# Shareholder Participation and Wealth Transfer in Rights Offerings

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## Abstract

Since 2009, Australian firms have conducted over 3,500 rights offerings, providing a substantial dataset for analysing shareholder participation and associated wealth transfers. Our study reveals that the average shareholder participation is 45%, with higher rates observed in underwritten offers, renounceable offers, smaller offer sizes, and offers without attached options. Non-participation by shareholders results in significant wealth transfers, averaging 26% of the stated funds, particularly pronounced in offerings with greater discounts. Surprisingly, the stock market reacts positively to these larger wealth transfers. This positive market reaction helps explain the prevalence of rights issues in Australia.

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## 1. Introduction

A rights offering is a strategic method for a public firm to raise equity capital. In a right offering, eligible shareholders can subscribe to new shares in proportion to their existing holdings, often at a discounted price. However, as noticed by a few studies (Balachandran, Faff, & Theobald, 2008; Holderness & Pontiff, 2016), not all shareholders participate in valuable rights offerings. Non-participation causes a wealth transfer from shareholders who do not participate to those who do.

Limited studies investigate the magnitude of wealth transfer caused by shareholder non-participation in rights offerings and its impact on firms and the market. Holderness and Pontiff (2016) documented that shareholder participation in US rights offerings is only 64%, leading to an average wealth transfer of 7% of the offerings from nonparticipating to participating shareholders. They find larger wealth transfers are associated with negative stock prices around rights offerings. Their findings contradict the conventional view in rights offering literature that any wealth transfer among shareholders during rights offerings should not affect stock prices. (Eckbo & Masulis, 1992; Heinkel & Schwartz, 1986; Myers & Majluf, 1984; Smith, 1977). They argue that the negative market reaction associated with offerings having larger wealth transfers helps explain the paucity of rights offerings in the US.

Several basic research questions are of concern here: What's the participation rate in Australian rights offerings? Which offering characteristics determine shareholder participation? When shareholders choose not to participate in rights offerings, how much wealth has been transferred from them to those who participate? How does shareholder participation impact firms in achieving the required funding? How does the market react to these wealth transfers?

To obtain reliable shareholder participation data, we hand-collected announcements from 1990 to 2022 for Australian firms that had conducted 3526 rights offerings. We find that, on average, only 45% of all rights are accepted by shareholders. which is even lower than the 64% documented by Holderness and Pontiff (2016)  and 66% reported by Balachandran et al. (2008). Firms that do not voluntarily reveal the participation of shareholders often disclose the total subscription by shareholders, which also includes additional rights taken up by shareholders. We believe the total subscription rate is the shareholder takeup described by the model of Eckbo and Masulis (1992). Because their model concerns whether the original shareholders as a group subscribe to an offering, not shareholder participation in the primary round. Shareholder take-up, on average, is 60% in our sample, which is still lower than shareholder participation documented by Holderness and Pontiff (2016) and Balachandran et al. (2008).

We find that shareholder participation is lower for non-renounceable, non-underwritten, larger-size, and offers with attached free options. Shareholder non-participation leads to wealth transfers that average almost 26% (median 5%) of offering value, which is far more than the 4.5% (median 0.6%) wealth transfer reported by Holderness and Pontiff (2016). Additionally, we document that shareholder participation is positively associated with total shareholder take-up, which indicates that shareholders who recognize the value in rights offerings will likely fully participate and oversubscribe. We also document that institutional shareholder participation is 90% (median 95%) on average in accelerated rights offerings, which involve an initial offer to institutional shareholders followed by a separate offer to retail shareholders. Most rights offerings in Australia are non-accelerated, and one offer to all shareholders. The institutional ownership in non-accelerated rights offerings averages 5% (median 1%), and small firms typically conduct these offerings with an average market capital of 50M (median 9M). For the first time, we document that existing shareholders take up 19% and underwriters take up 43% of unanticipated rights on average.

