The Impact of Corporate Governance on Private Placements in Australia

Suichen XU

Bachelor of Commerce (Finance) *University of Southern Queensland*

Master of Professional Accounting *University of Southern Queensland*

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School of Economics and Finance
Faculty of Business
Queensland University of Technology
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KEY WORDS AND ABBREVIATIONS

- Private placement
- Discount
- Corporate governance
- Board composition
- Information asymmetry
- ASX = Australian Security Exchange
- ASIC = Australian Securities and Investment Commission
- PIPE = Private Investments in Public Equity
- SEO = Seasoned Equity Offering
- SPP = Share Purchase Plan

ABSTRACT

In a private sale of equity, the issuing firm sells a block of securities only to an individual or a small group of investors at a discounted price. Non-participating shareholders not only suffer from ownership dilution but also lose the opportunity to enjoy the private placement discount. This thesis provides the first evidence on whether and how corporate governance can protect non-participating shareholders' interests in the private equity issuing process. Based on a sample of 329 private placements issued by the top 250 Australian listed firms between 2002 and 2009, the results show that firms with a higher governance index, larger proportion of independent directors, and larger board size are more likely to issue private placements with a share purchase plan (SPP), which protects non-participating shareholders from ownership dilution. However corporate governance has no direct impact on private placement discounts. There is also support for the information asymmetry hypothesis where private placement discounts compensate investors for asymmetric information problem. These findings are robust to a correction for endogeneity and self-selection bias.

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STATEMENT OF ORIGINAL AUTHORSHIP

The work contained in this thesis has not been previously submitted to meet requirement for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

QUT Verified Signature

Signature: Date: 2014/3/31

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CHAPTER 1 INTRODUCTION

1.1. Background and Motivation

Recent years have seen a huge increase in the use of private placements for raising capital. In the US alone, total capital raised via private placements soared from USD 1.87 billion in 1995 to 88 billion in 2006, with the number of private placements growing from 127 in 1996 to 2,719 in 2006.[1] In the UK, private placements have become the first choice of seasoned equity offering (SEO) method since the restriction on the issue size of placements was lifted in 1996 (Barnes & Walker, 2006). The situation is no different in Australia; capital raised via private placements has increased significantly from AUD 2.3 billion in 1995 to AUD 46 billion in 2009, a twenty-fold increase in just 15 years (ASX, 2010).

Unlike other forms of SEOs which are made to all existing shareholders, such as rights issues and share purchase plans (SPPs), private placements are sold only to an individual or a small group of (institutional) investors at a substantial discount to the market price. In the US, the average private placement discount between 1995 and 2007 is 12.87%, which is equivalent to an average wealth of USD 54.70 million being transferred from the issuing firm to private equity investors (Chakraborty & Gantchev, 2013). This substantial discount poses a serious threat to the wealth of non-participating shareholders, who are deprived of both the benefits of the large discount and the right to anti-dilute their wealth. Concerns for such inequity are best summarized by the following statement:

[1] See Sagient Research (http://www.sagientresearch.com). Private placements include private investments in public equity (PIPE), 144-A placements, and Regulation S transactions.

> *"Placements are anything but innocuous for the shareholders who are excluded from the placement…. [During the global financial crisis,] 45 billion of equities were raised through private placements at an average discount of 12.3 per cent on the prevailing share price; and the average dilution to shareholders was 19 per cent. What was even more concerning was existing shareholders paid for the privilege. A study released in 2010 estimated that investors paid just under 2 per cent of all capital raised…."* (Ferguson, 2012)

Such concerns provide the motivation for this thesis, which aims to investigate whether corporate governance can mitigate the wealth transfer in private placement transactions in Australia.

Shleifer and Vishny (1997) define corporate governance in terms of the likelihood of shareholders getting a return on their investment. Shareholders' interests are thus better protected in better governed firms (Gompers *et al.*, 2003; Klapper & Love, 2004; Black *et al.*, 2006; Doidge *et al.*, 2007). For example, corporate governance can align the interests of managers with those of shareholders through increasing dividend payout (La Porta *et al.*, 2000b), providing better disclosure quality (Verriest *et al.*, 2012), making more informative disclosure (Beekes & Brown, 2006), reducing the likelihood of corporate fraud (Chen *et al.*, 2006), and constraining wealth transfer in related-party transactions (Datta *et al.*, 1999).[2] This thesis proposes that corporate governance can also constrain wealth transfer in private placement transactions.

Private placements are a non-market price transaction, and their terms and conditions are determined by the bargaining power between firm insiders and private equity investors without shareholder approval. It is therefore unclear whether good corporate governance quality can effectively protect the interests of non-participating shareholders, who are considered as outsiders in a private

[2] See also Brown et al. (2011) for a review of recent corporate governance literature.

equity issuing process.

Australia provides an ideal context for this study for two reasons. First, Australia has limited mandatory regulations on private placements, which minimizes the influence of regulations on investor protection in private placements. Indeed, the regulation only stipulates that there is a 25% limitation on the capital which can be raised in a 12-month period. Regulatory bodies in other countries employ a wider range of restrictions on private placements in comparison. For example, in the US, the Securities and Exchange Commission's (SEC) rule 144 regulates that new shares issued through private placements cannot be sold in the open market for a period of up to two years after the issue date. The Listing Rules of the London Stock Exchange (LSE) are even stricter, regulating the minimal offer price of placements and also requiring that a minimum of 25% of new shares be issued to market makers (Barnes & Walker, 2006). Similarly, the Singapore Exchange (SGX) imposes a maximum 10% discounts on private placement transactions (Chen *et al.*, 2002).

Second, in Australia, the code of good corporate governance is voluntary (Christensen *et al.*, 2010). This lack of mandatory requirements suggests that there is variability in the regulatory environment mandating corporate governance mechanisms, which in turn provides an opportunity to test the impacts of firm-level governance.

Finally, previous research on private placements tends to be US centric, with few studies considering the specific environment of other countries such as Australia.

1.2. Research Aims and Questions

The primary aim of this thesis is to empirically examine the impact of corporate governance quality in protecting non-participating shareholders in private placement transactions. I ask two related research questions. First, I ask whether non-participating shareholders are better protected in better governed firms. Early studies suggest that the discount on private placements compensates the purchaser for the increased monitoring of management in the post-issue period (Wruck, 1989) and for exercising due diligence in assessing the true value of the issuing firms in the face of information asymmetry (Hertzel & Smith, 1993). Barclay *et al.* (2007) argue that the discount also reflects the compensation to passive investors for their implicit support of management entrenchment after the private placement as they seldom participate in the firm affairs. Although the relationship between private placement discounts and the cost of post-issue monitoring service has been examined in prior studies (Wruck, 1989; Wruck & Wu, 2009; Liang & Jang, 2013), it remains unresolved whether the pre-issue monitoring mechanism has an impact on private equity discounts. Finding an inverse relationship between private placement discounts and corporate governance quality would suggest that non-participating shareholders are indeed better protected.

Second, I ask whether corporate governance is related to the firms' choice to issue a share purchase plan (SPP) with a private placement. An SPP, which is a type of public equity offering, provides existing shareholders the right to purchase newly issued shares at a discounted price. If an SPP is combined with a private placement, then the inequity in the treatment of non-participating

shareholders in private placements is largely reduced. Previous studies have focused on the role of asymmetric information as the primary determinant of the choice of private equity offering (Hertzel & Smith, 1993; Wu, 2004; Akhigbe *et al.*, 2006; Barnes & Walker, 2006; Chen *et al.*, 2010b). However, none of these studies have examined combinations of a private placement with a public offer. Barnes and Walker (2006), for instance, specifically exclude 436 issues that consist of a private placement and a public offer from their analysis. These combined offers represent about 50% of their final sample. This thesis thus aims to fill this void in the literature by investigating the motivation for firms to issue a private placement with a public offer. Since non-participating shareholders enjoy greater protection in firms with good governance, I predict a positive relationship between corporate governance quality and the likelihood that an SPP is offered with a private placement.

1.3. Summary of Major Findings

My analysis is based on a sample of 329 private placements issued by the top 250 (by market capitalization) Australian publicly listed firms over the period 2002-2009. I sample only the top 250 firms since governance rankings from Horwath reports are available only for these firms. I employ OLS regressions and probit models to analyze the impacts of corporate governance quality on private placement discounts and issuing choice, respectively. Two measures of private placement discounts are used. The first is the percentage difference between the offer price and the issuer's stock price 5 days prior to the announcement, and the

second is based on the issuer's stock price 1 day prior to the announcement.

Results show that neither the governance index nor individual governance attributes obtained from Horwath reports and SIRCA database, respectively, are significantly related to the private placement discount. Although contrary to prediction, they are consistent with previous Australian studies that look at the impact of corporate governance quality on firm valuation (Matolcsy *et al.*, 2004; Henry, 2008). The results are robust to a correction for potential endogeneity between governance and discount using the instrumental variable (IV) analysis.

However, I find a significant positive relationship between corporate governance quality and the likelihood of firms issuing private placements with an SPP offer, consistent with predictions. Therefore, corporate governance plays an important role in corporate choice of financing decisions, consistent with the outcome model (La Porta *et al.*, 2000b). My results also corroborate the information hypothesis in the context of Australian private placements where private placement investors demand a larger discount when issuing firms are associated with greater information asymmetry.

In sum, my findings indicate that while good corporate governance may not be able to reduce the private placement discount, it does protect the interests of non-participating shareholders through the issue of an SPP offer which allows them to enjoy the same discount as participating investors.

1.4. Thesis Layout

The rest of this thesis is organized as follows. Chapter 2 reviews the related literature on private placement issuing choice and discount. Hypotheses are

provided in Chapter 3, followed by data and research method in Chapter 4. Chapter 5 presents the empirical results, and finally Chapter 6 summarizes the main findings and concludes the thesis.

CHAPTER 2 LITERATURE REVIEW

2.1. Introduction

Private placements provide a convenient way to raise funds. Unlike public offers, private placements do not require the involvement of a lawyer or accountant, and need not be registered with the relevant authority until the required funds are raised. This chapter reviews previous research on the two main dimensions of private placements issuance. Section 2.2 discusses the relevant literature on firms' issuing choice between a private placement and a public offering. This is followed by a review of previous studies on the discount on private placements in Section 2.3. A summary is provided in Section 2.5.

2.2. Issuing Choice

Previous empirical work on the issuing choice of equity has examined several determining factors, including information asymmetry, corporate control, flotation cost, and insider trading. The extant literature on the equity issue choice is summarized in Table 2.1. Appendix 1 shows the different issue conditions of SEOs across countries.

There are two major choices for listed firms to raise equity: a public offering to the whole market or a private offering (placement) to a few selected investors. Akerlof (1970) suggests that the market will break down if the seller does not provide enough information to help the buyer identify the quality of the product. In the case of share issuance, adequate corporate disclosure can resolve the underinvestment problem, increasing the success of capital raising (Myers &

Majluf, 1984). Investors are more willing to participate in the share offering of firms with better information disclosure as the likelihood of misvaluation is lower (Chemmanur & Fulghieri, 1999). This suggests that firms with a richer information environment (greater disclosure) are more likely to choose a public equity offering. Further, the marginal cost of compliance with the disclosure requirements of public issues is lower for these firms than for firms with poorer disclosure. For the more opaque firms, issuing equity privately to a small group is a more cost-effective means of raising external funds.

Lee and Kocher (2001) compare the characteristics of 73 private placements and 191 matched public offerings in the US from 1981 to 1990. Using both one-way anova and logistic regression methods, they find evidence that private placements are primarily conducted by smaller firms and by firms with a larger growth opportunity (book-to market ratio). Lo *et al.* (2010) suggest that smaller firms tend to experience a higher level of information asymmetry since the net profit from private information search decrease with firm size. Additionally, Lo and Wong (2011) argue that firms with a higher proportion of intangible asset relative to assets-in-place are subject to greater uncertainty in firm valuation. Thus, the findings in Lee and Kocher (2001) support the information asymmetry hypothesis.

The information asymmetry hypothesis is also supported by Wu (2004), who uses a probit model to examine 330 equity offerings by high technology US firms from 1986 to 1996. She proposes that issuing firms with high information asymmetry are more likely to choose private placements because they want to lower the information production cost. Consistent with this argument, she finds

the likelihood of issuing private placements is positively correlated with the level of information asymmetry, which she proxies using analyst coverage, firm age,[3] institutional shareholding,[4] and bid-ask spread.

Using 329 placements and 193 rights offers during the period of 1995-1996 in the UK, Burton and Power (2003) examine the choice of equity issue method between (private) placements and rights offers.[5] Similar to the research findings in the US and consistent with the information asymmetry hypothesis, the propensity for issuing a placement is inversely related to firm size (market capitalization) and positively associated with the proportion of intangible assets (market-to-book ratio) among UK equity offerings.

Extending the research of Burton and Power (2003) with a much larger sample size and more proxies for information asymmetry, Barnes and Walker (2006) compare the characteristics of 168 (private) placements and 600 rights offerings in the UK between 1989 and 1998. They also find evidence of a significant positive relationship between the level of information asymmetry and the propensity to issue private equity. Specifically, younger firms with smaller issue proceeds, higher growth (market to book ratio), and those firms that disclose the use of proceeds (a dummy variable) are more likely to issue a (private) placement than a rights offering.

Jeppsson (2013) examines the choice of equity offering by European public

[3] Firms with short listing period normally have fewer historical financial record at available, resulting in a high level of information asymmetry.

[4] Firms with higher institutional ownership are scrutinized more and better monitored than the others with lower institutional ownership, leading to a lower level of information asymmetry.

[5] In the UK private placement, the underwriter undertakes to purchase new shares from the firm at a given price and then sell them to selected institutions. Different from private placements in the US, the London Stock Exchange requires a minimum of 25% of the new shares in placements to be offered to market makers. Therefore, the public also has an opportunity to participate in placements and subscribe to the new shares.

biotechnology firms. His sample consists of 170 private placements and 86 rights offerings over the period 1995 to 2012. As most biotechnology firms are in their early life cycle, few of them are profitable with most investing heavily in intangible assets like R&D. Therefore, the information asymmetry problem is particularly evident among biotechnology firms and makes it difficult for these firms to raise debt capital. Consequently, equity financing is expected to be their main source of funds. By focusing on biotechnology firms, Su *et al.* (2014) can obtain unbiased results from tests of private vs. public offerings choice since the influence of debt financing on capital raising is largely minimized. He finds that biotechnology firms tend to choose rights offerings instead of private placements following product-related R&D disclosures as the information gap between biotechnology firms and external investors is reduced. This finding confirms Korajczyk *et al.* (1992)'s hypothesis that information asymmetry is time-varying and managers can reduce information asymmetry by releasing corporate information prior to equity issuing. Furthermore, consistent with other studies based on samples covering multiple sectors, firms in the biotechnology industry are also more likely to choose private placements when they have a higher level of information asymmetry, which is proxied by larger bid-ask spread, lower trading volume, and shorter listing age.

The equity issuing choice can also be influenced by the ownership structure of the issuing firm. Controlling owners can enjoy the private benefits of control through their dominant power on voting (Dyck & Zingales, 2004). Unlike public offerings, which are available to all shareholders, private equities are issued

to a small number of investors.[6] Therefore, private placements are more likely to result in a dilution in the shareholding of the controlling owner who is not allowed to participate, reducing his/her private benefits since private equity buyers may become blockholders of the issuing firm and reap private benefits from controlling owners (Frankel & Li, 2004). In order to maintain their private benefits of control, public offerings such as rights offerings are more likely to be chosen in the presence of controlling owners in issuing firms outside the US.

Cronqvist and Nilsson (2005) examine the effects of ownership structure on equity issuing choice for a sample of 136 private placements and 160 rights offerings by Swedish listed firms over the period 1986 to 1999. They find support for the corporate control argument. That is, in Sweden, family-controlled firms are 39.8% more likely to issue equity through a private placement than a rights offering. Moreover, firms with a lower control margin (taken as the difference between the shareholding of the controlling party and all other blockholders) have a lower propensity to issue private placements. There is also support for the information asymmetry argument. Cronqvist and Nilsson (2005) find high information asymmetry firms (younger firms and firms in financial distress) are more likely to issue private placements.[7]

Lee and Wu (2009) take a different perspective in explaining firms' equity issuing choice by looking at insider trading patterns prior to private placement announcements. For firms issuing private placements, a considerable body of

[6] Outside the US, such as Sweden, Singapore, New Zealand, and Australia, private placements cannot be issued to firm insiders or large existing blockholders without shareholders' approval.

[7] Financial distress, dummy variable, is commonly used to proxy information asymmetry as firms in financial difficulty may try to hide bad information through reducing corporate information disclosure (Healy & Palepu, 2001).

research documents a positive market reaction to the announcement (Wruck, 1989; Hertzel & Smith, 1993; Hertzel *et al.*, 2002), suggesting that such announcements convey favorable information about the future prospects of the issuing firm (Varma & Szewczyk, 1993; Hertzel & Rees, 1998; Goh *et al.*, 1999). In contrast, firms issuing public offerings are on average associated with a negative market reaction, suggesting that public offerings convey management's belief that the issuing firm is overvalued (Myers & Majluf, 1984; Brous, 1992). Therefore, firm insiders who are better informed than outside investors are likely to utilize this informational advantage and conduct intensive insider share purchases prior to announcing a private placement. Conversely, insiders are more likely to conduct intensive share sales prior to public offering announcements. Based on a sample of 2,248 private placements and 9,237 public offerings in the US over the period 1980-1999, Lee and Wu (2009) find that the pre-issue abnormal insider purchases are positively related to the probability of issuing private placements. In contrast, post-issue abnormal insider sales are negatively related with the probability of making public offerings.

Another factor when considering the equity issuing choice is the flotation cost. Chen *et al.* (2010b) examine the role of total issuance cost in equity issuing choice for a sample of 2,087 PIPE transactions and 1,734 SEOs in the US for the 1996-2006 period.[8] Since one cannot observe what the offering costs would have been if the alternative offering method had been chosen, Chen *et al.* (2010b)

[8] PIPEs are equity issues to a private group of professional investors without the need for public registration prior to the transaction. In private placements, shares are normally subject to a 2-year lockup period; shares in PIPEs do not have these resale limitations. In the US, SEOs are firm commitment offerings or standby rights offers where the total offering proceeds is guaranteed by underwriter in the former case; in the latter, the underwriter only guarantees the proceeds on any unsubscribed portion of the offer.

adopt a two stage structure choice model to obtain an estimated flotation cost for the alternative. They find that the likelihood of issuing PIPEs is negatively related to the difference between the total cost of the PIPE offer and the SEO. In other words, PIPEs are preferable to SEOs when the total cost of conducting PIPEs is lower and vice versa. As such, they argue that cost savings is also a key determinant of the equity issuing choice. Chen *et al.* (2010b) also confirm the information asymmetry argument of Wu (2004) as they find issuing firms with greater information asymmetry (lower total assets and analyst coverage, and larger bid-ask spreads) are more likely to conduct PIPEs.

In contrast, using a sample of 4,098 seasoned equity offerings in Canada from 1993 to 2003, Carpentier *et al.* (2005) find the total costs of issuing private equity, both direct (remunerations of investment banker) and indirect (discounts on issued shares), are significantly higher than those of public equity after controlling for issue size, industry, and underwriter choice. However, their results support the view that private placements represent the last resort for issuing firms to raise external capital as they have to bear the higher floatation costs.

Table 2.1: Summary of literature on the equity issuing choice

Author	Sample	Period	No of Private placements	Explanation	Methodology	Findings
Lee and Kocher (2001)	from US listed firms	1981-1990	73 private placements and 191 public offerings	Information asymmetry	One-way annova Logistic model	Firms that choose private placements are much smaller and have more growth opportunity than those issue public offerings.
Burton and Power (2003)	from UK listed firms	1995-1996	329 placements and 193 rights offers	Information asymmetry	Logistic model	The propensity of issuing private placements is negatively correlated with firm size but positively associated with the proportion of intangible assets of issuing firms.
Wu (2004)	from US high technology firms	1986-1996	360 private placements and 728 public offerings	Information asymmetry	Probit model	Firms with a high level of information asymmetry measured as short life, little analyst coverage and big bid-ask spread are more likely to choose private placements
Cronqvist and Nilsson (2005)	from Swedish public firms	1986-1999	160 rights offerings and 136 private placements	Corporate control & Information asymmetry	Nest logit model	In order to maintain the private benefits of control, family-controlled firms prefer rights offerings to private placements
Carpentier L'Her and Suret (2005)	from Canadian listed firms	1993-2003	2,108 private investment in private equity PIPE and 1,990 seasoned equity offerings	Cost Saving	One-way annova & Cross-sectional regression	The private equity issue total costs including direct costs (remunerations of investment banker) and indirect costs (discounts on issued shares) are significant higher than public equity total costs.
Barnes and Walker (2006)	from UK listed firms	1989-1998	600 rights offerings and 168 placements	Information asymmetry	Logit model	Firms with short listing life, large book to market ratio are more likely to choose placements.

Table 2.1: Summary of literature on the equity issuing choice (continued)

Author	Sample	Period	No of Private placements	Explanation	Methodology	Findings
Lee and Wu (2009)	from US listed firms	1980-1999	2,248 private placements and 9,237 public offerings	Insider trading	Two stage regression	There is a significant signal about abnormal insider purchases prior to private placements; whereas abnormal insider sales appear before public offerings announcements
Chen Dai and Schatzberg (2010)	from US listed firms	1996-2006	2,087 PIPE transactions and 1,734 seasoned equity offerings	Information asymmetry & Cost Saving	Structure choice model	The information asymmetry is a key determinant to the equity issuing choice between PIPE transactions and SEOs. Moreover, PIPE is more likely to be choose by issuing firms when the total flotation costs of PIPE is lower relative to SEOs
Armitage (2010)	from UK listed firms	2003-2006	275 SEOs including 49 rights offers, 142 open offers and 84 placements	Cost Saving & Corporate Control	One-way annova	Due to the low information production costs, placement is a good choice to opaque firms. When there is a large shareholder (over 40% of ownership) in the issuing firms, companies will choose rights offerings rather than placements.
Jeppsson (2013)	European public biotechnology firms	1995-2012	86 rights offerings and 170 private placements	Information asymmetry	Probit model	In addition to information asymmetry proxies that have been examined in prior studies, Jepsson finds that biotech firms are more likely to choose right offerings when the progress of their R&D projects has been disclosed prior to equity issuing.

