

# Rational Apathy? Retail Shareholder Participation in Private Placements <sup>1</sup>

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## Abstract

A share purchase plan (SPP) structure in Australia affords all eligible shareholders the opportunity to buy new shares at the same price as those sold to institutions in the initial private placement. Using daily ownership data, we find that retail shareholders eschew participation in the SPP to a much larger extent than institutions, resulting in average wealth transfer of 3%, and that this wealth transfer is significantly greater than in a comparable traditional private placement. Although retail participation rates and announcement returns are higher in offers requiring shareholder approval, at least some retail shareholders simply leave money on the table.

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## 1. Introduction

Around the globe, private placements (PPs) have become a quick and efficient method to raise equity capital, but carry with them the possibility of expropriation of shareholder wealth. In PPs, large blocks of shares are offered to a limited number of institutional investors at a discount. Private placements have all three characteristics identified in Dyck and Zingales (2004) that exacerbate wealth transfer from nonparticipating to participating shareholders. First, the offer price is generally lower than the current market price. Second, the participation of retail shareholders is restricted resulting in dilution. Third, large proceeds are raised. Previous studies such as Baek et al. (2006) and Atanasov et al. (2010) have shown evidence of equity tunneling through private placement and ‘going private’ transactions in Korea and Bulgaria respectively.<sup>1</sup> For instance, Baek et al. (2006, p.2146) in describing Korean Chaebol firms conjecture that “the private financing activities of group firms represent a setting in which the interests of controlling and minority shareholders frequently diverge and thus, tunneling could be a major motivation behind some of these activities.”

Whether agency problems could be a driver of companies’ equity issuance decisions has long interested financial economists. Earlier models developed by Myers and Majluf (1984) and Miller and Rock (1985) assume away agency problems because managers are assumed to be acting solely in the interests of existing shareholders. However more recently Holderness and Pontiff (2016) (HP henceforth) conclude that rights issues are far more common in countries that have practices in place that limit wealth losses to nonparticipating shareholders, reaching the conclusion that agency conflicts play a major role in the use of rights issues. Consolidating this view, in a meta-study of cross-country announcement returns Holderness (2017) concludes that agency problems play a significant role in the share issuance decision as announcement returns are significantly higher when shareholders must approve the decision. This ordering remains valid for public offers, rights offers, and private placements.

We study a particular private placement structure, which, in conjunction with the regulatory framework, has the potential to significantly mitigate the wealth transfer between participating and nonparticipating shareholders. In Australia some PPs also provide all eligible shareholders the opportunity to purchase new shares in a Share Purchase Plan (SPP) at the same price as offered to institutional shareholders in the initial private placement.<sup>2</sup> Additionally, regulations require that companies obtain shareholder approval for all capital issuances that exceed 15% of outstanding equity, ensuring that all shareholders of such PPs (whether they be traditional or packaged) receive detailed

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<sup>1</sup> Tunneling, coined by Johnson et al. (2000) can be divided into three groups, namely cash flow, asset, and equity tunneling. Cash flow tunneling involves transfer pricing, excessive compensation, taking of corporate opportunities, and asset sales. Asset tunneling involves a transfer of major long-term (tangible or intangible) assets to (from) the firm at (above) below market value. Equity tunneling relates to an expropriation of private benefits via financial transactions such as PPs.

<sup>2</sup> In this paper we label these offers ‘packaged PPs’.

communication from the company regarding the offer.<sup>3</sup> However, unlike *open offers* in the UK, where all existing shareholders are offered shares on a pro rata basis after the private placement has been arranged (Armitage et al, 2014), shares in the Australian ‘packaged PP’ are offered on a non pro rata basis. Additionally, all shareholders in Australia are restricted to purchasing up to \$15,000 worth of shares in the SPP. The packaged PP offer in Australia (and the open offer in the U.K.), in contrast to the practice in the U.S., afford unsophisticated retail shareholders opportunities to invest in risky PPs, under a ‘caveat emptor’ approach to market regulation.<sup>4</sup>

Our primary interest is in examining the participation of retail shareholders in packaged PPs and the resulting wealth changes when compared to traditional PPs.<sup>5</sup> Because no retail shareholders participate in traditional PPs, at one extreme *if* no institutional shareholders participate in the SPP component of a packaged PP (and some retail shareholders do), then it is clear that *ceteris paribus* a packaged PP will result in an equal or lower dilution of retail shareholders than the corresponding traditional PP.<sup>6</sup> However, at the other extreme, if no retail shareholders participate in the SPP component of a packaged PP but some institutional shareholders do, then *ceteris paribus* retail shareholders are worse off in a packaged PP. We derive a simple condition under which a packaged PP results in lower dilution and wealth transfer than the counterpart traditional PP: retail shareholders as a group must receive more shares in the SPP component than do institutional shareholders as a group. Empirically, this condition implies that a sufficiently large number of retail shareholders must participate in the SPP. In addition to measures of standard firm financial characteristics, we have access to *daily* ownership data, which allows us to accurately measure the participation rates of retail and institutional shareholders in the SPP component, and relate them to wealth transfer associated with the offerings.

Our results first indicate that traditional and packaged PP issuers tend to be different from each other – packaged PP issuers tend to be larger, less risky and have a lower percentage of retail shareholders (by number). We also find that, consistent with observations in Holderness (2017) that for both the traditional and the packaged PP offers the announcement returns are significantly higher when shareholders must approve the issue, suggesting lower agency problems. To reduce the confounding effects of firm characteristics on the choice between the two financing methods and their relation to

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<sup>3</sup> Holderness (2017) documents different practices around the globe in terms of required shareholder approval for issuance of equity. In non-pro-rata issues under ASX Listing Rule 7.1 Australian companies are limited to issuing up to 15% of share capital without shareholder approval.

<sup>4</sup> After the 2008 financial crisis, the Australian approach shifted towards recognition that reliance on disclosure, financial education and advice is inadequate for financial consumer protection (Brown, Davis and Mayes, 2015).

<sup>5</sup> Since the announcement returns for a traditional PP are positive on average, an *individual* retail shareholder may gain at the announcement of such an offer. Our interest is in the wealth of retail shareholders as a *group* for a packaged PP (which allows them to participate in the offer) compared to its traditional counterpart.

<sup>6</sup> We note that all remaining shareholders – both institutional and retail – can participate in the SPP component of the offer. Typically, however, there tend to be many more retail shareholders (by number) than institutional shareholders on the share register.

wealth transfer, we employ a sample of traditional PPs which is propensity score matched to the sample of packaged PPs. Results suggest that dilution and wealth transfer are worse on average for retail shareholders in packaged PPs (2.6%), compared to their matched traditional PP counterpart (1.6%). Previous studies have found retail shareholders suffer dilution and wealth destruction through traditional PPs (Dyck and Zingales, 2004; Baek et al., 2006; Chakraborty and Ganchev, 2013; Atanasov et al. 2010); in an interesting twist we find that an offer that is seemingly designed to mitigate destruction of retail shareholder wealth, actually makes it worse.

We further analyze the actual participation rates for both retail and institutional shareholders in our sample firms. Our results indicate that when given the opportunity to participate in a packaged PP (via the SPP component), the retail shareholders fail to do so in sufficient numbers to prevent further dilution. The mean institutional (retail) participation rate in small SPPs is 61% (17%), whereas it is 47% (21%) in large (>15%) offers. However, these rates, when coupled with other issue characteristics such as offer discount, are not high enough to reduce the adverse wealth effect for retail shareholders.

It is unclear whether retail shareholders are acting rationally and are unwilling to expend the resources (both time and money) to invest in the offer for the relatively small payoff (rational apathy), or they are simply not sophisticated enough to understand the dilution effects of a discounted offer.<sup>7</sup> Additionally, they may also face a collective action problem: institutional shareholders purchase more shares on average in the SPP component of packaged PPs and in doing so make retail shareholders as a group worse off than they would have been had the company done a traditional PP! In other words, a security whose design can alleviate the wealth transfer problem, actually makes it worse.

We contribute to several strands of the literature. HP place importance on retail shareholder participation in rights issues; they argue that managers' concern for protection of small shareholders affects their equity issuance decisions, and that agency conflicts in rights offerings are reflected in the wealth transfers that result from the issue; "there are conflicts or at least wealth transfers between the two-thirds of shareholders who participate in domestic rights offers and the one-third who do not participate" (p267). Subsequently Holderness (2017) stresses the importance of shareholder approval prior to the issue as a mechanism to reduce these agency costs. Our results add to these insights by showing that even in offers of a security whose design incorporates beneficial features for retail shareholders, and that requires shareholder approval, small shareholders do not participate in sufficient numbers, and that the resulting wealth transfers are even greater than traditional placements. These findings suggest that agency conflicts therefore only partially explain manager choice of issue, market responses, and wealth transfers.

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<sup>7</sup> Stout (2012) posits that shareholder rational apathy is an often insurmountable obstacle to collective action. Carlin and Manso (2011) argue that the growing complexity of retail financial markets has outstripped the sophistication of retail investors, with investors making suboptimal choices when faced with too much information.

Our findings that retail shareholders eschew participation are consistent with existing literature including Poteshman and Serbin (2003), Agnew (2006), Goetzmann and Kumar (2008), Rantapuska and Knüpfer (2008), Barber et al. (2009), Armitage (2010) and Guiso and Viviano (2015). The conclusion that retail shareholders leave money on the table by not participating in the SPP mirrors the finding in Rantapuska and Knüpfer (2008) for retail shareholder non-participation in rights issues in Finland. Additionally, by using daily ownership data our study not only provides a very precise measure of shareholder participation in equity offerings, but also allows us to explicitly examine wealth transfers between retail and institutional shareholders.

Finally, our overall results are consistent with the general characterization of inactive retail investors as lacking financial literacy and largely ignorant of the market (Rantapuska and Knüpfer, 2008). We note, however, that although this behavior (nonparticipation) is partially attenuated in offers that require shareholder approval, our results only serve to highlight the fact that overcoming retail shareholder nonparticipation is not easy.

The structure of the paper is as follows. Section two briefly discusses the literature related to private placements and the institutional background associated with share purchase plans in Australia. Section three describes data followed by an analysis of the offer and firm characteristics of the sample, and discusses a simple model that quantifies the conditions under which retail shareholders are better off in a packaged PP as compared to a traditional PP. Section four presents and discusses our empirical results and section five concludes.