We also find that contrary to most studies, the average stock price reaction to the announcement of a rights offering is positive. We also report for the first time that the stock price reaction to the closing of the subscription is also significantly positive. Contrary to the findings from Holderness and Pontiff (2016), we find that wealth transfers from non-participating shareholders are associated with positive stock-price reactions.

Our study contributes to the literature on rights offerings in several significant ways. Firstly, we provide a comprehensive analysis of shareholder participation in Australian rights offerings over an extensive period from 2009 to 2022, covering 3,526 rights offerings. This hand-collected dataset reveals that average shareholder participation in these offerings is only 45%, markedly lower than previously asserted. Secondly, we identify key factors that influence shareholder participation rates. Our findings show that participation is lower in non-renounceable, non-underwritten, larger-sized offerings and those with attached free options. This detailed breakdown helps better understand the conditions under which shareholders are less likely to participate. Thirdly, we quantify the wealth transfers resulting from non-participation. Our analysis indicates that non-participation leads to wealth transfers averaging almost 26% of the offering value. This highlights the substantial financial implications for non-participating shareholders and underscores the importance of participation in maximizing shareholder value. Fourthly, we provide novel insights into the relationship between shareholder participation and total shareholder take-up. Our study finds that shareholders who recognize the value in rights offerings are likely to participate and oversubscribe, positively impacting total shareholder take-up.

Additionally, we document that institutional shareholder participation in accelerated rights offerings is significantly high at 90%, compared to only 45% in non-accelerated offerings. This distinction between accelerated and non-accelerated offerings adds a new dimension to our understanding of institutional versus retail investor behaviours. Furthermore, we make a unique contribution by documenting that existing shareholders take up 19% and underwriters take up 43% of unanticipated rights on average. This data provides valuable insights into the roles of different participants in the rights offering process and their impact on the success of the offering.

Finally, our study challenges the conventional wisdom regarding stock price reactions to rights offerings. Contrary to most studies, we find that the average stock price reaction to the announcement of a rights offering is positive. Moreover, we report for the first time that the stock price reaction to the closing of the subscription is also significantly positive. Interestingly, our findings contradict those of Holderness and Pontiff (2016), as we observe that wealth transfers from non-participating shareholders are associated with positive stock price reactions. This suggests that the market may perceive large wealth transfers as a sign of strong demand and confidence in the firm's prospects. Overall, our study provides a detailed and nuanced understanding of the dynamics of rights offerings, shareholder participation, and wealth transfers in the Australian context, offering important implications for corporate finance theory and practice.

## 2. Research Design

### 2.1 Key dates and offer characteristics

An overview of key dates helps us understand our evidence of shareholder participation. Figure 1 is a timeline of important dates in Australian rights offerings. Table 1 is key summary statistics for our sample of rights offerings.