2.3. Private Placement Discounts

The extant literature on private placement discounts, as summarized in Table 2.2, can be traced as far back as 1971 when the SEC first reported an average discount of approximately 30% for placements of private equity in the US (Hertzel & Smith, 1993). More recent estimates are in the range of 10-25% (Brophy *et al.*, 2009; Wruck & Wu, 2009; Erhemjamts & Raman, 2012).

Private placement discounts are also observed outside the US. While existing shareholders pay a premium for private placements in Singapore, private placement discounts of similar magnitude as in the US are found in Canada (Maynes & Pandes, 2011), China (Deng *et al.*, 2011), Taiwan (Liang & Jang, 2013), the UK (Armitage, 2007), and New Zealand (Anderson, 2006). In Australia, the Institutional Shareholder Services (2010) reports an average private placement discounts of 12% for ASX200 firms in 2008 and 2009.

One of the first empirical studies on the wealth effects of private placements is conducted by Wruck (1989) using a sample of 128 private placements issued by firms listed on New York Stock Exchange (NYSE) and American Stock exchange (AMEX) between 1979 and 1985. She finds that private placements are associated with a positive change in shareholder wealth in the short run, and this increase in firm value is significantly positively related to the change in ownership concentration of the issuing firms. Accordingly, she attributes the increase in firm value to enhanced monitoring of management by private equity purchasers who help to align the interests of managers and shareholders. Consequently, the agency cost of the firm is reduced. She therefore

interprets private placement discounts as compensation to private equity buyers for the expected cost of post-issue monitoring service.

In a subsequent study, Wruck and Wu (2009) reexamine the monitoring hypothesis using a sample of 1,818 PIPE transactions with hand-collected data on changes in the board structure during private placement transactions over a period of 20 years (1980-1999) in the US. Private placements involve the issuance of a block of shares to a relatively small group of investors who do not have to already have a pre-issue relationship with the placement firm. Hence, as part of the placement contract, a new relationship between investors and the issuing firm may be created. The new relationship could involve an employment agreement (executives), a business arrangement (business alliance), one or more directorships (directors), or a 5% or greater shareholdings in the firm (i.e., placement investors become blockholders).

The results show that shareholders enjoy an average 3.51% cumulative abnormal return (CAR) during the announcement period if a new relationship between the issuer and investors is formed through the private placement agreement. The CAR for firms without any new relationship being created is lower by almost 3%. Firms that establish a new relationship with investors also have better operating profitability in the following two years, because the new relationship may serve as a mechanism to reduce agency costs by restricting post-issuing opportunistic behavior. Hence, investors who contribute to monitoring (thus improving the corporate governance) through forming a new relationship with the issuing firm require a larger discount. This is consistent with Wruck (1989)'s argument that private placement discounts compensate the

private equity purchaser for participating in the post-issue monitoring (governance) process.

Increased ownership concentration may not always result in reduced agency problem and increased firm value through enhanced monitoring. Sometimes it may lead to an exacerbation of agency problem and a reduction in firm value due to entrenchment (Morck *et al.*, 1988). In response to the latter possibility, Baek *et al.* (2006) examine the role of controlling parties in private placements by analyzing a sample of 262 private placements issued by chaebols in Korea from 1989 to 2000. The pyramidal ownership structure, which is a salient feature of many East Asian firms, allows firm insiders to exercise effective control over a company despite owning relatively few of its cash flow rights (Claessens *et al.*, 2002; Lins, 2003). Ultimate owners of the pyramids therefore have a strong incentive to divert resources from firms low in the pyramid towards those high in the pyramid (Bertrand *et al.*, 2002).

Baek *et al.* (2006) observe that private placement discounts are significantly lower (13.5% on average) for issuers in intra-group deals (issued to another chaebol member firm) than for issuers in other deals. They suggest that when chaebol affiliated firms are involved in private placements, the offer price of private equity is set deliberately low in order to benefit the controlling shareholders of the chaebol group. In doing so, controlling shareholders dilute the wealth of minority shareholders and divert wealth towards buyers within the chaebol group. Hence, discounts on private placements provide an instrument for tunneling at the expense of minority shareholders rather than compensation to private equity buyers for their post-issue monitoring service.

Unlike Baek *et al.* (2006) who focus on the controlling shareholders, Wu (2004) examines the role of firm executives in determining private placement discounts for a sample of 229 high-technology firms between 1986 and 1996 in the US. Based on agency theory, she proposes that managers with only limited shareholdings in the issuing firm have a strong incentive to expropriate shareholder interests by purchasing private equity at a large discount.[9] Consistent with the entrenchment hypothesis, her results demonstrate a positive relationship between the manager dummy (expressed as 1 if managers participate in the private placement and 0 otherwise) and private placement discounts. Wu (2004) further finds this positive relationship becomes more economically significant if managers involved in the private placement have a small initial stake in their firm. Her results indicate that private placement discounts become a new channel for managers to extract firm wealth.

Barclay *et al.* (2007) take a different perspective in interpreting private placement discounts by focusing on the identity of private equity investors. Relying on press reports, they classify private equity investors into two types: active investors who have post-issue interactions with the issuing firms in terms of joint research and combined marketing, and passive investors. Based on a sample of 594 private placement transactions in the US between 1979 and 1997, they find private equity purchasers play a passive rather than an active role in monitoring management in 88% of the private placements examined. Private placements with passive investors have a 2% lower initial announcement return and 20% poorer

[e] In the US, managers and other firm insiders are allowed to participate in private placements without shareholder approval.

stock performance (expressed by CAR 120 days after the announcement) than firms with active investors. This indicates that the monitoring hypothesis can only explain a limited group of private placements (12% of their sample) when private equity buyers are actively involved in the post-issue operations of placements firms. The majority of private placement transactions are with passive investors who demand a larger discount on private placements as compensation, not for post-issue monitoring service but for offsetting the anticipated poor post-issue long-run performance (Krishnamurthy *et al.*, 2005). In this context, private placement discounts are viewed as compensation for post-issue entrenchment.

The above noted studies focus entirely on the role of equity investors in terms of monitoring or entrenchment in private placements. The next group of studies offers a third possible explanation for private placement discounts based on the information asymmetry argument.

Using a sample of 106 private placement transactions on the NASDAQ from 1980 to 1987, Hertzel and Smith (1993) find evidence for the information asymmetry hypothesis. Extending Myers and Majluf (1984) information asymmetry model from public offerings to private placements, they argue that private equity placements by undervalued firms with little financial slack can mitigate the underinvestment problem and resolve asymmetric information in such a way as to take advantage of profitable investment opportunities. Through private placements, managers can put intensive effort into negotiating with and convincing a small group of investors that the firm is undervalued and has good prospects. In doing this, private equity buyers become informed investors who can alleviate the information asymmetry problem and certify the market valuation

of placement firms by agreeing to purchase a large block of stock at discounted price. Consistent with their argument, Hertzel and Smith (1993) find their proxies of information asymmetry (book-to-market ratio, placement size, firm size, and a financial distress dummy) are strongly correlated with private placement discounts. Therefore, the discounts on private placements offered to professional investors can be viewed as a compensation for reducing information asymmetry and certifying the value of placement firms.

Building on the work of Hertzel and Smith (1993), Anderson (2006) examines a sample of 70 private placements in New Zealand between 1990 and 2002. Similarly, Tan *et al.* (2002) examine 67 private placement in Singapore over a period of eight years (1988-1996). In comparison to New Zealand, which has less regulatory control on private placements, Singapore imposes stricter restrictions on the issue size, discount level, and identity of the purchasers. Nevertheless, regardless of the institutional setting, both studies provide evidence that private placement discounts are positively associated with the level of information asymmetry of issuing firms, which is proxied by the natural logarithm of the ratio of private placement proceeds to their market value. In New Zealand, Anderson (2006) finds private placement discounts are positively related to the risk of the issuing firms, as measured by the variance of daily stock returns from day -230 to day -5 prior to the announcement of the private placement.

Another explanation for private placement discounts is based on investor over-optimism. Hertzel *et al.* (2002) examine the long-term post-issue performance of a sample of 952 private placement transactions in the US between 1980 and 1996. In contrast to the significant positive abnormal return

during the announcement period, as reported by Wruck (1989) and Hertzel and Smith (1993), they find both the operating performance and stock returns of the issuing firms decline over the following four years after the announcement. They attribute this reversal of announcement period value gains to market over-optimism about the future prospects of the issuing firms. While their study is not focused on private placement discounts, their results reveal that the discounted price of private equity represents the true value of the issuing firm, as certified by sophisticated institutional investors. Therefore, private placement discounts represent the extent of mispricing by issuing firms.

Using a sample of 601 PIPE offerings in the US over the period 2002-2008, Glegg *et al.* (2012) confirm the inference of Hertzel et al. (2002) on the explanation for private placement discounts using a self-constructed mispricing index. The index is based on a scaled cross-sectional ranking of four mispricing measures: firm-specific mispricing, excess imputed value, average monthly abnormal return, and industry-adjusted market-to-book equity ratio. They find a significantly positive relationship between the discount on private placements and the degree of mispricing of placement firms. There is also a significant negative relationship between private placement discounts and the post-issue long-run performance. In other words, issuing firms that are more overvalued experience poorer long run performance, consistent with the certification argument that private placement discounts represent the level of firm mis-valuation. There is also support for the information asymmetry hypothesis as well. Issuing firms with a higher level of information asymmetry, as proxied by smaller firm size and lower institutional shareholding, have on average a higher private placement discount.

The last explanation offered by the literature is based on the liquidity of private equity offers. According to the SEC's Regulation D of Rule 144, any privately placed equity of listed firms is subject to a two-year restricted period where private equity investors cannot sell the privately placed equity to the public.[10] Silber (1991) examines a sample of 69 issuing firms in the US between 1981 and 1988, and finds the price of private equity is 33.75% lower than that of publicly traded securities issued by the same firm. This finding led him to conclude that the private placement discount is due to the resale provision, and that it is considered as compensation for institutional investors for the illiquidity of private equity.

Capitalizing on a natural experiment provided by a regulatory change that shortened the resale restriction period from 12 months to 4 months for private equity in Canada in 2001, Maynes and Pandes (2011) examine the impact of illiquidity on private placement discounts using a sample of 1,173 private placement offerings between 1993 and 2005. They observe a significant reduction on private placement discounts after the shortening of the resale restriction period. Consistent with Silber (1991) liquidity hypothesis, they find the private placement discount is negatively related to a regulatory change dummy, which takes the value of 1 if the placement was announced after 2001 and 0 otherwise. The results indicate that liquidity is a key determining factor of private placement discounts.

[10]On 12 February 2008, the SEC amended the resale restriction clause of Rule 144, which reduces the resale restriction period from 12 months to 6 months after the issuance of the privately placed equity (Maynes & Randes, 2011).

2.4. Australian studies

The first study on Australian private placements, conducted by Liu *et al.* (2013), investigates the long run stock performance of 1,621 private placements issued by 193 Australian firms during the period 1992- 1996. Consistent with earlier studies in the U.S. and Japan (Alli & Thompson, 1993; Kang *et al.*, 1999), he finds a significant stock price run-up 1-year prior to the placement but a significant negative 3-year buy-and-hold abnormal return (BHAR) after the private placement, controlling for firm size, industry and survivorship. His findings indicate that managers of Australian placement firms take advantage of a window of opportunity for their overvalued stock, thus supporting behavioral finance predictions.

Using a much larger sample (2,986 private placements) between 1993 and 2001, Brown *et al.* (2006) examine the relationship between pre-placement stock performance, measured by misevaluation, and corresponding long run post-issue performance, proxied by BHAR and residual income. They confirm Liu *et al.* (2013)'s inference that managers time their private placements to exploit market misvaluation. In their later study, in addition to window of opportunity hypothesis, Brown *et al.* (2009) argue that long-run underperformance of placement firms is also due to their low quality internal governance structure. Based on a sample of 11,055 Australian private placements issued between 1992 and 2006, they find a significant and positive relationship between firms' governance quality and post-issue performance. Their findings are robust to different estimations of corporate governance quality and after correcting reverse causality.

2.5. Chapter Summary

There are two distinct strands of research in the private placement literature. The first deals with the issue choice between private placements and other SEO methods; and the second examines the determinants of discount on private equity.

Previous literature has made much progress towards understanding the equity-issuing choice between private placements and public offerings. However, in practice, companies raise equity capital through a combination of private placements and public offerings. Yet, no studies to date have examined these combined choices.

The literature shows a significant positive relationship between the discount on private equity and the cost of expected post-issue monitoring service provided by private equity buyers (external governance). To best of my knowledge, the role of internal monitoring mechanisms such as board independence, board size, and frequency of board meeting in determining private placement discounts have not been addressed in the literature. Furthermore, early studies on private placements mainly focus on US firms, thus leaving many questions unanswered about what are the determinants of private placement discounts and corporate choice of issuing method in other countries like Australia.[11] This thesis aims to fill the above three gaps in the literature.

[11] Prior studies on Australian private placements (see for example, Chan (200); Brown, Gallery and Goei (2006) and Brown, Lee, Owen and Walter (2009)) mainly focus on the long-run performance of Australian private placements. In these papers, they partly examine the long-run performance of Australian private placements but do not investigate private placement discounts and choice of issuing method among Australia private equity issues.

Table 2.2: Summary of literature on private placement discounts

Author	Country / Sample	Period	No of Private placements	Discount	Measurement of Discount	Explanation	Findings
Wruck (1989)	from NYSE and AMEX in the US	1979 -1985	128	13.50%	$(P_0-P_{restricted})/P_0$	Monitoring Hypothesis & Implied liquidity	The discounts on private placements are considered as the compensations to private equity purchaser for aligning interests of managers and shareholders. The discounts on private placements can also be attributed to the sale restrictions.
Silber (1991)	from listed firms in the US	1981-1988	69	33.75%	$(P_0-P_{restricted})/P_0$	impaired liquidity	The private placement discounts is due to illiquidity (2-year resale restriction based on the Regulation D of SEC's Rule 144).
Hertzel and Smith (1993)	from NYSE, AMEX, NASDAQ in the US	1980-1987	106	20.14%	$(P_{10}-P_{offer})/P_{10}$	Information Asymmetric Hypothesis	Discounts on private placements reflect the due diligence and activities of private equity investors for reducing the information asymmetry of issuing firms.
Hertzel Lemmon Linck and Rees (2002)	from NYSE, AMEX, NASDAQ in the US	1980-1996	619	16.50%	$(P_{offer}-P_{last\ month})/P_{last\ month}$	Certification Hypothesis	The discounted offer price of private equity reflects the true value of issuing firms. In turn, the private placement discounts measure the overoptimism in the market
Wu (2004)	US high technology firms	1986-1997	338	19.40%	$(P_{10}-P_{offer})/P_{10}$	Entrenchment Hypothesis	Wu (2004) find that the private placement discounts tend to be higher when managers involved, as they only hold small initial shareholdings and have strong incentives to expropriate the wealth from existing shareholders through dilution effects.

Table 2.2: Summary of literature on private placement discounts (continued)

Author	Country / Sample	Period	No of Private placements	Discount	Measurement of Discount	Explanation	Findings
Krishnamurthy Spindt Subramaniam and Woidtke (2005)	from NYSE, AMEX and NASDAQ in the US	1983-1992	397	19.44%	$(P_{10}-P_{offer})/P_{10}$	Certification Hypothesis	Even though issuing firms experience a significant negative long-run abnormal return following the placements, investors participating private placement can still have a normal return because of the discounted share price. It indicates that discounted price reflects the future share decline of issuing firms.
Barclay Holderness and Sheehan (2007)	from listed firms in the US	1979-1997	594	18.70%	$(P_{offer}-P_1)/P_1$	Entrenchment Hypothesis	As managers are more likely to issue private equity to "friendly investors", issuing firms subsequently result in long-run underperformance. The discounts on private placements are viewed as compensations to passive investors for managerial entrenchment.
Wruck and Wu (2009)	from listed firms in the US	1980-1999	1,976	11.33%	(1): $(P_{10}-P_{offer})/P_{10}$ (2): $(P_{-1}-P_{offer})/P_{-1}$	Monitoring Hypothesis.	When private placements investors provide strong governance mechanism on the issuing firm (e.g. gaining the directorship or becoming the executives of issuing firms), large discounts on private placements occur.
Brophy Ouimet and Sialm (2009)	PIPE transactions in the US	1995-2002	2851	14.12%	$(P_0-P_{offer})/P_0$	Information Asymmetric Hypothesis	Hedge funds prefer to demand large discounts on private placements in order to protect themselves from risks related to serve information asymmetry and poor operating performance of issuing firms
Glegg Harris Madura and Ngo (2012)	PIPEs in the US	2000-2008	601	8.74%	$(P_{offer}-P_0)/P_{offer}$	Certification Hypothesis	There is a significantly positive relationship between the private placement discounts and equity mis-valuation, endorsing the previous view that discounted price of private equity reflect the true value of issuing firms.

Table 2.2: Summary of literature on private placement discounts (continued)

Author	Country / Sample	Period	No of Private placements	Discount	Measurement of Discount	Explanation	Findings
Erhemjamts and Raman (2012)	listed firms in the US	1990-2005	330	12.00%	$(P_{10}-P_{offer})/P_{10}$	Certification Hypothesis	Issuing firms using reputable investment banks provide lower discounts to private equity investors, suggesting that investment banks take a active role on certifying the value of issuing firms which subsequently results in low private placement discounts.
Tan Chng and Tong (2002)	issued by listed firms in Singapore	1988-1996	67	-13.73%	$(P_{offer}-P_{-30})/P_{-30}$	Information Asymmetric Hypothesis	Consistent with Hertzel and Smith (1993), Tan et al. (2002) find private placement discounts are large when placement size is large relative to the firm value
Baek Kang and Lee (2006)	non-financial firms listed in Korean Stock Exchange	1989-2000	262	13.50%	$(P_0-P_{offer})/P_0$	Entrenchment Hypothesis	Controlling shareholders in chaebol issuers tunnel firm wealth towards themselves through setting a deliberately low price in chaebol-affiliated placements.
Anderson (2006)	from listed firms in New Zealand	1990-2002	70	10.20%	$(P_{offer}-P_{-5})/P_{-5}$	Information Asymmetric Hypothesis	Issuing firms that are susceptible to asymmetry information demonstrate large private placement discounts.
Maynes and Pandes (2011)	listed Canadian firms	1993-2005	1,173	19.00%	$(P_{-1}-P_{offer})/P_{offer}$	impaired liquidity	The liquidity portion of private placement discounts has been reduced after shortening the resale restrictions
Liang and Jang (2013)	listed firms on Taiwan Stock Exchange and OTC Market	2002-2008	326	9.55%	$(P_{10}-P_{offer})/P_{10}$	Information Asymmetric & Monitoring Hypothesis	For firms traded in OTC market, the results demonstrate that information asymmetry is the main reason to the private placement discounts. In terms of firms listed in Taiwan Stock Exchange, both information asymmetry and monitoring explanations are supported.

P_{offer}: the offer price of private equity; P_n: the market closing price on day-n; subscript n represents the number of days relative to the private placement announcement

CHAPTER 3 HYPOTHESES DEVELOPMENT

3.1. Introduction

This chapter develops three hypotheses based on information asymmetry and agency theory to examine whether corporate governance protects the interests of non-participating shareholders in private placements. The first two hypotheses, presented in Section 3.2, argue that corporate governance quality is associated with private placement discounts. Section 3.3 develops the third hypothesis which argues that corporate governance quality affects the issuing choice between private placements only and private placements with share purchase plan. Section 3.4 concludes.

3.2. Private Placement Discounts

3.2.1. Monitoring Hypothesis

Strong corporate governance is thought to be essential in mitigating the agency problem that arises from the separation of ownership and control in publicly listed corporations. This separation creates an information asymmetry between shareholders and firm insiders as shareholders cannot directly observe management commitment or know the true economic value of the firm. Insiders therefore have the incentive and ability to pursue their own interests at the expense of shareholders instead of maximizing returns for all shareholders (Jensen & Meckling, 1976). Unless appropriate governance structures are implemented, agency problems may arise, threatening the interest of outside shareholders (Shleifer & Vishny, 1997; La Porta *et al.*, 2000a). Due to the high risk

of potential expropriation, rational investors would demand a higher required rate of return when investing in firms with weak corporate governance (Chen *et al.*, 2009; Pham *et al.*, 2012). In order to successfully raise capital from (sophisticated) investors in private placements, firms with lower corporate governance quality therefore have to offer a larger discount on their newly issued shares to compensate investors who perceive them as risky investments.

To ensure efficient usage of corporate resources, outside investors need to spend time and resources in monitoring insiders. I expect the monitoring cost to be higher in firms with poorer governance. As compensation for post-issue monitoring services, external private equity purchasers are expected to demand a higher discount on private placement (Wruck, 1989; Wruck & Wu, 2009) by poorly governed firms. The better the governance quality, the lower is the need/cost of external monitoring by outside private equity investors. Therefore, I predict the following:

> ***H1:*** *Firms with better corporate governance are associated with a smaller private placement discount.*

3.2.2. Information Asymmetry Hypothesis

While potential investors have access to all publicly available information about the issuing firm, they have inferior knowledge about the internal operation of the firm, its economic potential, and the industriousness of its management and employees relative to insiders. This information asymmetry problem is particularly more pronounced for private placement issuers (Hertzel & Smith, 1993). Hertzel *et al.* (2002) find that the newly issued shares are overvalued at the

time of the placement because managers engage in income-increasing earnings management through manipulating accounting accruals in order to attract outside investors and obtain favorable terms of contract prior to the placement (Chen *et al.*, 2010a). Earnings management increases the adverse selection costs and makes it difficult for private equity buyers to value the issuing firm correctly.