## **2. Related Literature and Institutional Setting**

### *2.1 Related Literature*

Despite their negative effects on retail shareholder wealth, managers often argue that dilutive equity issuances are an efficient mechanism to raise the required capital as a discounted offer price attracts investors and a selective share allocation structure speeds up the process. However, large shareholders, even with a one-share one-vote ownership structure, are capable of expropriating private benefits of control at the expense of minority shareholders, consistent with the notion in Shleifer and Vishny (1997) and Fama and Jensen (1983).<sup>8</sup> For example, Gugler and Yurtoglu (2003) find evidence in Germany that large shareholders pay out less in dividends to small shareholders in order to tunnel the remaining funds despite the fact that cash flow and control rights are equal.

Discounts in the offer price usually imply that institutional investors benefit while minority shareholders tend to suffer wealth and ownership dilution (Rantapuska and Knüpfer, 2008; Armitage, 2010). Using a sample of 10,765 private placements in the U.S. between 1995 and 2007 (which includes small issuances), Chakraborty and Gantchev (2013) report an average discount of 13%, with significant

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<sup>8</sup> Some studies document the advantages of disproportionate ownership structure, such as increasing efficiency and reducing cost of capital obtained through the use of dual-class structures (DeAngelo and DeAngelo, 1985; Lehn, Netter and Poulsen, 1990; Dimitrov and Jain, 2006).

(average 26%) dilution of nonparticipating shareholders. With such substantial discounts, it remains puzzling why positive abnormal announcement returns are observed. Wruck (1989) and Wruck and Wu (2009) argue that the observed positive announcement returns reflect reduced agency costs through improved monitoring of the firm by institutional shareholders, while for Hertz and Smith (1993), Chemmanur and Fulghieri (1999), and Wu (2004) they are instrumental in resolving asymmetric information with the announcement revealing firm value. In contrast, Chakraborty and Gantchev (2013) argue that the positive announcement effect arises from improved coordination among equity holders resulting in greater ease of debt renegotiation with subsequent reduced probability of default. Observed positive abnormal announcement returns are consistent with all three explanations.

However, the typical PP issuer is a poor performing firm (Hertz et al., 2002; Chen, Dai, and Schatzberg, 2010) with relatively high probability of default (Brophy et al., 2009; Chakraborty and Gantchev, 2013). In the long run these firms do not perform well (Krishnamurthy et al., 2005; Barclay et al., 2007; Chen et al., 2010). For instance, Krishnamurthy et al. (2005) show that shareholders not participating in the placement experience post-issue negative long-term abnormal returns, while participating investors purchasing the shares at a discount earn normal returns.

The perceived riskiness of PP firms raises concerns in the U.S. regarding the type of sophisticated investors that are allowed to invest in the PP as some accredited investors meet the wealth criteria but are not exactly financially savvy. A paternalistic approach would aim to protect the wealthy but unwary investor from unscrupulous fund raising activities by firms, which Johnson (2010) maintains the 1982 definition of sophisticated investor enshrined in law does not achieve.<sup>9</sup> Australia also distinguishes between ‘sophisticated’ institutional investors and retail investors,<sup>10</sup> but tends to operate on a ‘caveat emptor’ and market discipline approach for the non-prudentially regulated sectors of the financial markets, with unsophisticated shareholders having direct access to much riskier offerings and securities than available to such investors in the U.S.

## 2.2 *Institutional setting*

Australia has a developed stock market where over 80% of shares are owned by institutions. Over the period of this study, traditional private placements became an increasingly important means of raising capital for Australian companies. Private placements in Australia do not require a prospectus, they can be completed in 1-2 days and can be used (without a meeting of shareholders) to raise capital up to 15% of existing capital. They have no upper limit on the discount, no restrictions on trading of newly issued shares and are an attractive equity-raising method for small and medium-sized firms on the Australian Securities Exchange (ASX).<sup>11</sup> Packaged PPs combine the traditional approach with a

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<sup>9</sup> The Securities Act of 1933 (15 U.S.C. § 77(b)(15)(2006); Securities and Exchange Commission rules (17 C.F.R. § 230.501(a) (2008)).

<sup>10</sup> Chapter 6D of The Corporations Act (2001) contains the definitions.

<sup>11</sup> PPs represent 70% of the SEOs conducted by small to medium sized firms in 2011 on the ASX (ASX, 2012).

Share Purchase Plan (SPP), which gives eligible shareholders the right to purchase shares up to a fixed dollar amount.<sup>12</sup> The SPP component is usually completed within 1 month. Important dates in the SPP are the announcement date, the record date, the opening date, the closing date, and the ASX quotation date (when new shares are listed on the ASX). Only shareholders who have ownership on the record date are eligible to participate in the SPP. SPPs can be offered standalone or packaged with a PP.

Open offers in the UK as described in Armitage (2012), are similar to Australian packaged PPs, but unlike packaged PPs, the offer to all shareholders is pro-rata. In a sample of UK open offers, the average discount is 20.6% but is large and variable due to inelastic demand and illiquidity of the shares in the offer (Armitage, 2012). Similar to an Australian SPP, a direct share purchase plan (DSPP)<sup>13</sup> in the U.S. which is usually combined with a dividend reinvestment plan (DRIP) as described in Chiang, Frankfurter, and Kosedag (2005), gives shareholders the opportunity to buy new shares. For DRIPs with a DSPP, a fixed sum is automatically invested in the firm's shares on the investor's behalf. Investors can also purchase shares using additional cash, with the offer price in DRIPs usually at a discount from 3% to 5% (Chiang et al., 2005).

To bring context to the ensuing analysis, we describe an Australian packaged PP in detail. On July 13, 2001, Origin Energy announced that it had successfully completed a private placement following an overnight book-build on July 12, 2001. It raised \$125 million, issuing 44.2 million shares at an offer price of \$2.83, which represented a 2.2% discount to the volume weighted average price for the month of July. The company reported that the issue had been well supported by existing and new institutional shareholders, both in Australia and overseas, with the proceeds of the placement used to retire debt and fund ongoing operations. At the same time, the company announced that it intended to offer to Australian and New Zealand shareholders the opportunity to purchase new shares under an SPP. Subsequently, the company raised \$74 million issuing 26 million shares at \$2.79, representing a 5.3% discount to the volume weighted average price for the period July 30, 2001 to August 23, 2001.<sup>14</sup> In terms of participation in the SPP component of the offer, retail shareholders purchased 8.9 million shares, while institutional shareholders purchased 17.5 million shares. In this case, retail shareholders are *further* diluted by the SPP component of the issue.

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<sup>12</sup> In 2002 the Australian Securities and Investments Commission (ASIC) increased the annual limit from \$3,000 per shareholder to \$5,000 per shareholder. The annual limit was further increased to \$15,000 per shareholder in September 2009. Because a full prospectus is not required the objective of an annual limit is to minimize the risk to shareholders (ASIC, 2008). In a packaged PP, companies typically extend the offer for all eligible shareholders to participate in the SPP component on the same terms as offered to institutional and sophisticated investors.

<sup>13</sup> A DSPP is also called a 'Voluntary Purchase Plan' or 'Optional Cash Payment'.

<sup>14</sup> The price for the PP and SPP components are the same because soon after completion of the PP the company paid a 4 cents dividend to which investors in the SPP were not entitled.

### 3. Data and a simple model of wealth transfer

#### 3.1 Data

The foregoing example highlights the unique ownership data set employed for this study which allows us to estimate retail and institutional investors' participation in the PPs. Data on institutional ownership and the number of retail and institutional shareholders are collected from the Clearing House Electronic Subregister System (CHESS) held by the ASX facilitated by Securities Industry Research Centre of Asia-Pacific (SIRCA). Since 1998, when paper share certificates were eventually phased out, ownership of shares has been recorded electronically.<sup>15</sup> The sample of PPs and their announcement and closing dates are sourced from the Thomson Reuters SDC Platinum database. The details for the SPP component in packaged PPs are hand-collected from announcement reports from SIRCA's Australian Company Announcements (ACA) database. Share prices and trading volumes are obtained from SIRCA. Accounting data are from the Morningstar Aspect Huntley FinAnalysis database. The sample has been filtered to exclude confounding corporate events and missing accounting and share price information, resulting in a final sample of 1730 PPs issued from 2000 to 2007. The choice of sample period avoids potential biases caused by the 2008 Financial Crisis. During the crisis, many Australian firms were able to issue new shares via private placements at a deep discount due to abnormally low investor confidence and in a situation where capital was required to strengthen balance sheets and repay debts.

[Table 1]

To assist in the exposition, Table 1 contains variable definitions and the sources of data used in this study. To control for firm characteristics in our analysis we measure market capitalization on the balance date immediately before the announcement date of the issuance. Another measure of the size of the firm is given by the natural logarithm of total assets measured at the same time as the preceding variable. The riskiness of the firm is an important determinant in choice of issuance method. We include idiosyncratic risk (IDYRisk), the bid-ask spread (Spread) of the firm's stock and default risk (Default Risk) as alternative measures of the risk of the firm, as detailed in Table 1. Firm performance before the issue is measured as pre-issue abnormal returns or alternatively as return on assets (ROA). Growth options may be an important determinant of capital raising: the market to book ratio (MB) is measured as market value of total assets divided by book value of total assets at the balance sheet date immediately prior to the issue announcement date. Capital expenditure (CAPEX) is divided by total assets on the balance date immediately prior to the issue announcement date. The CHESS data set facilitates an accurate measure of institutional ownership (INSTI) and the number of retail shareholders as a proportion of the number of total shareholders (No. Retail/ Total SH).

In terms of the characteristics of the offer we measure the proportional discount as the share price two days pre-issuance minus the offer price, all divided by the share price two days pre-issuance. The

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<sup>15</sup> Other studies that have used the CHESS data set are Bayley, Lee, and Walter (2006) and Bradrania et al. (2015).



proportion of shares issued is measured as new shares issued divided by the total shares outstanding two days before issuance. The proportional amount issued is measured as the proceeds raised from the issue divided by the firm's market capitalization on the balance date immediately before the issue. In terms of stated purpose of the funds raised we use categorical variables: *WC* if stated use is for working capital, *Debt* if to reduce debt, and *Exploration* if for exploration, research and development, or new projects. We measure the wealth transferred from retail shareholders to institutional shareholders as a percentage of market capitalization (*WT%*).