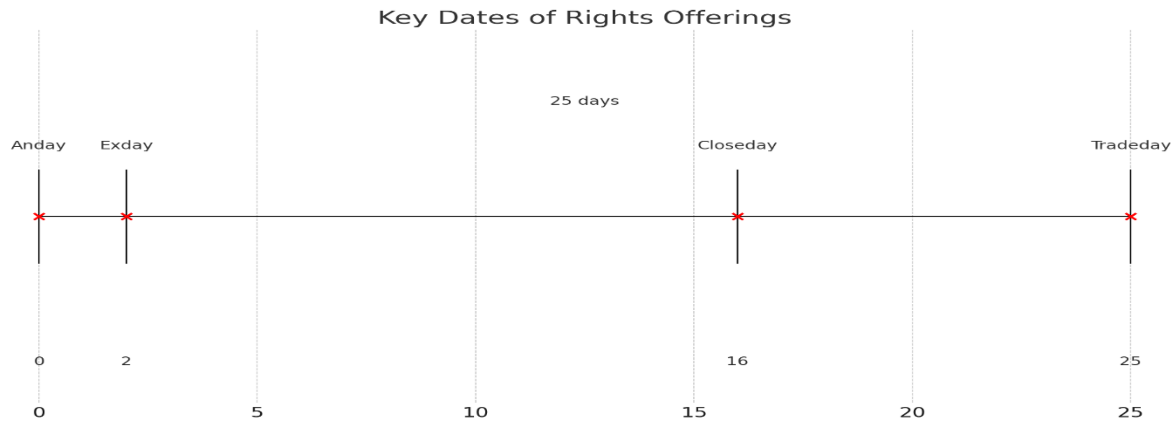


*Figure 1 Key Dates*

The timetable for a rights offering is similar to the key dates described by Holderness and Pontiff (2016), but with a few considerations. Australian rights offerings are conducted within a single regulatory framework, ASX, which differentiates them from many of its global peers. ASX does not require shareholder approval for pro-rata offerings. Our sample average offer ratio is 59%. ASX requires all the relevant information, such as the proposed issue type (renounceable or non-renounceable), max. number of securities to be issued, ex dates, record date, offer closing date, issue date, trading dates, including an offer of attaching options, offer ratio, offer price, over-subscribe, underwritten status, to be disclosed in a filling of form "Appendix 3B – Proposed Issue of Securities" and be released to the public on announcement date.

| Panel A: Summary of rights offerings | Obs | Pct |
|---|---|---|
| Rights issues during 042009 - 122022 | 3979 | 100% |
| Issue of Common Shares, units, stapled securities, CDIs | 3526 | 89% |
| Issue of Common Shares | 3365 | 85% |
| Issue by trust/funds (issue of units, stapled securies) | 121 | 3% |
| Issue of CDIs | 40 | 1% |
| Issue of options (warrants) | 246 | 6% |
| Issue of convertible notes, note | 22 | 1% |
| Issue of partly paid shares, contributing shares, preference shares | 13 | 0% |
| cancelled issue | 172 | 4% |

| Panel B: Timeline in Trading Days | Obs | Mean | Median | S.D. | |
|---|---|---|---|---|---|
| Announcement to ex-date | 3526 | 3 | 2 | 2 | |
| ex-date to close date | 3526 | 17 | 16 | 7 | |
| Close date to trade date | 3526 | 6 | 6 | 4 | |
| Announcement to trade date | 3526 | 27 | 25 | 8 | |
| **Panel C: Summary statistics for common Shares, units, stapled securities, CDIs** | **Obs** | **Mean** | **Median** | **S.D.** | **Percent Positive** |
| Offer discount to exchange price | | | | | |
| - As of announcement day | 2474 | 17% | 14% | 24% | 78% |
| - As of ex day | 2594 | 12% | 9% | 28% | 72% |
| - As of closing day | 2694 | 9% | 6% | 24% | 65% |
| - As of trading day | 2738 | 7% | 5% | 26% | 60% |
| Issue is renounceable | 647 | 18% | | | |
| Underwritten status | | | | | |
| - Fully underwritten | 870 | 23% | | | |
| - Partially underwritten | 278 | 7% | | | |
| - Not underwritten | 2378 | 63% | | | |
| Offer size | 3526 | 59% | 33% | 105% | |
| - Renounceable issues | 647 | 114% | 50% | 192% | |
| - Non-renounceable issues | 2879 | 46% | 33% | 64% | |
| Issue has attached options | 877 | 26% | | | |
| - One free option | 838 | | | | |
| - Option premium to subscription price | 601 | 120% | 100% | | |
| - Option expiry length (months) | 601 | 25.24 | 23.97 | 11.85 | |
| - Two free options | 29 | | | | |
| Issue is accelerated | 557 | 16% | | | |
| Stated funds sought ($M) | 3526 | 42.84 | 3.37 | 247.75 | |
| Funds raised/stated funds sought | 3498 | 106% | 100% | 96% | |
| Underwriter fees | 613 | 4% | 4% | 5% | |
| - Fully underwritten | 416 | 5% | 4% | 4% | |
| - Partially underwritten | 197 | 3% | 3% | 6% | |
| **Panel D: Shareholder participation and take-ups** | **Obs** | **Mean** | **Median** | **S.D.** | |
| Shareholder participation | | | | | |
| - Retail shareholder participation | 1947 | 45% | 44% | 24% | |
| - Institutional shareholder participation | 324 | 90% | 95% | 12% | |
| Retail shareholder oversubscription | 619 | 19% | 11% | 20% | |
| Retail shareholder take-up | 2151 | 60% | 60% | 30% | |
| Underwriters take-up | 1510 | 43% | 42% | 26% | |
| Firm size ($M) | 3287 | 316.72 | 12.84 | 3336 | |
| - Non-accelerated | 2748 | 50.999 | 9.247 | 539.61 | |
| - Accelerated | 542 | 1714.87 | 313.85 | 8062.84 | |
| Institutional ownership before rights offerings | 750 | 9.5% | 4.54% | 12.68% | |
| - Non-accelerated | 618 | 5% | 1% | 10% | |
| - Accelerated | 310 | 17% | 12% | 20% | |
| Institutional ownership after rights offerings | 798 | 8.1% | 3.13% | 12.22% | |