However, private equity buyers tend to be sophisticated well-informed investors (Brophy *et al.*, 2009). In order to mitigate the information asymmetry problem and avoid purchasing a "lemon", private equity buyers are expected to spend time and resources searching for information relevant to the valuation of the issue, and would require compensation in the form of a higher discount on the private placement (Anderson, 2006; Brophy *et al.*, 2009). Accordingly, the higher the level of information asymmetry, the larger the discount required for private placement transactions.

***H2**: Firms with a higher level of information asymmetry have a larger private placement discount.*

3.3. Private Placements Issuing Choice

Agency theory suggests that self-interested managers and controlling shareholders have incentives to take actions that benefit themselves at the expense of outside shareholders (Jensen & Meckling, 1976). In response to agency problem that arises from the separation of ownership and control in a corporation, corporate governance, with its system of checks and balances, is necessarily put into place to ensure corporate decisions are made in the best interests of shareholders.

Private placements are issued (often at a discount) only to a small group of investors who are selected by firm insiders (Wu, 2004). Existing non-participating shareholders do not get the discounted share price and at the same time also experience a reduction in both their ownership and future cash flow claims. The loss to non-participating shareholders increases with the size of the discount obtained by private equity purchasers and of the total proceeds raised by issuing firms in the private placement.

In Australia, an SPP offer has been commonly used to address non-participating shareholders' concern about wealth transfer in private placements (ASX, 2010). SPP is an SEO choice, which provides existing shareholders the rights to purchase newly issued shares at a discount on the market price without brokerage fees or stamp duty, but with a limitation on the total dollar subscription amount (Brown *et al.*, 2008).[12] SPPs can only be offered to existing shareholders who cannot participate in private placements which are offered to institutional investors.[13] Accordingly, an SPP can partially protect the ownership of non-participating shareholders from potential dilution and at the same time, non-participating shareholders can enjoy the discount on the newly issued shares. Therefore, in the eyes of non-participating shareholders, the bundling of an SPP with a private placement provides greater protection to minority shareholders than a private placement of equity alone.

Since firms with better corporate governance are more likely to make decisions that benefit *all* shareholders and not just firm insiders (La Porta *et al.*,

[12] Based on the 2010 ASIC regulatory guide 125 (Share purchase plans), each existing shareholder is allowed to purchase a maximum of AUD 15,000 newly issued shares under each SPP offer.

[13] However, the regulated maximum amount that can be offered to per existing shareholder over our test period is $5000.

2000a), in the case of equity issuing, the extraction of firm value through wealth dilution is less likely to happen when there exists a strong governance mechanism (Atanasov *et al.*, 2010). Therefore, I predict that firms with better corporate governance are more likely to issue an SPP with a private placement.

***H3**: Firms with better corporate governance are more likely to issue private placements with a share purchase plan.*

3.4. Chapter Summary

La Porta *et al.* (2000a) define corporate governance as a set of mechanisms through which investors can protect themselves from any forms of tunneling. Issuing private placements creates an agency problem which may result in a large wealth transfer from non-participating shareholders to private equity investors. This thesis investigates whether corporate governance quality can affect this equity tunneling (extraction of value through financial transactions). Specifically, it tests whether issuing firms with better corporate governance provide a lower discount to private equity investors (the first hypothesis) and whether firms with better corporate governance are more likely to issue private equity with an SPP offer (an anti-dilution device) rather than private equity alone (the third hypothesis). In addition, I also test whether a larger discount is required to compensate private equity investors when the information asymmetry of issuing firms is higher (the second hypothesis).

CHAPTER 4 DATA AND RESEARCH METHOD

4.1. Introduction

This chapter outlines the data and research method used to test my hypotheses. It begins with a discussion of the sample selection procedures and data sources in Section 4.2. Section 4.3 describes both the regression models. In Section 4.4, I describe the measurement of the various proxies of corporate governance and information asymmetry, as well as the control variables. Section 4.5 presents the descriptive statistics and the Pearson correlation matrix of the test variables, and Section 4.6 concludes this chapter.

4.2. Data and Sample Selection

The sample consists of all private placements made by the 250 largest firms listed on the Australian Stock Exchange (ASX) from 2002 to 2009. Over this period, there were a total of 1,075 private placements made in Australia, according to the Connect 4 database, which is my primary source of data on private placements. The DatAnalysis database is employed to verify the announcement date, size of each private placement, and other issue details of the private placements.

Issues of convertible debt, preference shares, and options via private placements are excluded from the sample. Also excluded are issues in foreign currencies. After checking the purpose and structure of each private placement

transaction in Appendix 3B (New issue announcement document),[14] I further exclude private placements that are announced simultaneously with rights offers and dividend reinvestment plans in order to remove the influence of other capital raising methods on share price movements. Also removed from the sample are private equity issued to managers as a result of the exercise of executive stock options or directly issued by firms to target companies as considerations for mergers & acquisitions; acquiring assets; interest repayment; remunerating service fees; and transferring liabilities from convertible bonds/notes to equities. These transactions are quite different from the typical private placements that are used to raise equity/fund from external institutional investors in the stock market. Using these filters, my final sample consists of 329 private placement announcements made by 197 unique Australian firms. Details of the sample selection process are provided in Table 4.1.

Table 4.1: Summary of sample selection

Sample Selection Process	Number
Initial Sample from Connect 4 Database	1,075
Less exclusions	
No capital raising	32
Issued in other currencies	25
private placements of options, convertible securities, preference shares	137
Issued as considerations for Merger & Acquisition	295
Issued as considerations for acquiring asset	36
Issued as considerations for service payment or interest payment	30
Issued to managers due to the exercise of executive stock option	69
issued shares for converting firm liabilities to equity (e.g. convertible notes)	25
Issued simultaneously with Rights offerings or Dividend reinvestment plan	22
Issued to underwriters of other kinds of seasoned equity offerings	35
Errors: Appendix 3B documents not available	40
Total exclusions	748
Final Sample	329

[14] According to the ASX listing rule 3.10, an Appendix 3B announcement must be lodged by issuing firms with the ASX to apply for the quotation of additional securities upon the announcement of a new issue.

Table 4.2 shows the distribution of the 329 private placements by year of issue and industry sector. The private placements can be categorized into two groups based on the issuing choice: private placements only (Without SPP) and private placements with a share purchase plan (With SPP). I note the following: first, the number of private placement transactions and the amount of capital raised through this issue method bottoms in 2003 (27 transactions) and 2004 (at AUD 1.5 billion). The number of deals in 2003 is about half of that in 2002, following the burst of the internet bubble. During the period 2006-2009, the number of private placements reverts to its original level (that of 2002), with the total amount of capital raised approaching AUD 20.9 billion in 2009.

Table 4.2: Distribution of sample private placements by year and industry, 2002-2009

	Full Sample		Without SPP			Issued with SPP		
	N	Amount $M	N	%	Amount $M	N	%	Amount $M
Panel A: Distribution by Year								
2002	53	3,675.56	35	66.04%	1,275.94	18	33.96%	2,399.63
2003	27	2,898.53	18	66.67%	367.50	9	33.33%	2,531.03
2004	36	1,516.33	24	64.86%	562.12	13	35.14%	954.21
2005	32	1,689.55	20	62.50%	804.72	12	37.50%	884.82
2006	28	3,287.12	15	53.57%	1,199.42	13	46.43%	2,087.71
2007	36	4,786.27	25	69.44%	2,412.40	11	30.56%	2,373.87
2008	46	6,015.65	31	65.96%	3,353.47	16	34.04%	2,662.18
2009	69	20,973.68	29	42.03%	2,992.28	40	57.97%	17,981.40
Total	329	44,842.69	197	59.88%	12,967.84	132	40.12%	31,874.84
Panel B: Distribution by Industry								
Consumer Discretionary	23	3,165.61	13	56.52%	1,572.54	10	43.48%	1,593.07
Consumer Staples	10	1,439.55	7	70.00%	1,163.58	3	30.00%	275.97
Energy	35	2,837.00	19	54.29%	1,107.52	16	45.71%	1,729.48
Financials	55	19,985.62	29	52.73%	2,391.01	26	47.27%	17,594.61
Health Care	38	4,448.90	23	60.53%	1,003.03	15	39.47%	3,445.87
Industrials	58	4,397.47	33	56.90%	1,395.93	25	43.10%	3,001.53
Information Technology	10	328.63	10	100.00%	328.63	0	0.00%	0.00
Materials	92	7,773.76	57	61.96%	3,616.21	35	38.04%	4,157.56
Telecommunication	2	115.00	2	100.00%	115.00	0	0.00%	0.00
Utilities	6	351.16	4	66.67%	274.40	2	33.33%	76.76
Total	329	44,842.69	197	59.88	12,967.84	132	40.12	31,874.85

Second, although representing only 40% of all private placement

transactions, private placements with an SPP contribute 71% of all capital raised through private placements. Third, the percentage of private placements issued with an SPP doubles from 30% in 2007 to nearly 60% in 2009. This reflects changes in the Australian Securities and Investment Commission (ASIC) regulation on SPP issues in the late 2008 and June 2009, which respectively allow existing shareholders to purchase up to AUD 10,000 and AUD 15,000 worth of new shares in the SPP over these two years (ASX, 2010). Previously, the maximum limitation on individual subscription on SPP offer was AUD 5,000.

Fourth, although the sample spans 10 industries, there is a higher concentration of firms issuing private placements with an SPP in the Materials, Financials, and Energy sectors. In contrast, firms in the Information Technology and Telecommunication Service sectors prefer to issue private placements without an SPP.

For this final sample, data on corporate governance variables are obtained from the annual Horwath Corporate Governance Reports and Security Industry Research Centre of Asia Pacific (SIRCA). Data on other firm characteristics and stock price are sourced from Thomson Reuters Tick History (TRTH), Bloomberg, Share Price and Price Relative (SPPR), and Morningstar DatAnalysis Premium.

4.3. Research Method

In order to evaluate the impact of internal governance mechanisms and information asymmetry on private placement discounts, I employ the following cross-sectional ordinary least squares (OLS) regression model:

$$Discounts_i = b_0 + b_1 CG_i + b_2 IA_i + \sum b_j Control_j + F_i + Y_i + u_i \quad (1)$$

where b_o and *u* represent the intercept and residual term, respectively. *Discounts* is the discount on the private placement; *CG* is the corporate governance measure; and *IA* is the information asymmetry variable. To capture any unobserved heterogeneity over time and across firms, I include firm fixed effects *F* and year fixed effects *Y*. Firm fixed effects can isolate unobservable firm specific time-invariant factors affecting private placement discounts over the sample period, resulting in efficient and robust regression estimates. The year fixed effects captures unobserved macroeconomic and regulatory changes.

To test determinants of the choice between issuing a private placement only and a private placement with an SPP, I run the following probit regression model:

$$SPP_i = c_0 + c_1 CG_i + \sum c_j Control_j + F_i + Y_i + e_i \quad (2)$$

where c_o and *e* represent the intercept and residual term respectively. *SPP* is a dummy variable, which equals 1 if the firm issues a private placement with an SPP and 0 otherwise. The other variables are as defined earlier. All the test and control variables are lagged by one period so as to reduce potential endogeniety problems.

4.4. Variable Measurement

4.4.1. Private Placement Discount

I use the closing price on the 5th day prior to the announcement of a private placement as the benchmark to measure the discount on the private placement, consistent with previous studies (Anderson, 2006; Anderson *et al.*,

2006). Private equity buyers typically approach the issuing firm and assess their potential wealth gains from a discounted offer price before the announcement of private placements. Moreover, the stock price starts to reflect any new information about the private placement prior to the actual announcement. Indeed, Wruck (1989), Hertzel and Smith (1993), and Krishnamurthy *et al.* (2005) all agree that abnormal returns are significant on days close to the announcement date. By using the stock price on day -5, I can thus minimize the impact of the pre-announcement stock price fluctuation on the discount measure. The discount is calculated as follows:

$$Discount = \frac{(\text{Closing price 5 days pre announcement} - \text{Placement price})}{\text{Closing price 5 days pre announcement}} \times 100\% \quad (3)$$

4.4.2. Corporate Governance

Following the adoption of various governance codes around the globe in 2002, the ASX established the Corporate Governance Council (CGC) and subsequently released the ASX Corporate Governance Council Best Practice Recommendations (hereafter *ASX Recommendations*).[15] The Recommendations define corporate governance as the framework of rules, relationships and systems, and processes within and by which authority is exercised and controlled in corporations (ASX Corporate Governance Council, 2010). It consists of 10 principles and 28 recommendations for 'good governance'.[16] The newly

[15] The details of the 2010 ASX Recommendations are provided in the Appendix 2.

[16] In August 2007, ASX CGC published the second edition of corporate governance recommendation documents with 9 principles and 27 associated recommendations. The latest edition is released in June 2010, which includes 8 principles with 30 recommendations.

introduced ASX Listing Rule 4.10.3 requests listed firms to report on the extent to which they comply with the best practice recommendations. There is an 'if not, why not' mechanism, requesting appropriate explanations in case of non-compliance with ASX recommendations. On this basis, firms in conformity with ASX Recommendations are expected to have higher corporate governance quality.

Based on the ASX Recommendations, I employ several measures to proxy for the quality of corporate governance of private placement issuers. The first proxy is sourced from the annual Horwath-University of Newcastle Corporate Governance Report (hereafter Horwath reports). These reports publish the quality of governance for the top 250 (by market capitalization) listed Australian companies, computed using public information including annual reports and related party disclosure, starting from 2002.[17] Each company is assigned with a 5-scale governance score. Firms that are close in their compliance with the ASX Recommendations are given a five-star score, which is the highest attainable level of governance quality. Firms with a one-star score lack strong corporate governance structures, particularly in the areas of having an independent board of directors and the presence of board committees (Horwath, 2005).

The Horwath reports also provide the relative rankings of companies based on their corporate governance practices. Since relative governance rankings are more informative than the star rating, I adopt the former measure in the analysis. The Horwarth relative governance rankings have also been used in

[17] This yearly report is written by Jim Psaros and Michael Seamer at University of Newcastle Business School. http://www.newcastle.edu.au/school/business/research/horwath/

Linden and Matolcsy (2004), Beekes and Brown (2006), and Liu (2012). Following Beekes and Brown (2006), I rescale the Horwath governance ranking to a range between 0 and 100. I denote the rescaled ranking as *GOV Index*. A higher *GOV Index* represents governance practices that are more in compliance with ASX recommendations. I also generate a dummy variable *High GOV* which is coded as 1 if *GOV Index* is above the sample average and 0 otherwise.

Rather than using a single governance index, I also construct individual governance attributes representing the corporate governance quality of issuing firms using data sourced from SIRCA. Following 2010 ASX Recommendation 2.1, my first measure is board independence (*Board Indep*), proxied by the number of non-executive directors on the board relative to the total board members. The effectiveness of the board's monitoring role relies on its independence from management. To maintain their reputational capital, independent directors are more likely than executive directors to align with the interests of shareholders (Fama & Jensen, 1983). Therefore, opportunistic behavior of management is likely to be more restricted in the presence of a higher proportion of independent directors on the board (Beasley, 1996).

My second measure of governance is *CEO Duality*, following 2010 ASX Recommendations 2.2 & 2.3. It is a dichotomous variable, taking the value of 1 if the CEO is also the chair of the board and 0 otherwise. Agency theory predicts that the concentration of power due to the same person taking both the positions of CEO and chairman reduces the effectiveness of board monitoring (Finkelstein & D'Aveni, 1994). Separating these two roles (chairman and CEO) makes the CEO less likely to determine the agenda of board meetings, control the information

available to other board members, and dominate boardroom discussions (Fama & Jensen, 1983; Jensen, 1993). Thus, separation of roles can enhance the effectiveness of board oversight and thus reduce agency costs (Ferguson *et al.*, 2011).

I also use the frequency of board meetings (*Board Meet)*, which is ASX Recommendation principle 2, as a measure of the board's diligence in discharging its responsibilities and duties. Board meeting frequency is expressed by the natural logarithm of the total number of board meetings held each year. Well organized board meetings are essential to directors making efficient decisions and enhancing the level of monitoring activities (Conger *et al.*, 1998). Indeed, boards that organize more meetings demonstrate greater diligence in fulfilling their responsibilities and duties in supervising management, and this in turn is thought to lower agency costs and improves firm performance (Vafeas, 1999). Xie *et al.* (2003) also suggest that a board that meets more frequently provides directors more time to deal with managerial discretion like earnings management and ultimately reduce the level of information asymmetry.

The ASX Recommendation principle 2 also provides my last corporate governance quality measure, which is board size (*Board Size*). *Board size* is measured by the natural logarithm of the total number of board members. Previous research indicates that board size is related to directors' ability to engage in monitoring and controlling managers (Jensen, 1993; Goodstein *et al.*, 1994; Beasley, 1996). On the one hand, having a smaller board size provides fewer opportunities for the appointments of independent directors on the board who can serve as a monitoring mechanism to limit managerial opportunistic

behaviours and protect shareholder interests (Klein, 2002; Anderson *et al.*, 2004). On the other hand, having a smaller board is more efficient as it can minimize problems relating to coordination, communication, and decision-making which commonly occur in firms with large boards (Jensen, 1993; Yermack, 1996).

4.4.3. Information asymmetry

New investment opportunities are more difficult to value than assets-in-place. Therefore, if the investment funded by the private placement is large relative to the size of the issuing firm, private equity buyers would need to spend more time and resources to assess the value of the new investment and thus the firm value. As a result, private placement investors would demand a higher private placement discount to compensate for the information cost incurred. In line with Hertzel and Smith (1993) and Erhemjamts and Raman (2012), I include *Fraction Placed*, measured as the ratio of issue size relative to firm size, as the first proxy of information asymmetry.

The book-to-market ratio *(BM*) represents the fraction of firm value that can be attributed to tangible assets-in-place. A low *BM* implies that intangible assets or more specifically growth potential occupy a larger proportion of firm value. Hertzel and Smith (1993) suggest that information asymmetry of issuing firms is more severe when firm value consists mostly of intangible assets. Therefore, private equity investors will require a larger discount for issuing firms with a lower *BM*. Consistent with Hertzel and Smith (1993) and Erhemjamts and Raman (2012), I use *BM*, expressed by the year-end ratio of book value to market

value of equity prior to the private placement announcement, as another proxy for information asymmetry.

There are economies of scale to information production (Hertzel & Smith, 1993). When the issue size is large, more equity purchasers have the opportunity to participate in the private placement transaction and assess the value of the firm. The larger the number of investors, the lower the information search cost. Similarly, larger firms are more likely to catch the attention of financial analysts and institutional investors who contribute to information production about the firm (Bhushan, 1989; Shores, 1990). The richer information environment of larger firms helps investors reduce the cost of information gathering. This suggests that larger firms are associated with lower information asymmetry so that the private placement discount will be lower. I measure *Issuing Size* and *Firm Size* by the natural logarithm of the proceeds from the private placement and the natural logarithm of market capitalization of the issuing firm at month end prior to the private placement announcement, respectively.

Firms with low information asymmetry tend to have higher share turnover (Leuz & Verrecchia, 2000; Healy & Palepu, 2001). When the information gap between uninformed and informed investor is narrow, uninformed investors become more confident that the market price is "fair" as it fully reflects all the relevant information about the firm (Leuz & Verrecchia, 2000). This in turn can increase the trading volume of the firm's stocks (Healy & Palepu, 2001). Following Glegg *et al.* (2012) and Maynes and Pandes (2011), I employ *Turnover*, the average ratio of the number of shares traded to shares outstanding over the (-60,-1) days window prior to the placement to proxy asymmetric information.

Firms from the high technology sector invest more heavily in R&D projects and treat them as major assets for future income-generation. Unlike other capital or financial inputs, R&D projects are unique to firms. There is no organized market for R&D projects, which makes it difficult to form an equilibrium price that fully reflects the productivity and value of R&D projects. Therefore, Investors can only predict the productivity and value of firms' R&D programs through observing performance from other peer firms (Aboody & Lev, 2000). Consequently, high technology firms with large R&D expenditures are associated with a higher level of information asymmetry about their valuation (Himmelberg & Petersen, 1994), and are thus expected to have a larger private placement discount than other firms. Consistent with Glegg *et al.* (2012), *Tech* takes a value of 1 for firms in the information technology and telecommunication service sectors, and 0 otherwise.

4.4.4. Control Variables

Private placement discounts

I control for a number of variables in tests of the discount on private placements. The first is the risk of the issuing firm. Risk averse investors will require a larger compensation as the risk of the issuing firm increases. Following Anderson (2006) and Maynes and Pandes (2011), I proxy firm risk (*Risk*) by the standard deviation of monthly stock returns from day -250 through day -20 preceding the private placement announcement.

I also control for the percentage ownership of blockholders (Blockholding), where blockholders are defined as shareholders with shareholdings in excess of

5%. In contrast to minority shareholders who own only a small proportion of firm capital, blockholders hold a larger stake in the firm and this gives them the ability and incentive to monitor management, thereby aligning the interests of managers and shareholders (Shleifer & Vishny, 1986). For instance, blockholders can challenge management decisions due to their power to launch a proxy fight. Moreover, blockholders can nominate a person to represent them on the board to ensure that managers serve the shareholders. Consequently, blockholdings can influence the level of agency costs of issuing firms.

In addition, Hertzel and Smith (1993) find that when single investors participate in private placements, the discount is on average significantly smaller. They argue that single investors are willing to pay a higher price for obtaining control rights because the control premium partially offsets the cost for searching information about the issuing firm. In line with Hertzel and Smith (1993) and Liang and Jang (2013), I generate a dummy variable *Single* which is coded as 1 if private equities are sold to one investor and 0 otherwise.

Finally, we also include a dummy variable *Resource* which is coded as 1 if issuing firms are from resource industries (GICS sectors 101020 and 151040) (Ferguson *et al.*, 2011). It is reported that resource industry is a key pillar of Australian economy, which accounts for more than 6% of Australian economy in the past decade (Francis *et al.*, 2009). Meanwhile, almost one-third of total listing firms in ASX are belonging to Resource industry. Given the importance of this sector in Australian economy, it is necessary to have *Recourse* as one of our control variables.

