9.14)	.033*** (9.49)	.101*** (7.46)
EXCESS	.001 (.52)	.055** (2.20)	.033 (.46)
ROA	.062*** (19.62)	1.056*** (22.11)	-1.274*** (-9.31)
CASH	.003*** (3.24)	.184*** (12.33)	.177*** (3.95)
LEVERAGE	-.005*** (-5.42)	-.094*** (-8.44)	-.569*** (-13.11)
SIZE	.002*** (8.83)	.027*** (11.21)	.016** (2.32)
MB	-.002*** (-30.58)	-.003*** (-3.66)	-.014*** (-6.48)
SD	.005*** (3.16)	-.042** (-2.28)	.339*** (4.07)
No. Obs.	13748	13748	13748
Adj. R <sup>2</sup>	.233	.323	.055

**Panel B. Robustness test on long-term stock performance controlling for the presence of multiple private placements**

Following a PSM approach, this table presents the results of a robustness test regarding the treatment effect of private placements on long-term stock performance with a focus on firms that have conducted multiple private placements. For PPC firms that have conducted multiple private placements from 2006 to 2015, this test only keeps the observations before the second private placements (the same with their matching non-PPC firms). For PPC firms that have only conducted one private placement from 2006 to 2015, all observations are kept for the test (the same with their

matching non-PPC firms). The proxy of firm long-term stock performance ( $YEAR_{\alpha}$ ) is firstly computed as the intercept of the Fama-French three-factor model using daily observations and then adjusted for the trading days within a sample year. Definitions of variables are detailed in Section 3.5.2.4. The industry fixed effect is controlled for in the regression but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	$YEAR_{\alpha}$
C	-.993*** (-34.84)
PP-GROUP	.002 (.53)
PP-TIME	-.014*** (-3.91)
PP-TIME*PP-GROUP	.011** (2.12)
LARGEST	.068*** (6.59)
NC_LARGE	.019*** (6.48)
EXCESS	-.010 (-.65)
ROA	-.050 (-1.48)
CASH	-.050*** (-5.11)
LEVERAGE	.016* (1.83)
SIZE	.004*** (3.27)
MB	.025*** (27.41)
LN(BOARD)	-.006 (-.84)
IND-DIRECTOR	-.046* (-1.81)
No. Obs.	13657
Adj. R <sup>2</sup>	.185

**Panel C. Robustness test on announcement returns of cash dividends controlling for the presence of multiple private placements**

Following a PSM approach, this table presents the results of a robustness test regarding the treatment effect of private placements on announcement returns of cash dividends with a focus on firms that have conducted multiple private placements. For PPC firms that have conducted multiple private placements from 2006 to 2015, this test only keeps the observations before the second private placements (the same with their matching non-PPC firms). For PPC firms that have only conducted one private placement from 2006 to 2015, all observations are kept for the test (the same with their matching non-PPC firms). The dependent variables from columns 1 to 3 in order are  $CAR[-3, 0]$ ,  $CAR[-1, 0]$  and  $CAR[-1, +1]$ . Definitions of variables are detailed in Section 3.5.2.4. The industry fixed effect is controlled for in all regressions but the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	(1.)	(2.)	(3.)
	$CAR[-3, 0]$	$CAR[-1, 0]$	$CAR[-1, +1]$

C	.110*** (6.77)	.086*** (6.61)	.113*** (6.40)
PP-GROUP	-.003* (-1.89)	-.002 (-1.51)	-.002 (-1.51)
PP-TIME	-.003** (-2.00)	-.003** (-2.18)	-.004** (-2.07)
PP-TIME*PP-GROUP	.006*** (2.47)	.003** (1.95)	.004* (1.69)
UCDPS/P <sub>0</sub>	.423* (1.66)	.461** (2.35)	.886*** (3.51)
UEPS	.001 (.46)	.001 (1.03)	.000 (.15)
ΔSD	.016*** (2.72)	.021*** (4.48)	.023*** (3.97)
LN(ANN-DATE)	-.009*** (-3.86)	-.008*** (-4.27)	-.012*** (-4.87)
SIZE	-.002*** (-3.18)	-.001*** (-3.28)	-.001** (-2.35)
FIRM-RISK	-.889*** (-10.12)	-.454*** (-6.61)	-.747*** (-7.80)
MB	.002*** (4.26)	.001*** (3.06)	.002*** (2.88)
No. Obs.	8174	8174	8174
Adj. R <sup>2</sup>	.025	.017	.022

### **3.7 Summaries and conclusions**

Previous research documents positive announcement effects for both cash dividends (John & Williams, 1985; Miller & Rock, 1985; Aharony & Swary, 1980) and private placements (Hertzel & Smith, 1993). Yet, few studies examine the information-based interactions between these two events. This chapter, then, considers the effect of private placements on firms' cash dividend policies conditional on their mutual function of signalling.

Similar to the findings of Booth and Chang (2011) which demonstrate that US firms time the announcements of cash dividends before public equity offerings to reduce information uncertainty, the present study finds a similar pattern of cash dividend practices in China. It is not just that most firms choose to pay cash dividends within the year before private placements; a more significant increase in payouts is also observed when the offerings are in the nearer future. This part of the interaction between cash dividends and private placements is consistent with the notion that cash payouts are used to relieve asymmetric information.

With the aim of determining the treatment effect of private placements on cash dividends, a propensity score matching (PSM) method is adopted to test 15143 firm-year observations from 2004 to 2015. This sample consists of private-placement-conducting (PPC) firms and their matching non-PPC firms, and covers the periods of pre-offering, lockup and post-lockup periods. Contrary to Zhao

et al. (2015) which mainly relies on univariate tests to find an increase in post-offering cash dividends among PPC firms, this study employs a PSM approach in regression analysis and provides a new finding that private placements reduce firms' cash payouts. Notably, the findings of the present study are robust to different measurements of cash dividends, namely dividend yield (*DY*), cash dividend per share (*CDPS*) and payout ratio (*PAYOUT*).

This study relies on the change in stock performance led by private placements to identify the cause of the concurrent change in cash dividends. The results show that private placements result in enhanced stock performance. This is in support of the information certification effect of private placements, as the resulting positive impact on PPC firms' performance is inconsistent with the tunnelling argument raised by Zhao et al. (2015). Further, these results support the notion of Hail et al. (2014) that managers tend to decrease cash payouts following an improved information environment. That is, managers of PPC firms might face less pressure to issue cash dividends with the signal sent by private placements being verified by stronger post-offering performances.

This study makes a further attempt to examine whether private placements alter the signalling function of cash distributions. Given the improvement in the information environment of firms following the IFRS, cash dividends are found to be more informative in assessing firm values in China (Dedman et al., 2015). Consistent with the notion that the information certification effect of private placements helps to

validate the signal sent by cash dividends, announcements of cash payouts are found to be associated with higher abnormal returns because of private placements. This, again, is in line with the signalling function of private placements and indicates that an improvement in firm-level information environment adds to the credibility of the information conveyed by cash dividends.

This study makes two main contributions to the literature. First, information-based interaction exists between private placements and pre-offering cash dividends. That is, issuing firms are found to time cash dividend increases to promote the forthcoming private placements. Second, contrary to the belief that the intention to tunnel triggers the increase in payouts after private placements (Zhao et al., 2015), this study finds private offerings decrease cash dividends. Given the positive signalling effect served by both private placement and cash dividends, an improvement in the firm-level information environment contributed by private placements may justify the decrease in cash dividends following private placements. The results discussed in this chapter are consistent with this view. This study is among the first to examine the effects of private placements on long-term stock performance and on the announcement returns of cash dividends to identify the nature of the change in post-offering payouts. The implications of this study are twofold. First, the interaction between two information events is dynamic, especially when they both serve a signalling function. Second, to examine the treatment effect of private placements on cash dividends, one may need to examine whether, and how, this event



affects concurrent stock performance to identify the incentive behind the change in payouts.

# **CHAPTER FOUR. THE IDENTITY OF PRIVATE PLACEMENT PARTICIPANTS AND THEIR ASSOCIATED DISCOUNTS AS DETERMINANTS OF CASH DIVIDEND POLICY**

## **4.1 Introduction**

According to Wruck (1989), private placements that increase ownership concentration can highlight the link between large shareholders' financial status and firm performance, and therefore improve corporate governance. The expected incremental monitoring offered by participating investors contributes to favourable market reactions around announcements of private placements. The compensation for additional monitoring can also be reflected by the discount in the offering price of private placements. Hertzels and Smith (1993) suggest that in addition to the incremental monitoring effect which is more applicable to large firms, the information certification effect better explains the positive market reactions around private placements issued by small firms. Small issuers present higher uncertainty for growth prospects, thus participating investors are offered bigger discounts in private placements because of their higher information acquisition costs. Consistent with US-based studies, Fonseka, Colombage and Tian (2014) support the roles of both incremental monitoring and information certification being served by Chinese institutional investors in private placements.

Unlike the studies by Wruck (1989) and Hertz and Smith (1993) that focus on short-term announcement returns, Barclay, Holderness and Sheehan (2007) extend the examined event window to 120 trading days post offering and find significant stock underperformance after private placements. Given this observation, Barclay et al. argue that investors participating in private placements are typically passive and inclined to form a coalition with entrenched managers.

Krishnamurthy et al. (2005) find that private placements issued to shareholders who do not have a pre-existing affiliation with issuing firms have higher discounts but are associated with lower short-term and long-term returns for non-participating shareholders. They interpret this observation as affiliated shareholders tending to avoid overvalued issuing firms. When the offering discounts allow affiliated shareholders to avoid a loss from the post-offering underperformance, there is the risk of lawsuits for insider trading. Additionally, the information effect of private placements appears to weaken when financial distress impedes firms from conducting public equity offerings. Krishnamurthy et al. (2005) conclude that the long-term underperformance following private placements is mainly observed in financially-distressed firms which place the offerings with unaffiliated shareholders.

The contention that private placements foster aggravated tunnelling also attracts some attention in China. Liu et al. (2016) find that the announcement effect of private placements tends to be less positive when controlling shareholders participate in the offerings. They interpret the observation provided by the [-2, +2] event window (in

relation to the announcement day 0) as suggesting controlling shareholders are more likely to engage in tunnelling when their position is protected by increased holdings. Another study supporting this account of tunnelling is from Zhao et al. (2015). They consider the positive association between the participation of controlling shareholders and the post-offering cash dividends as evidence of interests transfer.

In the context of China, mixed results are provided as to whether private placements lead to incremental monitoring or aggravated tunnelling under the frame of corporate governance (Fonseka et al., 2014; Zhao et al., 2015; Liu et al., 2016). This study provides clarity by including the discount received by various participants as a quantified incentive measurement. It considers two competing arguments: offering discounts are compensation for incremental monitoring and discounts allow a lower price to be paid by large shareholders to aggravate tunnelling. It is also worth mentioning that, because of the entrenchment in place, the discounts of private placements can prevent a loss for tunnelling-prone participating shareholders when the post-offering stock prices decrease. Still, the benefits of incremental monitoring can manifest through better firm performance and stronger corporate governance, while the tunnelling argument predicts quite the opposite.

Unlike previous Chinese studies that mainly focus on participating controlling shareholders, this study subdivides private placements into four exclusive and exhaustive categories according to their key participants. Representing a case of strong pre-existing affiliation, the first category is of firms issuing private placements

to existing controlling shareholders. Representing the case of strong post-offering affiliation, the second category gathers firms conducting private placements that elect new controlling shareholders. The third category collects firms that place offerings with a single shareholder who is not a controlling shareholder either before or after the offerings. This category represents the case of semi-strong post-offering affiliation. The last category applies to firms that only invite multiple non-controlling (passive) shareholders to participate in private placements. This category represents a weak affiliation.

The research focus is whether discounts offered to shareholders with various forms of affiliations with issuing firms generate different impacts on firm decisions and performance. If incremental monitoring exists and contributes, discounts offered to existing controlling shareholders should lead to stronger stock performance, better corporate governance, greater profitability and higher cash dividends compared to when discounts were offered without the subscription of existing controlling shareholders. On the contrary, if discounts offered to existing controlling shareholders represent a safety net for future tunnelling, it should result in weaker firm performance and corporate governance but possibly more cash distributions as interests transfer (Zhao et al., 2015). That is, the examination of the differentiated cash dividend behaviours across firms inviting various shareholders to participate in private placements requires additional examination of concurrent earnings and corporate governance, which is lacking in previous studies.

In line with Krishnamurthy et al. (2005) who argue that investments made by insiders via private placements assert the certification of firm values, and Wruck's (1989) assertion that offerings increasing ownership concentration highlight the presence of incremental monitoring, the results show that the subscription of existing controlling shareholders significantly increases short-term announcement returns of private placements. In addition and consistent with the incremental monitoring hypothesis (Wruck, 1989), this study finds that higher discounts for existing controlling shareholders result in stronger long-term stock performance both around and after private placements ( $[-1, +120]$  and  $[+1, +120]$  event windows) compared to when discounts are only offered to multiple non-controlling shareholders. It appears that the market tends to be more optimistic when discounts are offered to controlling shareholders instead of non-controlling shareholders. It is worth mentioning that discounts received by existing controlling shareholders tend to be greater than those granted to passive shareholders (outsiders), this does not support the information cost hypothesis (Hertzel & Smith, 1993).

Forming a consistent contrast with passive offerings, results testing on discounts offered to existing controlling shareholders lend support to the incremental monitoring argument (Wruck, 1989). This conclusion receives supporting evidence when examining the stock performance tracing to 120 days after the announcement of private placements. Observations of less inter-corporate loans and more capital expenditure observed when higher discounts were granted to existing controlling

shareholders support a case of more regulated fund allocations compared to when discounts were only offered to passive shareholders. The argument that discounts are the compensation for incremental monitoring, being more likely so for existing controlling shareholders than for passive investors, receives further support from the test on post-offering profitability. The results listed above consistently support the incremental monitoring argument, which facilitates the understanding of determinants of post-offering dividends. In relation to post-offering cash dividends, the results show that higher discounts offered to existing controlling shareholders lead to higher cash dividends compared to when discounts were only offered to passive shareholders. This study interprets this observation as the outcome of incremental monitoring: offering discounts interacting with existing controlling shareholders has a positive incremental impact on cash dividends compared to passive offerings.

This study is among the first to examine the offering discount as a quantified incentive measurement to investigate the post-offering cash dividends in China. It is also the first Chinese study to examine the long-term announcement effect of private placements. This study follows a non-overlapping fourfold categorization of private placements by dividing the sample according to the time of formation and the strength of the affiliation between key participating shareholders and issuing firms. Unlike previous Chinese studies that mainly focus on the testing of the tunnelling theory (Zhao et al., 2015; Liu et al., 2016), this study considers three possible hypotheses, namely incremental monitoring, information certification and entrenchment in

examining the motivation to participate in private placements. In this study, the post-offering earnings and activities related to corporate governance are examined together with cash dividend behaviours. The overall results point to incremental monitoring as the most likely explanation for higher cash dividends observed with larger discounts offered to existing controlling shareholders. Without considering the concurrent earnings and practice of corporate governance, this can be mistaken as a sign of tunnelling.

The remainder of Chapter 4 is organized as follows. Section 4.2 introduces the existing literature that motivates the discussion about how the identity of participating shareholders and their associated discounts affect cash dividends. Section 4.3 describes the theoretical path that builds the tested hypotheses. Section 4.4 specifies data selection, definition of variables and methodology. Section 4.5 discusses the results, and Section 4.6 concludes the findings.

## **4.2 Literature review on the identity of participating shareholders and their associated discounts in private placements**

### **4.2.1 Discounts of private placements as the compensation for incremental monitoring**

Unlike the negative impact on stock performance around announcements of public equity issues, Wruck (1989) finds private placements in the US market increase



shareholder wealth by 4.5% on average. The types of new securities issued by these two forms of equity offerings make no difference, but public offerings result in voting rights being distributed to market-wise dispersed purchasers and a private sale of equity is offered to a small number of targeted investors. Assuming the absence of other concurrent changes in ownership structure, a private placement issued to controlling shareholders reinforces their control and dilutes the voting power of other blocks. By comparison, public equity issued to a much broader scale of investors merely dilutes the voting powers of all existing blocks. Wruck (1989) then argues that the various changes in a firm's controlling ownership might account for the opposite stock reactions around public and private sales of equity.

One focus of Wruck (1989) is on whether a shift in controlling ownership following private placements is accompanied by an improvement in firm value assessments. Under the frame of corporate governance, an explicit controlling position of shareholders could increase firm values if it makes the interests of managers and shareholders more closely aligned (Jensen & Meckling, 1976). Alternatively, firm values would drop if controlling rights indulge managerial entrenchments that include misallocations of resources and purposely blocking attempted takeovers (Fama & Jensen, 1983). Wruck (1989) examined the applicability of both arguments by testing the impact of a higher level of ownership concentration on firm values around announcements of private placements. Wruck finds that an increase in ownership concentration, defined as the percentage holdings of the largest

shareholders, is positively related to a firms' stock performance around the issue of private placements. This fits the argument that block holders serve as catalysts to align the interests of managers and shareholders. Wruck also argues that a greater ownership concentration may be treated as a positive event if it reveals new information to the market and results in a change in the allocation of corporate resources.

Wruck (1989) also looks into the pricing of private equity offerings and the issue of why a particular discount or premium is applied. Two-thirds of Wruck's tested private placements issued newly registered shares, while the rest issued previously registered shares. Unregistered shares are expected to receive a discount relative to the market price because these shares were bound with a two-year minimum holding period for participating investors when the study was conducted. During the lockup period, shareholders' financial interests are closely tied to firm values, which motivates active monitoring. On the contrary, registered shares have a resemblance to currently outstanding shares and should not be associated with the discount that represents the compensation for resale restrictions. As expected, Wruck (1989) observes that unregistered shares are offered with a larger discount than registered shares; only the unregistered shares have significant discounts.