Table 2 shows the numbers and value of private placements between the years 2000 and 2007 and across ten industry classifications. From Table 2 Panel A, it is apparent that traditional PPs are the predominant choice with their frequency approximately 15 times higher than packaged PPs. The average proceeds raised in packaged PPs is however larger than that in traditional PPs. The majority of PP issuers belong to the materials industry classification, followed by energy and healthcare. Issuers in the financial industry raised the largest proceeds, followed by those in the materials and energy industries.<sup>16</sup>

[Table 2]

Table 3 presents firm and offer characteristics for traditional and packaged PPs. A number of points can be made. Consistent with the findings of Chakraborty and Gantchev (2013) for PIPE issuers in the U.S., the majority of Australian firms undertaking PPs are performing poorly. On average, PP issuers have low stock returns and negative ROA in the lead-up to the issue, and the extent of their financial distress as measured by default probability raises questions about their future performance.<sup>17</sup> Packaged PP issuers have a greater level of institutional ownership (INSTI) and a smaller proportion of retail shareholders by number (No. Retail/ Total SH). This observation aligns with Didier (2011) who shows that larger firms attract more institutional investors due to investment mandates. Packaged PP issuers have lower information asymmetry (proxied by Spread, Volume, and IDYRisk), higher ROA, and lower default risk than traditional PP issuers.<sup>18</sup> Financial distress raises concerns about the firms' investment opportunities and increases agency problems, and is likely to exacerbate information asymmetries, strengthening the argument that private placements are last resort equity financing (Brophy et al., 2009; Chen, Dai, and Schatzberg, 2010). Finally, market-to-book ratio (MB) and pre-issue abnormal returns (Pre-issue AR) are not statistically different between the two PP structures.

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<sup>16</sup> The breakdown of the PP-issuers according to industry classifications reflects that of the Australian listed share market where 45% of all publicly listed firms in Australia are in the resource industry in 2011 (ASX, 2012).

<sup>17</sup> Over 82% of the sample has negative ROA, over 58% has negative stock returns, and over 84% has negative operating cash flows (all measured over the previous 12 months). Over 51% of the sample has default risk greater than 5%.

<sup>18</sup>As shown in Table 2 a large percentage of our sample companies belong to the mining industry. Hutchens and Ferguson (2014) document that the future profits of such companies are riskier with higher likelihood of financial distress. The high default risk evident for Australian PP issuers is consistent with US PIPE issuers, which are small, young, and risky public companies (see, Dai, 2007; Brophy et al., 2009; Chaplinsky and Haushalter, 2010; Chen et al., 2010 ; Chakraborty and Gantchev, 2013).

[Table 3]

### 3.2 A simple model of wealth transfer

We begin the discussion of wealth transfer ignoring all information effects and agency cost changes resulting from the new equity issue, and concentrating only on the mechanical wealth transfer arising from issuance of new shares at a price different from the current market price. We sign wealth transfer as occurring *from* retail shareholders, who as a group are generally prohibited from participating in traditional PPs, *to* institutional shareholders. Because traditional PPs are typically offered at a discount to a selected few institutional shareholders, they result in a mechanical wealth transfer from nonparticipating shareholders to participating institutions. Retail shareholders do not participate in the private placement but if eligible can buy shares in packaged PPs via the SPP component. Therefore, it is tempting to assume that a packaged PP will result in lower dilution of retail shareholder ownership (and hence lower wealth transfer) than the corresponding traditional PP. However, packaged PPs, unlike rights issues, do not allocate new shares in proportion to current shareholdings. The extent of retail shareholder ownership dilution therefore depends on two variables, namely the ratio of the number of retail shareholders to total shareholders and the retail shareholder participation rate in the SPP offer. The latter is beyond issuers' control as any decision to participate will be affected by shareholder financial acumen, access to funds and ultimately individual choice. Because institutional shareholders can also participate in the SPP offer it is possible that *ceteris paribus* retail shareholders could even be worse off with a packaged PP offer as compared to a traditional PP, depending on the relative participation rates of retail and institutional shareholders in the SPP component of the offer.

We develop a simple model of the wealth transferred in a traditional and packaged PP. In a traditional PP the number of retail shareholders does not change as a result of the placement and new shares issued can be calculated as the shares held by institutions after the issue minus the shares held by institutions before the issue. In a packaged PP, new shares issued will be to both institutions and retail shareholders. It is clear that the wealth transferred from retail to institutional shareholders in both cases will be dependent on the number of new shares issued to institutions (whether new or existing shareholders) in excess of the number issued to retail shareholders,  $X$ , which is given by

$$X = (Inst_{POST} - Inst_{PRE}) - (Retail_{POST} - Retail_{PRE}) \quad (1)$$

The subscripts *PRE* and *POST* are self-explanatory. *Inst (Retail)* represents the number of shares held by institutions (retail shareholders). In Equation (2), retail shareholder wealth loss in dollars ( $WT$ ) for both a traditional PP and a packaged PP is equal to the excess of shares issued to institutions over retail shareholders,  $X$ , multiplied by the discount per share, which is equal to  $(P_{PRE} - P_O)$ , the pre-issue share price minus the offer price. New shares may be allocated to institutions via both PP and SPP

components in the case of a packaged PP. To standardize the wealth transfer measures across firms, the wealth transfer, which is computed as

$$WT = X(P_{PRE} - P_0), \quad (2)$$

WT is scaled by the issuer's market capitalization in our empirical tests.

In a traditional PP, the proportion of shares owned by retail shareholders ( $RP$ ) after the issue of new shares to institutions is given by

$$RP_{POST}^{Trad} = \frac{1 - \alpha_{BI}}{1 + \alpha_{NI}}, \quad (3)$$

where  $\alpha_{BI}$  is the proportion of shares held by institutions on the announcement date of the PP, and  $\alpha_{NI}$  is the proportion of shares issued to institutions in the PP component.<sup>19</sup>

We define  $a$  as the ratio of shares issued to retail shareholders in SPP to the total number of shares outstanding prior to the issuance date.<sup>20</sup> This will depend on the *number* of retail shareholders as each shareholder is entitled to a fixed dollar amount (currently \$15,000) of new shares. For a packaged PP the proportion of shares owned by retail shareholders ( $RP$ ) after the issue of new shares (to institutions under the PP and all shareholders under the SPP component) is given by,

$$RP_{POST}^{Pack} = \frac{a + (1 - \alpha_{BI})}{1 + \alpha_{NI} + a/b}, \quad (4)$$

where  $b$  is the proportion of new SPP shares issued to retail shareholders.<sup>21</sup> Retail shareholders suffer lower dilution with a packaged PP than a traditional PP when  $RP_{POST}^{Pack} > RP_{POST}^{Trad}$ . Solving for  $b$  gives

$$b > \frac{1 - \alpha_{BI}}{1 + \alpha_{NI}}. \quad (5)$$

The RHS of inequality (5) represents the proportional ownership of retail shareholders after a traditional PP. Therefore the condition implies that retail shareholders are diluted *less* by a packaged PP, provided the proportion of new SPP shares issued to retail shareholders is greater than the proportion of shares owned by retail shareholders *after* the PP component is completed and before the SPP is completed.<sup>22</sup> To put it another way, unless retail shareholders own a greater proportion of the firm after the packaged PP than after a comparable traditional PP, they will be more diluted by the structure that

<sup>19</sup>  $\alpha_{BI} = \frac{InstipRE}{InstipRE + RetailPRE}$  and  $\alpha_{NI} = \frac{No. \text{ of new shares issued to institutions in PP}}{InstipRE + RetailPRE}$ .

<sup>20</sup>  $a = \frac{No. \text{ of new shares issued to retail shareholders in SPP}}{InstipRE + RetailPRE}$ .

<sup>21</sup>  $b = \frac{No. \text{ of new shares issued to retail shareholders in SPP}}{\text{Total number of shares issued in SPP}}$ .

<sup>22</sup> Note that this condition can be conceived of in two equivalent ways. First is the comparison of a traditional PP with the same traditional PP followed by an SPP (where the terms of the SPP are the same as the PP). Second assumes that the packaged PP is offered on the same terms as if the company had done a traditional PP.

allows them to participate. ‘Enough’ retail shareholders must participate in the SPP offer to ensure condition (5) is satisfied, which requires that shares issued (in the SPP) to retail shareholders as a group must exceed those issued to institutional shareholders as a group.

To measure the wealth transfer requires the offer price as an input. It is straightforward to show that in the case of a traditional PP, retail shareholders transfer wealth to institutional shareholders when the offer price is less than the pre-announcement share price,  $P_O < P_{PRE}$ . Let  $P_O = (1 - \Delta_{Trad})P_{PRE}$  where  $\Delta_{Trad}$  is the discount at which the new shares are offered in a traditional PP. For a packaged PP the discount is represented by  $\Delta_{Pack}$ ; the discounts in the two types of PPs are not necessarily the same.

Using equation (2), for the sake of completeness, we state the wealth transfer for the traditional offer as

$$WT_{Trad} = XP_{PRE}\Delta_{Trad}, \quad (6)$$

and for the packaged PP as

$$WT_{Pack} = XP_{PRE}\Delta_{Pack}. \quad (7)$$

Substitute for X from equation (1) (noting that X is different for traditional and packaged PPs), and assuming that the discounts are the same for both types of offers, a little algebraic manipulation shows that in order for the wealth transfer in the packaged PP to be less than that in the traditional PP requires

$$\frac{a}{1-b} > \frac{\text{Total number of shares issued in SPP}}{Inst_{PRE} + Retail_{PRE}}. \quad (8)$$

It follows that a simple condition governs whether retail shareholders are more diluted and suffer a greater wealth loss in a packaged PP as compared to the comparable traditional PP. If retail shareholders as a group receive more new SPP shares than institutional shareholders do as a group, then retail shareholders are better off (compared to a traditional offer with same terms) with the packaged offer in terms of both control and wealth. This condition is represented in Equations (5) and (8). Deriving this condition assumes that we are examining the traditional PP and the packaged PP at the same discount for the same company. We operationalize this condition in our empirical analysis by using propensity score matching between firms offering traditional and packaged PPs. Combining this with actual observable participation rates then allows us to address the core research question.