Table 4.3 summarizes the measurement of all variables used in the private

placement discounts regressions.

Private placement choice

The tests of corporate choice of the form of private placement include a set of control variables that are correlated with the likelihood of issuing an SPP. Unlike right offers where new shares are offered to existing investors on a pro rata basis, an SPP is an equal entitlement independent of the number of shares that existing shareholders already hold. Given the upper dollar limit per shareholder, the aggregate amount that issuing firms can raise through an SPP depends on the number of shareholders (Brown *et al.*, 2008). Eckbo and Masulis (1992) show the importance of investor demand on the success of equity issuing. Given the same take-up ratio, firms with more shareholders can more easily receive the required capital and thus ensure the success of the capital raising in SPP. Therefore, I expect firms with a more dispersed ownership structure are more likely to issue an SPP. Following Brown *et al.* (2008), I control for ownership dispersion, which is proxied by the proportion of outstanding shares held by the non-top 20 shareholders (*Non top 20*).

The pecking order theory of Myers (1984), supported by the theoretical foundation of Myers and Majluf (1984), states that to minimise asymmetric information costs and other financing costs, firms should finance investments first with internally-generated cash flows, followed by safe debt and risky debt, and finally by equity. In the context of SPP issuance, Brown *et al.* (2008) argue that firms that face limited financial slack (less cash holdings) have greater information asymmetry and thus have to rely on equity offerings for their source of external

funds. I therefore control for *Current Ratio* and *Cash Ratio*, where the former is measured by the current assets scaled by current liabilities, and the latter is measured by the receipts from customers less payments to suppliers and employees scaled by total assets.

In addition, I control for *Firm Size* of the issuing firm, measured by the natural logarithm of the firm's market at month-end prior to the placement. Meanwhile, *Resource* dummy is also included.

Table 4.4 summarizes the measurement of variables used in the issue choice regressions.

Table 4.3: Definition and sources of variables in cross-section regression

Variables	Descriptions	Expected Sign	Sources
Panel A Private Placements Discounts			
Discounts	(Closing price 5 days before announcement -Placement price)/Closing price 10 days after announcement*100%		TRTH
Panel B Corporate Governance			
GOV Index	Firms' governance ranking in Horwath annual report ; re-scale to range from 0 to 100, where firms with high values are reported to have strong governance mechanism (for balance date prior to private placement announcement)	-	Horwath Report
High GOV	Dummy variable; 1 is granted if GOV Index is above the sample median and 0 otherwise.	-	Horwath Report
CEO Duality	Dummy variable; 1 is granted if CEO is also the chairman; 0 otherwise (for balance date prior to private placement announcement)	+	SIRCA
Board Indep	Percentage of non-executive directors on the board (for balance date prior to private placement announcement)	-	SIRCA
Board Meet	the natural logarithm of the total number of board meetings held each year (for balance date prior to private placement announcement))	-	SIRCA
Board Size	the natural logarithm of the total board members (for balance date prior to private placement announcement))	?	SIRCA
Panel C Information Asymmetry			
Issue Size	The natural logarithm of the total capital raised through private placements	-	Connect 4
Fraction Placed	Number of shares offered in private placement/(shares offered +total outstanding shares)	+	Connect 4 & Bloomberg
BM	Book value of total equity/Market value of equity	-	Morningstar DatAnalysis & Bloomberg
Turnover	The average ratio of the number of shares traded to shares outstanding over (-60,-1) days prior to the private placement announcement	-	TRTH & Bloomberg
Firm Size	The natural logarithm of the market value of equity at month-end prior to private placement announcement	-	Morningstar DatAnalysis
Tech	Dummy variable; 1 is granted if firms from information technology and telecommunication service sectors, and 0 otherwise	+	Morningstar DatAnalysis
Panel D Control Variables			
Risk	the standard deviation of firms' monthly relative returns over one year period prior to private placement announcement	+	SPPR
Blockholding	total shareholding of those owners who occupy more than 5% of the issuing firm	?	SIRCA
Single	Dummy variable; 1 is granted if private equities are sold predominately to one investor and 0 otherwise	-	Appendix 3B
Resource	Dummy variable; 1 is granted if private equities are issued by firms from resource industry (GICS sectors 101020 & 151040)	?	Morningstar DatAnalysis

Table 4.4: Definition and sources of variables in logistic regression

Variables	Descriptions	Expected Sign	Sources
Panel A SPP Choice			
SPP	Dummy variable; 1 is granted if private placement is issued with SPP; 0 otherwise		SPPR & Appendix 3B
Panel B Corporate Governance Measurement			
GOV Index	Firms' governance ranking in Horwath annual report ; re-scale to range from 0 to 100, where firms with high values are reported to have strong governance mechanism (for the balance date prior to private placement announcement)	+	Horwath Report
High GOV	Dummy variable; 1 is granted if GOV Index is above the sample average; 0 otherwise.	+	Horwath Report
CEO Duality	Dummy variable; 1 is granted if CEO is also the chairman; 0 otherwise (for the balance date prior to private placement announcement)	-	SIRCA
Board Indep	Percentage of non-executive directors on the board (for balance date prior to private placement announcement)	+	SIRCA
Board Meet	the natural logarithm of the total number of board meetings held each year (for the balance date prior to private placement announcement)	+	SIRCA
Board Size	the natural logarithm of the total board members (for balance date prior to private placement announcement))	?	SIRCA
Panel C Control Variables			
Firm Size	The natural logarithm of the market value of equity at month-end prior to private placement announcement	+	Morningstar DatAnalysis
Current Ratio	current assets scaled by current liabilities (for the balance date prior to private placement announcement)	+	Morningstar DatAnalysis
Non top 20	Percentage of total shares held by on-top 20 shareholders (for the balance date prior to the private placement announcement)	-	SIRCA
Leverage	Total liability scaled by total asset (for the balance date prior to private placement announcement)		Morningstar DatAnalysis
Cash Ratio	receipts from customers less payments to suppliers and employees scaled by total assets (for the balance date prior to the private placement announcement)	+	Morningstar DatAnalysis
Resource	Dummy variable; 1 is granted if private equities are issued by firms from resource industry (GICS sectors 101020 & 151040)	?	Morningstar DatAnalysis

4.5. Data Description

Table 4.5 provides summary statistics of my private placement sample. Noticeably, the median private placement discount in Australia is 5.08%, which is much lower than that reported in the US. For instance, Hertzel and Smith (1993) and Wruck and Wu (2009) report an average discount of 20.14% and 11.33% in the US during the period of 1980-1987 and 1980-1999, respectively. Discounts on Australian private placements range between -84.42% and 58.62%,[18] and have a high standard deviation (12.71%). About 42% (131 out of 314) of the private placement transactions are simultaneously issued with an SPP offer, suggesting that issuing private equity with an SPP is quite common in Australia.

The mean and median of *GOV Index* are 48.21 and 47.6 respectively. *CEO Duality* has a mean of 0.04; therefore, most Australian firms do not have a dual CEO/chairperson. The mean and median proportion of non-executive directors (*Board Indep*) in the sample are 0.73 and .075 respectively. The mean and median of board size of issuing firms are 7.26 and 7 directors respectively, with a range of 3-18 directors. The mean and median of board meetings frequency within one financial year are 11.3 and 11 respectively, with a range of 4 to 33.

Table 4.5 also indicates that the average proceeds raised from the private placements (*Issue Size*) by the top 250 Australian listed firms between 2002 and 2009 is 147.61 million. The mean and median of total asset of issuing firms (*Firm Size*) are 1126.39 million and 369.85 million respectively, ranging from 3.18 million to 656799 million. This suggests a huge variation of firm size among Australian

[18] If the closing price on day-5 is lower than offer price, private placement discount is negative. That is, premiums are viewed as negative discounts.

private placement firms. In order to reduce the influence of outliers, I take the natural logarithm of *Issue Size, Firm Size, Board Size*, and *Board Meet* in the following univariate and multivariate analysis. The *BM* ratio of issuing firms has a mean of 0.005 and a median of 0.004, indicating that the value of private placement firms consists mostly of intangible assets. The descriptive statistics of *Fraction Placed* show that on average issuing firms place about 8.8% of their total capital to private equity investors in each transaction, with a median value of 8.4%. The amount of private equity places ranges between 0.1% and 46.9% of total capital. About 4% and 34.39% of private placements in the sample are issued by high-tech firms and resource firms respectively. The top 20 shareholders hold on average over half the total issued capital, as shown by *Non top 20* which has a mean (median) value of 0.365 (0.352).

Table 4.5: Descriptive statistics of test variables

Discounts measure the percentage difference between the offer price and the issuer's closing price on day -5 to the private placement announcement date. *SPP* takes a value of 1 for private placements with an SPP and 0 otherwise. *GOV Index* is the Horwath governance ranking. *High GOV* indicates *GOV Index* above sample median. *CEO Duality* equals 1 if CEO is also the chairman. *Board Indep* is the percentage of non-executive directors on the board. *Board Size* is the number of board members. *Board Meet* is the total number of board meetings in a year. *Issue Size* is the total capital raised via private placement. *Firm Size* is the market value of equity at month-end prior to private placement announcement. *BM* is book value of total equity divided by market value of equity. *Fraction Placed* is the number of shares offered as a percentage of total shares outstanding after the issue. *Turnover* is the average ratio of the number of shares traded to shares outstanding over (-60,-1) days prior to the private placement announcement. *Tech* equals 1 if the issuing firm is from information technology and telecommunication service sectors and 0 otherwise. *Risk* is the standard deviation of monthly returns one year prior to private placement announcement. *Blockholding* is the total percentage of shares directly owned by all shareholders with more than 5% ownership. *Single* equals 1 if private equities are sold to just one investor and 0 otherwise. *Current Ratio* is current assets scaled by current liabilities. *Non top 20* Is the total percentage of shares held by non-top 20 shareholders. *Cash Ratio* is the receipts from customers less payments to suppliers and employees scaled by total assets. *Leverage* is total liabilities scaled by total assets. Note: *Board Meet* data is available only from 2005 to 2009. *Resource* equals 1 if private equities are issued by firms from resource industry (GICS sectors 101020 & 151040) and 0 otherwise.

Test Variables	Obs.	Mean	Median	Std. Dev.	Min	Max
Panel A Dependent Variables						
Discounts	314	5.08	5.56	12.71	-84.42	58.62
SPP	314	0.42	0.00	0.49	0.00	1.00
Panel B Corporate Governance						
GOV Index	314	48.21	47.60	27.89	0.40	100.00
CEO Duality	311	0.04	0.00	0.19	0.00	1.00
Board Indep	311	0.73	0.75	0.14	0.38	1.00
Board Size (unit)	311	7.26	7.00	2.40	3.00	18.00
Board Meet (unit)	198	11.30	11.00	3.89	4.00	33.00
Panel C Information Asymmetry						
Firm Size (millions)	314	11126.39	369.85	62104.46	3.18	656799.00
Issue Size (millions)	314	147.61	49.01	329.75	0.08	3000.00
BM	314	0.01	0.00	0.01	0.00	0.05
Fraction Placed	314	0.09	0.08	0.06	0.00	0.47
Turnover	310	0.00	0.00	0.00	0.00	0.02
Tech	314	0.04	0.00	0.18	0.00	1.00
Panel D Control Variables						
Risk	313	0.13	0.11	0.08	0.03	0.62
Blockholding	312	31.59	30.06	22.40	0.00	126.32
Single	314	0.11	0.00	0.32	0.00	1.00
Leverage	314	0.47	0.50	0.27	0.01	1.32
Non top 20	310	0.36	0.35	0.17	0.00	0.82
Current Ratio	302	5.04	1.48	23.83	0.12	401.96
Cash Ratio	291	-0.05	0.06	1.55	-26.11	1.57
Resource	314	0.3439	0	0.476	0.00	1.00

Table 4.6 displays the Pearson correlation matrix. As expected, private placement discounts are negatively correlated with the two information asymmetry measures, *BM* and *Turnover*. These findings are consistent with Hertzel and Smith (1993) and Erhemjamts and Raman (2012) who conclude that the level of information asymmetry in issuing firms does matter to private placement discounts. The discount is also positively correlated with corporate governance measures. Specifically, issuing firms with a higher governance index (*GOV Index*) and more board meetings (*Board Meet*) are charged a higher discount on their private equities, contrary to the monitoring hypothesis H1. I am intrigued by these findings and will investigate them further later.

All the six corporate governance measures including *GOV Index*, *CEO Duality*, *Board Indep*, *Board Size,* and *Board Meet* are highly correlated with the likelihood of issuing a private placement with an SPP, providing some preliminary evidence that corporate governance quality does matter to the private placement issuing choice. The propensity to issue private equity with an SPP offer is positive for *Leverage* and *Firm Size* and significant at the 5% level and is significant and negative for *Risk*, *Blockholding* and *Single* at the 5% level.

As expected, Table 4.6 reveals that the various corporate governance measures are highly correlated with each other. Significant relationships are also identified between the two measures of size (*Firm Size* and *Issue Size*), and between *Firm Size* and *Leverage*. To minimize multicollinearity problems, I will include only one of these variables in the regression at a time.

Table 4.6: Pearson correlation matrix of test variables

Discounts measure the percentage difference between the offer price and the issuer's closing price on day -5 prior to the private placement announcement date. *SPP* is 1 for private placement with an SPP and 0 for private placement of equity alone. *GOV Index* is the Horwath governance ranking. *CEO Duality* equals 1 if CEO is also the chairman. *Board Indep* is the percentage of non-executive directors on the board. *Board Size* is the natural logarithm of the number of board members. *Board Meet* is the natural logarithm of the total number of board meetings in a year. *Issue Size* is the natural logarithm of the total capital raised via private placement. *Firm Size* is the natural logarithm of the market value of equity at month-end prior to private placement announcement. *BM* is book value of total equity divided by market value of equity. *Fraction Placed* is the number of shares offered as a percentage of total shares outstanding after the issue. *Turnover* is the average ratio of the number of shares traded to shares outstanding over (-60,-1) days prior to the private placement announcement. *Risk* is the standard deviation of monthly returns one year prior to private placement announcement. *Blockholding* is the total percentage of shares directly owned by all shareholders with more than 5% ownership. *Single* equals 1 if private equities are sold to just one investor and 0 otherwise. *Current Ratio* is current assets scaled by current liabilities. *Non top 20* Is the total percentage of shares held by non-top 20 shareholders. *Cash Ratio* is the receipts from customers less payments to suppliers and employees scaled by total assets. *Leverage* is total liabilities scaled by total assets. ***** indicates significance at the 5% level.

	Discounts	*SPP*	*GOV Index*	*CEO Duality*	*Board Indep*	*Board Meet*	*Board Size*	*Issue Size*	*Firm Size*	*BM*	*Fraction Placed*	*Turnover*	*Risk*	*Blockholding*	*Single*	*Current Ratio*	*Non top 20*	*Cash Ratio*	*Leverage*
Discounts	1																		
SPP	0.2107*	1																	
GOV Index	0.1193*	0.2827*	1																
CEO Duality	0.0154	-0.1359*	-0.2467*	1															
Board Indep	0.0105	0.1004	0.2843*	-0.0681	1														
Board Meet	0.1598*	0.1500*	0.2847*	-0.0732	0.0758	1													
Board Size	-0.0352	0.1950*	0.3316*	-0.1850*	0.2039*	0.1935*	1												
Issue Size	0.0095	0.4135*	0.2541*	-0.0612	0.0012	0.1886*	0.3644*	1											
Firm Size	0.0528	0.3351*	0.2625*	-0.0455	0.0188	0.1872*	0.4000*	0.8308*	1										
BM	-0.1218*	0.0381	0.1309*	-0.1435*	0.1377*	0.1022	0.2157*	-0.0532	-0.1572*	1									
Fraction Placed	0.0081	0.1751*	-0.0198	-0.0812	-0.0055	0.079	0.0436	0.3485*	-0.1207*	0.2544*	1								
Turnover	-0.1542*	0.0584	0.0272	-0.0472	0.018	0.0047	-0.037	0.1218*	0.1382*	0.0786	-0.0033	1							
Risk	0.0226	-0.1132*	-0.2672*	0.1613*	-0.0559	-0.1676*	-0.2074*	-0.2193*	-0.2796*	0.0082	-0.0232	0.2698*	1						
Blockholding	-0.0621	-0.1157*	-0.2043*	0.1663*	-0.0488	-0.1	-0.0936	-0.1142*	-0.1299*	-0.0276	0.0174	-0.2311*	-0.0249	1					
Single	-0.3042*	-0.2234*	-0.1717*	-0.0203	-0.0164	-0.0575	-0.0163	-0.1665*	-0.2012*	0.1379*	0.1135*	0.0112	0.0878	0.0042	1				
Current Ratio	-0.0922	-0.0819	-0.1617*	0.0064	0.1166*	-0.2387*	-0.1693*	-0.1458*	-0.0607	-0.0034	-0.1018	-0.0824	0.0313	0.0459	0.0163	1			
Non top 20	0.1114	0.0387	0.1922*	-0.1073	0.2172*	0.1254	0.0286	-0.1275*	-0.0782	0.0432	-0.1144*	0.1628*	-0.0475	-0.5877*	-0.004	0	1		
Cash Ratio	-0.0527	-0.0538	0.0366	-0.0059	-0.0029	0.1664*	-0.0389	-0.0597	-0.0873	0.0503	0.0308	0.005	0.0237	0.0202	0.009	0	-0.051	1	
Leverage	0.0804	0.2421*	0.3939*	-0.1871*	0.1286*	0.2225*	0.4265*	0.3527*	0.3907*	0.0782	-0.0159	-0.07	-0.3204*	-0.109	-0.081	.207	0.0368	-0.0854	1

4.6. Chapter Summary

This chapter discusses the data, sample selection, variable measurements, and research method. Based on the top 250 firms listed on the ASX between 2002 and 2009, I collect data for a final sample of 329 private placements. Corporate governance quality is measured by a composite index sourced from the Horwath governance report, as well as individual governance mechanisms sourced from SIRCA: board independence, CEO duality, board size, and board meeting frequency. Information asymmetry is proxied by six different variables: firm size, issue size, fraction placed (the ratio of issue size relative to firm size), book-to-market ratio, average turnover ratio, and a high-technology industry dummy. I employ OLS model to test both the monitoring and information asymmetry hypotheses in the context of private placement discounts. A probit regression is used to examine the relationship between corporate governance quality and private placement issuing choice.

CHAPTER 5 EMPIRICAL RESULTS

5.1. Introduction

This chapter provides the empirical results. Section 5.2 reports the results on the determinants of private placement discounts. Results from both univariate and multivariate analyses are discussed. Section 5.3 provides the results from tests of private placement issuing choice, focusing on corporate governance quality as the main explanatory variable. Finally, Section 5.4 summarizes the empirical results.

5.2. Private placement discounts

5.2.1. Univariate Analysis

To test whether corporate governance quality and the level of information asymmetry influence the private placement discount, I initially conduct univariate tests of difference in firm characteristics between private placements with "high" and "low" discounts, using the median discount as the discriminating value. Results from both parametric *t*- and non-parametric Mann-Whitney tests are reported in Table 5.1.

Panel A of Table 5.1 shows that, on average, private placements with a high discount are issued by better governed firms. Specifically, the Horwath governance index for the high discount private placement group is 51.37%, which is both statistically and economically significantly higher than the 43.20% for the group of private placements with a low discount. Similar results are found using

High GOV. These univariate results are contrary to hypothesis H1, which predicts firms with better corporate governance quality have a lower discount on their private placement. We will address this issue further in the multiple regressions.

Panel B of Table 5.1 shows that *Fraction Placed* is significantly lower for the low discount group. Therefore, consistent with the information asymmetry hypothesis H2 and past studies (Hertzel & Smith, 1993; Maynes & Pandes, 2011; Erhemjamts & Raman, 2012), firms that privately place a smaller portion of their issued capital incur lower information cost and are thus discounted less.

In line with Anderson (2006), I find private equity investors demand a larger discount from riskier firms, as measured by the higher variance of pre-placement returns (*Risk*), as shown in Panel C. In addition, when private equities are predominately sold to one investor rather than a group of investors, the private placement discount is significantly lower, consistent with Hertzel and Smith (1993) and Liang and Jang (2013).

Table 5.1: Univariate test of mean and median difference in variables between low and high private placement discounts, 2002-2009

High and low private placement discounts are identified using the sample median as the cutoff. *GOV Index* is the Horwath governance ranking. *High GOV* indicates *GOV Index* above sample median. *CEO Duality* equals 1 if CEO is also the chairman. *Board Indep* is the percentage of non-executive directors on the board. *Board Size* is the natural logarithm of the number of board members. *Board Meet* is the natural logarithm of the total number of board meetings in a year. *Issue Size* is the natural logarithm of the total capital raised via private placement. *BM* is book value of total equity divided by market value of equity. *Fraction Placed* is the number of shares offered as a percentage of total shares outstanding after the issue. *Firm Size* is the natural logarithm of the market value of equity at month-end prior to private placement announcement. *Turnover* is the average ratio of the number of shares traded to shares outstanding over (-60,-1) days prior to the private placement announcement. *Tech* equals 1 if the issuing firm is from information technology and telecommunication service sectors and 0 otherwise. *Risk* is the standard deviation of monthly returns one year prior to private placement announcement. *Blockholding* is the total percentage of shares directly owned by all shareholders with more than 5% ownership. *Single* equals 1 if private equities are sold to just one investor and 0 otherwise. *Resource* equals 1 if private equities are issued by firms from resource industry (GICS code 101020 & 151040) and 0 otherwise. P-values for t-test (mean) and Mann-Whitney test (median) are reported in the last two columns. ***, **, * indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	Low discount			High discount			p values of different test	
	N	Mean	Median	N	Mean	Median	t-test	Mann Whitney
Panel A Corporate Governance								
GOV Index	158	45.09	43.20	156	51.37	49.20	0.046**	0.053*
High GOV	158	0.46	0.00	161	0.55	1.00	0.083*	0.083*
CEO Duality	158	0.05	0.00	153	0.03	0.00	0.261	0.263
Board Indep	158	0.73	0.75	153	0.72	0.75	0.633	0.685
Board Size	158	1.92	1.95	153	1.94	1.95	0.481	0.724
Board Meet	102	2.35	2.40	96	2.39	2.40	0.319	0.391
Panel B Information Asymmetry								
Issue Size	158	17.67	17.73	156	17.63	17.63	0.818	0.554
BM	158	0.01	0.00	156	0.01	0.00	0.844	0.861
Fraction Placed	158	0.08	0.07	156	0.10	0.09	0.029**	0.002***
Firm Size	158	24.91	24.76	156	24.78	24.62	0.409	0.173
Turnover	155	0.00	0.00	155	0.00	0.00	0.420	0.426
Tech	158	0.04	0.00	161	0.03	0.00	0.736	0.735
Panel C Control Variable								
Risk	157	0.12	0.10	156	0.14	0.13	0.029**	0.011**
Blockholding	158	33.22	30.04	154	29.91	30.06	0.193	0.221
Single	158	0.15	0.00	161	0.07	0.00	0.030**	0.029**
Resource	158	0.35	0.00	156	0.34	0.00	0.8766	0.8763

5.2.2. Multivariate Analysis

Table 5.2 provides the OLS regression results for the determinants of private placement discounts, measured by the percentage difference between the offer price and the issuer's closing price on day -5 prior to the private placement announcement. Each of the six corporate governance measures and six information asymmetry proxies is included separately in the regression with the set of control variables to test both the monitoring hypothesis (H1) and information hypothesis (H2) in a multivariate setting.