Wruck (1989) does not treat the discount of private placements as evidence of inefficiency. Instead, Wruck considers the offering price represents the cost of a unique transaction that cannot be replaced by trades finalized in the open market. A

rational investor will not pay a premium for privately issued shares when they represent the same prospect as the currently listed shares. Managers who value firm performance and the wealth of existing shareholders will not offer shares at a discount unless this sale is needed and would not be otherwise executable. Wruck (1989) argues that an explanation for the discount offered to privately issued shares is that firms receive additional value beyond the raised funds. Supporting this argument, registration status, or the marketability of shares issued by private placements, cannot account for why a specific discount is offered. This indicates that the discount of private placements is less likely to be compensation for the temporary liquidity risk. Instead, given the direct association between the shift in ownership concentration and the increase in firm values at the announcement of private placements, the discount is considered as the compensation for monitoring. The favourable announcement returns further certify the market's anticipation of this incremental monitoring.

#### **4.2.2 Discounts of private placements as the compensation for information certification**

According to Myers and Majluf (1984), managers of undervalued firms will forego the chance of raising equity publicly when the wealth of existing shareholders can be transferred to new shareholders under asymmetric information. This underinvestment problem, however, can be managed if managers are able to convey

their private information to the market at a lower cost. Following this contention, Hertz and Smith (1993) examined whether the private information exchanged between managers and targeted investors during private placements can help solve the underinvestment problem.

Under the information certification hypothesis, investors are granted large discounts when it is difficult to assess the value of a firm. Hertz and Smith (1993) identify larger fractions of new shares, higher values for intangible assets, greater exposure to financial distress risk, smaller firm sizes and longer lock-up periods as leading to more difficulties in value assessment. These are the cases that are entitled to larger discounts. Accordingly, private issues to insiders have lower discounts because of lower information acquisition costs. Investors also have weaker bargaining power when offerings are larger in size measured by dollar amounts, as information production is subject to economies of scales. Hertz and Smith (1993) simultaneously tested the monitoring hypothesis of Wruck (1989) by examining placements with single investors and measurements of ownership structure; namely the changes in managerial ownership and holdings of directors and non-controlling blocks. The fraction of new shares, firm intangibles and financial distress are also used to test the monitoring hypothesis. The cross-terms between single investors and these monitoring proxies help to differentiate the effect of incremental monitoring from that of information production.

Consistent with the information certification hypothesis, Hertz and Smith

(1993) find evidence that private placements obtain favourable announcement returns because of the confirmation of undervaluation. Also, in line with the monitoring hypothesis by Wruck (1989), Hartzel and Smith report that higher discounts are granted to investors who are more likely to engage in active monitoring. The positive association between discounts and the abnormal returns around announcements of private placements supports the arguments of both monitoring and information certification. Still, Hartzel and Smith (1993) report an insignificant interaction between the increased block holdings and the value-added monitoring. This suggests the effect of information production, rather than monitoring, to be the dominating determinant for the announcement effect of their selected private placements.

Hartzel and Smith (1993) attribute the difference between their results and Wruck's results to sample selection. Wruck (1989) examined private placements conducted by large issuers, while Hartzel and Smith (1993) mainly focused on smaller firms. That is, the role of resolving information asymmetries might be more pronounced compared to that of active monitoring when a small firm size generates more doubt about future performance and liquidity. Additionally, managerial ownership tends to be higher among small firms, and therefore the effect of increased ownership on monitoring might be marginal. As summarized by Hartzel and Smith, their observations of small firms indicate that private equity issues are mainly used for raising capital rather than for creating or enhancing block-holdings. The offering discount and the positive announcement effect of private placements are therefore

more related to information production when incremental monitoring is suppressed by small firm size.

### **4.2.3 Offering discounts, the affiliation between participating shareholders and issuing firms, and their relationship with entrenchment**

The initial evidence documenting the entrenchment facilitated by private placements can be found in Dann and DeAngelo (1988) and Wruck (1989). Dann and DeAngelo find that when private equity issues represent the response to attempted hostile takeovers or defensive changes in ownership structure, these responses earn negative announcement returns in the US market. Using the technique of piecewise regression, Wruck (1989) finds that a direct relationship between ownership concentration and firm values only applies to the low and high ranges of ownership concentration. With Wruck's research framework, the argument of entrenchment is not fully explored because the negative association within the intermediate range of ownership concentration might be firm-specific.

Barclay et al. (2007) address the question about what type of private placements might provide an opportunity to foster entrenchment. They argue that managers could have an incentive to place private issues to friendly (passive) investors who will guard rather than intervene in the concurrent entrenchment. The private placements in question harm the wealth of non-participating shareholders. By analyzing a much

larger sample of private placements than used in previous US-based research, Barclay et al. (2007) tested the applicability of three hypotheses associated with private placements under the corporate governance framework. These hypotheses focus on the arguments of monitoring, information certification and entrenchment. In addition to examining the short-term and long-term abnormal stock returns around announcements of private placements, they include discounts of private issues and the role served by participating investors in assessing post-offering firm performance.

Barclay et al. adopted a threefold categorization for their sample of 594 private placements based on the role served by participating investors. The first category gathers investors who become active in firm affairs following private placements and is designed to test the monitoring argument. The second category includes investors who are already top managers before private issues. The last category refers to investors who serve no current or subsequent roles in issuing firms and therefore are likely to perform passive monitoring and is used to demonstrate the account of entrenchment.

The results of their study suggest that short-term (-1 day to announcement day 0) market reactions to private placements are positive, but longer term (-10 to +120 days around the announcement) market reactions are negative. Using the threefold categorization of private placements, they find new evidence that both short-term and long-term market reactions are related to the type of buyers. In particular, private issues to investors who express the intention to be active in firm affairs gain more

positive responses at the announcement of private placements. Also, in line with the monitoring argument, placements to active investors experience an insignificant drop in stock price in the long-term. Yet, this type of placements only accounts for approximately 12% of all placements tested by Barclay et al. The most representative (83%) category of private placements is the category of placements issued to passive investors who display a minimum public interaction with issuing firms. This category of events, as expected, receives insignificant (non-event) market reactions around the announcement of private placements and is followed by significantly negative stock returns in the long-run.

Similar to the finding by Wruck (1989), Barclay et al. (2007) noticed that shares issued by private placements are typically granted with an average discount of 18.7% and the price treatment differs depending on the identity of participating shareholders. Issues to active investors have lower discounts with a mean of 1.8% compared to those issued to incumbent managers (mean = 24.2%) and those to passive investors (mean = 20.8%). This finding contradicts the monitoring argument (Wruck, 1989) that predicts higher discounts for active investors and the information certification effect (Hertzel & Smith, 1993) that suggests lower discounts for insiders. That is, Barclay et al. (2007) find that issuing firms tend to offer a significant discount to passive investors who present little to none evidence of active monitoring on management. On the contrary, non-management investors who indeed engage in post-issue firm affairs are granted the lowest discounts. Thus, Barclay et al. argue that the discount of private



placements is less likely to be compensation for monitoring but is more likely to be a reward for not interrupting the entrenched practice. Accordingly, passive shareholders should be responsible for the decrease in firm values within long-term event windows.

Long-term stock underperformance is also inconsistent with the information certification argument which predicts a rise in firm values following the assessment of undervaluation (Hertzel & Smith, 1993). Thus, Barclay et al. (2007) posit that in cases which passive investors are given substantial discounts, the reward in price treatment is the compensation for not disturbing managerial entrenchment. In addition, the monitoring and the information certification arguments can only apply to minority cases where private placements are participated by active shareholders and existing managers.

The study by Krishnamurthy et al. (2005) relies on investor identity, notably their pre-offering affiliation with issuing firms, as a determinant for the short-term and long-term abnormal market returns around announcements of private placements. They consider participating shareholders' affiliations with issuing firms grant access to a lower cost of information acquisition and a more accurate estimation of firm values. This assumption is supported by Leland & Pyle (1977). Investments made by affiliated investors could be viewed as their approval of firm values and an indication of aligned shareholder interests.

Accordingly, Krishnamurthy et al. (2005) find that unaffiliated investors have

significantly higher discounts than do affiliated investors. This is consistent with the assumption that connected shareholders face lower costs for information acquisition. However, the long-term abnormal returns after private placements are insensitive to participating investors' affiliations with issuing firms. Hence, Krishnamurthy et al. argue that this information advantage can be dismissed when former unaffiliated investors become affiliated during private placements. The participation of affiliated investors in private placements, however, does have an impact on the returns for non-participating existing shareholders. Krishnamurthy et al. report that both the short-term and long-term abnormal returns are significantly higher for non-participating investors when firms place private issues with affiliated investors.

Apart from investor affiliation, to test the information certification theory Krishnamurthy et al. also examined whether issuing firms were in financial distress prior to private placements. When firms are less troubled by asymmetric information and the associated under-investment problem, financial distress highlights private equity issues as the only available option for refinancing. Hence, Krishnamurthy et al. expect the certification effect of affiliated investors to be more pronounced for firms that actually have a choice between private and public issues.

Similar to Barclay et al. (2007), Krishnamurthy et al. (2005) also find a mismatch between the positive announcement effect and the following negative long-term abnormal returns after private placements. Yet, Krishnamurthy et al. find that the long-term stock underperformance is caused by firms that have more than

private placements as a choice for refinancing but still choose to issue equity privately and only to unaffiliated, (passive) investors. This is also the sub-sample that experiences non-positive short-term announcement returns. Krishnamurthy et al. show that financially healthy firms' placements to affiliated investors tend to receive positive announcement reactions and are followed by normal long-term stock returns for both participating and non-participating shareholders. Thus, the inconsistency between short-term and long-term abnormal returns around private placements disappears after controlling for both financial distress and investor affiliation.

The conclusions of Krishnamurthy et al. are more in line with the conclusions of Leland and Pyle (1977). Block purchases made by affiliated investors assert certification instead of entrenchment. Connected investors are more likely to avoid overvalued issuing firms. Facing the post-offering underperformance, the risk of lawsuits from non-participating shareholders could be aggravated when affiliated investors enjoy a substantial discount in private placements to secure their financial gains. This also implies that private issues to unaffiliated shareholders by firms which have public equity refinances as a potential choice are exposed to a higher risk of entrenchment. The unaffiliated investors can earn normal returns given the discount they receive during private issues. In this situation, it is the wealth of non-participating investors that is reduced.

Consistent with Krishnamurthy et al. (2005), the more recent work of Wruck and Wu (2009) reaffirms that the connection between participating investors and issuing

firms can contribute to value-creation around private placements. The manually-collected data of Wruck and Wu (2009) provides an accurate and comprehensive description of participating investors in private equity issues. The description informs the nature of shareholders' relationships with issuing firms. The relationship in question is categorized as pre-existing, new, and no previous or new relationship. Wruck and Wu summarize four sub-categories of pre-existing relationships, namely managerial positions, major business partners, directors and block investors with holdings of 5% or more. They identify more cases of an active relationship formed around private placements than Barclay et al. (2007) do. Wruck and Wu report that 86% of their selected private equity issues invite at least one existing or new affiliated investor, among which 64% exclude outsiders.

Wruck and Wu (2009) find that most new relationships established around private placements are associated with board positions or significant holdings (5% and above), which they consider to be governance-related. Consistent with this point, significantly positive announcement returns are earned by private placements with new relationships. Private issues to outsiders, on the other hand, have insignificant short-term announcement returns.

By extending the examination of abnormal stock returns to 120 days after the announcement of private placements, Wruck and Wu observe that the whole sample shows negative long-term stock returns, and this is similar to the findings of Krishnamurthy et al. (2005) and Barclay et al. (2007). Still, the negative abnormal

returns are mostly driven by issues with no new relationships as issues with new relationships earn normal returns. Despite that issuing firms, in general, earn negative operational profits scaled by the industry average, new relationships lead to relatively stronger post-issue profitability and stock performance. Wruck and Wu (2009) interpret their observations as a result of newly established governance relationships enhancing firm performance.

Contradicting the view of Barclay et al. (2007) that discounts of private issues are a reward to passiveness and not acting upon existing entrenchment, Wruck and Wu (2009) demonstrate that higher discounts are offered following an expectation of incremental monitoring and reduced agency costs. They also confirm that investors' affiliations with issuing firms are more likely to be governance-driven, which generally incurs a change in directors around the announcement of private placements. The market also reacts to this affiliation more favourably when it grants a directorship or block-holding to participating investors.

In summary, the evidence obtained from the US market suggests that governance relationships formed by participating investors in private placements vary depending on their affiliation with issuing firms. Despite the difference in defining affiliated investors, the results of Krishnamurthy et al. (2005) and Wruck and Wu (2009) are consistent in asserting a more active monitoring function served by investors connected to issuing firms. The media-sourced data used by Barclay et al. (2007) indicates that the majority of private placements are issued to passive investors to

protect the existing managerial entrenchment. Yet, more vibrant details from the sample of Wruck and Wu (2009) suggest the opposite because they identify a more substantial proportion of private placements that reaffirm existing relationships and establish new relationships. For this group of private placements, stronger post-offering performance is observed compared to issues to non-affiliated investors. All in all, the US-based studies are generally inclined to the notion that the participation of affiliated investors in private placements benefits issuing firms.

#### **4.2.4 The implications of the arguments of incremental monitoring, entrenchment and information certification in the context of China**

Using data from 2006 to 2010, Fonseca et al. (2014) find that the Chinese stock market reacts positively to announcements of private placement applications, approval and finalization, but announcements of withdrawals and rejections are non-events. They follow two arguments to explain the observed announcement returns. They are the information certification hypothesis (Hertzel & Smith, 1993) and the incremental monitoring hypothesis (Wruck, 1989).

Following Hertzel and Smith (1993), Fonseca et al. (2014) define the discount of a private placement as relative to the closing price on the 10<sup>th</sup> trading day after the announcement date (day 0). As suggested by Hertzel and Smith (1993), the post-issue "with information" price should provide the closest estimation of the information

acquisition cost faced by participating investors and the cost of placements for issuing firms. Accordingly, both discounts and proceeds of private placements are considered as proxies for information production in Fonseca et al. (2014).

Similar to the observations from the US market, announcements of private placement applications tend to gain positive market reactions in China. Further, Fonseca et al. (2014) show that this positive market reaction is directly related to larger discounts, higher raised funds and a bigger fraction of placed shares. That is, active monitoring (measured by discounts) and information production (measured by discounts and the fraction of placement shares) can be identified and rewarded by the market. This supports both the arguments of monitoring and information certification in the context of China.

To further examine the monitoring hypothesis raised by Wruck (1989), Fonseca et al. (2014) focused on the identity of participating investors, namely the government, private financial institutions, management and individuals. Fonseca et al. expect the government to bring fewer benefits to issuing firms because state ownership is considered to be associated with weak corporate governance in China (Fan et al., 2007; Gul et al., 2010; Hou & Moore, 2010). They also predict that private financial institutions should invite favourable announcement returns around private placements given their expertise and active participation in firm operations.

Fonseca et al. (2014) find that announcement returns improve when a private

placement creates a more considerable block-holding for institutional investors but is less likely to improve when this offering leads to a higher state or managerial ownership. It is worth mentioning that Fonseca et al. (2014) report an increase in government ownership led by private placements as having a positive impact on announcement returns, although this tendency is not statistically significant.

A potential drawback of the research by Fonseca et al. (2014) is the lack of concern for the endogeneity of an issuing firm's choice in selecting participating investors. State-controlled firms might be more willing to invite governmental agencies to participate in private placements, which helps to maintain the controlling position of the state. This can also save issuing firms from higher costs generated by informing non-state investors. A similar case can apply to firms held by private financial institutions. That is, the behaviours of controlling shareholders deserve particular attention when examining the announcement effect of private placements, especially considering the concentrated ownership structure in China.

A later study by Liu et al. (2016) investigates how the market reacts to announcements of different types of equity refinancing in China. Their research focus is on whether, and why, the announcement effect is specific to the type of issues. They find that the Chinese stock market generally responds negatively to announcements of public equity offerings, namely rights issues and seasonal equity offerings. On the contrary, firms that conducted private placements from 2006 to 2010 tended to receive positive abnormal returns after announcements. Based on these contrasting results,



Liu et al. (2016) argue that funds raised by public offerings might be misused by controlling shareholders and managers when outside shareholders are the main contributors, but target issues (private placements) to large blocks can alleviate this concern.

Based on the examined private equity issues, Liu et al. demonstrate that the identity of participating shareholders and their associated discounts affect announcement returns. Evidence shows that the Chinese market favours private placements issued to institutional investors, possibly with the expectation that such targeted issues help to boost performance and inspire strategic changes. They also find that this positive market reaction can be highlighted with asset injection by controlling shareholders. Next, Liu et al. (2016) differentiated discounts obtained by controlling shareholders and institutions. The joint impact of controlling shareholders and their discounts is highly relevant when lower announcement returns are generated, while deeper discounts can be associated with higher announcement returns when granting to institutions. Additionally, Liu et al. find that the subscription of controlling shareholders alone is a strong determinant of unfavourable market reactions after private placements. In line with the tunnelling theory, they interpret these observations as resulting from relation-building and opportunity seeking.

Focusing on controlling shareholders, Zhao et al. (2015) studied the relationship between private placements and the post-offering cash dividends in China. Their research covers two questions. First, do private placements alter a firm's payout level?

Second, do participating controlling shareholders play a role in the change in cash dividends? As introduced in Chapter 3, Zhao et al. (2015) report that firms tend to experience an increase in cash payouts after private placements. Despite a lack of examination of the concurrent changes in post-issue firm performance, they rule the observed increases in cash dividends as interests transfer to participating investors in private placements.

As to their second research question, Zhao et al. (2015) consider controlling shareholders to be active participators in private equity issues. Compared to public offerings, the trading pattern of outside investors around private placements is a less relevant variable for announcement reactions when issues are conducted off the market. This means less uncertainty for market reactions and provides more securities for the vested interests of controlling shareholders. Thus, Zhao et al. explain controlling shareholders' preferences in private placements as adding to both the long-term gains based on enlarged holdings and the short-term gains from announcement returns.

Apart from capital gains, Zhao et al. (2015) argue that cash dividends can be a significant component of a controlling shareholder's benefits after private offerings. It could be problematic if generous post-offering cash distributions send funds (raised by private placements) back to controlling shareholders. Following the tunnelling theory, they predict higher cash dividends after private placements with the participation of controlling shareholders.

In their research design, Zhao et al. adopt a dummy variable to capture the subscription of controlling shareholders and test on firms that issued a private placement between 2006 and 2009. Their results report a significantly positive association between the participation of controlling shareholders and post-issue cash payouts. This supports the prediction given by the tunnelling theory. These payouts are seemingly legal interests shared by all investors, but in fact, they represent a means of interests transfer by controlling shareholders. Zhao et al. also express their concern that the tunnelling-related post-offering cash payments are unlikely to incur negative financial consequences for controlling shareholders, as cash dividends usually please the authority and the market.