## 4. Results

### 4.1 Univariate wealth transfer measures

Table 4 Panel A presents a univariate comparison of wealth transfers in traditional PPs and packaged PPs.<sup>23</sup> We find that packaged PPs in Australia tend to be performed by larger firms (proxied by market capitalization) at smaller average discounts than traditional PPs. Both factors, a smaller discount and access to purchasing shares in the SPP component, should work in the same direction to lower the average wealth transfer. However, contrary to expectations, both average and median wealth transfer as a percentage of market capitalization (WT<sub>%</sub>) for packaged PPs are significantly larger than the same measures for traditional PPs. Xu, How, and Verhoeven (2015) suggest that the share purchase plan protects nonparticipating shareholders from ownership dilution, but at first glance it appears that this may not be the case.

Table 4 Panel B presents key characteristics of the packaged PP subsample. On average (at the median) 18.3% (14.7%) of existing shares are issued via the PP component as new shares to institutions; as a group institutions owned 64% of shares prior to the issuance. The SPP component of packaged offers is economically significant because on average (at the median) 31.1% (30.3%) of newly issued shares come from the SPP component of the offer, and on average (at the median) 40.9% (45.2%) of shares in the SPP are issued to retail shareholders.

The retail participation rate for the SPP component is computed as the number of new shares purchased by the retail shareholder group divided by the number of new shares that retail shareholders are entitled to buy in the SPP given the stipulated cap. The numerator in the retail participation rate computation is represented by the change in the number of shares owned by the retail group as recorded in CHESS on the SPP offer closing date. The SPP offer closing date is manually collected from the issuer's announcement reports. We obtain the denominator in the retail participation rate computation as the number of retail shareholders multiplied by \$5,000 divided by the offer price per share (\$3,000 for SPPs issued before September 2002).<sup>24</sup> CHESS also provides daily measures of the number of retail and institutional shareholders. The same procedure also applies to the institutional participation rate. The SPP component of the offer is not well taken up by retail shareholders who purchase on average (at the median) only 18.2% (13.2%) of their entitled number of SPP shares. The same figures for institutional shareholders are 56.6% (48.6%).

[Table 4]

As summarized in Section 3.2, the crux of our simple model is that retail shareholders must buy more shares than institutional shareholders in the SPP in order to mitigate the wealth transfer resulting

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<sup>23</sup> Around 28% (5%) of traditional (packaged) PPs are offered at a premium to market price. Given that the average firm in our sample appears to be in financial trouble, premium offers may be a bailout by friendly-institutions. Given the very small frequency of premium offers amongst packaged PPs we restrict our subsequent analysis of wealth transfer to the sample of discount offers only. This practice is common in prior equity-raising studies such as Armitage (2012) and Holderness and Pontiff (2016).

<sup>24</sup> See footnote 12.

from the PP component. To see how this condition plays out in our data, in Table 4 Panel C we segregate packaged PPs into two subsamples where the ratio of new SPP shares issued to retail shareholders to new SPP shares issued to institutional shareholders (identified as Ratio) is greater or less than 1. Wealth transfer measures are reported for the two subsamples. In the subsample where Ratio is greater than 1 (23 packaged PPs), which is where retail shareholders participate in large enough numbers to reduce the wealth transfer resulting from the PP, the mean wealth transfer of 3.26% from retail to institutional shareholders from the PP component is mitigated a little by a slight wealth transfer from institutions to retail shareholders through the SPP component of 0.16%. In the 52 packaged PPs where Ratio is less than 1, the percentage wealth transfer from the PP component of 2.03 is increased by 0.35 percentage points because of the lack of participation of retail shareholders in the SPP. The relation between Ratio and wealth transfer from retail to institutional shareholders through the SPP component is illustrated graphically in Figure 1. The histogram (left-hand axis) plots the Ratio for the 75 packaged PP issues and the line graph (right-hand axis) isolates the wealth transfer from retail to institutional shareholders in the SPP component only. For the 52 packaged PPs where Ratio is less than 1, the wealth transferred from retail shareholders is clearly positive as predicted by Equations (5) and (8). In other words, for these 52 offers, retail shareholders are worse off with the packaged offer as compared to the counterpart traditional PP. The other 23 packaged PPs (where Ratio is greater than 1) result in retail shareholders being better off with the packaged offer (shown as negative wealth transfer).

While the average retail shareholder participation rate in the SPP component of packaged PPs is very low, the proportion of shares issued under the SPP component relative to the PP component is large (average and median of 72.3% and 43.5% shown in Table 3). Perhaps unexpectedly institutional shareholders gain at retail shareholders' expense from the SPP component, and although packaged PPs have a smaller discount they result in a larger wealth transfer from retail shareholders to institutions.

[Figure 1]

#### 4.2 Propensity score matching

The problem with a simple empirical comparison of wealth transfers between the larger group of traditional PPs and the much smaller group of packaged PPs is that we may not be comparing like with like. An important issue in this context is the extent to which there is endogeneity between wealth transfer and the binary choice for a firm between a traditional PP and a packaged PP. Including a dummy for packaged PPs in an OLS regression may not account for the non-random distribution of offer type. Put another way, certain firms may be more likely to choose a packaged PP rather than a traditional PP. We therefore use a propensity score matching estimator (Rosenbaum and Rubin, 1983) to improve the identification of the effects of a packaged PP. The propensity score analysis corrects for selection bias in terms of observable firm characteristics that could affect the decision to issue a packaged PP. First, we obtain the probability of choosing a packaged PP by employing a probit regression with explanatory

variables such as *Log (TA)*, *INSTI*, *Default risk*, and *Dummy (PP offer size > 15%)*.<sup>25</sup> The definitions of these variables are provided in Table 1. The propensity score is defined as the probability of choosing a packaged PP, conditional on pre-issuance firm characteristics. Probit regression results in Table 5 Panel A show that the likelihood of choosing a packaged PP compared to a traditional PP can be predicted by firm and offer characteristics. For instance, we find that larger and less financially distressed issuers are more likely to choose a packaged PP than a traditional PP structure. The significance of the coefficient on *Dummy (PP offer size > 15%)* indicates that the packaged PP structure is a more attractive choice when the required capital is larger. The pre-issuance institutional ownership level does not influence issuers' decision regarding the PP structure.

The next step in the procedure is to match each packaged PP issuer with a control firm belonging to the traditional PP sample based on their propensity scores. Following Austin (2011), for each packaged PP issuer, the nearest-neighbor matching technique chooses a group of three traditional PP issuers (belonging to the same industry classification as the packaged PP issuer) with propensity scores closest to the packaged PP issuer's propensity score but within caliper of 0.01. This matching technique is also used in prior empirical studies (see Haw, Lee, and Lee, 2014; DeFond, Erkens, and Zhang, 2016). Using this propensity matching approach with replacement within the caliper of 0.01, a matching control firm could not be found for three firms and therefore the sample is reduced to 72 packaged PPs. The final matched sample consists of 72 packaged PPs and 188 matched-traditional PPs. Table 5 Panel B provides diagnostic tests on the propensity score matching and shows that the method reduces the differences in sample characteristics between packaged PPs and their matched-traditional PPs. We evaluate the outcome of the matching method based on the reduction of bias, which represents the deviation of packaged PP issuers from matched-traditional PP issuers. The large percentage change suggests matching success. This matched sample mitigates selection bias and thus enables an identification of the differences in wealth transfers between the two types of placements.

[Table 5]

Table 5 Panel C presents the differences in the wealth transfer measure,  $WT_{\%}$ , proportional discount, and proportional shares issued between packaged PP issues and their matched-traditional PP issues. The average  $WT_{\%}$  and proportional shares issued are larger in the packaged PP sample compared to its matched-traditional PP sample. However, the difference between the proportional discounts for new shares issued under packaged and matched-traditional PPs is insignificant, suggesting that the issuance structure does not seem to influence how issuers set the discount level. Based on this analysis, the larger average wealth transfer in packaged PPs appears to be driven, at least in part, by their larger offer size, consistent with the significant amount raised via the SPP component as shown in Table 4.<sup>26</sup>

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<sup>25</sup> Other firm characteristics such as bid-ask spread and idiosyncratic risk are excluded because of their high correlations with *Log (TA)*.

<sup>26</sup> We obtain the same result in multivariate regressions that include variables that capture both firm level control variables and offer characteristics. These regressions consistently indicate that wealth transfer is significantly and positively related to large, packaged offers (results not tabulated).

Nevertheless, ultimately the wealth transfer depends on the extent to which new shares are issued to retail versus institutional shareholders.

This result may have been anticipated from our previous discussion. The simple model outlined in Section 3.2 predicts that unless retail shareholders participate in the SPP in sufficient numbers they will be further diluted and suffer further wealth loss from a packaged PP compared to its counterpart traditional PP. Retail shareholders face a collective action problem. Retail shareholders by number constitute over 70% of the share registry (see Table 3). So if they were all to participate then quite clearly the dilution and wealth transfer suffered from the PP component would be mitigated. But with only 18.2% of retail shareholders on average participating in the SPP, retail shareholder control and wealth deteriorate as a result of the packaged PP structure.

#### *4.3 Retail and institutional participation rates*

Retail shareholders may consciously choose not to participate for a host of reasons, including lack of understanding, lack of time, rational apathy, or financial constraints. Some or all of these conditions may prevail across individual retail shareholders, but whatever the inadequacies of individual retail shareholders, as a group retail shareholders face a collective action problem. Our data cannot support an analysis of the shareholder participation decision at the individual level. Nevertheless, our unique CHES data set, with its daily frequency, provides a precise measurement of the participation rates for both retail and institutional shareholder groups, allowing an exploration of potential drivers of the participation decision at the group level for the retail shareholder group and the institutional shareholder group. To the extent that the PP component certifies firm quality (Hertzel and Smith, 1993), shareholders may participate to a greater extent in the SPP for larger PP offers. To understand the drivers of participation for the two groups of shareholders we run OLS regressions of retail and participation rates for the SPP component. Firm characteristics such as *INSTI*, *Pre-issue AR*, *Log (TA)*, *Spread*, *CAPEX*, and *IDYRisk* are included in the analysis as proxies for firm quality.<sup>27</sup>

Table 6 reports the OLS regression results for participation rates of retail and institutional shareholders in Panel A and Panel B respectively. Participation rates are computed using the procedure described in Section 4.1. In Panel A, we find that retail shareholder participation is positively related to the offer size of the PP component, indicating that retail shareholders participate to a greater extent when the firm is certified by institutional investors. However, the retail shareholder participation rate is not explained by any of the firm characteristics proxying for firm quality. On the other hand, Panel B shows that unlike retail shareholders, institutional shareholders are not influenced by the PP offer size nor any firm characteristics in their decision to participate in the SPP. Rather, institutional participation in the SPP is positively related to the pre-issuance level of institutional ownership, which proxies for firm quality.