I argue that issuing firms with good corporate governance quality already have efficient monitoring mechanisms in place and thus private placement investors are expected to demand a lower discount as compensation for their post-issuing monitoring service. Therefore, based on the monitoring hypothesis of H1, I predict a negative relationship between private placement discounts and corporate governance quality. However, this prediction is not supported by the regression results. Specification (1) shows a positive and statistically significant relationship between *GOV Index* and *Discounts*, indicating that the private placement issued by better governed firms (higher Horwath governance index) is on average discounted more, contrary to my prediction. However, this relationship is not economically important, with a one unit improvement on the Horwath governance index resulting in a mere 0.05% increase in the private placement discount.

Using the individual governance mechanisms does not materially change the above conclusion. *Board Meet* is significantly (at the 10% level) and positively related to *Discounts* in specifications (9) and (10), suggesting that issuing firms

with more board meetings experience a larger change in private placement discount. None of the remaining governance mechanisms, i.e., board independence (*Board Indep*), whether CEO and chairman positions are held by the same person (*CEO Duality*), and board size (*Board Size*) are statistically significantly related to private placement discount.

Table 5.2: Cross-section OLS regression of the determinants of private placement discounts in Australia between 2002 and 2009

The dependent variable *Discounts* is the percentage difference between the offer price and the issuer's closing price on day -5 prior to the private placement announcement date. *GOV Index* is the Horwath governance ranking. *High GOV* indicates *GOV Index* above sample median. *CEO Duality* equals 1 if CEO is also the chairman. *Board Indep* is the percentage of non-executive directors on the board. *Board Size* is the natural logarithm of the number of board members. *Board Meet* is the natural logarithm of the total number of board meetings in a year. *Issue Size* is the natural logarithm of the total capital raised via private placement. *Firm Size* is the natural logarithm of the market value of equity at month-end prior to private placement announcement. *BM* is book value of total equity divided by market value of equity. *Fraction Placed* is the number of shares offered as a percentage of total shares outstanding after the issue. *Turnover* is the average ratio of the number of shares traded to shares outstanding over (-60,-1) days prior to the private placement announcement. *Tech* equals 1 if the issuing firm is from information technology and telecommunication service sectors and 0 otherwise. *Risk* is the standard deviation of monthly returns one year prior to private placement announcement. *Blockholding* is the total percentage of shares directly owned by all shareholders with more than 5% ownership. *Single* equals 1 if private equities are sold to just one investor and 0 otherwise. *Debt payment* equals 1 if private equity is used to repay debt and 0 otherwise. *Resource* equals 1 if private equities are issued by firms from resource industry (GICS code 101020 & 151040) and 0 otherwise. P-values (in parentheses) are based on robust standard errors adjusted heteroscedasticity and clustered by firm. *******, ******, ***** indicate statistical significance at the 1%, 5% and 10% level, respectively.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Panel A Corporate Governance														
GOV Index	0.0502*	0.0424												
	(1.72)	(1.41)												
High GOV			1.318	1.142										
			(1.05)	(0.89)										
CEO Duality					1.274	1.128								
					(0.43)	(0.39)								
Board Indep							-0.291	-0.107						
							(-0.06)	(-0.02)						
Board Meet									7.083*	6.801				
									(1.69)	(1.60)				
Board Size											-2.689	-4.291		
											(-0.73)	(-1.05)		
Panel B Information Asymmetry														
Issue Size	-1.082*		-0.978*		-0.881		-0.876		-1.156		-0.623		-0.936	
	(-1.85)		(-1.68)		(-1.50)		(-1.49)		(-1.29)		(-0.93)		(-1.59)	
Firm Size		-0.235		-0.170		-0.114		-0.111		-0.388		0.369		-0.145
		(-0.35)		(-0.25)		(-0.17)		(-0.16)		(-0.47)		(0.41)		(-0.21)

Table 5.2: Cross-section OLS regression of the determinants of private placement discounts in Australia between 2002 and 2009 (continued)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
BM	-370.3**	-337.1*	-352.8*	-319.0*	-338.2*	-308.9*	-341.6*	-312.4*	-242.4	-179.2	-309.3*	-260.4	-341.0*	-309.5*
	(-2.10)	(-1.94)	(-1.96)	(-1.78)	(-1.85)	(-1.69)	(-1.90)	(-1.74)	(-0.60)	(-0.45)	(-1.68)	(-1.39)	(-1.88)	(-1.72)
Fraction Placed	33.98**	22.42	31.95**	21.57	32.27**	23.12	32.07**	22.99	33.03*	22.76	29.97**	24.91	31.78**	21.86
	(2.12)	(1.56)	(2.05)	(1.49)	(2.04)	(1.56)	(2.05)	(1.57)	(1.82)	(1.43)	(2.05)	(1.61)	(2.04)	(1.50)
Turnover	616.4	549.7	616.4	549.0	686.8	618.5	681.0	613.0	1474.1*	1381.1*	680.6	603.2	665.3	592.3
	(0.94)	(0.86)	(0.92)	(0.84)	(1.03)	(0.95)	(1.02)	(0.94)	(1.86)	(1.77)	(1.03)	(0.95)	(1.00)	(0.92)
Tech	7.303	4.655	6.631	7.205*	6.235	6.843*	6.115	6.720	-4.363	-3.841	5.017	4.900	5.980	6.623
	(1.65)	(0.97)	(1.55)	(1.70)	(1.53)	(1.68)	(1.45)	(1.60)	(-0.91)	(-0.83)	(1.09)	(1.04)	(1.43)	(1.59)
Panel C Control Variable														
Risk	5.044	9.703	2.218	6.616	0.529	5.120	1.068	5.603	-0.124	3.981	0.889	5.849	0.323	4.912
	(0.44)	(0.85)	(0.18)	(0.56)	(0.04)	(0.41)	(0.09)	(0.47)	(-0.01)	(0.32)	(0.07)	(0.49)	(0.03)	(0.41)
Blockholding	-0.0129	-0.0150	-0.0217	-0.0183	-0.0225	-0.0186	-0.0211	-0.0173	0.0315	0.0322	-0.0214	-0.0182	-0.0234	-0.0198
	(-0.47)	(-0.50)	(-0.85)	(-0.70)	(-0.89)	(-0.72)	(-0.83)	(-0.67)	(0.82)	(0.83)	(-0.84)	(-0.70)	(-0.93)	(-0.77)
Single	-11.19**	-10.66**	-11.47**	-10.84**	-11.57**	-10.97**	-11.58**	-10.98**	-19.99***	-19.51***	-11.33**	-10.62**	-11.57**	-10.94**
	(-2.44)	(-2.35)	(-2.44)	(-2.31)	(-2.45)	(-2.33)	(-2.45)	(-2.33)	(-3.34)	(-3.21)	(-2.49)	(-2.36)	(-2.45)	(-2.32)
Debt payment	-0.101	-0.268	-0.135	-0.269	-0.0615	-0.182	-0.107	-0.221	-3.007	-2.849	0.0263	0.0141	-0.142	-0.271
	(-0.07)	(-0.18)	(-0.09)	(-0.18)	(-0.04)	(-0.12)	(-0.07)	(-0.15)	(-1.39)	(-1.34)	(0.02)	(0.01)	(-0.09)	(-0.18)
Resource	-1.788	-0.424	-2.261	-1.899	-1.969	-1.489	-1.980	-1.499	-1.510	-1.258	-2.384	-2.117	-2.581	-2.182
	(-0.71)	(-0.18)	(-0.92)	(-0.72)	(-0.81)	(-0.57)	(-0.82)	(-0.58)	(-0.47)	(-0.37)	(-0.91)	(-0.76)	(-1.08)	(-0.84)
Constant	15.11	6.177	16.63	3.984	16.04	3.442	16.24	3.514	1.790	-7.686	17.83	1.197	17.33	4.598
	(1.41)	(0.35)	(1.54)	(0.23)	(1.48)	(0.20)	(1.48)	(0.21)	(0.12)	(-0.40)	(1.52)	(0.07)	(1.60)	(0.26)
Industry	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
N	308	308	308	308	307	307	307	307	195	195	307	307	308	308
adjusted R^2	0.122	0.115	0.116	0.108	0.114	0.108	0.114	0.107	0.251	0.244	0.116	0.115	0.117	0.110

One possible explanation for the weak relationship between private placement discounts and corporate governance quality is that I focus only on the top 250 ASX firms. Conceivably, these are better governed firms; the descriptive statistics in Table 4.5 show a tight distribution of the governance measures, as portrayed by the low standard deviation. The observed lack of variation in the governance measures may plausibly explain why I do not find convincing evidence to support the importance of corporate governance in the determination of private placement discounts.

Alternatively, it may well be that governance is not a determining factor of private placement discounts. In theory, corporate governance is argued to play a pivotal role in mitigating agency conflicts (Shleifer & Vishny, 1997), resulting in higher firm valuation (Gompers *et al.*, 2003; Brown & Caylor, 2006). In practice, however, because of information asymmetry, external investors may find it hard to determine whether firms implement the corporate governance mechanisms substantially or symbolically (Kouwenberg & Phunnarungsi, 2013). Therefore, firms that indicate compliance with the codes of governance may not necessarily have the monitoring mechanisms in place.

Alternative explanations are reverse causality with increased monitoring due to large discounts leading to better firm level governance, and selection bias with better governed firms choosing rights offering instead of private placements. I address these issues in the robustness section.

Next, I turn to the results for the relationship between information asymmetry (as proxied by *Issue Size*, *Firm Size*, *BM*, *Fraction Placed*, *Turnover,* and *Tech*) and private placement discounts. In line with prior studies (Hertzel & Smith,

1993; Erhemjamts & Raman, 2012; Glegg *et al.*, 2012), I find that in most specifications, the coefficients on Book to Market ratio (*BM*) are negative (on average -308) and significant at the 10% level, indicating that a 1% increase in the tangible asset component of firm value brings about a 3.08% reduction in private placement discount. Meanwhile, the coefficient on *Fraction Placed* is positive (on average 28) and significant at the 5% level. This finding suggests that a 1% increase in the ratio of placement size (in shares) relative to total shares outstanding leads to a 0.28% increase in private placement discount. Firms with a higher proportion of intangible assets and place a larger fraction of private equities face higher information costs because intangible assets and new investment opportunities are relatively more difficult to value. Accordingly, investors would demand a larger discount as compensation, reflecting the information search costs. These findings are consistent with the information asymmetry hypothesis of H2.

Tech has a positive and significant coefficient in specifications (1), (4), and (6), consistent with high technology firms having greater information asymmetry and thus having their private placements discounted more (Glegg *et al.*, 2012). However, *Turnover* is positively related to private placement discounts and has a marginally significant coefficient in specifications (9) and (10).[19] Contrary to the information asymmetry hypothesis, this finding indicates that issuing firms with higher trading volume prior to equity raising have a larger private placement discount. Similar results are also found in New Zealand (Anderson *et al.*, 2006) and Canada (Maynes & Pandes, 2011). The other information asymmetry variables are

[19] Specifications (9) and (10) only doesn't covers the full samples period as the board meeting frequency data is only available between 2005 and 2009.

statistically insignificantly related to private placement discounts.

Of the control variables, I find robust and significant results only for *Single*, which is negative and significant at the 5% level in all specifications. Therefore, when private equities are sold to just one investor instead of a group of investors, they are discounted less presumably due to the control premium that the single private investor can enjoy. This is consistent with the findings in Hertzel and Smith (1993) and Liang and Jang (2013).

5.2.3. Robustness

To test the robustness of the above results in Section 5.2.2, I also measure the private placement discount as the percentage difference between the offer price and the issuer's closing price on day -1 before the private placement announcement date, following Brown *et al.* (2006), Wruck and Wu (2009), and Maynes and Pandes (2011).[20]

Table 5.3 shows that the results are robust to this alternative measure. That is, the information asymmetry hypothesis (H2) is supported, i.e., there is a larger discount on private placements issued by firms with greater information asymmetry. Specifically, except for *Turnover* and *Firm Size*, *Issue Size*, *BM*, *Fraction Placed* and *Tech* all have the expected sign and are significant.

Consistent with the above multivariate analysis, there is little evidence

[20] The closing price on Day +10 is not adopted, because private equity buyers are interested in assessing the risk and return of their private placement investment based on the offer price and recent stock price. Unlike the US private equity market, the Australian regulator does not impose a resale restriction on private placements, which allows investors to sell their newly acquired equities on-market and to realize their profit immediately. Therefore, recent share prices provide more important information on the likely return the investor can obtain than the post-issuing price.

supporting the monitoring hypothesis (H1). Specifications (9) and (10) indicate that firms with more frequent board meetings are significantly correlated with larger private placement discounts, contrary to hypothesis H1. Similar conclusion is found for *GOV Index*, *High GOV* and *Board Indep*.

Table 5.3: Robustness tests on the determinants of private placement discounts in Australia between 2002 and 2009, using day -1 closing stock price in calculating *Discounts*

The dependent variable *Discounts* is the percentage difference between the offer price and the issuer's closing price on day -1 prior to the private placement announcement date. *GOV Index* is the Horwath governance ranking. *High GOV* indicates *GOV Index* above sample median. *CEO Duality* equals 1 if CEO is also the chairman. *Board Indep* is the percentage of non-executive directors on the board. *Board Size* is the natural logarithm of the number of board members. *Board Meet* is the natural logarithm of the total number of board meetings in a year. *Issue Size* is the natural logarithm of the total capital raised via private placement. *Firm Size* is the natural logarithm of the market value of equity at month-end prior to private placement announcement. *BM* is book value of total equity divided by market value of equity. *Fraction Placed* is the number of shares offered as a percentage of total shares outstanding after the issue. *Turnover* is the average ratio of the number of shares traded to shares outstanding over (-60,-1) days prior to the private placement announcement. *Tech* equals 1 if the issuing firm is from information technology and telecommunication service sectors and 0 otherwise. *Risk* is the standard deviation of monthly returns one year prior to private placement announcement. *Blockholding* is the total percentage of shares directly owned by all shareholders with more than 5% ownership. *Single* equals 1 if private equities are sold to just one investor and 0 otherwise. *Debt payment* equals 1 if private equity is used to repay debt and 0 otherwise. *Resource* equals 1 if private equities are issued by resource firms and 0 otherwise. P-values (in parentheses) are based on robust standard errors adjusted heteroscedasticity and clustered by firm. *******, ******, ***** indicate statistical significance at the 1%, 5% and 10% level, respectively.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Panel A Corporate Governance														
GOV Index	0.0565	0.0504												
	(1.35)	(1.19)												
High GOV			1.465	1.291										
			(1.10)	(0.96)										
CEO Duality					5.130	4.984								
					(1.46)	(1.44)								
Board Indep							0.928	1.105						
							(0.17)	(0.20)						
Board Meet									12.50*	12.34*				
									(1.74)	(1.69)				
Board Size											-5.055	-6.534		
											(-0.95)	(-1.12)		
Panel B Information Asymmetry														
Issue Size	-1.194*		-1.077*		-0.982		-0.955		-1.574*		-0.484		-1.030*	
	(-1.86)		(-1.75)		(-1.59)		(-1.55)		(-1.69)		(-0.74)		(-1.67)	
Total Assets		-0.460		-0.367		-0.313		-0.296		-0.940		0.432		-0.339
		(-0.73)		(-0.59)		(-0.50)		(-0.47)		(-1.00)		(0.48)		(-0.54)

Table 5.3: Robustness tests on the determinants of private placement discounts in Australia between 2002 and 2009, using Day -1 closing stock price in calculating *Discounts* (continued)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
BM	-535.2***	-501.1***	-515.4***	-483.9***	-487.2***	-460.2**	-506.2***	-479.7***	-615.3	-567.9	-441.7**	-397.2**	-502.3***	-473.1***
	(-3.11)	(-2.95)	(-2.91)	(-2.75)	(-2.68)	(-2.53)	(-2.86)	(-2.72)	(-1.56)	(-1.43)	(-2.38)	(-2.07)	(-2.80)	(-2.64)
Fraction Placed	46.36**	32.95**	44.08**	32.19**	45.07**	34.40**	44.16**	33.82**	51.84**	35.98**	40.28**	36.77**	43.88**	32.52**
	(2.39)	(2.04)	(2.39)	(1.98)	(2.40)	(2.06)	(2.40)	(2.05)	(2.39)	(2.12)	(2.59)	(2.05)	(2.38)	(1.98)
Turnover	1166.4*	1107.9*	1167.0*	1109.7	1266.5*	1208.4*	1235.5*	1178.4*	2035.8**	1965.7**	1240.1*	1167.9*	1221.4*	1158.7*
	(1.71)	(1.70)	(1.67)	(1.65)	(1.78)	(1.76)	(1.74)	(1.73)	(2.07)	(1.99)	(1.76)	(1.76)	(1.73)	(1.71)
Tech	8.355	8.558	7.589	8.155	7.585	8.185*	6.908	7.494	-11.37*	-10.79*	4.980	4.841	6.866	7.497
	(1.40)	(1.35)	(1.35)	(1.46)	(1.54)	(1.66)	(1.26)	(1.37)	(-1.77)	(-1.73)	(0.81)	(0.78)	(1.26)	(1.38)
Panel C Control Variable														
Risk	-7.370	-3.802	-10.58	-6.807	-14.06	-10.10	-11.65	-7.793	-14.16	-10.95	-12.16	-7.558	-12.68	-8.733
	(-0.50)	(-0.26)	(-0.64)	(-0.43)	(-0.77)	(-0.58)	(-0.68)	(-0.48)	(-0.68)	(-0.51)	(-0.69)	(-0.47)	(-0.73)	(-0.53)
Blockholding	0.0240	0.0259	0.0141	0.0174	0.00902	0.0128	0.0151	0.0186	0.0822	0.0831	0.0143	0.0172	0.0122	0.0156
	(0.63)	(0.61)	(0.42)	(0.51)	(0.28)	(0.38)	(0.46)	(0.55)	(1.48)	(1.47)	(0.43)	(0.51)	(0.37)	(0.46)
Single	-12.59*	-12.01*	-12.91*	-12.31*	-13.00*	-12.44*	-13.02*	-12.47*	-22.04**	-21.61**	-12.57*	-11.93*	-13.02*	-12.43*
	(-1.85)	(-1.82)	(-1.83)	(-1.77)	(-1.83)	(-1.78)	(-1.83)	(-1.78)	(-2.32)	(-2.26)	(-1.88)	(-1.82)	(-1.83)	(-1.78)
Debt payment	0.562	0.411	0.524	0.389	0.734	0.612	0.566	0.454	-3.423	-3.296	0.807	0.802	0.516	0.386
	(0.42)	(0.30)	(0.39)	(0.28)	(0.55)	(0.45)	(0.42)	(0.33)	(-1.46)	(-1.41)	(0.62)	(0.62)	(0.38)	(0.28)
Resource	-1.173	-0.802	-1.710	-1.402	-1.309	-0.881	-1.345	-0.923	-1.047	-0.889	-2.110	-1.868	-2.065	-1.722
	(-0.42)	(-0.30)	(-0.63)	(-0.48)	(-0.50)	(-0.31)	(-0.51)	(-0.33)	(-0.27)	(-0.22)	(-0.73)	(-0.61)	(-0.79)	(-0.61)
Constant	15.93	7.586	17.66	8.284	16.97	7.662	16.16	6.781	-0.0600	-3.001	20.29	4.215	18.43	8.978
	(1.34)	(0.45)	(1.44)	(0.49)	(1.40)	(0.46)	(1.33)	(0.40)	(-0.00)	(-0.14)	(1.38)	(0.24)	(1.50)	(0.53)
Industry	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
N	308	308	308	308	307	307	307	307	195	195	307	307	308	308
adjusted R^2	0.118	0.115	0.113	0.107	0.115	0.110	0.111	0.107	0.229	0.223	0.118	0.118	0.114	0.109

5.2.4. Endogeneity

There is a major concern about potential endogeneity in models containing corporate governance variables (Himmelberg *et al.*, 1999; Zhou, 2001; Larcker & Rusticus, 2010; Coles *et al.*, 2012) and this problem is particularly pronounced in tests of the relationship between corporate governance quality and firm valuation (Brown & Caylor, 2006; Henry, 2008). In the case of private placements, it is unclear whether better corporate governance enhances the valuation of private equity or whether more highly valued issuing firms choose better corporate governance mechanisms. To address this causality problem between private placement discount and corporate governance quality, I used the lagged value of corporate governance measures (Brown & Caylor, 2006) in the basic regression models in Section 5.2.2.

However, this is only a weak solution since corporate governance variables tend to be sticky. For example, Brown *et al.* (2011) find that Australian firms' corporate governance practices are highly correlated in adjacent years (the maximum correlation coefficient is 0.89 and the minimum is 0.72). Therefore, using lagged endogenous regressors may not fully address endogeneity concern in my study.