### **4.3 Hypotheses development**

#### **4.3.1 The tunnelling argument**

Liu et al. (2016) argue that if controlling shareholders intend to enhance their control to facilitate aggravated tunnelling, they might choose private placements as an alternative for public offerings when increasing their holdings. By doing so avoids the negative market reactions around public equity issues.

Controlling shareholders are demonstrated to have strong bargaining power in China (Cumming & Hou, 2014). The discount of private equity issues provides a less costly option for enhancing control. Following this reasoning, discounts offered to

controlling shareholders can be interpreted as a value loss arising from the risk of aggravated tunnelling. The results of Liu et al. (2016) show that the participation of controlling shareholders in private placements tend to receive lower announcement returns and this tendency can be aggravated when higher discounts are offered.

The discount effect, as suggested by Liu et al. (2016), might differ according to the targeted investors. Assuming that non-controlling shareholders hold a strong tunnelling incentive, lacking the strong bargaining power entitled by a controlling position (Cumming & Hou, 2014), non-controlling shareholders are less likely to obtain a discount which is deep enough to cover a likely loss in stock price caused by tunnelling.

As stated earlier, if shareholders use private placements to secure block holdings and proceed with tunnelling, they should acquire significant discounts to avoid losses in case firm values take a hit following the tunnelling. Liu et al. (2016) suggest that discounts received by controlling shareholders in private placements can provide a direct measurement of their tunnelling incentive, but it is less likely so when discounts are granted without the subscription of controlling shareholders. With the market's anticipation of aggravated tunnelling, higher discounts offered to controlling shareholders should lead to weaker market performance around private placements, while such a tendency should be less at present when discounts are offered without the subscription of controlling shareholders. Hence, this study presents the following hypothesis:

*Hypothesis 1a. Higher discounts offered to controlling shareholders in private placements will result in weaker market performance around the offerings compared to when discounts are granted without the subscription of controlling shareholders.*

In Liu et al. (2016), higher discounts granted to controlling shareholders are shown to lead to lower announcement returns of private placements compared to when discounts were offered to institutional investors. Liu et al. interpret this observation as the market expecting controlling shareholders to engage in value-compromising related-party transactions and over-investments more often after the placements. A potential deficiency in the thinking of Liu et al. (2016) is that they predict controlling shareholders' long-term behaviours using an event study on the observations of 5-day window  $[-2, +2]$  in relation to announce day 0) around private placements. They have not examined the post-offering tunnelling activity nor have they verified if discounts interacting with controlling shareholders are associated with weakened firm performance as consequences of tunnelling. This calls for a follow-up examination of the long-term post-offering firm performance.

Firm resources can serve to tunnel, to invest and to distribute (dividends). This present study relies on these three aspects to assess how differently the price treatment of controlling shareholders in private placements affects the fund allocation compared

to when the treatment is unrelated to controlling shareholders. Following Jiang et al. (2010), this present study uses inter-corporate loans, which can be misused to transfer funds to controlling shareholders' related parties, as a measurement of tunnelling. If price treatments of controlling shareholders in private placements indeed reveal a tunnelling mechanism, lower prices for the subscription of controlling shareholders should cause higher inter-corporate loans compared to when price treatments were granted without the subscription of controlling shareholders.

*Hypothesis 1b. Higher discounts offered to controlling shareholders in private placements will result in higher post-offering inter-corporate loans compared to when discounts were granted without the subscription of controlling shareholders.*

Post-offering investment activities are concerned, because the need to conduct private placements is often listed as undertaking value-building projects in firms' applications of offerings. Therefore, it is reasonable to examine the post-offering investment activities in relation to whether a strong form of tunnelling, if present, would hinder the investments. A relevant study by Liu et al. (2015) has confirmed that the active tunnelling incentive of Chinese family business owners lowers capital expenditure. Proceeding with the tunnelling argument, higher discounts granted to controlling shareholders should signify a greater tunnelling risk and therefore a lower

level of capital expenditure compared to when discounts were received by non-controlling shareholders only.

*Hypothesis 1c. Higher discounts offered to controlling shareholders in private placements will result in lower post-offering capital expenditure compared to when discounts were granted without the subscription of controlling shareholders.*

Tunnelling could negatively affect profitability. Using the deviation of cash-flow right from control right as a proxy for the likelihood of expropriation, Joh (2003) finds that higher excessive control rights for controlling shareholders are associated with lower earnings. Also, more resources transferred to affiliated firms (which is the nature of inter-corporate loans) weaken firm profitability. These results confirm a negative impact of tunnelling on profitability. In the present study, one key assumption in the tunnelling argument is that discounts granted to controlling shareholders in private placements are a direct measurement of tunnelling. Following Joh (2003), deeper discounts received by controlling shareholders should be associated with weaker post-offering profitability compared to the case in which discounts are obtained simply by non-controlling shareholders. Therefore, the next hypothesis states:

*Hypothesis 1d. Higher discounts offered to controlling shareholders in private placements will result in weaker post-offering profitability compared to when discounts were granted without the subscription of controlling shareholders.*

Though it is less likely to be the main purpose, a part of funds raised by private placements might be paid out as cash dividends. Zhao et al. (2015) notice that Chinese controlling shareholders actively participate in private placements. And, controlling shareholders might be keen on private placements because of the post-offering cash dividends (Zhao et al., 2015). Notably, these cash distributions have the potential to transfer the proceeds of private equity issues back to participating controlling shareholders. Consistent with this reasoning, Zhao et al. find that among issuing firms, those that place shares privately with controlling shareholders tend to have higher cash dividends compared to when such participation is absent. Notably, this tendency is still shown in the fourth year after the conduction of private placements.

If controlling shareholders indeed use high cash dividends to transfer invested funds back, instead of using these funds to invest, this forms a case of tunnelling. According to the tunnelling assumption, a stronger tunnelling incentive of controlling shareholders, indicated by a larger offering discount, should be associated with larger cash distributions compared to when the discount was granted without the



subscription of controlling shareholders. This leads to the following hypothesis:

*Hypothesis 1e. Following the tunnelling argument, larger discounts received by controlling shareholders in private placements will lead to higher post-offering cash dividends compared to when discounts were granted without the subscription of controlling shareholders.*

#### **4.3.2 The incremental monitoring argument**

The previous section discusses a case of tunnelling aggravated by private placements that grant high discounts to controlling shareholders. However, if tunnelling-prone shareholders are already in an absolute controlling position before private placements, their prominent status within firms would require little to no extra holdings to secure the vested private interests. Essentially, it is being in absolute control that grants the ability to tunnel instead of the holding percentage which is a direct measurement of how closely the financial interests of controlling shareholders are attached to firm values.

In fact, private placements without the subscription of controlling shareholders may not guarantee lower tunnelling risk. Barclay et al. (2007) find that passive shareholders, who tend to share a weak affiliation with issuing firms after private

placements, are targeted investors in many private placements in the US market. These shareholders tend to form a coalition with entrenched managers and will give consent to the existing entrenchment (Barclay et al., 2007).

This present study intends to determine if the passive investor-based explanation of Barclay et al. (2007) also applies to the Chinese market in which the origin of tunnelling is more likely to be controlling shareholders rather than entrenched managers (La Porta et al., 1999; Claessens et al., 2000; Faccio & Lang, 2002). Chinese firms under the influence of tunnelling might adopt the strategy of only inviting passive subscribers to form a coalition with controlling shareholders. This can effectively disguise the tunnelling incentive of controlling shareholders who excuse themselves from the offerings. Moreover, given the coalition between controlling shareholders and passive investors, controlling shareholders' power over firm operations is actually strengthened without directly investing in private placements. In a way, only inviting passive investors in private placements counts as a more efficient method of tunnelling compared to controlling shareholders demanding excessive discounts in private placements. The latter method is much less obscured and involves actual capital input by controlling shareholders.

For firms troubled by tunnelling, this study considers a less likely case of incremental monitoring followed by private placements that only invite non-controlling shareholders. The most essential feature of Chinese listed firms is the concentration of control. Private placements issued to non-controlling shareholders

are more likely to create small block holders relative to the largest block, namely controlling shareholders. Under the dominance of tunnelling by the ultimate control, the monitoring provided by small blocks could be trivial.

The presence of controlling shareholders in private placements might not necessarily intensify their conflicts with minority shareholders. Instead, this might lead to a stronger alignment between these two groups of investors. According to Wruck (1989), within a minimum lockup period up to three years, the wealth of controlling shareholders is closely tied to firm values that are substantially determined by the trading behaviours of non-participating investors. It is reasonable for controlling shareholders to attach more importance to firm operations after private placements to avoid a loss in their financial interests during lockups. And, the discounts of private placements can be viewed as the compensation for the incremental monitoring.

Other evidence that supports regulated practice of controlling shareholders after private placements can be found in Krishnamurthy et al. (2005). They notice that investors who have an existing relationship with issuing firms before the offerings tend to avoid investing in overvalued issuing firms. This is especially the case when affiliated shareholders receive a substantial discount in the offerings. They suggest that if non-participating shareholders lose from the stock underperformance after private placements while participating affiliated shareholders earn non-negative returns because of the offering discount, the threat of lawsuits, such as for the

violation of insider trading laws, is likely to form.

Following Wruck (1989) and Krishnamurthy et al. (2005), the presence of controlling shareholders in private placements might benefit non-participating investors because of the incremental monitoring and the pre-existing affiliation. Despite that the above-mentioned studies are US-based, the requirement of the three-year holding period and the risk of lawsuits for insider trading also exist in the Chinese stock market. This is expected to promote active monitoring by controlling shareholders who participate in private placements and suggests an alternative to the tunnelling argument in the context of China. The discounts for private placements, then, could be viewed as the compensation to controlling shareholders for their incremental monitoring (Wruck, 1989). This beneficial price treatment could also restrain controlling shareholders from value-damaging behaviours in case of a lawsuit for insider trading (Krishnamurthy et al., 2005). Therefore, it is reasonable to expect that the discount received by controlling shareholders reassures the non-participating minority shareholders who are concerned about tunnelling. This should especially be the case compared to when discounts are only offered to unaffiliated investors who face less legal pressure for post-offering stock underperformance (Krishnamurthy et al., 2005) and might form a coalition with tunnelling-prone controlling shareholders (Barclay et al., 2007). Thus, this study proposes another hypothesis as to how discounts received by controlling shareholders differentiate the market performance around private placements compared to when discounts are offered without the

subscription of controlling shareholders:

*Hypothesis 2a. Higher discounts offered to controlling shareholders in private placements will result in stronger market performance around the offerings compared to when discounts are granted without the subscription of controlling shareholders.*

The incremental monitoring argument, compared to the tunnelling argument, predicts the opposite tendency led by discounts received by controlling shareholders in determining the post-offering tunnelling activities. The risk of lawsuits for insider tradings forms when high discounts protect controlling shareholders from post-offering stock underperformance (Krishnamurthy et al., 2005). That is, facing post-offering stock underperformance, higher discounts indicate greater legal pressure for controlling shareholders compared to unaffiliated investors. Therefore, controlling shareholders should be more willing to curb tunnelling to avoid unfavourable market performance when they received high discounts from previous private placements. On the contrary, the “monitoring pressure” of discounts experienced by insiders has a smaller chance to form when discounts are unrelated to controlling shareholders in the first place. Further, if controlling shareholders waive to participate in private placements but to invite passive investors who receive high offering discounts as the compensation for forming a coalition, the use of inter-corporate loans could be less

regulated. This leads to another hypothesis for the post-offering inter-corporate loans:

*Hypothesis 2b. Higher discounts offered to controlling shareholders in private placements will result in lower post-offering inter-corporate loans compared to when discounts were granted without the subscription of controlling shareholders.*

As suggested by Wruck (1989), extra efforts are required for more active monitoring, therefore large investors who are more likely to benefit firm operations (because of the substantial equity at stake) could be rewarded with higher discounts in private placements. Upon the expectation of incremental monitoring, controlling shareholders should be more willing to promote investments which can add to firm values as well as controlling shareholders' wealth. In comparison, when discounts are only offered to passive shareholders to form a coalition with controlling shareholders (Barclay et al., 2007), the funds to be invested might be diverted for a tunnelling purpose. Accordingly, this study suggests the following hypothesis:

*Hypothesis 2c. Higher discounts offered to controlling shareholders in private placements will result in higher post-offering capital expenditure compared to when discounts were granted without the subscription of controlling shareholders.*

The funds raised by private placements and the subsequent investments can expand firm operations and therefore may increase earnings. The incremental monitoring, if successfully introduced by private placements (Wruck, 1989), should reveal itself by facilitating stronger profitability compared to when such an improvement in corporate governance is absent. Following the assumption that discounts are rewards for more active monitoring, greater earnings are more likely to show when higher discounts are received by controlling shareholders instead of non-controlling shareholders. For offerings without the participation of controlling shareholders, incremental monitoring provided by large stakeholders is less likely to form. The goal of stronger profitability might even be hindered if passive subscribers receive discounts in exchange for guarding the tunnelling in place (Barclay et al., 2007). This predicts an alternative hypothesis on post-offering profitability:

*Hypothesis 2d. Higher discounts offered to controlling shareholders in private placements will result in stronger post-offering profitability compared to when discounts were granted without the subscription of controlling shareholders.*

Allocations of the funds raised by private placements include being paid out as

cash dividends. Zhao et al. (2015) find that post-offering cash dividends tend to be higher when controlling shareholders subscribe to private placements, which is interpreted as a case of interests transfer via payouts. A potential drawback of the research framework in Zhao et al. (2015) is that to identify the reason why controlling shareholders' participation in private placements leads to higher cash dividends may require further examinations of firms' concurrent accounting performance and corporate governance.

If controlling shareholders intend to tunnel the proceeds of private placements through cash payouts, then they could do so with or without being a subscriber to placements. After all, the power to demand high cash dividends is granted by the controlling position, not the participation in equity offerings. As a matter of fact, controlling shareholders are more likely to earn a higher rate of return from post-offering cash dividends when they waive participation in private placements. On the contrary, a given level of cash dividends may bring a lower rate of return if controlling shareholders enlarge their investments in private placements. On top of that, cash dividends are to be shared by all investors. Controlling shareholders can only collect payouts according to their cash-flow rights.

This study proposes the argument of incremental monitoring to interpret the cash dividend behaviours after private placements. Ideally, private placements are conducted for the purpose of enhancing firm performance by asset injection and strategic investments. If this purpose is efficiently fulfilled, higher cash dividends is a



possible outcome. Notably, stronger firm performance and therefore higher cash dividends should be promoted by incremental monitoring and hindered by the tunnelling in place. Considering discounts as the compensation for incremental monitoring, higher dividends should follow when better price treatments were offered to controlling shareholders instead of only non-controlling shareholders. Especially, under the dominance of tunnelling, offerings targeting non-controlling shareholders might only invite trivial monitoring and be used to form a coalition with controlling shareholders, which could harm firms' payout ability. This study then informs the following hypothesis:

*Hypothesis 2e. Following the incremental monitoring argument, larger discounts received by controlling shareholders in private placements will lead to higher post-offering cash dividends compared to when discounts were granted without the subscription of controlling shareholders.*

The tunnelling argument and the incremental monitoring argument both predict higher cash dividends when larger discounts were offered to controlling shareholders instead of non-controlling shareholders. Still, the beneficial impact of incremental monitoring can be distinguished from the tunnelling impact because of the influences controlling shareholders have over practice of corporate governance, investments and

profitability.

#### **4.4 Data, methodology and measurements of variables**

##### **4.4.1 Sample selection**

The sample used for the event study that examines the announcement effect of private placements gathers offerings from 2006 to 2015 on the Chinese stock market. This was the most extended time frame available when this study commenced. Regarding sample selection, firms that belong to the financial industry, firms with missing trading data and those that did not disclose discount information are excluded. This test controls for the potential information overlap by excluding firms that have made announcements of earnings (annual report), cash dividends, seasonal equity offerings, right issues, mergers or acquisitions within the  $[-3, 0]$  announcement period relative to the announcement day 0 of private placements (Fonseka et al., 2014). This event study also avoids the compounding effect of multiple private placements by discarding firms that have issued another private placement within the estimation event time period of  $[-89, -11]$  (Wu et al., 2005). Eventually, 1052 private placements were selected to examine both short-term and long-term abnormal stock returns around the announcements of offerings.

The sample used for the examination of cash dividend policy, profitability and activities of issuing intercorporate loans and making capital expenditure only includes

firms inviting existing controlling shareholders and passive shareholders (defined in the Section 4.4.3) in private placements. Only these two categories of issuing firms are examined, as they are representative issuers. Similar to the sampling rule applied to the above event study, firms that belong to the financial industry, firms with missing trading data and those that did not disclose discount information are excluded. If firms have conducted multiple private placements within the sample period from 2006 to 2015, discounts are updated according to the schedule of private placements. For example, if a firm has conducted two private placements, one in 2006 and one in 2009, the discount for 2006 offering will apply to observations in the period 2006 to 2008, and the discount for 2009 offering will apply to observations in the period 2009 to 2015.

#### **4.4.2 Procedures of the event study on the abnormal stock returns around private placements**

This event study is used to interpret how private placements are viewed by non-participating shareholders by identifying the size and significance of abnormal stock returns around announcements of offerings. The public announcement day of a private placement is the event day 0. The [-89, -11] time window is used as the estimation event period (Wu et al., 2005). The daily trading data, namely daily stock returns with dividend reinvested, within the estimation event period of firm  $j$  is tested

by the market model as follows:

$$R_{j,t} = \alpha_j + \beta_j R_{M,t}$$

where  $R_{j,t}$  is the observed daily stock return of the common stock of firm  $j$  on an estimation day  $t$  from the  $[-89, -11]$  window,  $\alpha_j$  is the constant term,  $\beta_j$  is the coefficient, and  $R_{M,t}$  is the same-day market return with cash dividends reinvested on the index of the stock exchange where firm  $j$  is listed.  $\alpha_j$  and  $\beta_j$  are ordinary least square estimates of the intercept and the slope of the market model.