| | | | | |
|---|---|---|---|---|
| - Non-accelerated | 572 | 5% | 2% | 10% |
| - Accelerated | 226 | 15% | 11% | 14% |

*Table 1 Summary statistics*

Rights offerings allow current eligible security holders to purchase securities proportionate to their existing ownership position at a specified price within a subscription period. In 85% of the sample, companies issue exclusively common stock to their shareholders. In 6% of the sample, companies issue options. In 3% of the sample, companies issue units or stapled securities (bundles of more than one security). In the remaining 2% of the sample, companies issue CDIs, convertible notes, partly paid shares, contributing shares, or preference shares.

In a rights offer, all shareholders can purchase new shares based on the number of shares they own on a specified record date. In the initial announcement and Appendix 3B fillings, the board of company directors set a record date for their rights offering. At the close of trading on the record date, all shareholders will receive the right to participate in the offering. Because stock trading typically takes two trading days to settle. If the investors want to be shareholders on record, they must buy company stocks at least two business days before the record date, one trading day before the ex-rights date, which is cum date. The ex-rights day represents the cutoff date for security owners who will receive the rights to participate in the offer, usually one business day before the record date. Investors who purchase company securities any day before the ex-rights day will be documented as owners of securities on the record date and entitled to receive the rights offers. Shortly after the record date, the prospectus and entitlement acceptance form are despatched to eligible shareholders on the open date, which begins the subscription period. After new securities are issued to shareholders, shareholders can trade them immediately one trading date after the issuances.

In our sample, there are, on average, three business days between the announcement day and the ex-rights day (median two days). Our sample has an average of 17 trading days between the ex-dates and the closing date (median 16 days) and six business days between the closing date and the trading date. On average, there are 27 business days from the announcement to the trading date (median 25 days).

Panel C presents the discount[2] on our rights offerings. They average 17% of stock prices on the Announcement Day. The discount vastly decreases on the Ex Day to 12%, suggesting poor share price performance on the Ex Day. The discount continues to decline during the subscription period. The average discount on the closing Day is 9%. After the Closing Date, the discount reduces to 7% on Trade Day. In 78% of our sample, the discount is in the money on the announcement day. 72% of our sample is in the money on an ex-day basis—65% on closing day and 60% on trading day.

Like the US and UK, rights offerings are not mandatory or transferrable in Australia. We report in Table 2 that only 18% of our offerings are transferrable. 82% of our rights offerings are non-renounceable. As such, a shareholder who chooses not to participate in the rights offering cannot sell their rights to another investor, and the unanticipated rights lapse worthless. One of the main reasons for undertaking a non-renounceable rights issue, as opposed to a renounceable issue, is that the board believes there is unlikely to be a market for the rights, for example, if the market for the company's securities is illiquid. However, suppose companies believe they have a market for rights and expect that some shareholders will not participate. In that case, they can use renounceable issues to allow nonparticipating shareholders to sell their rights. The

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$$Discount = \frac{P_{event} - P_{subscribe}}{P_{event}}$$

shortfall of the renounceable problems goes to the shortfall facility. If the prices sold are higher than the offering prices, the shareholders who did not accept their rights will receive the premiums.