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<sup>27</sup> Variable definitions are provided in Table 1.



The finding of a low retail shareholder participation rate which is unrelated to firm quality proxies, is consistent with the literature documenting that retail shareholders lack financial sophistication. For example, Rantapuska and Knüpfer (2008) find retail shareholders lack financial literacy and are largely ignorant of the market, leading them to leave money on the table in rights issues in Finland. Stein (2009, p 1518) suggests that there is a common “[view that individuals are naïve investors while institutions are rational arbitrageurs.” The outcome that institutional shareholders on average receive more shares in the SPP than do retail shareholders, may not have been the issuing firm’s original intention. In fact, instead of achieving a more equitable distribution of shares, the packaged offer results on average in a larger wealth dilution to retail shareholders. To continue the description of our example Origin, in a letter to shareholders on September 4, 2001 announcing the success of the PP, the company gave details of the Share Purchase Plan allowing all shareholders the opportunity to participate in a capital raising on equivalent terms, noting that “[participation in the plan is entirely at your option.”<sup>28</sup>

However, despite the innovative security design and the communication from issuing companies to all shareholders our data show that while enough institutions consider participation worth the effort, retail shareholders either do not listen to the message, are not sophisticated enough to understand the wealth implications of not participating, or rationally decide that it simply is not ‘worth the candle’.<sup>29</sup> Conceivably the marginal cost to a sophisticated institutional investor with knowledge, understanding and systems in place to effect a small investment in the SPP is minimal.

[Table 6]

#### *4.4 The effects of shareholder approval in larger than 15% placement offer size*

##### *4.4.1 Wealth transfer measures and participation rates*

Two recent studies provide empirical evidence that the consequences of equity issuances are affected by agency conflicts. First, HP (2016) show that agency costs are important in explaining the choice of nontradable rights issue structure and the negative market reaction to the announcement of rights issues in the U.S. Second, Holderness (2017) argues that the agency conflicts inherent in equity issuances can be mitigated when shareholders must approve the issue. In Australia offer sizes larger than 15% require shareholder approval. Holderness (2017) finds equity issuances requiring shareholder approval have positive announcement returns, supporting the agency cost argument. Combining these results, equity issuances that require shareholder approval should have lower wealth transfer due to lower agency conflicts. In this section, we focus on the effects of agency costs on wealth transfer, and short-term and long-term stock performance for our sample of PPs.

Using a similar approach to Holderness (2017) we begin by dividing the respective packaged and traditional PP samples into two subsamples according to the offer size of the PP component. In Table 7

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<sup>28</sup> Document No: 242733, Document part: B, Classification: Letter to Shareholders, Signal G to ASX

<sup>29</sup> A rational shareholder will expend the effort to make an informed decision only if the expected benefits of doing so outweigh its costs.

Panel A we report the wealth transfer estimates and their related variables for the two packaged PP subsamples; large PPs (offer size > 15%) and small PPs (offer size ≤ 15%). Retail and institutional shareholder participation rates in the SPP component are also documented. In contrast to the results reported in HP (2016) and Holderness (2017), we find a larger wealth transfer in the large PP subsample where shareholders must approve the offer. As shown in Table 7 the average (median) retail participation rate for the small PP subsample is 16.7% (10.4%) while similar statistics for the large PP subsample is 21.1% (14.9%). The difference in retail participation rates between the two subsamples is statistically insignificant. The larger wealth transfer is likely driven by an interrelation of larger offer size, larger discount, and low participation rates by retail shareholders in the SPP (compared to institutions). Despite requiring shareholder approval where shareholders have the opportunity to become more informed about the issuance (this process should reduce agency conflicts and wealth transfer), retail shareholders do not participate in sufficient numbers to reduce their dilution. Our study provides an example that complements the findings of Holderness (2017) by showing that agency costs may not provide the complete explanation to participation. Even with shareholder approval for these large issues, retail shareholders do not participate, seemingly unaware of the implications of their nonparticipation decisions.

[Table 7]

#### 4.4.2 Short- and Long-run returns

Absent mechanical wealth transfer implications from the issuance, nonparticipating shareholder wealth is also affected by the change in share price around the announcement date due to information effects. The information effects for US private placements are generally positive, likely to be the result of investors certifying that the issuer is not overvalued, or alternatively new blockholders increasing monitoring measures to reduce agency problems (see, e.g., Hertzell and Smith, 1993; Billett, Elkamhi, & Floros, 2014; Wruck, 1989). On the other hand, the entrenchment hypothesis (see, e.g., Wu, 2004; Barnes and Walker, 2006; Barclay et al., 2007; HP, 2016) or the equity tunneling hypothesis (see Atanasov et al. (2010) for Bulgarian placements) would imply that the information effects could be negative due to wealth transfer. Thus, depending on the direction and magnitude of the information effects, wealth transfer can be mitigated or exacerbated by information effects. Abnormal stock performance around the announcement date of PPs can also be due to the mechanical effects of the discounted offer price in the issue. Because the discounts are different between the two PP structures, we employ Armitage's (2012) discount-adjusted abnormal return method to segregate abnormal returns into two components, consisting of information and discount effects.<sup>30</sup> The event study methodology is

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<sup>30</sup> Armitage (2012) estimates the discount-adjusted return in the following equation:  $R_{[ad-1, ad]} = \ln \left[ \frac{(P_{ad} - P_{ad-1}) / (P_{ad} - P_{offer}) N_{new} / N_{old}}{P_{ad-1}} + 1 \right]$ , where ad = announcement date of the equity issuance.

employed to estimate both traditional and discount-adjusted abnormal returns. Normal returns are estimated using the market model, with estimation period spanning 314 days to 60 days prior to the announcement day. The ASX All Ordinaries Index (constituting the Top 500 firms by market capitalization on the ASX) is used as the market proxy.

The respective packaged and traditional PP samples are segregated into two subsamples according to the offer size of the PP component. Table 8 Panel A shows that the average unadjusted CARs  $[-1, 0]$  are -1.3% and 1.3% for the two packaged subsamples with smaller and larger PP component respectively. The difference in unadjusted CARs between the two packaged subsamples is not statistically significant. A similar result is evident for the traditional PP subsamples.

To separate out the information effect, we also estimate the discount-adjusted CARs. We find that the average discount-adjusted CAR  $[-1, 0]$  for the packaged PP subsample with a larger PP component is positive and statistically significant according to the generalized sign test while the same measure for the packaged PP subsample with a smaller PP component is insignificant. The difference in discount-adjusted CARs  $[-1, 0]$  between the two packaged PP subsamples is statistically significant, indicating a more positive information effect when shareholder approval is required. A similar trend is observed for the traditional PP subsamples. These results are consistent with the findings of Holderness (2017), and the argument that shareholder approval of the issue results in lower agency costs.

In Table 8 Panel B, we show long-run buy-hold returns for three different holding periods post-announcement: 100-day (BHR100), 250-day (BHR250), and 500-day (BHR500). The packaged and traditional PP samples are both further segregated into the two subsamples according to the offer size of the PP component. For the packaged PP subsamples, most of the long-run BHRs are not statistically significant. The differences in BHRs between the two packaged PP subsamples for all three different period post-announcement are also insignificant. On the other hand, the long-run BHRs for all three different holding periods are positive and statistically significant for the traditional PP subsamples with the subsample requiring shareholder approval (PP offer size  $>15\%$ ) having larger positive BHRs. The differences in BHR250 and BHR500 between the two traditional PP subsamples are also strongly and statistically significant.

Certainly, for the traditional PP sample greater returns are achieved in the long run, for all holding periods, for the sample where shareholders must give approval for the issue, suggesting that the benefits of reducing agency costs are not short-lived. For the Packaged PP sample, which is much smaller in size, there are no obvious benefits to shareholder approval.

[Table 8]

## 5. Conclusions

There is no doubt that traditional PPs offered at a discount result in wealth transfers from retail shareholders to institutional shareholders. What can a company do to mitigate the risk of this

outcome? In Australia managers who are worried about disadvantaging or “antagonizing small shareholders” HP (2016, p268) can offer retail shareholders the opportunity to buy shares at the same price as in the PP. Such packaged offers have received favorable commentary from media commentators, shareholder activists, and the securities regulator. Using data on 1655 traditional PPs and 75 packaged PPs this study investigates whether the security design underlying packaged PPs is beneficial to small shareholders by analyzing wealth transfers and information effects around the announcements of PPs.

Our univariate analysis shows that on average packaged PPs *do not* result in *lower* wealth transfer than traditional PPs. In addition, despite media criticism of the unfair treatment of retail shareholders in traditional PPs, the market reaction is more favorable at the announcement of traditional PPs than packaged PPs. Matching traditional and packaged PPs using a propensity score-matching estimator leads to the same conclusion that retail shareholders suffer greater wealth loss in a packaged PP than the comparable traditional PP, likely a result of their low participation rate in the SPP component.

Retail shareholders as a group are in fact worse off with a packaged PP because of their very low participation rates in the SPP component. Put simply, to be better off with the packaged PP retail shareholders as a group must receive more shares in the SPP than institutional shareholders as a group. In addition, completely opposite to what one might infer from the results documented in Holderness (2017), wealth transfers are larger in packaged PPs where the company has sought shareholder approval before the PP component is issued. This seemingly perverse outcome arises because retail shareholders as a group do not purchase enough new shares in the SPP. However we are unable to categorically state why retail shareholders act as they do, whether they are behaving rationally and are unwilling to expend the resources (both time and money) to invest in the offer for the relatively small payoff (rational apathy), or they are simply not sophisticated enough to understand the dilution effects of a discounted offer. Retail shareholders face a collective action problem: it would seem that a security designed to provide some protection to small shareholders fails because dispersed retail shareholders do not act collectively.