The estimated values of  $\hat{\alpha}_j$  and  $\hat{\beta}_j$  for firm  $j$  are then obtained to calculate the expected return ( $ER$ ) of firm  $j$  on an event day  $t^*$  within the announcement period of  $[t1, t2]$  via the following equation:

$$ER_{j,t^*} = \hat{\alpha}_j + \hat{\beta}_j R_{M,t^*}$$

where  $ER_{j,t^*}$  is defined as the expected daily return of the common stock of firm  $j$  on day  $t^*$  assuming reinvested cash dividends.  $R_{M,t^*}$  is the daily market return on day  $t^*$  with cash dividends reinvested on the index of the stock exchange where the issuing firm  $j$  is listed.

On an event day  $t^*$  within the announcement period  $[t1, t2]$ , the daily abnormal return  $AR_{j,t^*}$  of firm  $j$  is defined as the difference between the realized return ( $R_{j,t^*}$ ) and the expected return ( $ER_{j,t^*}$ ):

$$AR_{j,t^*} = R_{j,t^*} - ER_{j,t^*}$$

where  $R_{j,t^*}$  is the observed return of the common stock of firm  $j$  on day  $t^*$  assuming reinvested cash dividends.

The cumulated abnormal return (CAR) for the private placement conducted by firm  $j$  from a multi-day announcement window  $[t1, t2]$  is defined as the sum of the time-series of ARs within the event window  $[t1, t2]$ , that is:

$$CAR_{t1,t2} = \sum_{t=t1}^{t2} AR_t$$

The sample of CARs within the period of  $[t1, t2]$  of all tested private placements is then examined to determine whether its mean is statistically different from 0.

Following Barclay et al. (2007) and Wruck and Wu (2009), this event study examines both short-term and long-term CARs around private placements. The short-term multi-day announcement windows are defined as  $[-1, 0]$ ,  $[-3, 0]$  (Wruck, 1989; Hertzels & Smith, 1993; Fonseca et al., 2014), while the long-term multi-day event windows are  $[-1, 120]$ ,  $[-10, 120]$  (Wruck & Wu, 2009) and  $[+1, 120]$  (Barclay et al., 2007).

#### **4.4.3 The key participating investors in private placements**

In examining the announcement effect of private placements in China, Liu et al. (2016) mainly tested two categories of participating shareholders, namely institutional

shareholders and controlling shareholders. Their sample distribution reports that 27.51% of participating investors are controlling shareholders, while 40.56% are institutional investors. Given that private placements allow up to 10 participating investors, joint participation from controlling shareholders and institutional investors in the same given offering is expected. The work of Liu et al. (2016), however, does not disclose information regarding the overlap between the subscriptions of controlling shareholders and institutional investors.

This present study examined 1052 selected private placements from 2006 to 2015. The sample reports that 551 (52.38%) offerings have participation from controlling shareholders, while 844 (80.23%) involve institutional investors. Between these two groups of offerings, an overlap of 359 events was participated in by both controlling shareholders and institutions. This is nearly 70% of the offerings involving controlling shareholders. That is, not controlling for the overlap between the participation of controlling shareholders and institutional investors might shadow the conclusions drawn by Liu et al. (2016).

Assuming institutional investors are non-controlling block shareholders, their influence over firm operations might be trivial given the controlling shareholders in place (Zwiebel, 1995). The present study shows that firms placing the offerings without controlling shareholders report a mean of holdings of 37.32% by controlling shareholders in the year before private placements. By the end of the year when private placements are finalized, this figure drops to 31.36% but is still above 30%

which is the benchmark of being in absolute control. That is, even when controlling shareholders are excluded from private equity issues, their holdings can still be significant enough to reject smaller blocks when a disagreement occurs, both before and after the offerings. Thus, this study expects controlling shareholders to be more prominent than institutional investors, or any new blocks in general, in private placements. This contention finds support from Zhao et al. (2015) who focus on two categories of private placements, those that invite controlling shareholders and those that do not.

Of the 1052 tested private placements, 551 are issued to controlling shareholders. Further information reveals that 36 out of 551 cases replaced the pre-offering non-participating controlling shareholders with new controlling shareholders participating in private placements. Because of the concern that the announcement effect of private placements might be different for pre-existing controlling shareholders and new controlling shareholders, this study distinguishes between participating controlling shareholders and places them into two categories. They are **Existing Controlling Shareholders** (515 cases) and **New Controlling Shareholders** (36 cases).

Wruck (1989) demonstrates that private placements issued to only one investor highlight the possibility of incremental monitoring. Following this suggestion, offerings to single shareholders (34 cases) who are not in control of the firms (both before and after the offerings) are used to test Wruck's argument. The category of

**Single Shareholders** does not extend to existing or new controlling shareholders as there is the potential overlap by being both a sole investor in placements and a controlling shareholder.

The last category of private placements consists of those that are without the participation of controlling parties and are issued to multiple shareholders. This category of offerings has 467 out of the total 1052 placement events. Among these 467 events, 409 events lead to 1346 shareholders becoming top 2 to 10 shareholders (non-controlling large shareholders) in the year of private placements, and the rest (58 events) do not create new blocks. However, 99% of the above 1346 investors do not share a strong affiliation with issuing firms because they do not have above 5% holdings and are not in management positions (Wruck & Wu, 2009).

Notably, private equity issues to **Multiple Non-controlling Shareholders** tend to appeal to investors with a relatively short investment horizon. Of 1346 shareholders, 778 withdrew from being non-controlling large shareholders in the second year after the placements. Despite that the rest 568 shareholders stay in issuing firms longer than their required holding period, the average holdings of these staying shareholders is only 3.73% which is significantly lower than 5% (t-statistic -11.17). In this case, the incremental monitoring function is likely to be suppressed by the short investment horizon and the limited size of holdings. That is, private placements that only invite multiple non-controlling shareholders tend to introduce passive shareholders who share less pre-existing or subsequent affiliation with issuing firms.



The division of the total 1052 private placements is set according to the features of key participating investors. This fourfold categorization is exclusive and exhaustive. Given that events inviting existing controlling shareholders (515 cases) and events introducing passive shareholders (467 cases) account for 93.35% of the total sample, they are selected as the main tested subjects for the examination of the post-offering cash dividends and other firm operations. This tested sample is less disturbed by different sizes of sub-samples, and therefore allows a fair contrast between existing controlling shareholders and passive shareholders.

#### **4.4.4 List of variables**

##### ***Dependent Variables***

*CAR* [ $t1$ ,  $t2$ ]: The cumulated abnormal return (CAR) led by the announcement of a private placement from a multi-day event window [ $t1$ ,  $t2$ ]. It is defined as the sum of the time-series of daily abnormal returns within the event window [ $t1$ ,  $t2$ ]. The tested short-term announcement window includes [-3, 0] and [-1, 0] (Wruck, 1989; Hertzler & Smith, 1993; Fonseca et al., 2014). The tested long-term event window includes [-10, +120], [-1, +120] (Wruck & Wu, 2009) and [+1, 120] (Barclay et al., 2007).

*DY*: Dividend yield, measured as the cash dividend per share divided by the stock price at the end of the year. This measurement reflects the return from cash dividends

for investors who prefer payouts to capital gains while making investment decisions.

*CDPS*: Cash dividend per share, calculated as the total cash dividend payment divided by the total number of outstanding shares at the issue of cash dividends.

*PAYOUT*: Cash dividend payout ratio, depicted as cash dividend per share divided by earnings per share.

*ROE*: Net profits scaled by the total equity invested by shareholders at the end of the year.

*ORTA*: Following Jiang et al. (2010), inter-corporate loans, an indication of tunnelling by controlling shareholders, are measured by other receivables scaled by the total assets at the end of the year.

*CapEx*: Capital expenditure divided by the total asset at the end of the year.

### ***Key Independent Variables***

*EXISTING\_CONTROL*: This variable takes a value of 1 if a private placement has the participation of either direct or ultimate controlling shareholders who are already in place before the offering, and 0 means otherwise.

*NEW\_CONTROL*: This variable takes a value of 1 if an investor replaces the former controlling shareholder of the issuing firm via a private placement, and 0 means otherwise.

*SINGLE*: This variable takes a value of 1 if a private placement is issued to only one shareholder who is not in control of the issuing firm either before or after the offering, and 0 means otherwise.

*DISCOUNT1*: Setting the average of the closing prices of 20 trading days before the announcement day of a private placement as  $P_{ave[-20,-1]}$ , the final subscription price of this private placement as  $P_{actual}$ , this variable is computed as  $(P_{ave[-20,-1]} - P_{actual}) / P_{ave[-20,-1]}$  (Liu et al., 2016). This measurement reflects the bargaining power of participating shareholders.

*DISCOUNT2*: Setting the closing price of the 10th trading day after the announcement day of a private placement as  $P_{10}$ , the final subscription price of this private placement as  $P_{actual}$ , this variable is computed as  $(P_{10} - P_{actual}) / P_{10}$  (Hertzel & Smith, 1993, Fonseca et al., 2014).

*EXISTING\_CONTROL\*DISCOUNT1(2)*: Cross-term between *EXISTING\_CONTROL* and *DISCOUNT1(2)*. This cross-term captures the joint effect of the participation of existing controlling shareholders and their associated discounts in private placements.

*NEW\_CONTROL\*DISCOUNT1*: A cross-term between *NEW\_CONTROL* and *DISCOUNT1*. This cross-term captures the joint effect of the participation of new controlling shareholders and their associated discounts in private placements.

*SINGLE\*DISCOUNT1*: A cross-term between *SINGLE* and *DISCOUNT1*. This

cross-term captures the joint effect of the participation of single shareholders and their associated discounts in private placements.

*LN(BOARD)*: The natural logarithm of the total number of board directors is used as a possible determinant of firm earnings and corporate governance. This figure is industry-adjusted to produce more robust results. A larger board size is shown to generate higher agency costs and lower efficiency, and therefore weaker firm performance (Lipton & Lorsch, 1992; Yermack, 1996; Jensen, 2010).

*IND\_DIRECTOR*: The ratio of the number of independent directors over the total number of directors is used as a possible determinant of firm earnings and corporate governance. The industry-adjusted ratio is used to produce more robust results. Following Li et al. (2015), *LN(BOARD)* and *IND\_DIRECTOR* are used as key explanatory variables when testing the determinants of firm earnings and corporate governance.

*MARKETIZATION*: Following Jiang et al. (2010), regional disparity arising from the differences in progress towards a market economy across provinces is considered for the examination of the use of inter-corporate loans. According to Fan et al. (2001), this variable is measured on a 0 to 10 scale, and each tested firm is assigned the value of the province where it is registered.

### ***Control Variables***

*Fraction\_of\_Shares*: The number of newly issued shares scaled by the total number of outstanding shares after a private placement (Hertzel & Smith, 1993; Fonseca et al., 2014).

*Size\_of\_Fund*: The gross amount of money raised by a private placement scaled by the total assets at the end of the issuing year.

*SIZE*: The natural logarithm of the total assets at the end of the year.

*TOBIN'S Q*: The ratio of the market value of equity plus the book value of long-term debt over the book value of total assets.

*LARGEST*: The holding percentage of the largest shareholder at the end of the year.

*NC\_LARGE*: The ratio of the total percentage of shareholdings from the second to the fifth largest shareholders to the largest shareholder's holding percentage at the end of the year.

*EXCESS*: Difference between controlling shareholders' voting rights and cash-flow rights.

*ROA*: The ratio of return on asset. The net profits scaled by the total assets at the end of the year.

*CASH*: Cash and marketable securities scaled by the total assets at the end of the year.

*LEVERAGE*: The ratio of total debt to the total assets at the end of the year.

*MB*: Market-to-book ratio of the year.

*SD*: Stock dividend per share issued by a firm in a particular year.

*LOCKUP*: This variable takes the value of 1 if this is the year of lockup (resale restriction) for participating investors in private placements, and 0 otherwise.

#### **4.4.5 Models**

This study mainly examines if discounts of private placements offered to different categories of investors have different impacts over the stock performance around the offerings and the fund allocations. Specifically, the stock performance during the announcement period of private placements and that during a longer event period are both investigated; the examined allocations of funds are tunnelling, investments and cash dividends.

##### ***The abnormal stock returns around private placements***

The cumulated abnormal returns (CARs) around announcements of private placements are used to examine how the market reacts to the offerings. The model that tests the determinants of short-term announcement returns of private placements is:

$$CAR[-1, 0]_{i,t} = \alpha_0 + \beta_1 EXISTING\_CONTROL_{i,t} +$$

$$\beta_2NEW\_CONTROL_{i,t} + \beta_3SINGLE\_SHAREHOLDER + \beta_4DISCOUNT1_{i,t} +$$

$$\beta_5EXISTING\_CONTROL * DISCOUNT1_{i,t} + \beta_6NEW\_CONTROL * DISCOUNT1_{i,t} +$$

$$\beta_7SINGLE * DISCOUNT1_{i,t} + \beta_8Control\ Variables_{i,t} + \varepsilon$$

(Model 4.1)

Following Barclay et al. (2007), this study also examines the stock performance around private placements within a longer event window. This also represents an attempt to test the ultimate market reaction toward private placements. The relevant model is as follows.

$$CAR[-1, +120]_{i,t} = \alpha_0 + \beta_1EXISTING\_CONTROL_{i,t} +$$

$$\beta_2NEW\_CONTROL_{i,t} + \beta_3SINGLE\_SHAREHOLDER + \beta_4DISCOUNT1_{i,t} +$$

$$\beta_5EXISTING\_CONTROL * DISCOUNT1_{i,t} + \beta_6NEW\_CONTROL *$$

$$DISCOUNT1_{i,t} + \beta_7SINGLE * DISCOUNT1_{i,t} + \beta_8Control\ Variables_{i,t} + \varepsilon$$

(Model 4.2)

As a potential robustness check, this study explicitly tests the long-term abnormal stock returns after private placements (Wruck & Wu, 2009). The model that serves this function is as follows.

$$CAR[+1, +120]_{i,t} = \alpha_0 + \beta_1EXISTING\_CONTROL_{i,t} +$$

$$\beta_2NEW\_CONTROL_{i,t} + \beta_3SINGLE\_SHAREHOLDER + \beta_4DISCOUNT1_{i,t} +$$

$$\beta_5EXISTING\_CONTROL * DISCOUNT1_{i,t} + \beta_6NEW\_CONTROL *$$

$$DISCOUNT1_{i,t} + \beta_7 SINGLE * DISCOUNT1_{i,t} + \beta_8 Control Variables_{i,t} + \varepsilon$$

(Model 4.3)

The dependent variables representing the market reactions are CARs within [-1, 0], [-1, +120] and [+1, +120] in relation to the announcement day 0. The key explanatory variables of the market reactions to private placement announcements are the categories of key participating shareholders and the cross-terms. Under the incremental monitoring hypothesis (*Hypothesis 2a*), discounts offered to existing controlling shareholders are more likely to represent compensations for additional monitoring compared to when discounts are offered to multiple non-controlling shareholders and, therefore, should lead to favourable market reactions and a positive coefficient of *EXISTING\_CONTROL\*DISCOUNT1*. Under the tunnelling hypothesis (*Hypothesis 1a*), discounts offered to existing controlling shareholders are more likely to be viewed as a value loss compared to when discounts are offered without the subscription of controlling shareholders and, therefore, should lead to less favourable market reactions and a negative coefficient of *EXISTING\_CONTROL\*DISCOUNT1*.

### ***The determinant of post-offering inter-corporate loans***

Inter-corporate loans can be used to transfer firm wealth to controlling shareholders' related parties (Jiang et al., 2010), thus is used as a proxy of tunnelling



in the present study. The tested groups are firms that invite existing controlling shareholders to take part in private placements and those that only invite multiple non-controlling (passive) shareholders. These two groups are representative of the full sample and exhibit different levels of affiliations with issuing firms. The model that examines the post-offering inter-corporate loans is:

$$\begin{aligned}
 ORTA_{i,t} = & \alpha_0 + \beta_1 EXISTING\_CONTROL_{i,t} + \beta_2 DISCOUNT1_{i,t} + \\
 & \beta_3 EXISTING\_CONTROL * DISCOUNT1_{i,t} + \beta_4 LN(BOARD)_{i,t} + \\
 & \beta_5 IND\_DIRECTOR_{i,t} + \beta_6 MARKETIZATION_{i,t} + \beta_7 Control\ Variables_{i,t} + \varepsilon
 \end{aligned}$$

(Model 4.4)

The key explanatory variable of Model 4.4 is *EXISTING\_CONTROL\*DISCOUNT1*. Incremental monitoring hypothesis (*Hypothesis 2b*) predicts a negative coefficient of *EXISTING\_CONTROL\*DISCOUNT1*. Tunnelling hypothesis (*Hypothesis 1b*) predicts a positive coefficient of *EXISTING\_CONTROL\*DISCOUNT1*. *LN(BOARD)* and *IND\_DIRECTORS* are corporate-governance-related key explanatory variables. Following Jiang et al. (2010), the province market index (*MARKETIZATION*) is used to control for the regional disparity. The control variables of Model 4.4 are *Size\_of\_Fund*, *CASH*, *LEVERAGE*, *SIZE*, *SALE GROWTH*, *MB* and industry fixed effect.

### ***The determinant of post-offering capital expenditure***

The study next examines firms' investment activities. The tested groups are firms

that invite existing controlling shareholders to take part in private placements and those that only invite multiple non-controlling (passive) shareholders. The tested model is as follows.

$$CapEx_{i,t} = \alpha_0 + \beta_1 EXISTING\_CONTROL_{i,t} + \beta_2 DISCOUNT1_{i,t} + \beta_3 EXISTING\_CONTROL * DISCOUNT1_{i,t} + \beta_4 LN(BOARD)_{i,t} + \beta_5 IND\_DIRECTOR_{i,t} + \beta_6 ORTA_{i,t} + \beta_7 ControlVariables_{i,t} + \varepsilon$$

(Model 4.5)

The key explanatory variable of Model 4.5 is *EXISTING\_CONTROL\*DISCOUNT1*. Incremental monitoring hypothesis (*Hypothesis 2c*) predicts a positive coefficient of *EXISTING\_CONTROL\*DISCOUNT1*. Tunnelling hypothesis (*Hypothesis 1c*) predicts a negative coefficient of *EXISTING\_CONTROL\*DISCOUNT1*. *LN(BOARD)* and *IND\_DIRECTORS* are corporate-governance-related key explanatory variables. The control variables of Model 4.5 are *Size\_of\_Fund*, *CASH*, *LEVERAGE*, *SIZE*, *SALE GROWTH*, *MB* and industry fixed effect.