Eligible shareholders can choose to subscribe as a whole or part of the rights or not to subscribe. Issuers often offer oversubscription/ top-up facilities to existing shareholders to subscribe to additional securities more than their pro-rata entitlements. This facility, found in most of our offerings, permits shareholders to apply for more than their entitlements via a top-up facility or shortfall facility in the primary round. Oversubscription facilities are often disclosed on the announcement day and are usually allocated at the company's discretion. Typically, a scale back will be applied if the offer is over-subscribed. The rights not subscribed for by existing shareholders form the shortfall. The firms can also hire an underwriter to buy shares not taken up by shareholders. In an underwritten offering, before the commencement of the rights offering, underwriters commit to purchase full or partial rights not subscribed for in the rights offering. This arrangement assures the issuer that it will raise the necessary capital. A non-underwritten rights offering is cheaper than an underwritten rights offering because no fees are associated with providing the standby commitment. However, a poorly subscribed pure rights offering may leave an issuer under-capitalized. In our sample, 23% are fully underwritten, and 7% are partially underwritten. Most are non-underwritten.

Rights offerings can also be structured as a two-stage process with an initial institutional shareholders offer and a secondary retail shareholders offer. An accelerated offering typically involves book-building offers to institutions, completed over one to two business days. The company requests a trading halt to facilitate the institutional shareholders in an accelerated offer. Retail shareholders can have the opportunity to participate in the retail offer and are offered the equivalent terms. The accelerated offer structure is only suitable for companies with an adequate institutional and retail shareholder presence on their share register. An accelerated offer only works for companies with a predominately retail investor-dominated share register. Table 1 shows that only 16% of our offerings involve separate institutional offers. This feature lets us separately obtain the shareholder participation data for retail and institutional.

There are further steps firms can take to make the rights offering more attractive. The firm can include an offer of attaching options. This feature, found in 26% of our offerings, offers shareholders free options based on the number of securities shareholders subscribed. This feature has not been discussed in the literature. The authors will have a separate paper to discuss the distinctive feature.

Most Australian rights offerings succeed because the firms raise more than 100% of the funds sought (mean 106% and median 100%). However, this needs to be painted as a complete picture. Because, on average, existing shareholders only accept 45% of pro-rata rights. Our data shows that an average of 19% of pro-rata rights from non-participating shareholders are transferred to existing shareholders under the over-subscription facility, and 43% are transferred to underwriters. Next, we explore shareholder participation data in Australian rights offerings.

### 2.2 Data on shareholder participation

This study uses rights offerings announced from April 2009 to December 2022 by Australian public companies listed on the Australian Securities Exchange (ASX) as our primary data. We use the Securities Industry Research Centre of Asia-Pacific (SIRCA) database to identify Australian-listed companies that conducted rights offerings. It provides announcement dates, ex dates, subscription closing dates, new shares issuing dates, offer ratios, whether issues were accelerated or non-accelerated, and renounceable or non-renounceable. Shareholder participation levels by institutional and retail shareholders were manually collected from ASX announcements. Most listed firms disclose the participation amounts or rates when announcing the results of rights offerings. Factset and Seekedgar applications were used to download all results announcements. A document search was initially conducted by following keywords in the Headline Only and ASX fillings: "(result* OR comple* OR clos*) NOT (clos* date) AND (entitlement* offer* OR right* offer* OR right* issu*) for years from 2009 to 2023. The announcements not captured by the initial search were searched under keywords: (raises OR success* OR shortfall OR subscrib*) AND (entitlement* offer* OR entitlement* issu* OR right* offer* OR right* issu* OR retail) **NOT (clos* date)** NOT (share purchase plan). The remaining announcements were manually searched using company codes.