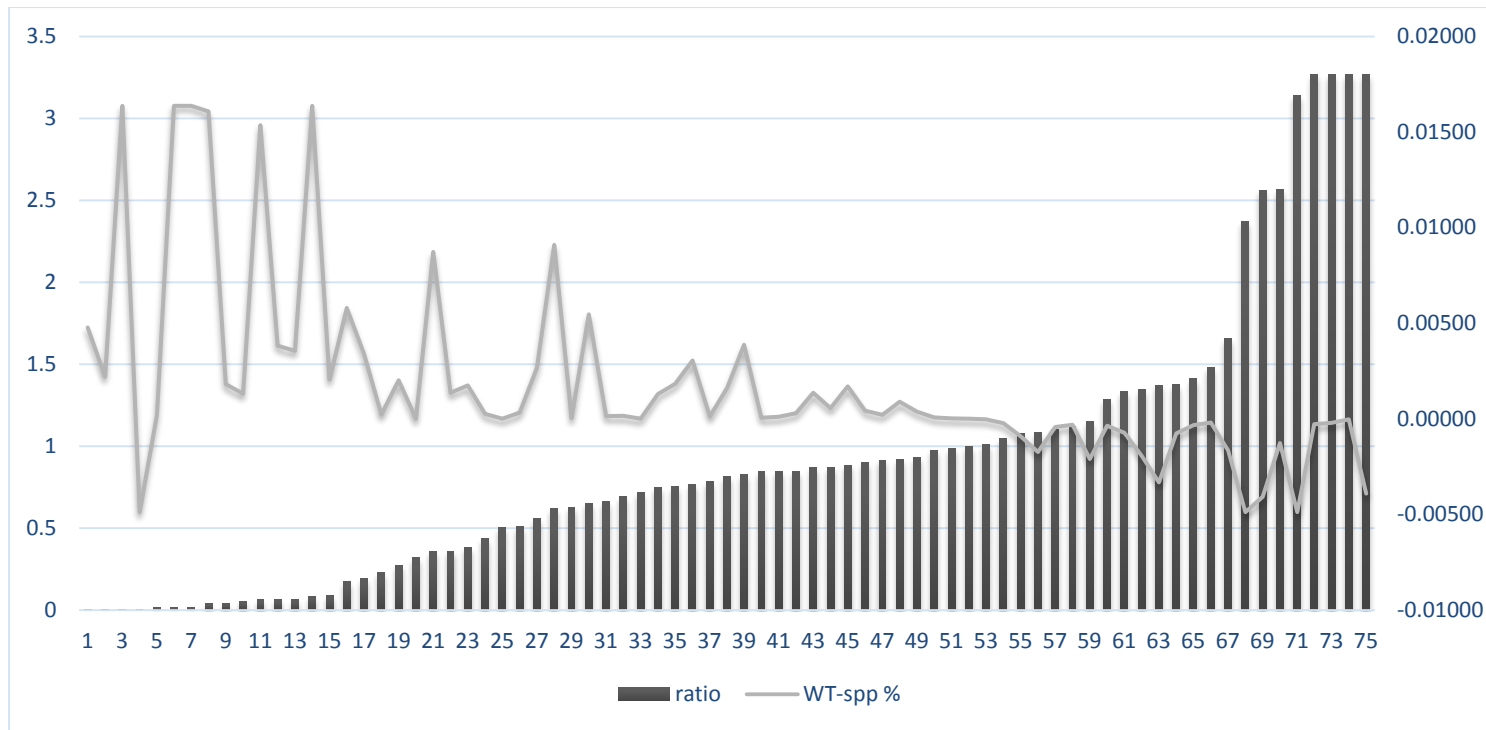
What other capital issuance methods provide some protection to retail shareholders? In Australia, there are virtually no seasoned equity offers to the public but rights offers remain very popular as a capital raising mechanism. Firms need to consider the interplay of various factors and costs when issuing a private placement instead of a pro-rata rights offer. Our results suggest that packaged PPs are not successful in protecting small shareholders who on average are further diluted by the SPP. Nevertheless, for firms offering packaged PPs the average SPP proceeds are around 72% of the PP proceeds, so from the company’s point of view the SPP component adds to the success of the capital raising.

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**Figure 1 Ratio of shares sold to retail shareholders by shares sold to institutional shareholders and wealth transfers in share purchase plans (SPP).**

The figure shows the relation between shares distributed to retail shareholders over shares distributed to institutional shareholders (RH axis) and the wealth transfer only in the SPP component (in % on LH axis). The horizontal axis denotes individual observations (sorted in increasing order of the ratio) for each SPP in the sample.



**Table 1**

Variable definitions and sources of data

Table 1 provides a description of all independent variables as well as data sources.

Variable	Definitions	Sources
<b>Firm characteristics</b>		
Marketcap	Market capitalization on the balance date immediately before issuance announcement date.	SIRCA
Log (TA)	Natural logarithm of total assets on the balance date immediately before issuance announcement date.	Aspect/ Huntley FinAnalysis
IDYRisk	Idiosyncratic risk is measured as the standard error of the market model regression of daily stock returns over the period from day -260 to day -61 for each issuing company.	SIRCA
Spread	Spread is the average daily bid-ask spread, calculated in the period between 30 days and 2 days before the announcement day. Daily bid-ask spread = (Ask-Bid)/(Ask+Bid)/2. The Bid and Ask are the time-weighted bid and ask. <sup>32</sup>	SIRCA
Default risk	Merton's (1974) expected default frequency, which estimates the default risk for the one year pre-announcement date.	SIRCA; Aspect/ Huntley FinAnalysis
Pre-issue AR	Abnormal returns in the one year before to two days before the announcement date, where the normal returns are estimated using the market-adjusted model.	SIRCA
MB	Market value of total assets divided by book value of total assets at the balance sheet date immediately prior to the issue announcement date. Market value of total assets is computed from total assets <i>minus</i> book value of equity <i>plus</i> market value of equity.	SIRCA; Aspect/ Huntley FinAnalysis
Volume	Average trading volume divided by average share outstanding over previous 2 years ending 2 days prior to the issue announcement date.	SIRCA
ROA	Earnings before interest, depreciation and amortization (EBITDA) divided by TA on the balance date immediately before issuance announcement date.	Aspect/ Huntley FinAnalysis
CAPEX	Capital expenditure divided by TA on the balance date immediately before issuance announcement date.	Aspect/ Huntley FinAnalysis
<b>Ownership measures</b>		
INSTI	Number of shares owned by institutional shareholders divided by the total shares outstanding as recorded in CHES two days before the announcement date.	CHES (Facilitated by SIRCA)
No. Retail/ Total SH	Number of retail shareholders divided by the total number of retail and institutional shareholders two days before the announcement date.	CHES (Facilitated by SIRCA)
<b>Offer characteristics</b>		
Prop. discount	(Share price two days pre-issuance - offer price)/ share price two days pre-issuance. For packaged PPs, the same offer price applies in both PP and SPP components.	SDC; SIRCA

<sup>32</sup>  $Time - weighted\ bid = \frac{First\ best\ bid \times Time\ 1 + Second\ best\ bid \times Time\ 2 + \dots + Last\ best\ bid \times Time\ n}{Time\ 1 + Time\ 2 + \dots + Time\ n}$

Prop. shares issued	Total new shares issued divided by total shares outstanding two days pre-issuance. For packaged PPs, we combine new shares issued from both PP and SPP components.	SDC; CHESS
Prop. amount issued	Total proceeds (TOP) raised divided by the issuer's market capitalization on the balance date immediately before issuance announcement date. For packaged PPs, we combine proceeds raised from both PP and SPP components.	SDC; SIRCA
SPP shares/ PP shares	Number of new shares issued via the SPP component divided by number of new shares issued via the PP component (for packaged PPs only).	SIRCA
SPP shares/ Total shares	Number of new shares issued via the SPP component divided by total number of new shares issued via both PP and SPP components (for packaged PPs only).	SIRCA
Amount issued (PP)	Proceeds raised (in dollar value) via the PP component only (packaged PPs only).	SIRCA
Amount issued (SPP)	Proceeds raised (in dollar value) via the SPP component (packaged PPs only).	SIRCA
Amount issued to retail shareholders (SPP)	Proceeds raised (in dollar value) from retail shareholders participating in the SPP component (packaged PPs only).	SIRCA
Amount issued to institutional shareholders (SPP)	Proceeds raised (in dollar value) from institutional shareholders participating in the SPP component (packaged PPs only).	SIRCA
Prop. shares issued (PP)	New shares issued via the PP component divided by total shares outstanding two days pre-issuance (packaged PPs only).	SIRCA; CHESS
Prop. shares issued (SPP)	New shares issued via the SPP component divided by total shares outstanding two days pre-issuance (packaged PPs only).	SIRCA; CHESS
Prop. shares issued to retail shareholders (SPP)	New shares issued to retail shareholders via the SPP component divided by total shares outstanding two days pre-issuance (packaged PPs only).	SIRCA; CHESS
SPP shares to retail shareholders/ SPP shares	New shares issued to retail shareholders via the SPP component divided by SPP shares issued	SIRCA; CHESS
Retail part. rate	The retail participation rate for the SPP component is computed as the number of new shares purchased by the retail group divided by the number of new shares that retail shareholders are entitled to buy in the SPP given the stipulated cap, which is at \$3,000 for SPPs issued before September 2002 and \$5,000 thereafter. The number of new shares purchased by the retail group via the SPP component is measured by the change in the number of shares owned by the retail group as recorded in CHESS on the SPP offer closing date. The number of new shares that retail shareholders are entitled to buy in the SPP component is measured by the number of retail shareholders multiplied by the stipulated cap.	CHESS
Insti. part. rate	The institutional participation rate for the SPP component is computed as the number of new shares purchased by the institutional group divided by the number of new shares that institutional shareholders are entitled to buy in the SPP given the stipulated cap, which is at \$3,000 for SPPs issued before September 2002 and \$5,000 thereafter. The number of new shares purchased by the institutional group via the SPP component is measured by the change in the number of shares owned by the institutional group as recorded in CHESS on the SPP offer closing date. The number of new shares that institutional shareholders are entitled to buy in the SPP	CHESS

Dummy (PP offer size > 15%)	component is measured by the number of institutional shareholders multiplied by the stipulated cap. Indicator variables equal to 1 if the proportion of new shares issued via the PP component (divided by total shares outstanding two days pre-issuance) exceeds 15%, zero otherwise.	SIRCA; CHESS
Exploration	Categorical variables equal to one if the reported purpose of the funds is for exploration, research and development, or new projects, zero otherwise.	SDC
WC	Categorical variables equal to one if the reported purpose of the funds is for additional working capital, zero otherwise.	SDC
Debt	Categorical variables equal to one if the reported purpose of funds is for reducing debt, zero otherwise.	SDC
WT%	Wealth transfer from retail shareholders to institutional shareholders (WT) scaled by market capitalization. WT is computed following Equations (1) and (2).	SIRCA; CHESS

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**Table 2**

## Frequency and offer proceeds across years and industry classifications

Panel A shows the frequency and total offer proceeds (TOP) in millions of Australian dollars, on a year-by-year basis for all, traditional, and packaged private placements (PP). Panel B shows the frequency and the mean and total offer proceeds (TOP) in millions of Australian dollars, by industry sectors, for all, traditional, and packaged private placements (PP).