### ***The determinants of post-offering accounting performance***

The next research focus is post-offering accounting performance. The tested groups are firms that invite existing controlling shareholders to take part in private placements and those that only invite multiple non-controlling (passive) shareholders. The model that examines the post-offering earnings is:

$$\begin{aligned}
ROE_{i,t} = & \alpha_0 + \beta_1 EXISTING\_CONTROL_{i,t} + \beta_2 DISCOUNT_{i,t} + \\
& \beta_3 EXISTING\_CONTROL * DISCOUNT_{i,t} + \beta_4 LN(BOARD)_{i,t} + \\
& \beta_5 IND\_DIRECTOR_{i,t} + \beta_6 Control\ Variables_{i,t} + \varepsilon
\end{aligned}$$

(Model 4.6)

The proxy of earnings is the ratio of net profits to equity invested by shareholders at the end of the year (*ROE*). This measurement is chosen instead of return on assets as it is less affected by the non-productive asset and is a reflection of the profitability based on shareholders' claims. The key explanatory variable of Model 4.6 is the cross-term of *EXISTING\_CONTROL\*DISCOUNT1*. The incremental monitoring hypothesis (*Hypothesis 2d*) predicts a positive coefficient of *EXISTING\_CONTROL\*DISCOUNT1*. Tunnelling hypothesis (*Hypothesis 1d*) predicts a negative coefficient of *EXISTING\_CONTROL\*DISCOUNT1*. Also, *LN(BOARD)* and *IND\_DIRECTORS* are corporate-governance-related key explanatory variables. The relevant control variables are *Size\_of\_Fund*, *CASH*, *LEVERAGE*, *SIZE*, *SALE GROWTH*, *MB* and industry fixed effect.

### ***The determinants of post-offering cash dividends***

This study chooses measurements of *DY*, *CDPS* and *PAYOUT* as dependent variables to investigate whether the post-offering cash dividends receive different impacts from discounts granted to different categories of investors. The tested groups are firms that invite existing controlling shareholders to take part in private

placements and those that only invite multiple non-controlling (passive) shareholders.

Models that examine the determinants of post-offering cash dividend policy are:

$$DY_{i,t} = \alpha_0 + \beta_1 EXISTING\_CONTROL_{i,t} + \beta_2 DISCOUNT1_{i,t} + \beta_3 EXISTING\_CONTROL * DISCOUNT1_{i,t} + \beta_4 Control\ Variables_{i,t} + \varepsilon$$

(Model 4.7)

$$CDPS_{i,t} = \alpha_0 + \beta_1 EXISTING\_CONTROL_{i,t} + \beta_2 DISCOUNT1_{i,t} + \beta_3 EXISTING\_CONTROL * DISCOUNT1_{i,t} + \beta_4 Control\ Variables_{i,t} + \varepsilon$$

(Model 4.8)

$$PAYOUT_{i,t} = \alpha_0 + \beta_1 EXISTING\_CONTROL_{i,t} + \beta_2 DISCOUNT1_{i,t} + \beta_3 EXISTING\_CONTROL * DISCOUNT1_{i,t} + \beta_4 Control\ Variables_{i,t} + \varepsilon$$

(Model 4.9)

The key explanatory variable of Model 4.7 to Model 4.9 is *EXISTING\_CONTROL\*DISCOUNT1*. The incremental monitoring hypothesis and the tunnelling hypothesis both predict a positive coefficient of *EXISTING\_CONTROL\*DISCOUNT1*. Prior examinations on profitability and other allocations of funds are needed to distinguish between these two effects. The control variables here are *Size\_of\_Fund*, *ROA*, *CASH*, *LEVERAGE*, *SIZE*, *MB*, *SD*, the presence of a lockup period (*LOCKUP*) and industry fixed effect.

## 4.5 Empirical results

### 4.5.1 Univariate tests

#### 4.5.1.1 Issuing features of private placements in China

Table 4.1 provides an overview of the frequency and the size features of all the tested private placements from 2006 to 2015 in the Chinese stock market. It shows that private equity issues surged in frequency in the years 2013 to 2015. In contrast, shares issued by private placements in relation to total outstanding shares (*Fraction\_of\_Shares*) descended gradually from 26.37% in 2006 to 15.45% in 2015. The average size of raised funds relative to the total asset (*Size\_of\_Fund*) has been stable above 20% since 2008. This ratio reached a peak in 2012 at 30.63% and a gradual decrease follows. Within the 10 year period from 2006 to 2015, the funds generated by private placements, on average, occupy 25% of the total assets at the end of the issuing year.

**Table 4.1 The frequency, size of raised funds and proportion of issued shares as issuing characteristics of tested private placements from 2006 to 2015 in China**

This table lists yearly observations of issuing characteristics of tested private placements conducted from 2006 to 2015 in China. “N of PP” represents the number of tested private placements in each year. For a private placement, *Fraction\_of\_Shares* is calculated as the number of newly issued shares scaled by the total number of outstanding shares after a private placement (mean values reported); *Size\_of\_Fund* is defined as the gross amount of money raised by a private placement scaled by the total asset at the end of the issuing year (mean values reported).

Year	N of PP	<i>Fraction_of_Shares</i>	<i>Size_of_Fund</i>
2006	50	26.37%	18.50%
2007	140	20.18%	18.63%
2008	104	22.29%	28.48%
2009	177	26.27%	25.54%
2010	155	20.00%	20.70%
2011	180	22.90%	27.99%
2012	154	24.58%	30.63%
2013	266	21.49%	24.43%
2014	447	18.94%	23.98%
2015	770	15.45%	22.17%

This study next examines whether the issuing features of the selected 1052 private placements are specific to the identity of key participating investors, namely existing controlling shareholders (515), new-controlling shareholders (36), single shareholders (34) and passive shareholders (467).

The China Securities Regulatory Commission (CSRC) states that the offering price of a private placement shall not be below 90% of the average price of the 20 trading days, that is a maximum 10% discount, preceding its announcement. Following this requirement, *DISCOUNT1* is measured relative to the average of the closing prices of the 20 trading days before the announcement of private placements. A positive value of *DISCOUNT1* suggests that participating investors obtain a discount for their subscription, while a negative value indicates investors pay a premium. As shown in Table 4.2, all of the participating shareholders enjoyed significant discounts in private placements. Still, only existing (0.228) and new controlling shareholders (0.444) are found to obtain discounts which are significantly above 10% (t-statistics are 9.70 and 8.59, respectively). This again verifies the argument of Cumming & Hou (2014) and Liu et al. (2016) that controlling shareholders tend to have stronger negotiation power. In the meantime, the high discounts granted to existing controlling shareholders do not support the information cost hypothesis which predicts that insiders have lower discounts in private placements because they have lower information acquisition costs (Hertzel & Smith, 1993; Krishnamurthy et al., 2005). It is also implied that the beneficial price treatment

for existing controlling shareholders is likely to be a reward for activities other than information certification.

Further cross-group comparisons show that new controlling shareholders introduced by private placements tend to receive significantly higher discounts than existing controlling shareholders (a difference of 0.216 with a t-statistic of 4.23). This might be caused by the size factor. Offerings inviting new controlling shareholders on average issue above 50% of the total outstanding shares. This is significantly higher than that of offerings to existing controlling shareholders, or any other categories of placements. Additionally, the funds provided by offerings to new controlling shareholders occupy an average of 78% of the total asset at the placement year, suggesting a strong negotiation position for the offering price.

As to private placements issued to existing controlling shareholders, their involvement in offerings is associated with higher discounts (with a mean of 0.228) compared to offerings to passive shareholders (with a mean of 0.115). This is different from Barclay et al. (2007) and Krishnamurthy et al. (2005) who identify higher discounts for passive shareholders. It is clear that in China, private offerings to passive shareholders have the least prominent discounts. This study proposes the following explanations. First, passive shareholders may have relatively weak bargaining power because they are not insiders or share strong affiliations with issuing firms before the placements. Second, they are less likely to form sufficient monitoring incentive because of their relatively short investment horizon and



insignificant holdings (discussed in Section 4.4.3). This further lowers the ceiling of discounts. Third, offerings to passive shareholders tend to be smaller, which leads to a less advantaged bargaining position. Therefore, compared to shareholders who are more likely to share inactive previous and subsequent affiliations with firms, existing controlling shareholders are more likely to be active monitors. The higher discounts for existing controlling shareholders, therefore, are consistent with the monitoring argument.

Still, strong bargaining power is not exclusive to controlling shareholders. Private issues to a single shareholder have statistically indifferent discounts compared to issues to existing controlling shareholders. Following Wruck (1989), a sole investor in placements highlights the case of additional monitoring for issuing firms. That is, both existing controlling shareholders and single investors are probable active monitors, and their received discounts are not statistically different. This adds credibility to the contention that discounts are a form of compensation for monitoring because active investors are given similar rewards regardless of the size of their shareholdings.

**Table 4.2 Discounts, size of raised funds and proportion of issued shares of different categories of private placements from 2006 to 2015**

F-statistics for test of joint equality in means and t-statistics for test of equality in means are both in italics. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

	Means of issuing features of private issues				Test of joint equality in means	Tests of equality in means		
	Existing Control	New Control	Single Non-Control	Passive		Existing Control vs New Control	Existing Control vs Single Non-Control	Existing Control vs Passive
N	515	36	34	467	1052	551	549	982
Discount	0.228	0.444	0.166	0.115	<i>3.32**</i>	-0.216 (-4.23***)	0.062 (1.66)	0.113 (2.28**)
Fraction of shares	0.223	0.531	0.113	0.141	<i>111.30***</i>	-0.308 (-10.57***)	0.11 (3.84***)	0.082 (9.68***)
Size of Funds	0.222	0.783	0.152	0.193	<i>83.56***</i>	-0.561 (-11.50***)	0.07 (2.03**)	0.029 (2.79***)

#### 4.5.1.2 Univariate features of the short- and long-term CARs

This study provides univariate analysis regarding the significance of the abnormal returns around announcements of private placements and to determine whether the identity of key participating shareholders affects the announcement reaction. These results are listed in Table 4.3. For the full sample of 1052 private placements, the announcement returns are significantly positive within the short-term announcement windows of  $[-3, 0]$  and  $[-1, 0]$ . It appears that announcements of private placements in China generally gain favourable market reactions. This is similar to the US market (Wruck 1989; Hertzels & Smith, 1993; Wruck & Wu, 2009) and is consistent with previous studies of the Chinese market (e.g. Liu et al., 2016).

Disparities in short-term announcement returns are observed across the sub-categories of private placements. Only placements that include existing controlling shareholders gain strongly significant and positive CARs for both short-term announcement windows of  $[-3, 0]$  and  $[-1, 0]$ . It reveals that the market reacts favourably to the announcement of private placements that invite existing controlling shareholders. This supports the positive expectation of the market and is in line with the incremental monitoring hypothesis (Wruck, 1989) while contradicting the tunnelling hypothesis (Zhao et al., 2015; Liu et al., 2016). In the meantime, the finding of existing controlling shareholders who are affiliated shareholders also supports the information certification theory. That is, block purchases of connected shareholders are perceived as their approval of firm values (Leland & Pyle, 1977;

Krishnamurthy et al. 2005). Private issues to single shareholders also gain significantly positive market reactions but only within the  $[-3, 0]$  event period. This positive outcome is more likely to be formed by the market's anticipation of incremental monitoring from this sole investor (Wruck, 1989).

Announcements of private placements to passive shareholders are non-events given the insignificant CARs. This indicates that such offerings carry little information and show weak evidence that the market expects incremental monitoring. Private placements with participating from new controlling shareholders also gain insignificant announcement returns. However, because of the small size of the sub-sample (36 cases), this result might be firm-specific.

The observed positive short-term announcement returns of private placements, however, are not sustainable. For the full sample, the CARs within the long-term event windows of  $[-10, +120]$ ,  $[-1, +120]$  and  $[+1, +120]$  are all significantly negative, which indicates stock underperformance compared to the prediction given by the market model. This is similar to the observations of Wruck and Wu (2009) of the US market. Antweiler and Frank (2004) find that various firm events follow a return pattern which shows positive short-term returns followed by long-term underperformance. They interpret this pattern as being a response to overly optimistic initial assessments of these events. Although the present study does not further investigate this puzzling return pattern, it supports the implication that to extend event windows might help reveal the ultimate announcement effect of private placements.

**Table 4.3 Comparison of abnormal stock returns around announcements of different categories of private placements from 2006 to 2015**

CAR(%) is calculated using a market-model regression of firm stock returns. The estimation window is [-89, -11], with day 0 being the public announcement day. The test of means is of four mutually exclusive sub-categories of private placements issued to existing control, new control, single shareholder, and passive shareholders. For the full sample and each sub-sample, the mean of abnormal returns within multiple event windows, the results of t-tests (in parentheses) on whether the means of returns are statistically different from zero are reported. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

	All private placements (n=1052)	Placements to existing control (n=515)	Placements to new control (n=36)	Placements to single non-controlling shareholder (n=34)	Placements to passive shareholders (n=467)
CARs from	0.404%	0.653%	0.082%	1.826%	0.024%
day -3 to day 0	(2.43)**	(2.46)***	(0.07)	(2.05)**	(0.10)
CARs from	0.491%	0.798%	1.174%	0.99%	.073%
day -1 to day 0	(3.86)***	(4.37)***	(1.44)	(1.46)	(0.37)
CARs from	-8.650%	-7.202%	-16.269%	1.996%	-10.802%
day -10 to day 120	(-6.36)***	(-3.48)***	(-1.53)	(0.34)	(-5.25)***
CARs from	-8.685%	-7.298%	-18.366%	0.044%	-10.372%
day -1 to day 120	(-6.74)***	(-3.75)***	(-1.77)*	(0.01)	(-5.33)***
CARs from	-9.236%	-8.035%	-19.165%	-.903%	-10.401%
day +1 to day 120	(-6.91)***	(-4.16)***	(-1.87)*	(-.15)	(-5.39)***

Contrasting long-term CARs are observed across offerings issued to different key participating shareholders. Private equity offerings to existing controlling shareholders and passive shareholders both gain significantly negative long-term CARs regardless of the event window. Placements to new controlling shareholders also obtain significantly negative long-term CARs but only for event windows of  $[-1, +120]$  and  $[+1, +120]$ . Firms that issue equity privately to sole investors earn normal long-term returns. Despite the above disparity, results from a joint test in means indicate that the differences in the long-term CARs of the four categories of placements are small. This indicates that the identity of key participating shareholders cannot differentiate the long-term abnormal stock returns around and after private placements at the univariate level.

A plot (Figure 4.1) showing CARs of various categories of private placements is generated to present the comparison of offerings issued to four types of key participating shareholders. Following Barclay et al. (2007), each dot is located by summing and then averaging the cumulated daily prediction errors dated to public announcement date (day 0) of private placements. As shown by Figure 4.1, four groups of private placements share the similar experience of an upward movement in unexpected returns within the 10 days before the announcements, suggesting a certain level of information leakage. In particular, offerings to new controlling shareholders present the most significant short-term climb in abnormal returns, and issues to passive shareholders experience the lowest level of unexpected positive returns. In

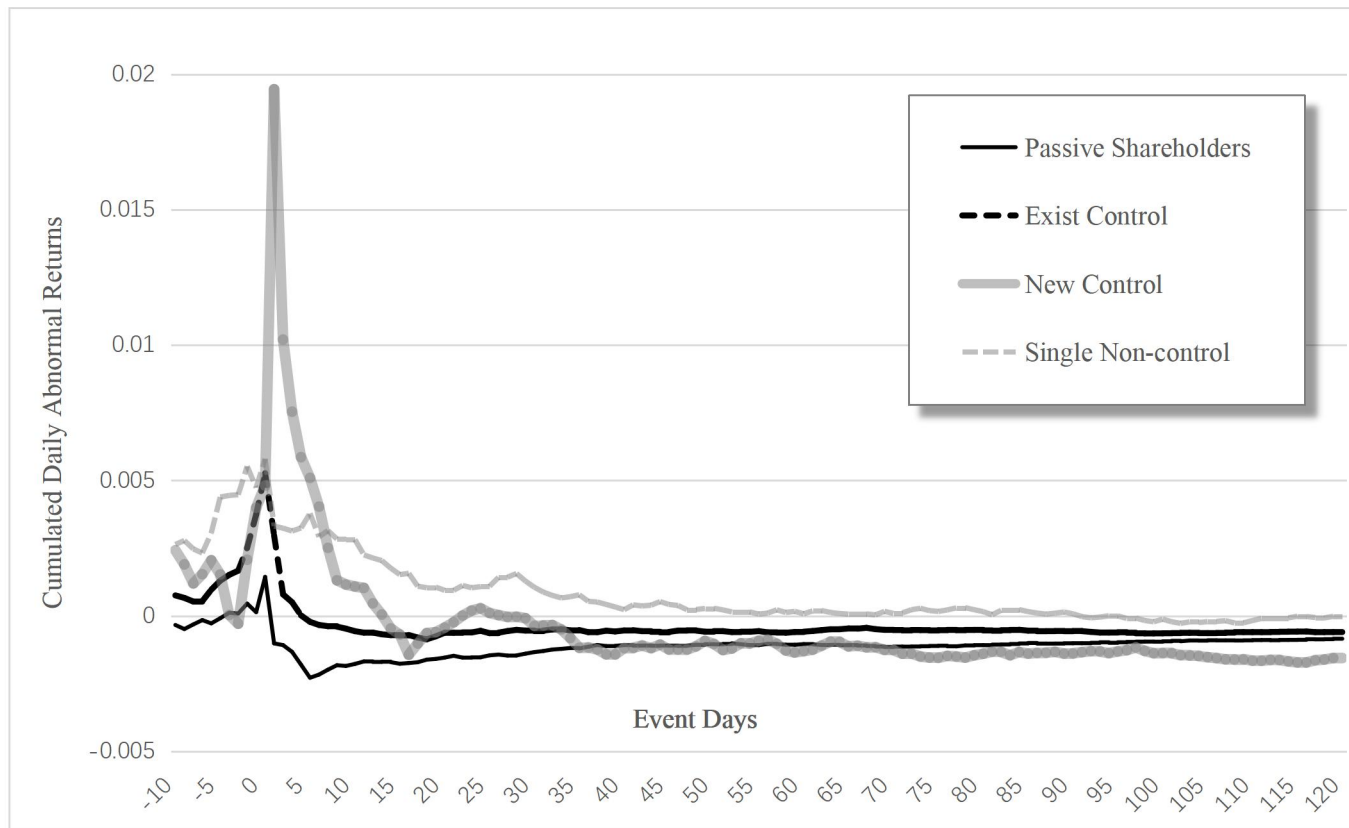
general, after day 10, the CARs dated to day 0 stabilize around zero for the four types of offerings, suggesting that the market has absorbed the information released by private placements.