I therefore use an instrumental variable approach. Jaffe (1986) argues that industry level governance is potentially an effective instrument as industry practices offer a benchmark of governance quality which firms may seek out and yet they are independent of the firm's characteristics. Accordingly, I use the industry average corporate governance as the instrumental variable for firm level

corporate governance (Knyazeva, 2007). Specifically, I employ four industry-level governance variables and they are *Industry GOV* (measured by the average Horwath governance index per industry per year); *Industry Board Indep* (measured by the average board independence per industry per year); *Industry Board Size* (measured as the average board size per industry per year); and *Industry Board Meet* (measured as the average board meeting frequency per industry per year).

In the first stage regression, I regress governance variables on their respective industry average. Table 5.4 shows that all of the four instrumental variables (*Industry GOV, Industry Board Indep, Industry Board Size,* and *Industry Board Meet*) are significantly related to firm-level governance variables. The strength of the instruments is corroborated by the F-statistic from Wald test, which all reject the null hypothesis that all instruments are weak.

In the second stage, I use the fitted value from the first stage regression as the instrument for *GOV Index, Board Indep, Board Size,* and *Board Meet*. Table 5.5 compares the estimated coefficient value from the OLS and the 2SLS regressions. Specifications (1) shows *GOV Index* is significant in the OLS model but not in the 2SLS. Specifications (9) and (11) show board meeting frequency is significant in the OLS model but not in the 2SLS model. Moreover, in the 2SLS model, the sign of the relationship changes with board meeting frequency being negatively related to placement discounts, consistent with the monitoring hypothesis (H1).

I also conduct Durbin-Wu-Hausman (DWH) test and chi-squared statistics to determine whether corporate governance variables are endogeneous and whether a 2SLS model is appropriate. The results in Table 5.5 show that in most cases the null hypothesis of exogeneity cannot be rejected for both tests. The

only exception is *Board Meet*. In Specifications (9) and (11), the DWH tests show that in contrast to previous results in OLS model, *Board Meet* is endogenously related with private placement discounts. Overall, I find at best weak evidence that better governance leads to lower private placement discounts.

Table 5.4: Panel A first stage regression results

The dependent variable of the second stage regression is *Discounts*, the percentage difference between the offer price and the issuer's closing price on day -5 prior to the private placement announcement date. *GOV Index* is the Horwath governance ranking. *Board Indep* is the percentage of non-executive directors on the board. *Board Size* is the natural logarithm of the number of board members. *Board Meet* is the natural logarithm of the total number of board meetings in a year. *Industry GOV, Industry Board Indep*, *Industry Board Size*, and *Industry Board Meet* are the industry average of the corresponding corporate governance measures by year and by industry. These four industry-level governance variables are my instrumental variables. P-values (in parentheses) are based on robust standard errors adjusted heteroscedasticity and clustered by firm. ***, **, * indicate statistical significance at the 1%, 5% and 10% level, respectively. Note: Specifications (1), (3), (5), and (7) include *Issue Size* as one of information asymmetry proxies; while Specification (2), (4), (6), and (8) employ *Firm Size* instead.

	1	2	3	4	5	6	7	8
Dependent	*GOV Index*	*GOV Index*	*Board Indep*	*Board Indep*	*Board Meet*	*Board Meet*	*Board Size*	*Board Size*
Industry GOV	2.45**	1.98**						
	(0.015)	(0.049)						
Industry Board Indep			3.18***	2.89***				
			(0.002)	(0.004)				
Industry Board Meet					2.09**	1.97**		
					(0.038)	(0.050)		
Industry Board Size							1.71*	1.57
							(0.088)	(0.118)
Constant	-0.33	-1.16	-0.01	-0.57	-0.92	-1.33	-0.80	-1.08
	(0.739)	(0.249)	(0.991)	(0.566)	(0.361)	(0.185)	(0.423)	(0.279)
Information Asymmetry Proxies	Included	Included	Included	Included	Included	Included	Included	Included
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included
Industry	Included	Included	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included	Included	Included
N	308	308	307	307	195	195	307	307
adjusted R^2	0.2835	0.3093	0.0557	0.0583	0.0782	0.1300	0.3625	0.4271
F-statistic	5.53	6.09	2.76	2.69	2.38	2.73	10.85	20.30

Table 5.5: Panel B comparison of OLS and 2SLS

Dependent	Discounts															
	(1) OLS Issue Size	(2) 2SLS Issue Size	(3) OLS Firm Size	(4) 2SLS Firm Size	(5) OLS Issue Size	(6) 2SLS Issue Size	(7) OLS Firm Size	(8) 2SLS Firm Size	(9) OLS Issue Size	(10) 2SLS Issue Size	(11) OLS Firm Size	(12) 2SLS Firm Size	(13) OLS Issue Size	(14) 2SLS Issue Size	(15) OLS Firm Size	(16) 2SLS Firm Size
GOV Index	0.0528*	0.123	0.0454	0.102												
	(0.063)	(0.483)	(0.126)	(0.619)												
Board Indep					-0.273	18.48	-0.0929	15.14								
					(0.956)	(0.517)	(0.985)	(0.629)								
Board Meet									7.046*	-20.59	7.581*	-24.83				
									(0.095)	(0.269)	(0.087)	(0.269)				
Board Size													-2.410	-15.45	-4.522	-27.43
													(0.503)	(0.574)	(0.284)	(0.438)
Constant	14.49	11.69	4.153	0.569	15.48	1.263	0.636	-7.172	1.398	41.92	0.117	20.38	16.77	24.86	1.912	8.619
	(0.175)	(0.354)	(0.673)	(0.953)	(0.157)	(0.960)	(0.950)	(0.731)	(0.928)	(0.201)	(0.992)	(0.360)	(0.146)	(0.230)	(0.848)	(0.598)
Information Asymmetry Proxies	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Industry	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
N	308	308	308	308	307	307	307	307	195	195	195	195	307	307	307	307
adjusted R^2	0.125	0.107	0.118	0.106	0.115	0.0738	0.110	0.0825	0.254	0	0.254	0	0.118	0.0486	0.117	-0.0741
Chi-squared		67.38		66.69		74.74		75.20		56.21		64.84		69.82		63.76
Durbin-Wu-Hausman test of endogeneity																
F-statistic		0.15635		0.06516		0.37414		0.20376		3.53565		3.82215		0.24684		0.57836
		(0.693)		(0.7988)		(0.5415)		(0.6522)		(0.0623)		(0.0527)		(0.6199)		(0.4479)

Note: Specifications (1), (2), (5), (6), (9), (10), (13), and (14) include *Issue Size* as one of information asymmetry proxies; while Specification (3), (4), (7), (8), (11), (12), (15), and (16) employ *Firm Size* instead.

5.2.5. Self-selection Problem

Since the decision for raising capital through private placements may not be random, in that firms with higher information asymmetry/lower governance self-select private placements (over rights offerings), the above results may be spurious. As such, I collect relevant data for all public offerings issued by the top 250 Australian listed firms during my sample period 2002-2009 from Connect 4 and SIRCA database. In total, there are 736 public offerings; of these, 102 (13.86) are rights offerings and 634 (86.14%) are dividend reinvestment plans.

I account for the selection bias problem using the Heckman (1979) two step estimation procedures. In the first stage, I estimate the likelihood of firms issuing a private placement versus a rights offering based on a probit model (Equation 4) suggested by Wu (2001), Cronqvist and Nilsson (2005), and Akhigbe *et al.* (2006). In the second stage, I compute the inverse Mills ratio *Ivm* from the probit model (Equation 4) and include it as an explanatory variable in the second stage regression. Therefore, my model for private placement discount consists of a selection equation (Equation 4) and a regression equation (Equation 5):

Decision (selection) equation:

$$PP_i = a_0 + a_1 CG + a_2 Firm\ Size + a_3 Cash\ Ratio + a_4 Risk + a_5 Firm\ Age + a_6 BM + a_7 Tech + a_8 Profitability + a_9 Leverage + \varepsilon_i \quad (4)$$

Regression equation:

$$Discount_i = b_0 + b_1 GC_i + b_2 IA_i + \sum b_j Control_j + Ivm + F_i + Y_i + u_i \quad (5)$$

In the selection equation (Equation 4), PP_i equals 1 for private placements and 0 for rights offer.

Based on prior literature (Hertzel & Smith, 1993; Lee & Kocher, 2001; Wu, 2004; Akhigbe *et al.*, 2006; Barnes & Walker, 2006), I identify a number of factors that may influence the offering type decision. Smaller and younger firms have less analyst following and a shorter historical financial record (Datta *et al.*, 1999). Since these firms are likely to have more severe asymmetric information problem, they are more likely to choose private placements for raising equity. Accordingly, I include both *Firm Size* and *Firm Age* in the probit model (Equation 4), where *Firm Age* is the time interval between the listing date and the equity issuing date.

Dierkens (1991) argues that firms with a larger share price fluctuation have greater information asymmetry and are thus more likely to issue equity privately. I thus include *Risk* in the probit model. Jung *et al.* (1996) argue that firms are more likely to raise capital via a public offering than a private placement when there is financial slack because sufficient cash holdings demonstrate a low level of information asymmetry. Following Akhigbe *et al.* (2006), I expect *Cash Ratio,* cash holdings to total assets, to be negatively correlated with the likelihood of issuing private placements.

Stulz (1990) shows that firm can take advantage of creditor monitoring to restrict managerial discretion by increasing its debt level. If the motivation for issuing private equity is to enhance monitoring (Wu, 2004; Wruck & Wu, 2009), I expect firms with a higher debt level to derive less marginal benefits from issuing private placements. In other words, the *Leverage*, total liability scaled by total asset, is negatively related to the propensity of issuing private equity.

Several studies suggest that the degree of information asymmetry increases with the growth opportunity of issuing firms because firms with larger growth opportunity are more difficult to value (Lee & Kocher, 2001; Barnes & Walker, 2006). Therefore, I expect firms with greater growth opportunity are more likely to choose private placements. I include both *BM* and a *Tech* dummy.

Brophy *et al.* (2009) and Chen *et al.* (2010b) provide evidence that private placement firms are subject to extreme uncertainty and that issuing firms utilize private placements only when they are unable to raise capital through public offerings because of their poor operating performance. Thus, I also include *Profitability,* the operating income before interest, tax and deprecation divided by total asset, in the equity issuing choice probit model. Since information about lagged profitability would have already been reflected in the share price in an efficient market (Fama, 1970), I do not expect past profitability to be related to the private placement discount. Therefore, *Profitability* provides the ideal instrument for this Heckman two-stage model (private placement discount).

The first stage probit regression results are reported in Panel A of Table 5.6. Consistent with prior studies, all explanatory variables have the expected sign and are significant at least at the 10% level, except for *Firm Size*. Most importantly, the instrumental variable *Profitability* is significant at the 5% level.

In the second stage, the inverse Mills ratio *Ivm* is included as an explanatory variable in the private placement discount model. The Heckman correction regression results are reported in Panel B of Table 5.6. After including the inverse Mils ratio, neither the relationship between the private placement discount and corporate governance quality, nor the implication and significance of

information asymmetry proxies change. That is, the information asymmetry hypothesis (H2) is supported (larger private placement discount can be observed among firms with smaller issue size and BM ratio) but there is little evidence supporting the monitoring hypothesis (H1) (corporate governance quality insignificantly influences private placement discounts). Moreover, *Ivm* is insignificant in all specifications, which indicates that the findings in Section 5.2.2 are not subject to a self-selection bias.

Table 5.6: Heckman two-step regression for selection bias (private placement discount)

This table presents regression for Heckman (1979) two step approach. In Panel A, I employ a probit model to estimate the likelihood of a private placement versus a public offering. The dependent variable equals 1 for private placements and 0 otherwise. *GOV Index* is the Horwath governance ranking. *Firm Size* is the natural logarithm of the market value of equity at month-end prior to private placement announcement. *Risk* is the standard deviation of firms' monthly relative returns over one year period prior to private placement announcement. *BM* is book value of total equity divided by market value of equity. *Leverage* is total liability scaled by total asset. *Profitability* is the operating income before interest, tax and deprecation divided by total asset. *Tech* equals 0 if firms from information technology and telecommunication service sectors and 0 otherwise. *Firm Age* is the time interval between time interval between firms IPO date and equity issuing date. *Cash Ratio* is receipts from customers less payments to suppliers and employees scaled by total assets. In Panel B, I compute the inverse Mills ratio *Ivm* and include it as an explanatory variable in the second stage regression. The dependent variable *Discounts* is the percentage difference between the offer price and the issuer's closing price on day -5, 5 day prior to the private placement announcement date. *High GOV* indicates *GOV Index* above sample median. *CEO Duality* equals 1 if CEO is also the chairman. *Board Indep* is the percentage of non-executive directors on the board. *Board Size* is the natural logarithm of the number of board members. *Board Meet* is the natural logarithm of the total number of board meetings in a year. *Issue Size* is the natural logarithm of the total capital raised via private placement. *Fraction Placed* is the number of shares offered as a percentage of total shares outstanding after the issue. *Turnover* is the average ratio of the number of shares traded to shares outstanding over (-60,-1) days prior to the private placement announcement. *Blockholding* is the total percentage of shares directly owned by all shareholders with more than 5% ownership. *Single* equals 1 if private equities are sold to just one investor and 0 otherwise. *Debt payment* equals 1 if private equity is used to repay debt and 0 otherwise. P-values (in parentheses) are based on robust standard errors adjusted heteroscedasticity and clustered by firm. ***, **, * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: Private placement vs Public offering		Panel B: OLS regression Private placement discounts													
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
GOV Index	-0.0164*	Panel A: Corporate Governance													
	(-1.96)	*GOV Index*	0.0537	0.0375											
Firm Size	2.996***		(1.54)	(1.03)											
	(6.09)	*Hig GOV*			1.176	0.502									
Risk	24.42***				(0.74)	(0.31)									
	(4.75)	*CEO Duality*					0.254	0.608							
BM	-1.865***						(0.09)	(0.22)							
	(-4.33)	*Board Indep*							-1.326	-2.079					
Leverage	-6.773***								(-0.24)	(-0.38)					
	(-4.52)	*Board Meet*									8.069	7.682			
Profitability	-5.340**										(1.45)	(1.40)			
	(-2.03)	Panel B Information Asymmetry													
Tech	-2.049**	*Board Size*											-2.991	-3.857	
	(-2.51)												(-0.69)	(-1.02)	
Firm Age	-0.0589***	*Issue Size*	-1.401**		-1.299**		-0.918		-0.925		-0.432		-0.687		-1.236**
	(-2.72)		(-2.44)		(-2.27)		(-1.62)		(-1.64)		(-0.50)		(-1.00)		(-2.09)

Table 5.6 Heckman two-step regression for selection bias (private placement discount) (continued)

Panel A: Private placement vs Public offering		Panel B: OLS regression Private placement discounts														
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Cash Ratio	-7.391**	*Firm Size*		-0.479		-0.568		-0.487		-0.543		-0.448		-0.445		-0.597
	(-2.36)			(-0.70)		(-0.80)		(-0.67)		(-0.75)		(-0.58)		(-0.64)		(-0.83)
Constant	-64.14***	*BM*	-437.7***	-394.9**	-412.8**	-367.5**	-404.2**	-379.9**	-400.9**	-375.4**	43.32	60.00	-363.8*	-336.7*	-397.1**	-361.7**
	(-6.08)		(-2.62)	(-2.32)	(-2.35)	(-2.06)	(-2.30)	(-2.15)	(-2.35)	(-2.18)	(0.10)	(0.14)	(-1.96)	(-1.88)	(-2.28)	(-2.05)
		Fraction Placed	33.48*	17.67	31.24*	16.33	26.93	16.31	27.04	16.24	25.13	21.19	25.08	17.17	30.45*	16.24
			(1.88)	(1.10)	(1.79)	(1.01)	(1.59)	(1.01)	(1.61)	(1.02)	(1.22)	(1.13)	(1.58)	(1.07)	(1.79)	(1.02)
		Turnover	163.6	293.9	125.3	233.9	115.4	212.8	111.1	211.5	-221.9	-168.9	102.7	175.4	98.75	223.8
			(0.68)	(1.23)	(0.51)	(0.96)	(0.46)	(0.87)	(0.44)	(0.86)	(-0.55)	(-0.44)	(0.40)	(0.70)	(0.39)	(0.91)
		Tech	5.927	2.520	5.163	5.338	4.878	5.228	4.937	5.284	-4.294	-3.844	3.549	3.346	4.685	5.112
			(1.13)	(0.44)	(1.02)	(1.04)	(0.96)	(1.03)	(0.97)	(1.03)	(-0.80)	(-0.72)	(0.63)	(0.59)	(0.93)	(0.99)
		Panel C Control Variable														
		Risk	-10.98	-14.56*	-9.644	-12.94*	-9.932	-12.67	-10.03	-13.12	-8.322	-10.13	-10.23	-12.70*	-9.484	-12.98*
			(-1.44)	(-1.84)	(-1.23)	(-1.66)	(-1.24)	(-1.62)	(-1.28)	(-1.65)	(-0.65)	(-0.85)	(-1.34)	(-1.66)	(-1.21)	(-1.68)
		Blockholding	-0.00830	0.000118	-0.00661	-0.00202	-0.00175	0.00243	-0.00121	0.00323	0.00746	0.00643	-0.000259	0.00282	-0.00723	-0.00242
			(-0.25)	(0.00)	(-0.20)	(-0.06)	(-0.05)	(0.07)	(-0.04)	(0.10)	(0.16)	(0.14)	(-0.01)	(0.09)	(-0.22)	(-0.07)
		Single	-13.02***	-12.09**	-13.46**	-12.56**	-13.25**	-12.57**	-13.25**	-12.57**	-20.01***	-19.78***	-13.14**	-12.67**	-13.54**	-12.62**
			(-2.61)	(-2.37)	(-2.60)	(-2.37)	(-2.54)	(-2.34)	(-2.52)	(-2.33)	(-2.93)	(-2.81)	(-2.57)	(-2.37)	(-2.58)	(-2.35)
		Debt payment	-0.757	-0.901	-0.718	-0.930	-0.442	-0.535	-0.432	-0.533	-1.580	-1.395	-0.207	-0.218	-0.712	-0.924
			(-0.49)	(-0.58)	(-0.46)	(-0.59)	(-0.28)	(-0.34)	(-0.28)	(-0.34)	(-0.66)	(-0.60)	(-0.13)	(-0.14)	(-0.46)	(-0.59)
		Ivm	0.264	-0.484	0.237	-0.628	0.198	-0.570	0.102	-0.804	-2.685	-3.336	-0.0486	-0.802	0.321	-0.630
			(0.11)	(-0.21)	(0.11)	(-0.28)	(0.09)	(-0.25)	(0.05)	(-0.35)	(-0.82)	(-0.98)	(-0.02)	(-0.35)	(0.15)	(-0.28)
Industry	Included	Constant	24.66**	17.96	25.90**	19.00	20.45**	17.31	21.54*	20.28	-9.866	-5.766	23.17**	24.81	25.78**	20.13
Year	Included		(2.32)	(1.05)	(2.50)	(1.03)	(1.99)	(0.94)	(1.88)	(1.02)	(-0.48)	(-0.27)	(2.16)	(1.09)	(2.45)	(1.09)
N	822	Industry	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Chi-square	72.27	Year	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Pseudo R^2	0.954	N	242	242	242	242	240	240	240	240	158	158	240	240	242	242
Classificatory accuracy	98.68%	adjusted R^2	0.149	0.136	0.140	0.129	0.134	0.129	0.134	0.129	0.190	0.191	0.137	0.136	0.142	0.132

5.3. Private Placement Issuing Choice

5.3.1. Univariate Analysis

I begin the empirical analysis by testing the mean and median difference in firm characteristics between private placements of equity with an SPP and private placements of equity alone. As shown in Panel A of Table 5.7, the measures of corporate governance vary significantly with the private placement issuing choice. Specifically, firms issuing private equity with an SPP have on average a 16% higher Horwath governance index than those which issue private equity alone. The difference is statistically significant at the 1% level.

I also find that issuing firms without CEO duality are more likely to include an SPP offer in their private placements. Additionally, the proportion of independent directors (*Board Indep*), board size (*Board Size*), and the frequency of board meetings (*Board Meet*) are statistically significantly higher when private equity is issued with an SPP offer. These findings are consistent with the third hypothesis that firms with higher corporate governance quality are more likely to issue private placements with an SPP.

In line with Brown *et al.* (2008), I find that *Current Ratio*, *Cash Ratio,* and *Leverage* are significantly different at the 10% level or better in Panel B of Table 5.7. Therefore, firms that choose to issue private placements with an SPP have lower current assets and cash holdings, but more debt. Surprisingly, there is no significant difference in the *Non top 20* variable across the issuing method. Since an SPP offer provides an equal entitlement to all existing shareholders independent of the number of shares already held, firms with dispersed

ownership have the potential to raise a greater amount of equity and are thus more likely to choose private placements with an SPP offer. This finding may be influenced by the fact that I only consider SPP issues that are combined with private placements. Additionally, *Resource* is significant different at the 10% level, which shows that resource firms are less likely to issue an SPP offer with a private placement than other firms. Finally, *Firm Size* is significantly different at the 1% level, suggesting that private placement with an SPP offer is more likely to be issued by larger firms.