Panel A: By year									
Year	All (n=1730)			Traditional PP (n=1655)			Packaged PP (n=75)		
	N	Mean (\$mil)	TOP (\$mil)	N	Mean (\$mil)	TOP (\$mil)	N	Mean (\$mil)	TOP (\$mil)
2000	7	4.47	31.31	7	4.47	31.31	0	0.00	0.00
2001	114	9.26	1,055.60	112	7.11	796.57	2	130.00	259.05
2002	203	3.06	620.35	196	2.94	576.01	7	6.33	44.34
2003	269	3.43	921.70	259	2.37	615.03	10	30.70	306.67
2004	253	7.09	1,792.70	245	6.85	1,678.20	8	14.30	114.47
2005	254	2.89	734.99	240	2.32	557.46	14	12.70	177.53
2006	308	7.98	2,459.00	288	3.17	912.96	20	77.30	1,546.00
2007	322	9.42	3,032.50	308	6.80	2,094.10	14	67.00	938.37

Panel B: By industry classification									
Industry	All (n=1730)			Traditional PP (n=1655)			Packaged PP (n=75)		
	N	Mean (\$mil)	TOP (\$mil)	N	Mean (\$mil)	TOP (\$mil)	N	Mean (\$mil)	TOP (\$mil)
Energy	213	4.64	987.41	199	3.21	638.72	14	24.90	348.69
Materials	821	3.68	3,023.00	792	3.28	2,597.20	29	14.70	425.83
Industrials	101	6.35	641.26	96	4.37	419.72	5	44.30	221.55
Consumer discretion	84	6.58	553.07	83	6.63	550.55	1	2.52	2.52
Consumer staples	32	4.42	141.47	30	4.41	132.22	2	4.62	9.25
Healthcare	192	3.35	644.06	173	2.72	471.35	19	9.09	172.72
Financials	90	47.90	4,310.60	87	24.30	2,114.90	3	732.00	2,195.70
Information Technology	139	1.16	160.96	137	1.10	150.75	2	5.11	10.22
Telecommunication	31	3.15	97.61	31	3.15	97.61	0	0.00	0.00
Utilities	27	3.28	88.62	27	3.28	88.62	0	0.00	0.00

**Table 3**

## Firm and issue characteristics

This table shows mean and median firm and issue characteristics for all, packaged, and traditional private placements (PP). The sample is winsorized at 1% and 99%. Statistical tests to compare differences between the sub-samples under the parametric t-test and non-parametric Mann-Whitney (MW) test are provided. The definitions of all variables are provided in Table 1. \*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

	All (n = 1730)		Packaged PP (n = 1655)		Traditional PP (n = 75)		Difference	
	Mean	Median	Mean	Median	Mean	Median	t-test	MW-test
<i>Firm characteristics</i>								
TA (\$mil)	63.70	9.09	140.00	16.60	60.20	8.97	1.75*	3.58***
Market cap (\$mil)	70.60	13.70	144.00	30.10	67.30	13.30	1.85*	4.80***
Spread (%)	1.29	1.05	0.97	0.72	1.30	1.06	-3.56***	-3.50***
Volume (%)	0.52	0.20	0.34	0.22	0.52	0.20	-3.87***	0.46
IDYRisk (%)	5.97	5.54	4.81	4.64	6.02	5.58	-4.42***	-4.47***
INSTI (%)	62.17	61.88	64.45	65.04	62.06	61.73	1.36	1.30
Pre-issue AR (%)	1.54	1.17	6.50	7.55	1.32	0.93	0.64	0.59
MB	4.16	2.16	3.46	2.01	4.19	2.17	-1.32	0.58
CAPEX (%)	14.07	5.95	-15.54	-7.00	-14.00	-5.84	-0.63	-1.36
Default risk (%)	24.01	5.74	16.45	2.91	24.35	5.96	-2.70***	-1.22
No. Retail/ Total SH (%)	71.16	71.80	68.77	70.59	71.27	71.90	-2.91***	-2.74***
ROA (%)	-40.67	-16.87	-28.58	-13.22	-41.21	-16.98	2.05**	1.65*
<i>Issue characteristics</i>								
Exploration (%)	49.65		57.33		49.31		1.36	
WC (%)	69.02		49.33		69.91		-3.76**	
Debt (%)	8.21		4.00		8.40		-1.36	
<i>Issue characteristics for packaged PPs</i>								
SPP shares/ PP shares (%)				72.32		43.48		
Amount issued (PP) (\$mil)				31.46		4.00		
Amount issued (SPP) (\$mil)				13.70		1.49		
Amount issued to retail shareholders (SPP) (\$mil)				1.63		0.59		
Amount issued to institutional shareholders (SPP) (\$mil)				12.06		1.01		

**Table 4**

## Wealth transfer and participation in private placements

Panel A reports the mean and median of  $WT_{\%}$ , together with variables used in computing  $WT_{\%}$ , such as *Prop. Discount*, *Prop. shares issued*, *Prop. amount issued*, and *Marketcap* for all, traditional, and packaged PPs. Panel B presents disaggregated statistics for packaged PPs including relative offer size of the SPP component in packaged PPs, the relative number of shares purchased by the retail group in the SPP and the participation rates for both retail and institutional shareholder groups. The retail participation rate for the SPP component is computed as the number of new shares purchased by the retail group divided by the number of new shares that retail shareholders are entitled to buy in the SPP given the stipulated cap. New shares purchased is computed by estimating the change in the number of shares owned by the retail group (as recorded in CHESS) on the SPP offer closing date. The denominator is estimated as the number of retail shareholders multiplied by \$5,000 divided by the offer price per share (\$3,000 for SPPs issued before September 2002). The same procedure also applies to the institutional participation rate. Panel C reports the mean and median wealth transfer measures for SPPs and  $WT_{xx}$  and  $WT_{xx\%}$  represent wealth transfer in dollar value and  $WT$  scaled by the issuer's market capitalization respectively for all components as indicated. Wealth transfer measures are also presented for sub-samples segregated into those with  $Shares_{spp}^{Retail} > 1$  and  $Shares_{spp}^{Retail} < 1$ , where  $Shares_{spp}^{Retail}$  is the number of SPP shares purchased by retail shareholders divided by the number of SPP shares purchased by institutions following condition in Equation 8 in Section 3.2. The sample is winsorized at 1% and 99%. \*, \*\*, \*\*\* indicate significance for both t-test and MW-test for differences in means and medians at the 10%, 5%, and 1% levels, respectively.

Panel A: Wealth transfer comparison between packaged PPs and traditional PPs								
	All (n = 1730)		Packaged PP (n = 75)		Traditional PP (n=1655)		Difference	
	Mean	Median	Mean	Median	Mean	Median	t-test	MW-test
$WT_{\%}$ (%)	1.55	0.63	2.61	1.60	1.51	0.60	3.16***	5.39***
Prop. discount (%)	13.43	11.11	12.51	12.50	14.47	11.11	-2.20**	0.38
Prop. shares issued (%)	9.66	7.89	19.66	18.60	9.20	7.31	-6.33***	9.71***
Prop. amount issued (%)	13.00	7.53	27.64	18.75	12.34	7.09	-5.45***	8.29***
Marketcap (\$mil)	70.60	13.70	144.00	30.10	67.30	13.30	-1.86*	4.80***

Panel B: Disaggregated characteristics of PP and SPP components in packaged PPs					
	Mean	Median	Std. Dev.	Min.	Max.
Prop. shares issued (PP) (%)	18.25	14.67	18.93	1.43	106.07
Prop. shares issued (SPP) (%)	7.25	5.58	5.69	0.11	24.24
SPP shares/ Total shares (%)	31.31	30.30	20.16	0.25	87.61
Prop. shares issued to retail shareholders (SPP) (%)	2.96	1.98	3.15	0.00	14.15
SPP shares to retail shareholders/ SPP shares (%)	40.94	45.21	24.79	0.00	100.00
Retail part. rate (%)	18.16	13.24	16.89	0.68	63.37
Insti. part. rate (%)	56.55	48.61	33.97	3.13	100.00

Panel C: Wealth transfers (in \$ and in %) depending on the proportion of shares purchased by retail shareholders in the SPP component of packaged PPs													
	N	$WT_{pp}$ (\$mil)		$WT_{pp\%}$		$WT_{spp}$ (\$mil)		$WT_{spp\%}$		Total $WT$ (\$mil)		Total $WT_{\%}$	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Whole	75	3.09	0.51	2.41	1.38	0.66	0.014	0.20	0.02	3.75	0.55	2.63	1.60
$Shares_{spp}^{Retail} > 1$	23	1.47	0.52	3.26	1.92	-0.054	-0.023	-0.16	-0.08	1.41	0.46	3.10	1.60
$Shares_{spp}^{Retail} < 1$	52	3.80	0.51	2.03	1.34	0.97	0.049	0.35	0.14	4.78	0.56	2.43	1.59

**Table 5**

## Propensity score matching

This table presents results from the propensity score matching where each treated firm is matched with 3 nearest-neighbours from the same industry and within caliper of 0.01. Panel A reports the parameter estimates from the probit model where the dependent variable equals one if the issue is a Packaged PP (treated) and zero if it is a Traditional PP (control). Panel B reports the comparisons of the variables on which the matching is performed between the Prematch (Pre) and Postmatch (Post) samples. Panel C reports the average effects of having a Packaged PP structure on outcomes such as WT%, Prop. Discount (%), and Prop. Shares Issued (%) for firms that issued a Packaged PP. With this propensity matching approach with replacement, no matches were found for 3 treated firms (within the caliper of 0.01), reducing the sample to 72 packaged PPs. \*\*\*, \*\*, and \* indicate significance at 1%, 5%, and 10% levels, respectively.