#### **4.5.1.3 Univariate features of post-offering firm characteristics**

This study next examines the descriptive feature of the post-offering cash dividend policy and other firm characteristics. Table 4.4 shows three measurements of cash dividends, namely payout ratio, dividend yield and cash dividend per share, and all report that cash distributions are different across firms inviting various types of shareholders to private placements. Using *CDPS*, firms placing the offerings to existing controlling shareholders are shown to have the highest level of cash dividends with a mean of ¥ 0.159 per share (t-statistic of 9.52 when compared to the category of passive placements not reported in Table 4.4). This observation is consistent with the results of Zhao et al. (2015) which use *CDPS* as their main proxy for payout policy. Yet, using *PAYOUT* and *DY*, cash dividends following placements to existing controlling shareholders are not statistically different from cash distributed by firms having single shareholders and passive shareholders in placements. That is, the apparent tendency of higher cash dividends to be associated with existing controlling shareholders' subscriptions given by the measurement of *CDPS* is absent with changes of measurements to *PAYOUT* and *DY*.

**Figure 4.1 The tendency of long-term abnormal stock performance around private placements**

Cumulative daily abnormal stock returns are obtained by summing and then averaging the cumulative daily prediction errors dated to the announcement date (Day 0). The category of Existing Control refers to those private placements that include existing controlling shareholders. The New Control category gathers those private placements in which new controlling shareholders are elected. The Single Non-control category features those private placements in which a non-controlling shareholder is the only buyer. Passive placements are those private placements in which only multiple non-controlling shareholders are invited. The four categories above are exclusive and exhaustive.





**Table 4.4 Post-offering firm characteristics of different categories of private placement issuers**

This table lists the means of post-issue cash dividends (*PAYOUT*, *DY*, *CDPS*), earnings (*ROE*), inter-corporate loans (*ORTA*) and capital expenditure (*CapEx*) of firms issuing private placements to existing controlling shareholders, new controlling shareholders, one single non-controlling shareholder and passive shareholders, respectively. The results from F-tests of difference in means are also reported in the last column. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

	Existing Control	New Control	Single Non-control	Passive	Test of joint equity in means
N	1770	78	90	1632	3570
<i>PAYOUT</i>	0.318	0.156	0.307	0.308	2.47*
<i>DY</i>	0.009	0.003	0.009	0.009	7.69***
<i>CDPS</i>	0.159	0.107	0.103	0.125	30.86***
<i>ROE</i>	1.769	0.952	1.811	1.443	17.27**
<i>ORTA</i>	0.015	0.055	0.017	0.017	73.48***
<i>CapEx</i>	0.056	0.092	0.042	0.060	14.83***

As to firms that introduce new controlling shareholders via private placements, they have the lowest level of cash dividends according to measurements of *PAYOUT* and *DY*. Yet, using *CDPS*, their post-offering cash dividends are not statistically different from those of firms issuing private placements to single non-controlling shareholders and passive shareholders (a joint t-statistic of 1.37).

Private issues to existing controlling shareholders and single shareholders have a similar level of post-offering earnings (a t-statistic of -0.22). These two groups also have a significantly stronger accounting performance compared to offerings to new controlling shareholders and passive shareholders. For example, the mean of *ROEs* after private placements participated by existing controlling shareholders is

statistically higher than those earned by firms that issue private offerings to passive shareholders (a t-statistic of 18.76 which is significant at the 1% level). This observation is consistent with the monitoring hypothesis that placements inviting controlling shareholders and single shareholders are more likely to gain incremental monitoring (Wruck 1989). Also, in line with the monitoring hypothesis, firms that include existing controlling shareholders in private issues have the lowest level of inter-corporate loans (*ORTA*) than any other categories of issuing firms. For example, the mean of *ORTA* after private placements participated by existing controlling shareholders is statistically lower than those for firms offering equity privately to passive shareholders (a t-statistic of -2.48 which is significant at the 1% level). This also supports the idea that the subscription of existing controlling shareholders is associated with less tunnelling than when such subscription is absent. This result contradicts the tunnelling argument raised by Liu et al. (2016).

Liu et al. (2015) demonstrate that tunnelling by controlling shareholders usually incurs scant capital investments (*CapEx*). Given the results in the bottom row of Table 4.4, firms with existing controlling shareholders in private placements are in the middle range in term of capital expenditure (the case of single shareholders have the lowest *CapEx*). Despite that this observation is not particularly informative under the absence of controls for growth opportunity, firm size and other relevant characteristics, it notably does not support the prediction of tunnelling raised by Liu et al. (2016). Overall, results of this present study thus far are more inclined to the idea of

incremental monitoring by existing controlling shareholders (Wruck, 1989) than to the argument of tunnelling (Liu et al., 2016).

## **4.5.2 Multivariate analysis**

### **4.5.2.1 The determinants of the short- and long-term abnormal stock returns around private placements**

The multivariate analysis begins with the examination of the announcement effect of private placements. Considering that private placements conducted by different issuers in different years might be subject to fixed time-effects and group-effects, period-fixed and cross-section-fixed (two-way fixed) panel regression is used to study the determinants of announcement CARs. The use of this regression method is supported by the Hausman test. Taking the regression on  $CAR[-1, 0]$  as an example, the Chi-square statistic testing for random cross-section effects is 18.01 ( $p < 0.04$ ) and 34.60 ( $p < 0.01$ ) for random period effects. This supports the alternative, a fixed-effect model, as more consistent than the random-effect model. Further evidence supporting the use of a two-way fixed effect model can be found in the joint F-statistic on testing the applicability of fixed cross-section and period effects. This figure is 1.29 which is significant at the 1% level.

As shown in Table 4.5, the CARs within both short-term  $[-1, 0]$  and long-term  $[-1, 120]$  and  $[+1, 120]$  event periods are investigated. The interested explanatory

variables are the cross-terms between discounts and identities of key participating shareholders who are categorized as existing controlling shareholders (*EXISTING CONTROL*), new controlling shareholders (*NEW CONTROL*) and single non-controlling shareholders (*SINGLE*). Private placements issued to multiple non-controlling shareholders (passive shareholders) are used as the control group.

The results testing on  $CAR[-1, 0]$  are listed in Column 1 of Table 4.5. The coefficient of *EXISTING\_CONTROL* is significantly positive at the 1% level, indicating that offerings to existing controlling shareholders tend to generate more favourable short-term market reactions than issues to multiple unaffiliated shareholders (the control group). This is similar to the findings of Krishnamurthy et al. (2005) that participation of affiliated shareholders in private placements is perceived as certification of firm investment values and therefore tends to receive higher announcement returns. This result is also consistent with the findings from univariate tests and fits the contention that the market gives more credit to private equity offerings that highlight the possibility of incremental monitoring from block shareholders (Wruck, 1989). Further, this result opposes the contention that the subscription of controlling shareholders raises the concern of aggravated tunnelling (Liu et al., 2016). The positive coefficient of *NEW CONTROL* is also significant. It appears that both existing and new controlling shareholders are favoured by the market when they are known to participate in private placements. Contrary to the results of Wruck (1989) based on the US market, sole investors (*SINGLE*) in private

placements have a negative but insignificant impact on the short-term announcement returns in China. It is possible that under a concentrated ownership structure, the incremental monitoring provided by single non-controlling investors is trivial given the controlling shareholder in place.

The positive impact of existing controlling shareholders' subscriptions on short-term announcement returns of private placements, however, might be shadowed by their discounts. Given the significantly negative coefficient of *EXISTING\_CONTROL\*DISCOUNT1*, higher discounts for existing controlling shareholders lead to lower announcement returns compared to when discounts are offered without the subscription of existing controlling shareholders. It shows that the short-term market reactions are less in favour of the subscription of existing controlling shareholders when higher discounts are offered. This negative incremental effect of discounts only applies to existing controlling shareholders. That is, despite that the market welcomes existing controlling shareholders in private placements (which is not in line with the tunnelling argument), the market receives a negative shock when the associated discounts are high. The market might need more time to process this shock. Hence, this study next examines the long-term CARs around private placements for further evidence.

The results of the first proxy of long-term abnormal returns, *CAR[-1, 120]*, are displayed in Column 2 of Table 4.5. The testing method remains a two-way fixed panel regression which has an F-statistic of 1.35 ( $p < 0.01$ ) for the joint significance of

fixed cross-section and fixed period effects. The coefficients of *EXISTING CONTROL*, *NEW CONTROL* and *SINGLE* are all insignificant, suggesting that the identity of key participating shareholders only has a weak effect on the long-term CARs around private placements.

Recall that when private placements are just announced ( $CAR[-1, 0]$ ), the discounts offered to passive shareholders (*DISCOUNT1* in Column 1) do not affect how the market views the related offerings. However, the coefficient on *DISCOUNT1* becomes significantly negative when tested on  $CAR[-1, 120]$  (Column 2). That is, observations from the long event window reveal that the market tends to be disappointed by offerings that grant high discounts to passive shareholders. This study finds that passive shareholders tend to be small block holders with a relatively short investment horizon, which signifies that they are less likely to provide additional monitoring for issuing firms.

**Table 4.5 The determinants of the short-term and long-term abnormal stock returns around announcements of private placements**

This table lists the results showing the significance of determinants in interpreting the short-term and long-terms of abnormal stock returns (CARs) around the announcement of private placements. Data used in this test is provided by firms inviting existing controlling shareholders and firms inviting passive shareholders (the control group) in private placements conducted from 2006 to 2015. The testing method is fixed cross-section and fixed period effects (two-way fixed) panel regression. The dependent variable is  $CAR[-1,0]$ ,  $CAR[-1,120]$  and  $CAR[+1,120]$  from Columns 1 to 3. Definitions of variables are detailed in Section 4.4.4. The industrial effect is reported as “Yes” if statistically significant and “No” if insignificant. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

	(1.)	(2.)	(3.)
	Car[-1, 0]	Car[-1, 120]	Car[+1, 120]
C	-2.997 (-.17)	3.878** (2.20)	3.842** (2.18)
EXISTING_ CONTROL	2.681*** (3.56)	-.078 (-1.06)	-.107 (-1.44)
NEW_ CONTROL	7.042* (1.79)	.622 (1.60)	.543 (1.40)
SINGLE	-.137 (-.11)	-.151 (-1.22)	-.153 (-1.23)
DISCOUNT1	3.219 (1.44)	-.452** (-2.05)	-.502** (-2.27)
EXISTING_ CONTROL *DISCOUNT1	-6.143** (-2.50)	.406* (1.67)	.485** (2.00)
NEW_ CONTROL *DISCOUNT1	-11.29 (-1.47)	-.610 (-.81)	-.475 (-.63)
SINGLE_ *DISCOUNT1	-2.253 (-.51)	.634 (1.46)	.684 (1.57)
SIZE	0.088 (.11)	-.168** (-2.16)	-.166** (-2.13)
TOBIN'S Q	.071 (.22)	-.058* (-1.84)	-.056* (-1.79)
N	1052	1052	1052
Adj. R <sup>2</sup>	.196	.241	.226

Contrary to the observation from short-term CARs, the significantly positive coefficient of *EXISTING\_CONTROL\*DISCOUNT1* indicates that higher discounts granted to existing controlling shareholders are associated with better long-term stock returns compared to when discounts are offered to passive shareholders. This indicates that after absorbing the shock of discounts, the market feels more optimistic when higher discounts are received by existing controlling shareholders rather than by passive shareholders. This is against the tunnelling argument which predicts that the market senses a lower tunnelling risk when offerings give higher discounts to smaller blocks instead of the largest block (Liu et al., 2016). When controlling shareholders invest in private placements, an enlarged scale of equity is at stake. Therefore, controlling shareholders are likely to be more active in monitoring even from a self-concerned point of view (Wruck, 1989). The observations on long-term CARs fit the argument of incremental monitoring raised by *Hypothesis 2a*. It is also implied that the incremental monitoring provided by small blocks is less likely to build up the confidence of the market especially with high discounts granted. Following Antweiler and Frank (2004), this study leans toward the evidence from an extended event window. That is, with a longer event window during which the market has relatively sufficient time to process shocks, more favourable reactions are formed when higher discounts are offered to existing controlling shareholders instead of multiple non-controlling shareholders. This supports the argument of incremental monitoring raised by *Hypothesis 2a* instead of the argument of tunnelling raised by *Hypothesis*



*1a.*

It is hard to disentangle the incremental monitoring effect from the information certification effect when both arguments predict higher announcement returns for the participation of existing controlling shareholders in private placements (Wruck, 1989; Krishnamurthy et al., 2005). Still, this study is more inclined to identify the beneficial effect of high discounts granted to existing controlling shareholders as the market's expectation of incremental monitoring. This is because existing controlling shareholders as insiders are granted large discounts in private placements (a mean of 0.228 compared to a mean of 0.115 for passive issues), which is against the information cost hypothesis since existing controlling shareholders should have low information acquisition costs.

As a potential robustness test, this study also examines the post-offering long event window stock performance ( $CAR[+1,+120]$ ) using a two-way fixed panel regression. The results are listed in Column 3 of Table 4.5. Showing a high consistency with the results for  $CAR[-1,+120]$  in Column 2, the coefficient of  $EXISTING\_CONTROL*DISCOUNT1$  remains significantly positive.

#### **4.5.2.2 The post-offering use of inter-corporate loans**

The purpose of this test is to investigate whether the post-offering tunnelling activities differentiate between discounts offered to existing controlling shareholders

and discounts offered to passive shareholders. The results of this test can provide further evidence of whether the practice of post-offering corporate governance of firms that offered high discounts to existing controlling shareholders in private placements is consistent with the incremental monitoring argument (Wruck, 1989) or the tunnelling argument (Liu et al., 2016). Following Jiang et al. (2010), inter-corporate loans proxied by other receivables scaled by the total asset (*ORTA*) is used as a measurement of tunnelling via direct fund transfer.

The comparison is held between firms issuing private placements to existing controlling shareholders and firms placing the offerings with passive shareholders. These two types of private placements naturally present the comparison between offerings to deeply affiliated shareholders (existing controlling shareholder) and offerings to weakly affiliated shareholders (multiple non-controlling shareholders). On top of that, firms issuing private placements to existing controlling shareholders and passive shareholders occupy about 95% of the post-offering observations of total sample firms. Besides, offerings to new controlling shareholders could be firm-specific, and the monitoring role of single non-controlling shareholders may not be pronounced under concentrated ownership (Zwiebel, 1995), they are therefore excluded from the following tests.

Shown in Table 4.6, the coefficient of *EXISTING\_CONTROL* is negative but insignificant. As to observations on discount-related variables, *DISCOUNT1* has a positive coefficient with the 5% level of significance. This indicates that larger

discounts given to passive shareholders are associated with higher inter-corporate loans, which signifies greater tunnelling risk. Passive investors might be favoured by issuing firms that intend to preserve vested interests of controlling parties (Barclay et al., 2007). In this case, the offering discount is compensation for passive shareholders to establish a coalition with controlling shareholders. The result of *DISCOUNTI* testing on inter-corporate loans shows that the larger the discounts offered to passive shareholders, the more likely tunnelling is active. This supports the passive investor argument of Barclay et al. (2007).

Forming a contrasting comparison, *EXISTING\_CONTROL\*DISCOUNTI* has a negative coefficient which is significant at the 5% level. This provides evidence that higher discounts offered to existing controlling shareholders are followed by less use of inter-corporate loans compared to when discounts were only offered to passive shareholders. This evidence suggests a case of more regulated use of inter-corporate loans. The disparate signs of the coefficients on *DISCOUNTI* (+) and *EXISTING\_CONTROL\*DISCOUNTI* (-) signify how discounts offered to shareholders with various levels of affiliation with issuing firms result in different impacts on tunnelling. Higher discounts for existing controlling shareholders are associated with less use of inter-corporate loans and therefore better quality of corporate governance compared to when discounts were only offered to passive shareholders. This result provides support for the incremental monitoring hypothesis (*Hypothesis 2b*) rather than the tunnelling hypothesis (*Hypothesis 1b*).

**Table 4.6 Discounts received by existing controlling shareholders and by passive shareholders as determinants for post-offering issues of inter-corporate loans**

This table lists the results showing the significance of determinants in interpreting the post-issue inter-corporate loans. The sample includes the post-offering observations of firms issuing private placements to existing controlling shareholders and firms placing offerings with multiple non-controlling shareholders between 2006 and 2015. The dependent variable is *ORTA*. Definitions of variables are detailed in Section 4.4.4. The industry fixed effect is controlled for in the regression and the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	ORTA
C	.057*** (3.83)
EXSITING_CONTROL	-.000 (-.13)
DISCOUNT1	.010** (2.28)
EXSITING_CONTROL* DISCOUNT1	-.010** (-2.19)
SIZE_OF_FUNDS	-.001 (-.34)
ROA	-.009 (-.90)
CASH	-.006 (-1.21)
LEVERAGE	.016*** (4.51)
SIZE	-.001** (-2.38)
MB	.001*** (3.10)
LN_BOARD	-.001 (-.29)
IND_DIRECTOR	.008 (.81)
MARKETIZATION	.000 (.58)
No. obs.	3402
Adj. R <sup>2</sup>	.134

#### 4.5.2.3 The post-offering capital expenditure

The next post-offering allocation of funds examined by this study is capital

expenditure. This test is also relevant to corporate governance because Liu et al. (2015) find that Chinese family firms which suffer more from tunnelling tend to have less capital expenditure. The results examining capital expenditure is listed in Table 4.7. Similar to previous findings on inter-corporate loans, the impact of offering discounts on capital expenditure also varies based on who the discount in question is offered to.