The concept of shareholder participation differs from shareholder takeup (Holderness & Pontiff, 2016). Shareholder participation is the percentage of pro-rata rights shareholders accept before any oversubscription in the primary round. (Holderness & Pontiff, 2016). We measure the participation rate as the percentage of rights offerings accepted under pro-rata entitlement offers, excluding any oversubscription, top-up, or shortfall offers facility. Shareholder takeup describes the proportion of a rights offering sold to current shareholders instead of outsiders. It is measured as the number of shares sold to existing shareholders as a fraction of the total shares issued. (Bohren, Eckbo, & Michalsen, 1997; Cronqvist & Nilsson, 2005; Holderness & Pontiff, 2016). A rights offering could have low shareholder participation, but high shareholder takeup could be low if some shareholders take up more than their pro rata share. This is common in Australia rights offerings, with additional subscription facilities in most of our offerings.

Most shareholder take-up estimations overestimate participation levels (Holderness & Pontiff, 2016; Xia, 2022). We have a robust and direct way to obtain two variables. Australian companies disclose the cleansing statement or the completion letter of rights offerings to the

ASX and the public within three business days of the subscription close date. Most Australian firms voluntarily disclose shareholder participation rates. When a firm announces the completion of rights offerings, they often choose to tell the pro rata participation rate and additional shares subscribed by existing shareholders or only total participation in the primary round. The company usually places the shortfall shares to sophisticated, professional, and other investors, to whom no disclosure is required under the Corporations Act 2001. Australian firms must disclose the under-subscription of rights issues to the stock exchange within three business days of expiry. We measure shareholder takeups as the total number of pro-rata shares accepted by existing shareholders and additional shares taken up under the over-subscription facility.

Shareholder participation data are summarized in Panel D from Table 1 and plotted in Figures 2 and 3. We collect retail shareholder participation data for 1947 rights offerings. In some instances, firms report a total takeup by existing individual security holders, but we cannot identify the entitlements subscription levels and additional subscription levels. Accordingly, we did not incorporate these observations in the shareholder participation level. The average retail pro rata participation rate is 45% (median 44%). An average of 19% (median 11%) of entitlements transferred to existing individual security holders under the additional subscription facility (not accounting for scaled-back additional subscriptions). Shareholder takeup is 60%. We collect 283 institutional participations. Sometimes, the company did not report. In other instances, while the issues are reported as fully subscribed, it is unclear what percentage of shares are taken up by institutional shareholders and underwriters. The average institutional takeup is 91%, similar to the 92% documented by Holderness and Pontiff (2016).