Panel A: Probit regression						
	Coefficient	z-stat				
Log (TA)	0.17	4.54***				
INSTI	-0.31	-0.74				
Default risk	-0.52	-2.56**				
Dummy (PP offer size > 15%)	0.56	4.32***				
Constant	-4.39	-7.63**				
Observations	1730					
Pseudo R-squared	0.062					

Panel B: Balance of Propensity Score across Treatment (Packaged PP) and Control (Traditional PP)							
		Treated (Mean)	Control (Mean)	% bias	% reduction of bias	t- stat	p-value
Log (TA)	Pre	16.88	16.14	43.60		3.92***	0.00
	Post	16.85	16.53	18.70	57.10	1.11	0.27
INSTI (%)	Pre	64.45	62.06	1610.00		1.38	0.17
	Post	64.34	64.89	-370.00	77.20	-0.23	0.82
Default risk (%)	Pre	16.45	24.35	-2770.00		-2.11**	0.04
	Post	16.72	13.24	1220.00	55.90	0.84	0.40
CAPEX (%)	Pre	68.77	71.27	-3620.00		-3.23***	0.00
	Post	68.98	69.29	-450.00	87.40	-0.27	0.79
No. Retail/ Total SH (%)	Pre	6.50	1.33	690.00		0.54	0.59
	Post	6.26	3.43	380.00	45.20	0.24	0.81
Pre-issue AR (%)	Pre	4.81	6.02	-4950.00		-3.99***	0.00
	Post	4.84	5.34	-2000.00	59.60	-1.31	0.19
IDYRisk (%)	Pre	0.97	1.30	-3760.00		-2.91***	0.00
	Post	0.99	1.12	-1460.00	61.30	-1.00	0.32
Spread (%)	Pre	0.33	0.17	37.10		3.52***	0.00
	Post	0.32	0.38	-14.90	59.90	-0.81	0.42
Dummy (PP offer size > 15%)	Pre	16.88	16.14	43.60		3.92***	0.00
	Post	16.85	16.53	18.70	57.10	1.11	0.27

Panel C: Average effects on wealth transfer measures of having a Packaged PP				
	Packaged PP	Matched Traditional PP	Difference	t-stat
WT%	2.56	1.58	0.97	2.37**
Prop. Discount (%)	12.47	12.29	0.18	0.14
Prop. Shares Issued (%)	23.20	11.29	11.92	5.97***

**Table 6**

Determinants of retail and institutional participation rates for the SPP component in packaged PPs

This table reports the OLS regression of retail and institutional participation rates for the SPP component in packaged PPs in Panel A and Panel B respectively. The retail (institutional) participation rate for the SPP component is computed according to the procedure detailed in Section 4.1. All independent variables are as described in Table 1. \*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Retail participation rate					
	(1)	(2)	(3)	(4)	(5)
INSTI	0.11 (0.88)	0.091 (0.70)			
Pre-issue AR		0.024 (0.75)	0.029 (0.94)		
Prop. shares issued (PP)	0.36*** (3.27)	0.37*** (3.15)	0.37*** (2.97)	0.31** (2.23)	0.32** (2.31)
Log (TA)			-0.0021 (-0.14)		
Spread				2.14 (0.78)	
CAPEX				-0.22 (-1.65)	-0.21 (-1.55)
IDYRisk					0.57 (0.67)
Constant	0.12 (1.09)	0.12 (1.18)	0.22 (0.75)	0.16** (2.65)	0.15** (2.56)
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	75	75	75	75	75
Adjusted R-squared	0.28	0.27	0.27	0.33	0.32
Panel B: Institutional participation rate					
	(1)	(2)	(3)	(4)	(5)
INSTI	0.65** (2.35)	0.68** (2.40)			
Pre-issue AR		-0.032 (-0.51)	-0.016 (-0.26)		
Prop. shares issued (PP)	0.037 (0.17)	0.045 (0.20)	0.12 (0.50)	0.070 (0.27)	0.069 (0.27)
Log (TA)			0.047 (1.24)		
Spread				1.51 (0.26)	
CAPEX				0.023 (0.098)	0.020 (0.087)
IDYRisk					-1.02 (-0.51)
Constant	0.49** (2.30)	0.48** (2.25)	0.082 (0.11)	0.93*** (10.03)	0.97*** (9.55)
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	75	75	75	75	75
Adjusted R-squared	0.21	0.20	0.15	0.12	0.12



**Table 7**

Wealth transfer and related variables depending on the placement offer size for packaged PPs

This table reports wealth transfer and related variables for packaged PPs when segregated into small (< 15% of current shares outstanding) and large (> 15% of current shares outstanding). The retail (institutional) participation rate for the SPP component is computed as the number of new shares purchased by the retail (institutional) group divided by the number of new shares that retail (institutional) shareholders are entitled to buy in the SPP given the stipulated cap, which is at \$3,000 for SPPs issued before September 2002 and \$5,000 thereafter. The number of new shares purchased by the retail (institutional) group via the SPP component is measured by the change in the number of shares owned by the retail (institutional) group as recorded in CHESS on the SPP offer closing date. The number of new shares that retail (institutional) shareholders are entitled to buy in the SPP component is measured by the number of retail (institutional) shareholders multiplied by the stipulated cap. All other variables are described in Table 1. Statistical tests to compare differences between the sub-samples under the parametric t-test and non-parametric Mann-Whitney (MW) test are provided. \*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

		WT%	Prop. discount	Prop. shares issued (PP component)	Prop. shares issued (SPP component)	Prop. shares issued	Prop. amount issued	Marketcap	INSTI	Retail part. rate	Institution part. rate
		(%)	(%)	(%)	(%)	(%)	(%)	(\$mil)	(%)	(%)	(%)
PP offer size ≤ 15% (n = 50)	Mean	1.41	11.84	10.29	6.11	16.95	21.11	198.00	64.52	16.72	61.33
	Median	1.23	11.05	11.59	4.51	16.24	17.34	35.10	65.37	10.41	59.04
PP offer size > 15% (n = 25)	Mean	5.01	13.85	35.00	9.55	35.59	45.19	35.80	64.31	21.06	47.00
	Median	3.97	16.67	24.09	10.53	28.90	27.96	20.50	64.76	14.94	39.48
	Difference	-3.60	-2.01	-24.71	-3.44	-18.64	-24.08	162.20	0.21	-4.34	14.33
	t-test	-4.44***	-1.07	-4.84***	-2.50**	-4.89***	-2.58***	2.68***	0.07	-1.05	2.32**
	MW-test	-4.27***	-1.42	-7.02***	-2.65***	-4.91***	-2.52***	2.47***	0.07	-1.48	1.61

**Table 8**

Short- and long-run returns depending on the placement offer size

Panel A of this table reports the short-run (announcement) cumulative abnormal returns (CARs) for packaged PP and traditional PP issuers which are respectively divided into two subsamples depending on whether the PP offer size is greater than 15% or smaller and equal to 15%. Following Armitage (2012), both traditional unadjusted CARs and adjusted CARs are shown in Panel A. Panel B reports the long-run BHRs for three different post-announcement periods: 100-day (BHR100), 250-day (BHR250), and 500-day (BHR 00). There are 50 and 25 observations in the packaged PP subsamples where the placement offer size is smaller and equal to 15% or greater than 15% respectively. There are 1370 and 285 observations in the traditional PP subsamples where the placement offer size is smaller and equal to 15% or greater than 15% respectively. Parametric t-test and non-parametric Mann-Whitney (MW) test for the differences in short-run and long-run returns between the two sub-samples are provided. \*, \*\*, \*\*\* indicate significance at the 10%, 5% and 1% levels, respectively.

		Panel A: Short-run (announcement) CARs					
		Packaged PPs		Traditional PPs			
		Unadjusted	Adjusted	Unadjusted	Adjusted		
		CAR [-1,0]	CAR [-1, 0]	CAR [-1,0]	CAR [-1, 0]		
PP offer size ≤ 15%	Mean	-1.37	-0.77	0.06	1.06		
	Median	0.92	-0.25	-0.53	0.38		
	Gen. Sign Test	-1.97*	-0.67	0.17	4.15***		
	Rank Test	-0.85	-0.20	0.05	3.06***		
PP offer size > 15%	Mean	1.27	5.33	0.45	5.61		
	Median	0.35	3.13	-0.62	3.33		
	Gen. Sign Test	-0.26	1.65**	-0.03	5.99***		
	Rank Test	0.39	1.14	0.36	4.95***		
	Difference	-2.64	-6.10	-0.39	-4.55		
	t-test	-1.14	-1.98*	-0.64	-5.43***		
MW-test	1.10	-2.05**	-0.01	-6.39***			
		Panel B: Long-run buy-hold returns					
		Packaged PPs			Traditional PPs		
		BHR100	BHR250	BHR500	BHR100	BHR250	BHR500
PP offer size ≤ 15%	Mean	4.27	13.22	36.21	6.98	15.99	28.44
	Median	-2.58	-3.12	-4.76	-2.00	-0.81	-1.22
	t-Test	1.02	1.35	1.74*	6.09***	8.18***	9.00***
	Non-parametric test	-0.16	0.17	0.29	1.39	2.99***	3.22***
PP offer size > 15%	Mean	0.81	3.28	24.14	12.08	25.18	59.78
	Median	-6.06	-13.85	-6.82	0.12	4.97	9.25
	t-Test	0.12	0.42	1.45	4.41***	5.71***	6.93***
	Non-parametric test	0.01	0.50	0.36	2.34**	3.63**	4.73***
	Difference	3.46	9.94	12.07	-5.10	-9.19	-31.34
	t-test	0.45	0.79	0.45	-1.74*	-1.91*	-3.36***
MW-test	0.35	0.11	0.14	-1.51	-2.23**	-3.27***	