The coefficient of *DISCOUNT1* is negative and significant at the 5% level, suggesting higher discounts offered to passive shareholders can be indicative of lower capital expenditure. The positive coefficient of *EXISTING\_CONTROL\*DISCOUNT1* (a t-statistic of 2.56) shows that existing controlling shareholders who obtained a larger discount in placements refrain less from enlarging long-term investments compared to when discounts were only offered to passive shareholders. This indicates that discounts offered to existing controlling shareholders serve a more promotive role for the expenditure on capital investments compared to when discounts were offered to multiple non-controlling shareholders. This contradicts the tunnelling argument (*Hypothesis 1c*). Instead, this evidence shows consistency with the incremental monitoring prediction given by *Hypothesis 2c*. The results of control variables are, in general, as expected. Stronger accounting performance (*ROA*) is associated with higher capital expenditure. Firms that are more interested in long-term asset investment tend to have less cash (*CASH*) at hand and smaller firm size (*SIZE*).

**Table 4.7 Discounts received by existing controlling shareholders and by passive shareholders as determinants for post-offering capital expenditure**

This table lists the results showing the significance of determinants in interpreting the post-issue capital investments. The sample includes the post-offering observations of firms issuing private placements to existing controlling shareholders and firms placing offerings with multiple non-controlling shareholders between 2006 and 2015. The dependent variable is *CapEx*. Definitions of variables are detailed in Section 4.4.4. The industry fixed effect is controlled for in the regression and the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	CapEx
C	.090*** (2.90)
EXSITING_CONTROL	-.009** (-2.37)
DISCOUNT1	-.026** (-2.17)
EXSITING_CONTROL* DISCOUNT1	.035*** (2.56)
SIZE_OF_FUNDS	-.015 (-1.46)
ROA	.138*** (4.58)
CASH	-.080*** (-7.63)
LEVERAGE	.005 (.52)
SIZE	-.005*** (-3.31)
MB	-.000 (-.58)
LN_BOARD	.024*** (3.04)
IND_DIRECTOR	.020 (.76)
MARKETIZATION	—
No. obs.	3402
Adj. R <sup>2</sup>	.113

#### 4.5.2.4 The determinants of post-offering profitability

Under the corporate governance setting, this study uses the ratio of net profits scaled by equity (*ROE*) at the end of the year as a measurement of profitability. This measurement highlights firm accounting performance in relation to capital provided by shareholders. The incremental impact of discounts received by existing controlling shareholders on profitability may facilitate the interpretation of how this incremental impact affects cash dividends.

The results of the test on *ROE* are listed in Table 4.8. The coefficient of *DISCOUNT1* is significantly negative, indicating that higher discounts offered to multiple non-controlling shareholders are associated with lower earnings. This fits the expectation that discounts offered to multiple shareholders who have a weak affiliation with issuing firms have less benefit for firm performance. The evidence fits the notion that discounts offered to multiple non-controlling shareholders are less likely to bring in additional monitoring, which, again, fits the passive investor argument (Barclay et al., 2007).

The coefficient of *EXISTING\_CONTROL\*DISCOUNT1* is positive, which is significant at the 1% level. This indicates that higher offering discounts for existing controlling shareholders result in stronger profitability compared to when discounts were only offered to passive investors. The result is against the tunnelling argument which views discounts as the safety net for the consequence of tunnelling and predicts weaker firm performance when discounts were offered to controlling shareholders

rather than non-controlling shareholders. Forming a contrasting result compared to passive offerings, discounts interacting with existing controlling shareholders represent a more likely case of incremental monitoring given the additional contribution it makes to earnings. This result brings further support to the notion of incremental monitoring suggested by *Hypothesis 2d*.

The coefficient of *LEVERAGE* is positive and significant at the 1% level. Firms that rely on debt financing tend to have less equity capital, suggesting a smaller denominator and therefore a larger value of *ROE* for a given level of earnings. The cash level (*CASH*) has a significantly positive impact on earnings. *LN(BOARD)* has a negative coefficient which is significant at the 5% level. This shows that larger board sizes, as an indication of greater agency conflicts and lower efficiency (Jensen, 2010), reduce earnings.



**Table 4.8 Discounts received by existing controlling shareholders and by passive shareholders as determinants for post-offering profitability**

This table lists the results showing the significance of determinants in interpreting firms' post-issue earnings. The sample includes the post-offering observations of firms issuing private placements to existing controlling shareholders and firms placing offerings with multiple non-controlling shareholders between 2006 and 2015. The dependent variable is *ROE*. Definitions of variables are detailed in Section 4.4.4. The industry fixed effect is controlled for in the regression and the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

	ROE
C	-205 (-.17)
EXISTING_CONTROL	0.039 (.38)
DISCOUNT1	-.625*** (-2.62)
EXISTING_CONTROL *DISCOUNT1	.958*** (2.94)
SIZE_OF_FUNDS	-.596 (-1.62)
CASH	2.049*** (4.05)
LEVERAGE	4.654*** (12.94)
SIZE	.003 (.06)
MB	.028 (1.40)
LN_BOARD	-.670** (-2.21)
IND_DIRECTOR	-.688 (-.63)
No. obs.	3402
Adj. R <sup>2</sup>	.307

#### 4.5.2.5 The determinants of post-offering cash dividend policies

The purpose of this test is to investigate whether the post-offering cash dividends

differentiate between discounts offered to existing controlling shareholders and discounts offered to passive shareholders. The results of regression testing for post-offering cash dividend behaviours are listed in Table 4.9. Three measurements of payout policy are adopted: dividend yield (Column 1), payout ratio (Column 2) and cash dividend per share (Column 3).

In Column 1, the significantly negative coefficient on *EXISTING\_CONTROL* provides evidence that the presence of existing controlling shareholders in private placements leads to lower dividend yields when compared to observations from firms that only invite multiple non-affiliated shareholders. The discounts offered to multiple non-affiliated shareholders (*DISCOUNT1*) have a significantly negative association with post-offering dividend yields. Given the significantly positive coefficient of *EXISTING\_CONTROL\*DISCOUNT1*, placements that offered higher discounts to existing controlling shareholders tend to have higher post-offering dividend yields compared to when discounts were only received by passive shareholders.

After replacing *DY* with *PAYOUT*, an accounting-based measurement of cash dividends (Column 2 of Table 4.6), the coefficients on *EXISTING\_CONTROL* and *DISCOUNT1* remain negative but become insignificant. Still, the coefficient of *EXISTING\_CONTROL\*DISCOUNT1* remains significantly positive. The last tested measurement of cash distributions is cash dividend per share (*CDPS*) which is also the main tested dependent variable of Zhao et al. (2015). In Column 3, the coefficient of *EXISTING\_CONTROL* becomes positive and significant at the 1% level. This is

similar to the results documented by Zhao et al. (2015). That is, private placements participated by existing controlling shareholders tend to have higher *CDPS* compared to cases without such participation; interpreted as interests transfer by Zhao et al. (2015). Yet, using *DY* and *PAYOUT*, the positive coefficient of *EXISTING\_CONTROL* is reversed. Therefore, the present study is unable to form a definitive opinion regarding how the subscription of existing controlling shareholders itself affects cash dividend practice.

Still, the use of *CDPS* produces consistent results on *DISCOUNTI* and *EXISTING\_CONTROL\*DISCOUNTI*. Higher offering discounts (*DISCOUNTI*) for multiple non-affiliated shareholders tend to lead to significantly lower cash dividends per share. Yet, when larger discounts were offered to existing controlling shareholders, higher post-offering cash dividends per share are generated compared to when only passive shareholders received the discounts. That is, the finding that the incremental impact of discounts received by existing controlling shareholders results in higher cash payouts is robust to the choices of measurements of dividends (*DY*, *PAYOUT*, *CDPS*).

If the offering discount is the compensation for additional monitoring provided by existing controlling shareholders (*Hypothesis 2e*), the positive incremental influence over cash dividends could be the outcome of the concurrently enhanced firm performance. Alternatively, if controlling shareholders demand a larger discount to control the cost of aggravated tunnelling (*Hypothesis 1e*), the positive incremental

influence over cash dividends can be a form of interests transfer. The prior results show that stronger profitability is observed when higher discounts were offered to existing controlling shareholders instead of only passive shareholders, which is in line with the incremental monitoring argument. This indicates that the positive incremental influence of existing controlling shareholders' received discounts over cash dividends is financially-founded and less likely to be a result of aggravated tunnelling. Therefore, this study interprets the observation that higher cash dividends follow offerings that granted higher discounts to existing controlling shareholders instead of only passive shareholders as the outcome of incremental monitoring (*Hypothesis 2e*).

The results of control variables are generally consistent across the tested measurements of cash dividends. Firms with stronger accounting performance (*ROA*), less debt (*LEVERAGE*), larger firm size (*SIZE*) and simultaneously issuing stock dividends (*SD*) are shown to pay higher cash dividends. A larger growth opportunity (*MB*) leads to fewer cash dividends. The lockup period (*LOCKUP*) which imposes a resale restriction on participating investors in private placements has an insignificant impact on post-offering cash dividends. This suggests that the anticipated illiquidity within lockup periods might be managed before the offerings, such as via negotiation terms and offering discounts, and therefore shows a weak connection with post-offering cash dividends.

**Table 4.9 Discounts received by existing controlling shareholders and by passive shareholders as determinants for post-offering cash dividend behaviours**

This table lists results showing the significance of determinants in interpreting the post-offering cash dividends. The sample includes the post-offering observations of firms issuing private placements to existing controlling shareholders and firms placing offerings with multiple non-controlling shareholders from 2006 to 2015. The dependent variables from Columns 1 to 3 in order are *DY*, *PAYOUT*, *CDPS*. Definitions of variables are detailed in Section 4.4.4. The industry fixed effect is controlled for in the regression and the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	(1).	(2).	(3).
	DY	PAYOUT	CDPS
C	-.040*** (-6.04)	-.034 (-.15)	-.404*** (-3.52)
EXSITING_ CONTROL	-.001* (-1.73)	-.004 (-.15)	.039*** (3.66)
DISCOUNT1	-.003* (-1.76)	-.101 (-1.32)	-.043* (-1.80)
EXSITING_ CONTROL*	.004* (1.89)	.155* (1.81)	.075** (2.30)
SIZE_OF_FUND	-.002 (-.97)	-.172** (-2.42)	.010 (.26)
ROA	.040*** (6.52)	-.766*** (-3.45)	.529*** (4.21)
CASH	-.002 (-.82)	-.112 (-1.23)	.064 (1.44)
LEVERAGE	-.010*** (-6.13)	-.456*** (-7.11)	-.128*** (-4.14)
SIZE	.003*** (8.63)	.030*** (2.96)	.023*** (4.63)
MB	-.001*** (-13.78)	-.016*** (-3.34)	.004* (1.85)
SD	.013*** (4.12)	.548*** (4.69)	.025 (.61)
LOCKUP	-.000 (-.49)	-.012 (-.58)	.001 (.15)
No. obs.	3402	3402	3402
Adj. R <sup>2</sup>	.188	.026	.076

#### 4.5.2.6 Robustness check

Private placements as targeted equity issues can create new block shareholders or reinforce the holdings of existing block shareholders. Large shareholders, therefore, might use private placements to secure their controlling positions if they are keen to protect their dominance over the board. Accordingly, they could be motivated to increase their holdings to 30% (the baseline of being in absolute control) or higher if the second largest shareholders also claim a substantial proportion of equity. Shareholders may desire to be in absolute control of firms for strategic or operational reasons. Alternatively, they may express this interest if to secure the controlling position means that their intended tunnelling will not be constrained by other block holders or potential takeovers. That is shareholders who are likely to seize private placements to obtain a dominating position present a more likely case of tunnelling.

The first set of robustness tests is designed out of the concern that controlling shareholders who are not in absolute control of firms or who can be suppressed by other top shareholders might choose private placements for a non-operational cause. This test, therefore, focuses on offerings to existing controlling shareholders whose holdings in the year before the placement are below the legally defined 30% for absolute control or whose holdings scaled by the holdings of the second largest shareholder is below the 5% percentile given by the full observations. The tested sample also includes observations of firms placing offerings with multiple non-controlling shareholders as the control group.

Shown by Table 4.10, the results of this robustness test are generally consistent with previous results obtained from the full sample of firms issuing private placements to existing controlling shareholders. The signs and the significance levels of the coefficients on *EXISTING\_CONTROL\*DISCOUNT1* are highly comparable with previous findings when re-tested on *ORTA*, *CapEx*, *ROE* and *CDPS*. That is, the observations on existing controlling shareholders who are more likely to use targeted issues of equity to pursue a dominant position within firms still support an account of incremental monitoring compared to the case of passive offerings.

The second robustness test examines whether the joint impact of existing controlling shareholders and their received discounts in private placements depends on the measurements of discount. To do so, this test replaces *DISCOUNT1* with *DISCOUNT2*. This new discount measurement can verify if the use of market-driven with-information prices on the 10<sup>th</sup> trading days after private placements (Hertzel & Smith, 1993) produces consistent results. As shown in Table 4.11, the signs and the significance levels of the coefficients on *EXISTING\_CONTROL\*DISCOUNT2* are highly consistent with the observations on *EXISTING\_CONTROL\*DISCOUNT1* when re-tested on *ORTA*, *CapEx*, *ROE* and *PAYOUT*.

**Table 4.10 Robustness tests on participating controlling shareholders who were not in absolute control of firms before private placements**

This table lists the robustness test results showing the significance of determinants in interpreting the post-offering fund allocations of inter-corporate loans, capital expenditure and cash dividends; and the post-offering probability using a reduced sample of offerings issued to existing controlling shareholders. The tested sample covers the post-offering observations of firms issuing private placements to existing controlling shareholders who were not in absolute control before private placements and firms placing offerings with multiple non-controlling shareholders between 2006 and 2015. The dependent variables from column 1 to 4 in order are *ORTA*, *CapEx*, *ROE* and *CDPS*. Definitions of variables are detailed in Section 4.4.4. The industry fixed effect is controlled for in the regression and the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	(1).	(2).	(3).	(4).
	ORTA	CapEx	ROE	CDPS
C	.049** (2.42)	.147*** (4.92)	-.270 (-.39)	-.285** (-2.07)
EXSITING_ CONTROL	.001 (.51)	-.013*** (-4.06)	.096 (.91)	.051*** (2.71)
DISCOUNT1	.011*** (2.45)	-.031*** (-4.26)	-.400** (-2.32)	-.032 (-1.29)
EXSITING_ CONTROL*	-.010** (-1.93)	.030*** (3.09)	1.089*** (4.81)	.140*** (3.02)
DISCOUNT1	-.010** (-1.94)	.006 (.64)	-1.792*** (-7.81)	-.103** (-2.19)
SIZE_OF_FUND	-.011 (-.90)	.125*** (4.73)	—	.520*** (3.52)
ROA	-.008 (-1.48)	-.080*** (-7.71)	2.111*** (8.67)	.005 (.11)
CASH	.014*** (3.07)	.010 (1.27)	4.445*** (25.69)	-.140*** (-3.74)
LEVERAGE				



SIZE	-0.001 (-0.97)	-0.008*** (-5.94)	.024 (.78)	.020*** (3.29)
MB	.000** (1.94)	-0.001 (-1.30)	-0.009 (-.75)	.001 (.46)
SD	—	—	—	.038 (.94)
LOCKUP	—	—	—	-.015 (-1.56)
LN(BOARD)	-0.000 (-.09)	.028*** (4.45)	-.734*** (-4.95)	—
IN_DIRECTOR	.002 (.20)	.029 (1.35)	-1.388*** (-2.81)	—
MARKETIZATION	-0.000 (-.05)	—	—	—
No. obs.	2222	2222	2222	2222
Adj. R <sup>2</sup>	.140	.106	.350	.098

**Table 4.11 Robustness tests on an alternative measurement of the offering discount of private placements**

This table lists the robustness test results showing the significance of determinants in interpreting the post-offering fund allocations of inter-corporate loans, capital expenditure and cash dividends; and the post-offering probability using an alternative measurement of offering discounts. The sample covers the post-offering observations of firms issuing private placements to existing controlling shareholders and firms placing offerings with multiple non-controlling shareholders between 2006 and 2015. The dependent variables from Column 1 to 4 in order are *ORTA*, *CapEx*, *ROE* and *PAYOUT*. Definitions of variables are detailed in Section 4.4.4. The industry fixed effect is controlled for in the regression and the results are omitted. Standardized beta coefficients are reported; Newey-West adjusted t-values in parentheses. \*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

Variable	(1).	(2).	(3).	(4).
	ORTA	CapEx	ROE	PAYOUT
C	.059*** (3.98)	.087*** (2.79)	-.315 (-.25)	-.027 (-.11)
EXSITING_ CONTROL	-.002 (-1.26)	-.007** (-1.97)	.116 (1.20)	-.000 (-.01)
DISCOUNT2	.005 (1.33)	-.017* (-1.83)	-.193 (-.99)	-.130* (-1.88)
EXSITING_ CONTROL*	-.003 (-.77)	.023** (2.03)	.616** (2.12)	.150* (1.80)
DISCOUNT2	-.002 (-.40)	-.016 (-1.53)	-.704** (-1.93)	-.161* (-1.87)
SIZE_OF_FUND	-.010 (-1.02)	.142*** (4.75)	—	-.738*** (-3.36)
ROA				

CASH	-0.007 (-1.33)	-0.079*** (-7.57)	2.046*** (4.03)	-0.111 (-1.06)
LEVERAGE	.016*** (4.49)	.005 (.52)	4.656*** (12.91)	-.459*** (-6.22)
SIZE	-.001*** (-2.44)	-.005*** (-3.28)	.004 (.08)	.029*** (2.59)
MB	.001*** (2.96)	-.000 (-.54)	.025 (1.22)	-.015*** (-2.92)
SD	—	—	—	.546*** (3.09)
LOCKUP	—	—	—	-.014 (-.65)
LN(BOARD)	-.001 (-.28)	.024*** (3.02)	-.668** (-2.22)	—
IND_DIRECTOR	.008 (.82)	.020 (.75)	-.661 (-6.61)	—
MARKETIZATION	.000 (.51)	—	—	—
No. obs.	3402	3402	3402	3402
Adj. R <sup>2</sup>	.132	.111	.307	.026

## 4.6 Summary of results

Private placements as targeted equity offerings can create new block holders or enhance the control of existing large shareholders who are found to provide incremental monitoring for issuing firms (Wruck, 1989). However, current studies of the Chinese stock market mostly assert that large shareholders participate in private placements to preserve and aggravate tunnelling activities (Zhao et al., 2015; Liu et al., 2016). This chapter discusses whether discounts offered to various investors generate different influences over the abnormal stock returns around private placements, the post-offering issues of inter-corporate loans, capital expenditure, profitability and cash dividends.