Table 5.7: Univariate test of mean and median difference in variables between private placement of equity with an SPP and equity alone, 2002-2009

GOV Index is the Horwath governance ranking. *High GOV* indicates *GOV Index* above sample median. *CEO Duality* equals 1 if CEO is also the chairman. *Board Indep* is the percentage of non-executive directors on the board. *Board Size* is the natural logarithm of the number of board members. *Board Meet* is the natural logarithm of the total number of board meetings in a year. *Firm Size* is the natural logarithm of the market value of equity at month-end prior to private placement announcement. *Current Ratio* is current assets scaled by current liabilities. *Non top 20* Is the total percentage of shares held by non-top 20 shareholders. *Cash Ratio* is the receipts from customers less payments to suppliers and employees scaled by total assets. *Leverage* is total liabilities scaled by total assets. P-values for t-test (mean) and Mann-Whitney test (median) are reported in the last two columns. ***, **, * indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	Without SPP			Issued with SPP			p values of different test	
	N	Mean	Median	N	Mean	Median	t-test	Mann Whitney
Panel A Corporate Governance								
GOV Index	183	41.55	39.60	131	57.52	57.60	0.000***	0.000***
High GOV	183	0.41	0.00	131	0.62	1.00	0.000***	0.000***
CEO Duality	181	0.06	0.00	130	0.01	0.00	0.007***	0.017**
Board Indep	181	0.72	0.71	130	0.75	0.77	0.076*	0.041**
Board Size	181	1.88	1.79	130	2.01	1.95	0.001***	0.000***
Board Meet	108	2.32	2.40	90	2.42	2.48	0.034**	0.061*
Panel B Control Variables								
Firm Size	183	19.43	19.34	131	20.83	20.61	0.000***	0.000***
Current Ratio	178	6.67	1.54	124	2.71	1.40	0.092*	0.179
Non top 20	182	0.36	0.35	128	0.37	0.37	0.501	0.391
Cash Ratio	174	0.02	0.02	117	-0.15	0.09	0.453	0.000***
Leverage	183	0.41	0.43	131	0.55	0.58	0.000***	0.000***
Resource	183	0.38	0	131	0.29	0	0.0861*	0.0896*

5.3.2. Multivariate analysis

Table 5.8 presents the results of various specifications for Equation (2), where the dependent variable takes on a value of 1 for private placements of equity with an SPP and 0 for private placements of equity alone. Specifications (1) and (3) show that both *GOV Index* and *High GOV* dummy have the expected positive sign and are statistically significant at the 1% and 10% level respectively. The coefficient value on *GOV Index* is 0.0093 (Specification 1), indicating that a one unit increase on Horwath governance index results in a 0.0093 increase in the z-score of the likelihood of issuing an SPP offer. For *High GOV*, the coefficient value of 0.333 (Specification 3) means that firms with a higher than median value of the Horwath governance index have a 0.333 higher z-score of the propensity of placing a private equity with an SPP offer than those with an index value below the median. Therefore, consistent with hypothesis H3, better governed firms with a higher Horwath governance index are more likely to issue a private placement with an SPP.

In addition, I test the role of independent director and board size in private placement issuing choice in specifications (6), (7) and (10). The results show that, consistent with the univariate analysis, *Board Indep* and *Board Size* are significantly positively related to the likelihood of issuing private placements with an SPP. These findings support the argument that firms with greater board independence and larger boards are more likely to issue a private placement of equity with an SPP. Although *CEO Duality* and *Board Meet* have the expected sign, they are statistically insignificant. I note that the inclusion of corporate governance measures in the regressions generally results in an increase in pseudo R^2

suggesting that these variables have explanatory power.

Apart from *Non top 20*, I find significant results for all the control variables. *Leverage* has a positive and significant coefficient, suggesting that firms with a larger debt ratio are more likely to issue an SPP offer with the private placement. Contrary to the univariate tests and Brown *et al.* (2008), I find firms with larger cash holdings (*Cash Ratio*) are more likely to issue private placements with an SPP. One possible reason is the free cash flow argument (Jensen, 1986): firms issuing private placements have severe agency problem (resulting in less cash flows) relative to their counterparts that choose public offerings (Hertzel & Smith, 1993). That is, firms that choose to issue an SPP are the ones that have larger cash holdings. *Firm Size* has a positive coefficient that is significant at the 1% level in all specifications, indicating that larger firms are more likely to issue private placements with an SPP. Consistent with the univariate analysis, *Resource* is negatively and significantly related to *SPP* at the 10% level in most specifications. Therefore, non-participating shareholders in private placement transactions in Australia are better protected in non-resource firms than in resource firms.

Table 5.8: Probit regression of the determinants of private placement issuing choice in Australia between 2002 and 2009

The dependent variable is the dummy variable, *SPP*, which is equal to 1 for private placement with an SPP and 0 for private placement of equity alone. *GOV Index* is the governance ranking in Horwath report. *High GOV* indicates *GOV Index* above sample median. *CEO Duality* equals 1 if CEO is also the chairman. *Board Indep* is the percentage of non-executive directors on the board. *Board Size* is the natural logarithm of the number of board members. *Board Meet* is the natural logarithm of the total number of board meetings in a year. *Firm Size* is the natural logarithm of the market value of equity at month-end prior to private placement announcement. *Current Ratio* is current assets scaled by current liabilities. *Non top 20* Is the total percentage of shares held by non-top 20 shareholders. *Cash Ratio* is the receipts from customers less payments to suppliers and employees scaled by total assets. *Leverage* is total liabilities scaled by total assets. *Resource* equals 1 if private equities are issued by resource firms (GICS 101020 & 151040) and 0 otherwise. P-values (in parentheses) are based on robust standard errors adjusted heteroscedasticity and clustered by firm. ***, **, * indicate statistical significance at the 1%, 5% and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel A Corporate Governance												
GOV Index	0.00930***											
	(0.010)											
High GOV		0.269	0.333*									
		(0.121)	(0.061)									
CEO Duality				-0.985	-1.043							
				(0.117)	(0.126)							
Board Indep						1.506**	1.205**					
						(0.012)	(0.043)					
Board Meet								0.252	0.395			
								(0.460)	(0.229)			
Board Size										0.630**		
										(0.041)		

Table 5.8: Probit regression of the determinants of private placement issuing choice in Australia between 2002 and 2009 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel B Control Variables												
Firm Size	0.382***	0.392***		0.394***		0.417***		0.292***			0.404***	
	(0.000)	(0.000)		(0.000)		(0.000)		(0.005)			(0.000)	
Leverage			0.902*		0.913*		0.930**		0.425			0.958**
			(0.058)		(0.053)		(0.049)		(0.453)			(0.041)
Current Ratio	-0.0129	-0.0181	-0.00819	-0.0228	-0.0144	-0.0204	-0.0120	-0.0133	-0.0112	-0.0299*	-0.0227	-0.0132
	(0.400)	(0.234)	(0.623)	(0.127)	(0.385)	(0.205)	(0.482)	(0.418)	(0.560)	(0.067)	(0.130)	(0.420)
Non top 20	0.614	0.664	0.267	0.846	0.481	0.794	0.436	0.742	0.393	0.631	0.789	0.390
	(0.268)	(0.228)	(0.632)	(0.129)	(0.393)	(0.150)	(0.439)	(0.334)	(0.602)	(0.271)	(0.152)	(0.487)
Cash Ratio	0.548	0.544	0.790*	0.560	0.807*	0.842*	1.032**	0.285	0.299	0.828*	0.529	0.765*
	(0.201)	(0.220)	(0.082)	(0.211)	(0.084)	(0.084)	(0.037)	(0.628)	(0.619)	(0.079)	(0.234)	(0.094)
Resource	-0.300	-0.382	-0.634*	-0.605*	-0.906**	-0.574*	-0.878**	-0.372	-0.581	-0.727*	-0.441	-0.723*
	(0.381)	(0.267)	(0.080)	(0.093)	(0.019)	(0.079)	(0.014)	(0.365)	(0.175)	(0.051)	(0.213)	(0.057)
Constant	-10.80***	-10.61***	-1.387**	-10.36***	-1.023*	-12.12***	-1.983***	-7.932***	-1.070	-2.196**	-10.68***	-1.105*
	(0.000)	(0.000)	(0.017)	(0.000)	(0.078)	(0.000)	(0.004)	(0.005)	(0.348)	(0.016)	(0.000)	(0.054)
Industry	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
N	275	275	275	274	274	274	274	175	175	274	275	275
Chi-square	64.98	58.35	44.41	60.34	39.10	62.89	45.75	41.67	33.72	38.89	57.76	36.41
Pseudo R^2	0.174	0.162	0.112	0.170	0.118	0.176	0.118	0.152	0.124	0.105	0.156	0.102
Classificatory accuracy	71.27%	71.64%	69.06%	68.98%	66.79%	72.63%	65.33%	66.86%	66.86%	67.15%	68.36%	65.82%

5.3.3. Self-selection Problem

In order to address the potential self-selection problem, I run the Heckman two-step approach as before, except that the second stage is now a probit regression on SPP choice. The system of equation is as follows:

Decision (selection) equation (reproduced from above):

$$PP_i = a_0 + a_1 CG + a_2 Firm\ Size + a_3 Cash\ Ratio + a_4 Risk + a_5 Firm\ Age + a_6 BM + a_7 Tech + a_8 Profitability + a_9 Leverage + \varepsilon_i \quad (4)$$

Probit regression equation:

$$SPP = c_0 + c_1 CG_i + \sum c_j\ Control_j + c_2 Ivm + F_i + Y_i + e_i \quad (6)$$

In this system of equations, *BM,* the ratio of book value of equity to the market value of equity, is the instrument. As argued in Section 5.2.5, issuing firms with a higher BM ratio have greater growth opportunities and are associated with a higher level of information asymmetry. High *BM* firms are thus more likely to choose a private placement than a public offer. However, the choice of issuing method in private placements (with or without an SPP) is unlikely to be related to *BM*. Lee and Kocher (2001) and Burton and Power (2003) show that firms issuing public offerings are associated with fewer growth opportunities. In the case of SPP offers (a type of public offering), Brown *et al.* (2008) provide evidence that growth opportunity (*BM*) of the issuing firm is irrelevant to the likelihood of issuing an SPP offer.

Panel A of Table 5.9 shows the instrumental variable *BM* has the expected

sign and is significant at the 1% level. In the second stage, I compute the inverse Mills ratio *Ivm* from the decision model (Equation 4) and include it as an explanatory variable in the private placement issuing choice model (Equation 6). The Heckman correction regression results are reported in Panel B of Table 5.9. Consistent with the findings in Section 5.3.2, except for *Board Indep*, all corporate governance quality measures have the expected sign and are significantly related to the propensity of issuing an SPP offer with a private placement, after including the inverse Mils ratio. Hypothesis H3 remains supported. Furthermore, in all specifications, *Ivm* is insignificant, suggesting self-selection problem is not a major concern in my study.

Table 5.9: Heckman two-step regression for selection bias (private placement issuing choice)

This table presents regression for Heckman (1979) two step approach. In Panel A, I employ a probit model to estimate the likelihood of a private placement versus a public offering. The dependent variable equals 1 for private placements and 0 otherwise. *GOV Index* is the Horwath governance ranking. *Firm Size* is the natural logarithm of the market value of equity at month-end prior to private placement announcement. *Risk* is the standard deviation of firms' monthly relative returns over one year period prior to private placement announcement. *BM* is book value of total equity divided by market value of equity. *Leverage* is total liability scaled by total asset. *Profitability* is the operating income before interest, tax and deprecation divided by total asset. *Tech* equals 0 if firms from information technology and telecommunication service sectors and 0 otherwise. *Firm Age* is the time interval between time interval between firms IPO date and equity issuing date. *Cash Ratio* is receipts from customers less payments to suppliers and employees scaled by total assets. In Panel B, I compute the inverse Mills ratio *Ivm* and include it as an explanatory variable in the second stage regression. The dependent variable is the dummy variable, *SPP*, which is equal to 1 for private placement with an SPP and 0 for private placement of equity alone. *High GOV* indicates *GOV Index* above sample median. *CEO Duality* equals 1 if CEO is also the chairman. *Board Indep* is the percentage of non-executive directors on the board. *Board Size* is the natural logarithm of the number of board members. *Board Meet* is the natural logarithm of the total number of board meetings in a year. *Current Ratio* is current assets scaled by current liabilities. *Non top 20* Is the total percentage of shares held by non-top 20 shareholders. P-values (in parentheses) are based on robust standard errors adjusted heteroscedasticity and clustered by firm. ***, **, * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: Private placement vs. Public offering		Panel B: Probit regression Private placement of equity vs. Private placement of equity and SPP											
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Firm Age	-0.170**	Panel A Corporate Governance												
	(-2.57)	*GOV Index*	0.0147***											
Firm Size	5.732***		(0.000)											
	(3.30)	*Hig GOV*		0.482**	0.465**									
Cash Ratio	-6.044***			(0.016)	(0.020)									
	(-3.17)	*CEO Duality*				-1.073*	-1.041*							
Risk	50.80***					(0.066)	(0.077)							
	(3.05)	*Board Indep*						0.970	0.901					
BM	-3.226***							(0.118)	(0.131)					
	(-2.82)	*Board Meet*								0.752**	0.710**			
Profitability	-6.032***									(0.035)	(0.045)			
	(-2.65)	*Board Size*										0.594*		
Tech	-1.096											(0.071)		
	(-0.76)	Panel B Control Variables												
Leverage	-7.655*	*Firm Size*	0.0464	0.0137		-0.000374		0.0122		-0.00950			-0.0183	
	(-1.90)		(0.591)	(0.869)		(0.996)		(0.886)		(0.925)			(0.820)	

Table 5.9: Heckman two-step regression for selection bias (private placement issuing choice) (continued)

Panel A: Private placement vs. Public offering		Panel B: Probit regression Private placement of equity vs. Private placement of equity and SPP											
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		Leverage			-0.224		-0.164		-0.218		-0.921			-0.309
					(0.532)		(0.647)		(0.543)		(0.114)			(0.381)
		Current Ratio	0.00722	0.00694	0.00530	0.00603	0.00533*	0.00625	0.00508*	-0.0463	-0.0804*	0.00488	0.00658	0.00518*
			(0.297)	(0.337)	(0.121)	(0.112)	(0.062)	(0.210)	(0.093)	(0.126)	(0.055)	(0.139)	(0.166)	(0.066)
		Non top 20	0.00542	0.00474	0.00433	0.00513	0.00491	0.00465	0.00426	0.0107	0.00942	0.00515	0.00456	0.00443
			(0.324)	(0.379)	(0.411)	(0.349)	(0.359)	(0.391)	(0.420)	(0.155)	(0.211)	(0.331)	(0.400)	(0.403)
		Cash Ratio	0.450	0.312	0.360	0.276	0.305	0.259	0.313	0.690	0.662	0.325	0.288	0.325
			(0.355)	(0.511)	(0.451)	(0.568)	(0.532)	(0.603)	(0.529)	(0.311)	(0.328)	(0.504)	(0.548)	(0.502)
		Ivm	-0.405	-0.375	-0.344	-0.341	-0.302	-0.265	-0.239	-0.643	-0.325	-0.338	-0.334	-0.232
			(0.364)	(0.357)	(0.383)	(0.371)	(0.407)	(0.508)	(0.528)	(0.146)	(0.485)	(0.350)	(0.385)	(0.532)
Constant	-128.2***	Constant	-3.384	-1.761	-1.314**	-0.921	-0.871	-1.988	-1.547**	-1.634	-1.076	-2.386**	-0.565	-0.892
	(-3.37)		(0.152)	(0.420)	(0.034)	(0.662)	(0.158)	(0.403)	(0.047)	(0.559)	(0.394)	(0.012)	(0.788)	(0.156)
Industry	Included	Industry	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year	Included	Year	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
N	802	N	233	233	233	231	231	231	231	151	151	231	233	233
Chi-square	79.88	Chi-square	46.45	29.08	30.48	23.96	25.25	26.01	27.21	27.03	32.54	25.89	20.55	22.88
Pseudo R^2	0.967	Pseudo R^2	0.128	0.0938	0.0948	0.0883	0.0889	0.0807	0.0817	0.144	0.155	0.0847	0.0742	0.0761
Classificatory accuracy	99.50%	Classificatory accuracy	67.81%	67.38%	63.95%	63.95%	63.95%	65.37%	65.37%	65.37%	65.37%	65.37%	66.95%	66.52%

5.4. Chapter Summary

Consistent with expectations, the empirical results presented in this chapter show that corporate governance quality matters to investor protection as far as private equity issuing choice is concerned. There is convincing evidence showing that issuing firms with a higher Horwath governance index, larger proportion of independent directors, and larger board size are more likely to issue private placements of equity with an SPP offer in addressing non-participating shareholders' concerns about wealth dilution in private placement transactions.

In contrast to the monitoring hypothesis, the cross-section analysis shows that corporate governance quality is not significantly related to private placement discounts, and that this result is robust to a correction for potential endogeneity. Consistent with past studies, I also find evidence supporting the information hypothesis – firms with a smaller issue size, a lower book-to-market ratio, a higher fraction of equity placed, and from the high-technology industry are associated with a larger private placement discount. The results presented in this study do not support the proposition that private equity investors are willing to pay more for issuing firms with better corporate governance quality, but support the proposition that investors demand a greater discount for greater information asymmetry.

CHAPTER 6 SUMMARY AND CONCLUSIONS

6.1. Summary of Findings and Discussion

Previous studies show that corporate governance and information asymmetry matter to firm performance, market valuation, insider trading, related party transactions, and access to external finance. This thesis examines the role of corporate governance and information asymmetry in the context of private placements.

Private placements involve firms selling equity privately to an individual or a group of sophisticated investors at a discounted price, which entails a wealth transfer from the issuing firm to private equity purchasers at the expense of non-participating shareholders. This motivates me to test whether and how corporate governance quality and information asymmetry are related to the discount. Specifically, I investigate whether firms with better corporate governance and lower information asymmetry have lower private placement discounts. Additionally, I test whether better governed firms are more likely to issue an anti-dilution instrument in the form of an SPP with the private placement.

I conduct the research in Australia, which provides an ideal setting since the regulators impose a low level of regulatory control on private placements and corporate governance policy implementation relative to other countries such as the US, the UK, and Singapore. This provides a good setting to test the impacts of firm-level governance quality on investor protection in private placements with less influence from the law and regulations.

My study employs OLS regressions and a probit model with robust

standard errors for a sample of 329 private placements issued by the top 250 Australian listed firms over an 8-year period (2002-2009). The results show that corporate governance quality, as measured by the Horwath governance index, the proportion of non-executive directors on the board, and board size, is significantly and positively related to the likelihood of issuing private placement with an SPP offer. This contributes to the literature by providing the first evidence that corporate governance quality matters to firms' financing decision. Specifically, better governed firms choose an issuing method that favours non-participating shareholders and protects their wealth in private placement transactions.

Contrary to predictions, I do not find any evidence supporting the monitoring hypothesis that corporate governance quality plays a direct role in private equity valuation. The results show that private equity purchasers do not pay a premium for good corporate governance. However, there is support for the information asymmetry hypothesis, where private equity investors demand a larger discount to compensate for the cost of information search cost arising from the pervasive information asymmetry of private placement firms. The results remain intact after addressing potential endogeneity.

The ASIC policy changes in 2008 and 2009 on SPPs aimed at protecting the interests of retail investors (ASX, 2010) by increasing the maximum subscription amount from AUD 5,000 to AUD 15,000 per shareholder in SPP offers. After 2008, non-participating shareholders are allowed to purchase more discounted shares at the same price as private equity purchasers than before. This change in policy allows non-participating shareholders to anti-dilute their ownership at a larger

extent in private placement transactions. At the same time, the increase in the upper limit of SPP offer subscription per shareholder, due to this policy change, also enhances the usefulness of SPP offers in raising capital for firms. Our results show that firms began to increasingly offer SPPs alongside private placements. Since corporate governance quality does not directly influence the pricing negotiation in private placements, one recommendation that can be drawn from this thesis would be to encourage the use of SPPs as a way to protect the interest of non-participating shareholders.

6.2. Limitations

There are two limitations in this study. First, the results are based only on the largest 250 firm listed on the ASX, which may limit my ability to generalize the results to smaller firms. To overcome this potential size bias, future studies could expand the sample to include smaller firms.

Second, corporate governance is about a series of methods to control firms, for which researchers lack a unifying theory or framework. Therefore, the measurement of governance quality is not standardized. For instance, results on the relationship between corporate governance and firm valuation are mixed, possibly due to varied measures of corporate governance (Bonn, 2004; Linden & Matolcsy, 2004). In this study, I employ several governance proxies including the Horwath governance index, CEO duality, board independence, board meeting frequency, and board size. Nevertheless, these numerous corporate governance measures may still be incomplete in fully reflecting the whole corporate

governance structure of issuing firms. In order to circumvent this restriction, further studies may consider forming a more comprehensive firm-level governance database covering the majority of Australian listed firms.