This present study identifies and categorizes the identity of key participating shareholders based on their affiliation with issuing firms. There are two aspects to consider: the time when the affiliation was formed and the strength of the affiliation. Accordingly, the key participating shareholders were divided into existing controlling shareholders (strong affiliation formed before private placements), new controlling shareholders (strong affiliation formed after private placements), single non-controlling shareholders (semi-strong affiliation formed after private placements) and multiple non-controlling shareholders or passive shareholders (weak affiliation after private placements). The main research focus lies in the comparison between firms issuing private placements to existing controlling shareholders and firms placing the offerings with multiple non-controlling shareholders (the control group).

Part of the evidence supporting the tunnelling argument can be found in Liu et al. (2016) who suggest that both the presence and the discounts received by controlling shareholders cause less positive announcement returns of private placements. This present study finds that the short-term announcement effect of private placements is significantly positive. And, the subscription of existing controlling shareholders contributes to a more favourable market reaction, which contradicts the findings of Liu et al. (2016). This positive impact of the subscription of existing controlling shareholders on the short-term announcement returns, however, can be suppressed when high discounts are granted. Following Barclay et al. (2007) and Wruck and Wu (2009), this study extends the examined event window to 120 trading days after the announcement of private placements to identify stock performance of issuing firms within longer event windows. Unlike the short-term stock performance, discounts received by existing controlling shareholders result in stronger long-term stock performance compared to when discounts were only offered to passive investors. That is, the incremental impact of discounts received by existing controlling shareholders influences stock returns differently depending on the lengths of event windows. Compared to passive offerings, the incremental effect is negative within the short-term and positive within the long-term. This indicates that the discounts offered to existing controlling shareholders ultimately lead to better stock performance compared to when only passive shareholders received the discounts. In other words, the evidence supporting the tunnelling account fades away after extending the event

window. The stronger market reactions towards higher discounts obtained by existing controlling shareholders instead of passive shareholders are more in line with the market's anticipation of incremental monitoring.

Another body of literature argues that controlling shareholders are motivated to invest in private placements because they can retrieve funds via high post-offering cash dividends (Zhao et al., 2015). Yet, the results of the present study show that this only appears to be valid when the measurement of payouts is cash dividend per share, which is also the main tested dependent variable of Zhao et al. (2005). After replacing the measurements of cash dividends with dividend yield and payout ratio, the association between existing controlling shareholders' subscriptions and high cash dividends is absent or reversed. That is, the subscription of existing controlling shareholders itself does not have a definitive impact on cash dividend policy. But, when examining discounts granted to existing controlling shareholders (not controlled by Zhao et al. 2015), it is evident that discounts interacting with existing controlling shareholders leads to higher cash dividends regardless of the choices of measurement of payouts.

This study relies on the examination of post-offering allocations of funds and firm performance to provide a more definitive answer as to whether the observation on cash dividends is due to tunnelling via payouts or stronger profitability via incremental monitoring. The evidence is that higher discounts for existing controlling shareholders are followed by fewer inter-corporate loans and therefore better

corporate governance compared to when multiple non-controlling shareholders received the discounts. Also, discounts received by existing controlling shareholders are found to promote more capital expenditure compared to when discounts target passive investors. Further results show that higher discounts for existing controlling shareholders are associated with higher earnings compared to when discounts were offered without the subscription of controlling shareholder. This verifies that higher cash dividends led by larger discounts received by existing controlling shareholders, instead of passive shareholders, are founded on the premise of better accounting performance and are associated with more regulated fund allocations. These results support the idea that incremental monitoring is served by existing controlling shareholders participating in private placements.

This study concludes that shareholders who choose to increase their holdings when they already have a controlling position are less likely to be involved in tunnelling but have a stronger inclination for incremental monitoring. As a matter of fact, the robustness test indicates that the above contention still holds even when largest shareholders are not in absolute control of the issuing firms before participating in private placements. Overall, the results are consistent with the view that incremental monitoring is more effectively encouraged by the discounts granted to existing controlling shareholders compared to the discounts granted to multiple non-controlling shareholders.

## **CHAPTER FIVE. CONCLUSION**

This thesis examined the impact of controlling shareholders on cash dividend practices of Chinese listed firms, with respect to events which change controlling shareholders' holdings. Empirical evidence suggests that it is less common for controlling shareholders to transfer firm wealth via cash dividends, especially after the NTS reform. In addition, cash dividend practices are influenced by firm profitability and the information environment, suggesting that the demands of controlling shareholders may not be the ultimate determinant of cash dividend policies.

### **5.1 The NTS reform and the heterogeneity of controlling shareholders**

Using the NTS reform as an experimental setting, Chapter 2 looks into the way agency conflicts and capital constraints associated with controlling shareholders affect cash dividend practices. The NTS reform is the exogenous event that removes the discount and the non-tradability of controlling shareholders' holdings, both of which are considered to affect the preference of controlling shareholders for cash dividends (Lee & Xiao, 2004; Chen et al., 2009a).

This thesis first examined how the market's cash dividend practice reacts to the NTS reform. The empirical test identifies a decrease in cash dividends after the reform. This highlights the possibility that the united pricing of non-tradable and



tradable shares and the granted tradability of controlling shareholders' holdings weaken controlling shareholders' preference for cash dividends. It is also consistent with the view that the NTS reform motivates the monitoring incentive of controlling shareholders (Liu & Tian, 2012; Hou et al., 2012), which promotes a reduced tunnelling incentive and a downward adjustment in cash dividends.

The study then examined the impact of the heterogeneity of controlling shareholders on cash dividends. The categories of controlling shareholders were formed according to the governance incentive of controlling shareholders for firms (agency conflicts) and the financial condition of controlling shareholders (capital constraints). The results suggest that SOEs directly funded and controlled by cash-starved local governments distribute higher cash dividends. These payout decisions appear to be little influenced by the NTS reform or non-controlling large shareholders. This supports the argument that cash dividends can deviate from being a fair reward to all shareholders and become a source of funding for local governments. For SOEs that are controlled by local SASACs and the central government, the issue of cash dividends appears to be promoted by non-controlling large shareholders. This result is consistent with the traditional agency theory that suggests cash dividends are a sign of regulated practice of corporate governance. Further results show that cash dividends tend to be lower for family firms when controlling families own more substantial holdings. Considering that family business owners are inclined to hoard

excessive cash that is ready to be tunnelled (Liu et al., 2015), this may explain why family business owners suppress the payment of cash dividends.

Additionally, whether cash dividends affect the issue of inter-corporate loans, which are considered as a type of direct tunnelling (Jiang et al., 2010), was investigated. Using a TSLS regression method, the results report a significant and negative relationship between inter-corporate loans and cash payouts within non-SOEs and local SOEs. For non-SOEs in which controlling shareholders can accrue the benefits that come from private lending (in this case, via inter-corporate loans), lower cash dividends are indicative of higher inter-corporate loans and can be viewed as a sign of weaker corporate governance. For local governments who appear to view cash dividends as one option to increase their incomes and are unable to acquire private interests from inter-corporate loans, this relationship is still negative. It is possible that cash dividends and inter-corporate loans compete under the given level of free cash-flows. Only for central SOEs, is the link between cash dividends and inter-corporate loans insignificant.

Overall, these findings support the argument that the attitude of controlling shareholders towards cash dividends varies depending on whether they hold a tunnelling incentive and what their preferred choice of tunnelling is. For some tunnelling-prone non-state shareholders, it appears that they tend to adopt a low-payout policy as cash dividends can reduce the cash available to be tunnelled by

other methods. Alternatively, higher cash dividends could be paid to provide private benefits to local governments that rely on these payments to supplement incomes.

## **5.2 The signalling function of private placements**

In Chapter 3 the treatment effect of private placements on cash dividends is identified. The chapter considers whether the information-releasing effect of private placements interacts with the signalling effect of cash dividends. This interaction has been largely overlooked in previous studies.

Focusing on the cash dividends issued in the year preceding private placements, evidence suggests that managers tend to announce higher cash payouts when private placements are in the nearer future. This is similar to the observation that firms raising public equity tend to announce cash dividends before the offerings so as to reduce the information uncertainty (Booth & Chang, 2011). It appears that cash dividends can serve a similar function for private equity offerings.

The next focus is on how private placements affect cash dividends. Examine the strictly matched treatment group and control group, the evidence given by PSM tests is that private placements lead to lower cash dividends both within and after lockup periods. These results are robust to alternative measurements of cash dividends. This evidence removes the concern that higher cash dividends are used to provide liquidity during lockup periods. Also, this does not support the view of Zhao et al. (2015) who

identify private placements resulting in higher cash dividends as evidence of fund transfers to large shareholders. Given that the results of Chapter 3 are inconsistent with those from Zhao et al., the chapter examined the impact of private placements on firm long-term stock performance for further evidence. Again, not supporting the tunnelling hypothesis, further tests reveal that the long-term stock returns, proxied by the constant term derived from the three-factor model (Fama & French, 1993), are positively influenced by private placements. This is in line with the positive information conveyed by private placements (Hertzel & Smith, 1993). It supports the view that an improvement in the firm-level information environment resulting from private placements reduces the need for cash dividends as a signalling tool (Cheng et al., 2011; Aggarwal et al., 2012; Hail et al., 2014).

Lastly, the chapter examined whether private placements affect the announcement effect of cash dividends. This is also an attempt to verify the signalling function of private placements. The evidence shows that the announcement returns of cash dividends are enhanced by private placements. It supports the expectation that the market acts more optimistically for the distribution of cash dividends given the potential improvement in the firm-level information environment led by private placements. This result also receives support from Dedman et al. (2015). This present study then paid attention to financially constrained issuing firms in which private placements are more likely to be a solution for financial stress than a signalling mechanism (Krishnamurthy et al., 2005). The results show that private placements

have a weak connection with cash dividends and stock performance for financially distressed issuing firms in which private placements tend to carry less information content.

Overall, this adds new evidence to the literature. Private placements, as an information-releasing event, lower the pressure to use cash dividends as an option of signalling. It emphasizes the importance of a firm's information environment in relation to cash dividend policy.

### **5.3 Participating shareholders and discounts in private placements**

Chapter 4 discusses whether, and how, discounts of private placements applied to participating shareholders who vary in levels of affiliation with issuing firms result in differences in firm performance and firm decisions. It is expected that shareholders with a deep affiliation with issuing firms, such as existing controlling shareholders, are more likely to perform active monitoring after private placements given the increased investment at stake. This expected incremental monitoring is predicted to positively affect cash payouts, stock performance and capital investment, and negatively affect the use of inter-corporate loans (a form of tunnelling).

To identify how discounts of various participating shareholders are viewed by the market, both short-event-window and long-event-window CARs around private placements were examined. The results show that the subscription of existing

controlling shareholders significantly adds to stock returns within the short-term announcement period. Further, higher discounts offered to existing controlling shareholders result in weaker announcement CARs but better long-event-window CARs compared to when discounts are offered to multiple non-controlling shareholders. This study presents the following interpretation for the contrasting results. Given that the discounts received by existing controlling shareholders tend to be larger, it is possible that this price treatment raises doubt in the market when the discounts are first announced. But, when this information is fully processed in the longer run, the market appears to become more optimistic when higher discounts are offered to existing controlling shareholders compared to when discounts are only granted to multiple non-controlling shareholders. This optimism of the market, by contrast, reflects an expectation of incremental monitoring which is more likely to be associated with large block holders (Wruck, 1989).

Analysis in this chapter shows that private placements that are without the participation of controlling shareholders tend to invite passive investors. It finds that non-controlling shareholders introduced by private placements tend to become small blocks with a short investment horizon. Barclay et al. (2007) identify the incentive of only inviting passive investors in private placements as protecting the entrenchment in place. Under this circumstance, the offering discount tends to be the compensation for not interfering but forming a coalition with controlling parties. This indicates tunnelling risk when private placements are offered to multiple non-controlling

(passive) shareholders.

Further tests show that when higher discounts were offered to existing controlling shareholders in private placements, firms tend to pay higher cash dividends compared to when discounts were only granted to passive investors. Showing consistency with this result, higher discounts for existing controlling shareholders are also found to result in stronger profitability compared to when discounts were offered in passive offerings. The coherent upward tendencies of cash dividends and earnings are both led by larger discounts for existing controlling shareholders and provide less credibility to the tunnelling argument. In addition, this chapter discusses the issue of inter-corporate loans (a measurement of direct tunnelling) and capital expenditure. These two firm decisions together with cash dividend policy cover three aspects of fund allocations: tunnelling, investments and payouts. The findings show that larger discounts granted to existing controlling shareholders result in less use of inter-corporate loans and more capital expenditure, meaning more regulated fund allocations, compared to when discounts were received by passive investors. Assuming this desirable practice of corporate governance is the result of incremental monitoring, discounts offered to existing controlling shareholders could be viewed as the reward for incremental monitoring. It is worth mentioning that this beneficial outcome was also observed when existing controlling shareholders were not in an absolute controlling position of firms before private placements. This suggests that private placements are less likely to facilitate

aggravated tunnelling by offering a further secured controlling status to large shareholders.

The overall findings in Chapter 4 are consistent with the view that higher discounts offered to existing controlling shareholders tend to lead to additional monitoring, which is a less likely result when discounts were only offered to passive investors. It appears that the increased holdings build stronger monitoring incentive via a stronger link between the wealth of controlling shareholders and firm values. This conclusion also receives support from performances of long-event-window market reactions and profitability, and firm decisions of inter-corporate loans, capital investments and cash dividends.

#### **5.4 Implications of the findings**

The implication of the findings of this thesis is that although controlling shareholders can manipulate cash dividend policy, cash dividends tend to be the outcome of desirable corporate governance, especially after the NTS reform. Before the reform, the non-tradable feature of the holdings of controlling shareholders prevented the opportunity for monitoring work to be rewarded by the market via capital gains and this could promote tunnelling activities by controlling shareholders. As a result, cash dividends once represented one of the most feasible ways to transfer firm resources to controlling shareholders (Lee & Xiao, 2003). It is suggested that



after the NTS reform, this tendency is restrained as cash dividends are reduced at the market level. Therefore, the first implication of this thesis is that the formation of aligned interests between controlling shareholders and minority shareholder via the NTS reform may contribute to regulations of the issue of cash dividends. It is therefore suggested that for a functional corporate governance system, regulations which lead to a stronger linkage between the wealth of controlling shareholders and the wealth of minority shareholders should be promoted.

Concerning the function of signalling served by cash dividends, this thesis demonstrates that the quality of the firm-level information environment affects the optimal level of payouts. As an information-releasing event, private placements (the treatment event) can fill the information gap about prospects of issuing firms (Hertzel & Smith, 1993). Compared to matched non-treated firms, firms that have made private placements are found to have lower cash dividends, yet better long-term stock performance and stronger announcement returns for cash dividends because of the placements. This leads to the second implication; that an improvement in the information environment of firms could alleviate the pressure to use cash dividends as a signalling tool and enhance the signalling effect of these cash distributions if used. It is advised that firms might rely on informational transparency to manage their internal financing system effectively. To promote the growth of the capital market, the authority could consider policies that enable outside investors to be more informed.

A concentrated ownership structure has been a dominating phenomenon since the

beginning of the Chinese stock market. Even though the NTS reform systematically decreased the holdings of controlling shareholders, most of them still maintain their controlling status following the reform. Therefore, it is reasonable to view the concentrated ownership structure as a long-standing trend in this market. This highlights the importance and the role of controlling shareholders. Accordingly, this thesis identifies two aspects that could affect the attitudes of controlling shareholders to cash dividends: agency conflicts and capital constraints. For financially-constrained local governments, SOEs under their direct control are shown to issue higher cash dividends which appear to be neither favoured nor disputed by other large shareholders. This implies that cash dividends serve a less reasonable function of replenishing incomes of local governments and other large shareholders fail to bend this tendency. In comparison, because of the supervision in place, SOEs controlled by SASACs and the central government tend to have regulated management, and so cash dividends are likely to be the outcome of efficient corporate governance. Also, for family firms, a higher level of family control results in fewer cash dividends, which can be a reflection of the preference of family business owners for large cash-holdings (Liu et al., 2015). Therefore, the third implication is that in the face of poor corporate governance, the influence of controlling shareholders over cash dividend practices is subject to whether paying cash dividends or holding back cash distributions better serves the private interests of controlling shareholders. Accordingly, when evaluating the level of payouts, standardised tailoring to individual firms is advised, especially

when firms are controlled by different categories of controlling shareholders.

Lastly, this thesis shows that although controlling shareholders are able to acquire private interests via the abuse of power, a concentrated ownership structure does not necessarily lead to tunnelling. Given that private placements are targeted equity issues, private placements can lead to changes in block-holdings of issuing firms. This thesis finds that private placements offering a higher discount to controlling shareholders may invite more active monitoring. On the contrary, private placements issued to multiple non-controlling shareholders lead to signs of weaker corporate governance and firm performance. These findings suggest that more concentrated ownership does not necessarily aggravate tunnelling; and less concentrated ownership does not necessarily bend tunnelling, either. Still, it is evident that given a stronger alignment between the interests of controlling shareholders and firm values, an increase in the holdings of controlling shareholders is more likely to result in incremental monitoring.

Although controlling shareholders are less likely to tunnel a firm's resources via cash dividends or to aggravate their abuse of power after participating in private placements, this does not imply the absence of tunnelling. According to Barclay et al. (2007), entrenched managers may invite passive shareholders who are willing to guard the private interests in place to participate in private placements. This supports the observations of Chinese firms that only invite non-controlling shareholders for private placements. It seems that tunnelling activities can be insidious and may not be

directly captured by public events. The authority may consider enhancing the information transparency of firm operations to allow minority shareholders to be more informed and more aware of the misconduct of large shareholders.

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