REFERENCES

Aboody, D., Lev, B., 2000. Information Asymmetry, R&D, and Insider Gains. The Journal of Finance 55, 2747-2766

Akerlof, G.A., 1970. The Market for "Lemons": Quality Uncertainty and the Market Mechanism. The Quarterly Journal of Economics 84, 488-500

Akhigbe, A., Newman, M., Safieddine, A., 2006. Market Expectations and the Valuation Effects df Equity Issuance. Journal of Financial Research 29, 253-269

Alli, K.L., Thompson, D.J., 1993. The Wealth Effects of Private Stock Placements under Regulation D. Financial Review 28, 329-350

Anderson, H.D., 2006. Discounted Private Placements in New Zealand: Exploitation or Fair Compensation? Review of Pacific Basin Financial Markets and Policies 9, 533-548

Anderson, H.D., Rose, L.C., Cahan, S.F., 2006. Differential shareholder wealth and volume effects surrounding private equity placements in New Zealand. Pacific-Basin Finance Journal 14, 367-394

Anderson, R.C., Mansi, S.A., Reeb, D.M., 2004. Board characteristics, accounting report integrity, and the cost of debt. Journal of Accounting and Economics 37, 315-342

Armitage, S., 2007. Discounts in Placing Pre-renounced Shares in Rights Issues. Journal of Business Finance & Accounting 34, 1345-1369

ASX, 2010. Capital Raising in Australia: Experiences and Lessons from the Global Financial Crisis. Sydney

ASX Corporate Governance Council, 2010. Corporate Governance Principles and Recommendations with 2010 Amendments. Sydney

Atanasov, V., Black, B., Ciccotello, C., Gyoshev, S., 2010. How does law affect finance? An examination of equity tunneling in Bulgaria. Journal of Financial Economics 96, 155-173

Baek, J.-S., Kang, J.-K., Lee, I., 2006. Business Groups and Tunneling: Evidence from Private Securities Offerings by Korean Chaebols. The Journal of Finance 61, 2415-2449

Barclay, M.J., Holderness, C.G., Sheehan, D.P., 2007. Private placements and managerial entrenchment. Journal of Corporate Finance 13, 461-484

Barnes, E., Walker, M., 2006. The Seasoned-Equity Issues of UK Firms: Market Reaction and Issuance Method Choice. Journal of Business Finance & Accounting 33, 45-78

Beasley, M.S., 1996. An Empirical Analysis of the Relation between the Board of Director Composition and Financial Statement Fraud. The Accounting Review 71, 443-465

Beekes, W., Brown, P., 2006. Do Better-Governed Australian Firms Make More Informative Disclosures? Journal of Business Finance & Accounting 33, 422-450

Bertrand, M., Mehta, P., Mullainathan, S., 2002. Ferreting Out Tunneling: An Application to Indian Business Groups. The Quarterly Journal of Economics 117, 121-148

Bhushan, R., 1989. Firm characteristics and analyst following. Journal of Accounting

and Economics 11, 255-274
Black, B.S., Jang, H., Kim, W., 2006. Does Corporate Governance Predict Firms' Market Values? Evidence from Korea. Journal of Law, Economics, and Organization 22, 366-413
Bonn, I., 2004. Board Structure and Firm Performance: Evidence from Australia. Journal of the Australian and New Zealand Academy of Management 10, 14-24
Brophy, D.J., Ouimet, P.P., Sialm, C., 2009. Hedge Funds as Investors of Last Resort? Review of Financial Studies 22, 541-574
Brous, P.A., 1992. Common Stock Offerings and Earnings Expectations: A Test of the Release of Unfavorable Information. The Journal of Finance 47, 1517-1536
Brown, L.D., Caylor, M.L., 2006. Corporate governance and firm valuation. Journal of Accounting and Public Policy 25, 409-434
Brown, P., Ferguson, A., Stone, K., 2008. Share Purchase Plans in Australia: Issuer Characteristics and Valuation Implications. Australian Journal of Management 33, 307-332
Brown, P., Gallery, G., Goei, O., 2006. Does market misvaluation help explain share market long-run underperformance following a seasoned equity issue? Accounting & Finance 46, 191-219
Brown, P.R., Lee, M., Owen, S.A., Walter, T.S., 2009. Corporate Governance and the Long-Run Performance of Firms Issuing Seasoned Equity: An Australian Study. University of New South Wales, Sydeny
Burton, B.M., Power, D.M., 2003. Evidence on the determinants of equity issue method in the UK. Applied Financial Economics 13, 145-157
Chakraborty, I., Gantchev, N., 2013. Does shareholder coordination matter? Evidence from private placements. Journal of Financial Economics 108, 213-230
Chemmanur, T.J., Fulghieri, P., 1999. A Theory of the Going-Public Decision. The Review of Financial Studies 12, 249-279
Chen, A.-S., Cheng, L.-Y., Cheng, K.-F., Chih, S.-W., 2010a. Earnings management, market discounts and the performance of private equity placements. Journal of Banking & Finance 34, 1922-1932
Chen, G., Firth, M., Gao, D.N., Rui, O.M., 2006. Ownership structure, corporate governance, and fraud: Evidence from China. Journal of Corporate Finance 12, 424-448
Chen, H.-C., Dai, N., Schatzberg, J.D., 2010b. The choice of equity selling mechanisms: PIPEs versus SEOs. Journal of Corporate Finance 16, 104-119
Chen, K.C.W., Chen, Z., Wei, K.C.J., 2009. Legal protection of investors, corporate governance, and the cost of equity capital. Journal of Corporate Finance 15, 273-289
Chen, S.-S., Ho, K.W., Lee, C.-f., Yeo, G.H.H., 2002. Wealth Effects of Private Equity Placements: Evidence from Singapore. Financial Review 37, 165-183
Christensen, J., Kent, P., Stewart, J., 2010. Corporate Governance and Company Performance in Australia. Australian Accounting Review 20, 372-386
Claessens, S., Djankov, S., Fan, J.P.H., Lang, L.H.P., 2002. Disentangling the Incentive and Entrenchment Effects of Large Shareholdings. The Journal of Finance 57, 2741-2771
Coles, J.L., Lemmon, M.L., Felix Meschke, J., 2012. Structural models and endogeneity

in corporate finance: The link between managerial ownership and corporate performance. Journal of Financial Economics 103, 149-168
Conger, J.A., Finegold, D., Lawler III, E.E., 1998. APPRAISING BOARDROOM PERFORMANCE. Harvard Business Review 76, 136-148
Cronqvist, H., Nilsson, M., 2005. The choice between rights offerings and private equity placements. Journal of Financial Economics 78, 375-407
Datta, S., Iskandar-Datta, M., Patel, A., 1999. Bank monitoring and the pricing of corporate public debt. Journal of Financial Economics 51, 435-449
Deng, L., Li, S.-f., Wu, W.-x., 2011. Market discounts and announcement effects of private placements: evidence from China. Applied Economics Letters 18, 1411-1414
Dierkens, N., 1991. Information Asymmetry and Equity Issues. Journal of Financial and Quantitative Analysis 26, 181-199
Doidge, C., Andrew Karolyi, G., Stulz, R.M., 2007. Why do countries matter so much for corporate governance? Journal of Financial Economics 86, 1-39
Dyck, A., Zingales, L., 2004. Private Benefits of Control: An International Comparison. The Journal of Finance 59, 537-600
Eckbo, B.E., Masulis, R.W., 1992. Adverse selection and the rights offer paradox. Journal of Financial Economics 32, 293-332
Erhemjamts, O., Raman, K., 2012. The role of investment bank reputation and relationships in equity private placement. Journal of Financial Research 35, 183-210
Fama, E.F., 1970. Efficient Capital Markets: A Review of Theory and Empirical Work. The Journal of Finance 25, 383-417
Fama, E.F., Jensen, M.C., 1983. Separation of Ownership and Control. Journal of Law and Economics 26, 301-325
Ferguson, A., 2012. ASX rules proposal shows it is conflicted. In: The Age. Fairfax Media Management Pty Limited, Melbourne
Ferguson, A., Grosse, M., Kean, S., Scott, T., 2011. Your Governance or Mine? Australian Accounting Review 21, 406-417
Finkelstein, S., D'Aveni, R.A., 1994. CEO Duality as a Double-Edged Sword: How Boards of Directors Balance Entrenchment Avoidance and Unity of Command. The Academy of Management Journal 37, 1079-1108
Francis, B.B., Hasan, I., Sun, X., 2009. Political connections and the process of going public: Evidence from China. Journal of International Money and Finance 28, 696-719
Frankel, R., Li, X., 2004. Characteristics of a firm's information environment and the information asymmetry between insiders and outsiders. Journal of Accounting and Economics 37, 229-259
Glegg, C., Harris, O., Madura, J., Ngo, T., 2012. The Impact of Mispricing and Asymmetric Information on the Price Discount of Private Placements of Common Stock. Financial Review 47, 665-696
Goh, J., Gombola, M.J., Lee, H.W., Liu, F.-Y., 1999. Private Placement of Common Equity and Earnings Expectations. Financial Review 34, 19-32
Gompers, P., Ishii, J., Metrick, A., 2003. Corporate Governance and Equity Prices. The Quarterly Journal of Economics 118, 107-155
Goodstein, J., Gautam, K., Boeker, W., 1994. The effects of board size and diversity on

strategic change. Strategic Management Journal 15, 241-250
Healy, P.M., Palepu, K.G., 2001. Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. Journal of Accounting and Economics 31, 405-440
Heckman, J.J., 1979. Sample Selection Bias as a Specification Error. Econometrica 47, 153-161
Henry, D., 2008. Corporate Governance Structure and the Valuation of Australian Firms: Is There Value in Ticking the Boxes? Journal of Business Finance & Accounting 35, 912-942
Hertzel, M., Lemmon, M., Linck, J.S., Rees, L., 2002. Long-Run Performance following Private Placements of Equity. The Journal of Finance 57, 2595-2617
Hertzel, M., Rees, L., 1998. Earnings and Risk Changes around Private Placements of Equity. Journal of Accounting, Auditing & Finance 13, 21-35
Hertzel, M., Smith, R.L., 1993. Market Discounts and Shareholder Gains for Placing Equity Privately. The Journal of Finance 48, 459-485
Himmelberg, C.P., Hubbard, R.G., Palia, D., 1999. Understanding the determinants of managerial ownership and the link between ownership and performance. Journal of Financial Economics 53, 353-384
Himmelberg, C.P., Petersen, B.C., 1994. R & D and Internal Finance: A Panel Study of Small Firms in High-Tech Industries. The Review of Economics and Statistics 76, 38-51
Horwath, 2005. Corporate Governance Report. Horwath (NSW) Pty Limited, Sydney, Australia
Institutional Shareholder Services, 2010. Equity capital raising in Australia during 2008 and 2009
Jaffe, A.B., 1986. Technological Opportunity and Spillovers of R & D: Evidence from Firms' Patents, Profits, and Market Value. The American Economic Review 76, 984-1001
Jensen, M.C., 1986. Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. The American Economic Review 76, 323-329
Jensen, M.C., 1993. The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems. The Journal of Finance 48, 831-880
Jensen, M.C., Meckling, W.H., 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics 3, 305-360
Jeppsson, H., 2013. Information asymmetry, R&D disclosures and the choice between private and public equity. University of Gothenburg, Gothenburg, Sweden
Jung, K., Kim, Y.-C., Stulz, R., 1996. Timing, investment opportunities, managerial discretion, and the security issue decision. Journal of Financial Economics 42, 159-186
Kang, J.-K., Kim, Y.-C., Stulz, R.M., 1999. The Underreaction Hypothesis and the New Issue Puzzle: Evidence from Japan. The Review of Financial Studies 12, 519-534
Klapper, L.F., Love, I., 2004. Corporate governance, investor protection, and performance in emerging markets. Journal of Corporate Finance 10, 703-728
Klein, A., 2002. Economic determinants of audit committee independence. The Accounting Review 77, 435-452
Knyazeva, D., 2007. Corporate governance, analyst following, and firm behavior.

Working Paper, SSRN
Korajczyk, R.A., Lucas, D.J., McDonald, R.L., 1992. Equity Issues with Time-Varying Asymmetric Information. Journal of Financial and Quantitative Analysis 27, 397-417
Kouwenberg, R., Phunnarungsi, V., 2013. Corporate governance, violations and market reactions. Pacific-Basin Finance Journal 21, 881-898
Krishnamurthy, S., Spindt, P., Subramaniam, V., Woidtke, T., 2005. Does investor identity matter in equity issues? Evidence from private placements. Journal of Financial Intermediation 14, 210-238
La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 2000a. Investor protection and corporate governance. Journal of Financial Economics 58, 3-27
La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W., 2000b. Agency Problems and Dividend Policies around the World. The Journal of Finance 55, 1-33
Larcker, D.F., Rusticus, T.O., 2010. On the use of instrumental variables in accounting research. Journal of Accounting and Economics 49, 186-205
Lee, C.-F., Wu, Y., 2009. Two-stage models for the analysis of information content of equity-selling mechanisms choices. Journal of Business Research 62, 123-133
Lee, H.W., Kocher, C., 2001. Firm Characteristics And Seasoned Equity Issuance Method: Private Placement Versus Public Offering. Journal of Applied Business Research 17, 23
Leuz, C., Verrecchia, R.E., 2000. The Economic Consequences of Increased Disclosure. Journal of Accounting Research 38, 91-124
Liang, H.-C., Jang, W.-Y., 2013. Information asymmetry and monitoring in equity private placements. The Quarterly Review of Economics and Finance
Linden, P., Matolcsy, Z., 2004. Corporate Governance Scoring Systems: What Do They Tell Us? Australian Accounting Review 14, 9-16
Lins, K.V., 2003. Equity Ownership and Firm Value in Emerging Markets. Journal of Financial and Quantitative Analysis 38, 159-184
Liu, N., Wang, L., Zhang, M., 2013. Corporate Ownership, Political Connections and M&A: Empirical Evidence from China*. Asian Economic Papers 12, 41-57
Liu, W., 2012. Ownership, corporate governance and timeliness of price discovery: Australian evidence. Queensland University of Technology.
Lo, A.W.Y., Wong, R.M.K., 2011. An empirical study of voluntary transfer pricing disclosures in China. Journal of Accounting and Public Policy 30, 607-628
Lo, A.W.Y., Wong, R.M.K., Firth, M., 2010. Can corporate governance deter management from manipulating earnings? Evidence from related-party sales transactions in China. Journal of Corporate Finance 16, 225-235
Matolcsy, Z., Stokes, D., Wright, A., 2004. Do Independent Directors Add Value? Australian Accounting Review 14, 33-40
Maynes, E., Pandes, J.A., 2011. The Wealth Effects of Reducing Private Placement Resale Restrictions. European Financial Management 17, 500-531
Morck, R., Shleifer, A., Vishny, R.W., 1988. Management ownership and market valuation: An empirical analysis. Journal of Financial Economics 20, 293-315
Myers, S.C., 1984. The Capital Structure Puzzle. The Journal of Finance 39, 574-592
Myers, S.C., Majluf, N.S., 1984. Corporate financing and investment decisions when firms have information that investors do not have. Journal of Financial Economics 13, 187-221

Pham, P.K., Suchard, J.-A., Zein, J., 2012. Corporate Governance and the Cost of Capital: Evidence from Australian Companies. Journal of Applied Corporate Finance 24, 84-93

Shleifer, A., Vishny, R.W., 1986. Large Shareholders and Corporate Control. Journal of Political Economy 94, 461-488

Shleifer, A., Vishny, R.W., 1997. A Survey of Corporate Governance. The Journal of Finance 52, 737-783

Shores, D., 1990. The Association between Interim Information and Security Returns Surrounding Earnings Announcements. Journal of Accounting Research 28, 164-181

Silber, W.L., 1991. Discounts on Restricted Stock: The Impact of Illiquidity on Stock Prices. Financial Analysts Journal 47, 60-60

Stulz, R., 1990. Managerial discretion and optimal financing policies. Journal of Financial Economics 26, 3-27

Su, Z.-q., Fung, H.-G., Huang, D.-s., Shen, C.-H., 2014. Cash dividends, expropriation, and political connections: Evidence from China. International Review of Economics & Finance 29, 260-272

Tan, R.S.K., Chng, P.L., Tong, Y.H., 2002. Private placements and rights issues in Singapore. Pacific-Basin Finance Journal 10, 29-54

Vafeas, N., 1999. Board meeting frequency and firm performance. Journal of Financial Economics 53, 113-142

Varma, R., Szewczyk, S.H., 1993. The private placement of bank equity. Journal of Banking & Finance 17, 1111-1131

Verriest, A., Gaeremynck, A., Thornton, D.B., 2012. The Impact of Corporate Governance on IFRS Adoption Choices. European Accounting Review 22, 39-77

Wruck, K.H., 1989. Equity ownership concentration and firm value: Evidence from private equity financings. Journal of Financial Economics 23, 3-28

Wruck, K.H., Wu, Y., 2009. Relationships, corporate governance, and performance: Evidence from private placements of common stock. Journal of Corporate Finance 15, 30-47

Wu, Y., 2001. Honey, CalPERS shrank the board! and the choice of equity-selling mechanisms. Ph.D. The University of Chicago.

Wu, Y., 2004. The choice of equity-selling mechanisms. Journal of Financial Economics 74, 93-119

Xie, B., Davidson III, W.N., DaDalt, P.J., 2003. Earnings management and corporate governance: the role of the board and the audit committee. Journal of Corporate Finance 9, 295-316

Yermack, D., 1996. Higher market valuation of companies with a small board of directors. Journal of Financial Economics 40, 185-211

Zhou, X., 2001. Understanding the determinants of managerial ownership and the link between ownership and performance: comment. Journal of Financial Economics 62, 559-571

Appendix 1: The definition of SEOs in the UK, the US and Australia

Country	SEO methods	Description
U.K.	Rights Offers	Shares are offered on a pro-rata basis to existing shareholders.
	Open offers	Different from rights offers, shareholders who do not take their entitlement cannot sell them. The unsubscribed shares will be placed with institutional investors.
	Placements	The underwriter undertakes to purchase new shares from the firm at a given price and then sell these to selected institutions. London stock exchange also requires a minimum of 25% of the new shares in placement to be offered to market makers.
U.S.	SEO (stand by offers)	Shares are offered on a pro-rata basis to existing shareholders. Underwriter guarantees the proceeds on any unsubscribed portion of the offer and sells the unsubscribed shares to its clients.
	SEO (firm commitment offer)	Shares are offered on a pro-rata basis to existing shareholders. The underwriter guarantees total offering proceeds
	Private placements	Firms sell a block of securities privately to a single or small group of investors. According to the Securities Act Rule 144, private shares cannot be sold in the public market until two years after initial purchase
	Private investment in public equity (PIPE)	Equity issues to a private group of professional investors without the need to for public registration prior to the transaction. Compared to private placements, PIPE is not restricted to resale limitations
Australia	Private placements	The definition of private placement is the same as that in the U.S. except for the resale restrictions
	Renounceable rights offers	The definition of Renounceable rights offers is the same as the right offers in the U.K.
	Non-renounceable rights offers	Shares are offered on a pro-rata basis to existing shareholders. However, It does not permit shareholders to sell the right, any unused entitlement is forfeited.
	Share purchase plan	It provides existing shareholders the rights to purchase newly issued shares at a discount on market price without brokerage fees or stamp duty, but with a limitation on the total dollar amount.

Appendix 2: ASX Corporate Governance Best Practice Recommendations

The summary of ASX Corporate Governance Council Corporate Governance Principles and Recommendations, Second edition with 2010 amendment released in June 2010

Principle 1 – Lay solid foundations for management and oversight
Recommendation 1.1: Companies should establish the functions reserved to the board and those delegated to senior executives and disclose those functions.
Recommendation 1.2: Companies should disclose the process for evaluating the performance of senior executives.
Recommendation 1.3: Companies should provide the information indicated in the Guide to reporting on Principle 1.

Principle 2 - Structure the board to add value
Recommendation 2.1: A majority of the board should be independent directors.
Recommendation 2.2: The chair should be an independent director.
Recommendation 2.3: The roles of chair and chief executive officer should not be exercised by the same individual.
Recommendation 2.4: The board should establish a nomination committee.
Recommendation 2.5: Companies should disclose the process for evaluating the performance of the board, its committees and individual directors.
Recommendation 2.6: Companies should provide the information indicated in the Guide to reporting on Principle 2.

Principle 3 - Promote ethical and responsible decision-making
Recommendation 3.1: Companies should establish a code of conduct and disclose the code or a summary of the code as to:
Recommendation 3.1.1: the practices necessary to maintain confidence in the company's integrity
Recommendation 3.1.2: the practices necessary to take into account their legal obligations and the reasonable expectations of their stakeholders
Recommendation 3.1.3: the responsibility and accountability of individuals for reporting and investigating reports of unethical practices.
Recommendation 3.2: Companies should establish a policy concerning diversity and disclose the policy or a summary of that policy. The policy should include requirements for the board to establish measurable objectives for achieving gender diversity for the board to assess annually both the objectives and progress in achieving them.
Recommendation 3.3: Companies should disclose in each annual report the measurable objectives for achieving gender diversity set by the board in accordance with the diversity policy and progress towards achieving them.
Recommendation 3.4: Companies should disclose in each annual report the proportion of women employees in the whole organisation, women in senior executive positions and women on the board.
Recommendation 3.5: Companies should provide the information indicated in the Guide to reporting on Principle 3.

Principle 4 - Safeguard integrity in financial reporting
Recommendation 4.1: The board should establish an audit committee.
Recommendation 4.2: The audit committee should be structured so that it:
Recommendation 4.2.1: consists only of non-executive directors
Recommendation 4.2.2: consists of a majority of independent directors
Recommendation 4.2.3: is chaired by an independent chair, who is not chair of the board
Recommendation 4.2.4: has at least three members.
Recommendation 4.3: The audit committee should have a formal charter.

Recommendation 4.4: Companies should provide the information indicated in the Guide to reporting on Principle 4.

Principle 5 - Make timely and balanced disclosure
Recommendation 5.1: Companies should establish written policies designed to ensure compliance with ASX Listing Rule disclosure requirements and to ensure accountability at a senior executive level for that compliance and disclose those policies or a summary of those policies.
Recommendation 5.2: Companies should provide the information indicated in the Guide to reporting on Principle 5.

Principle 6 - Respect the rights of shareholders
Recommendation 6.1: Companies should design a communications policy for promoting effective communication with shareholders and encouraging their participation at general meetings and disclose their policy or a summary of that policy.
Recommendation 6.2: Companies should provide the information indicated in the Guide to reporting on Principle 6.

Principle 7- Recognise and manage risk
Recommendation 7.1: Companies should establish policies for the oversight and management of material business risks and disclose a summary of those policies.
Recommendation 7.2: The board should require management to design and implement the risk management and internal control system to manage the company's material business risks and report to it on whether those risks are being managed effectively. The board should disclose that management has reported to it as to the effectiveness of the company's management of its material business risks.
Recommendation 7.3: The board should disclose whether it has received assurance from the chief executive officer (or equivalent) and the chief financial officer (or equivalent) that the declaration provided in accordance with section 295A of the Corporations Act is founded on a sound system of risk management and internal control and that the system is operating effectively in all material respects in relation to financial reporting risks.
Recommendation 7.4: Companies should provide the information indicated in the Guide to reporting on Principle 7.

Principle 8- Remunerate fairly and responsibly
Recommendation 8.1: The board should establish a remuneration committee.
Recommendation 8.2: The remuneration committee should be structured so that it:
Recommendation 8.2.1: consists of a majority of independent directors
Recommendation 8.2.2: is chaired by an independent chair
Recommendation 8.2.3: has at least three members.
Recommendation 8.3: Companies should clearly distinguish the structure of non-executive directors' remuneration from that of executive directors and senior executives.
Recommendation 8.4: Companies should provide the information indicated in the Guide to reporting on Principle 8.