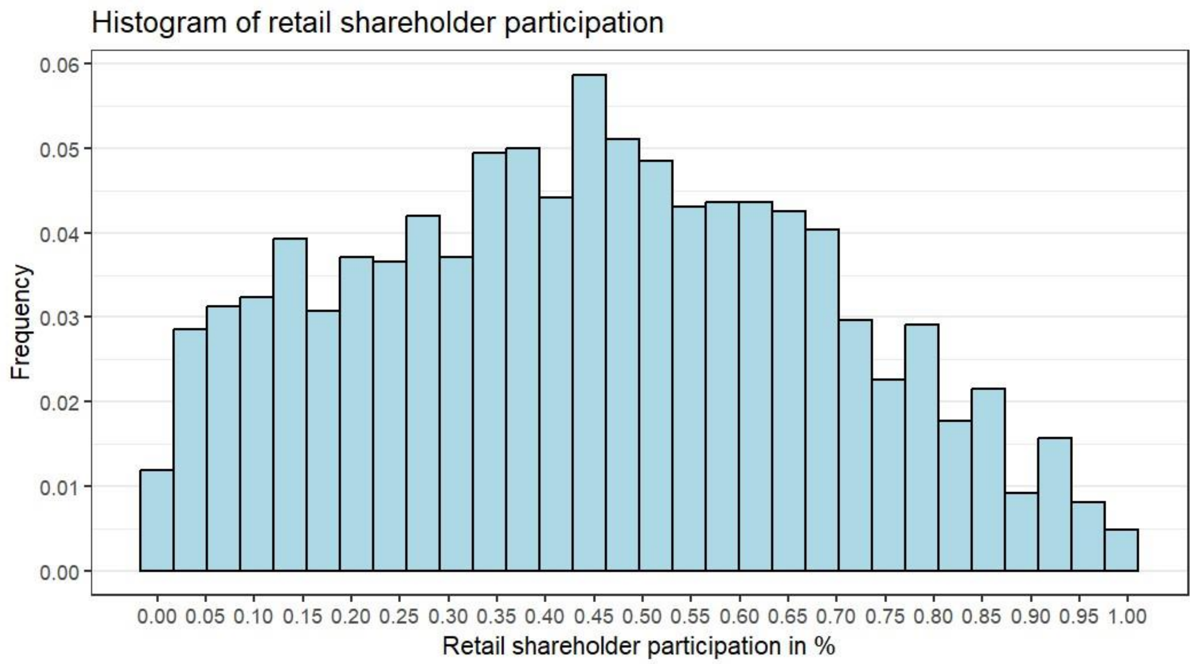


Figure 2 Retail shareholders' participation in 1947 rights offerings between 2009 and 2022

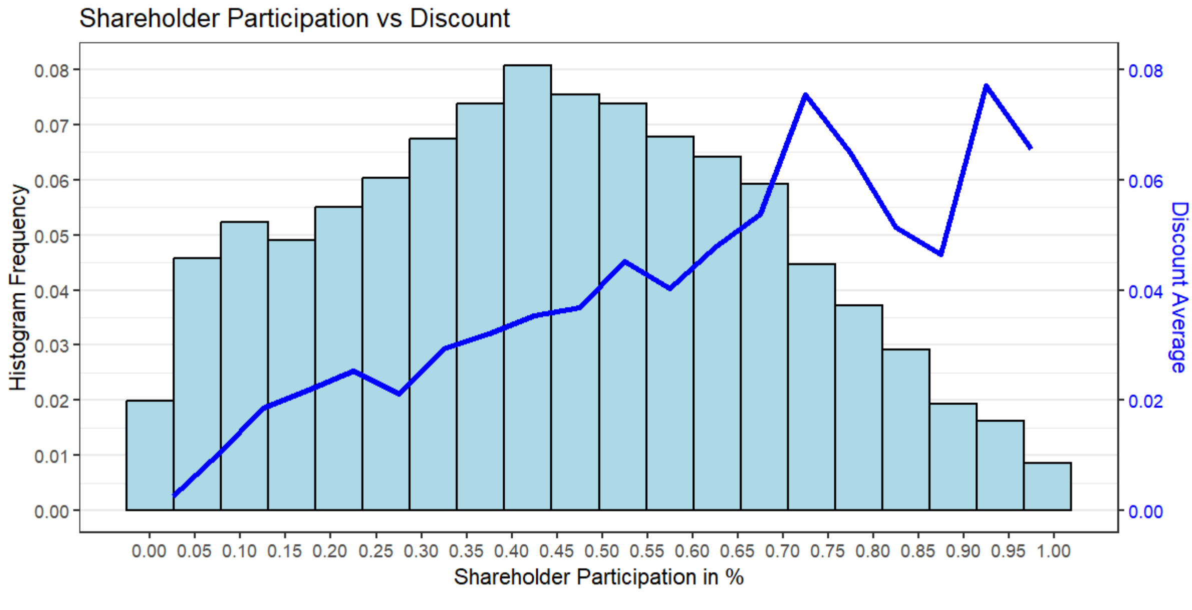


Figure 3 Retail shareholders' participation in 1947 rights offerings vs Discount between 2009 and 2022

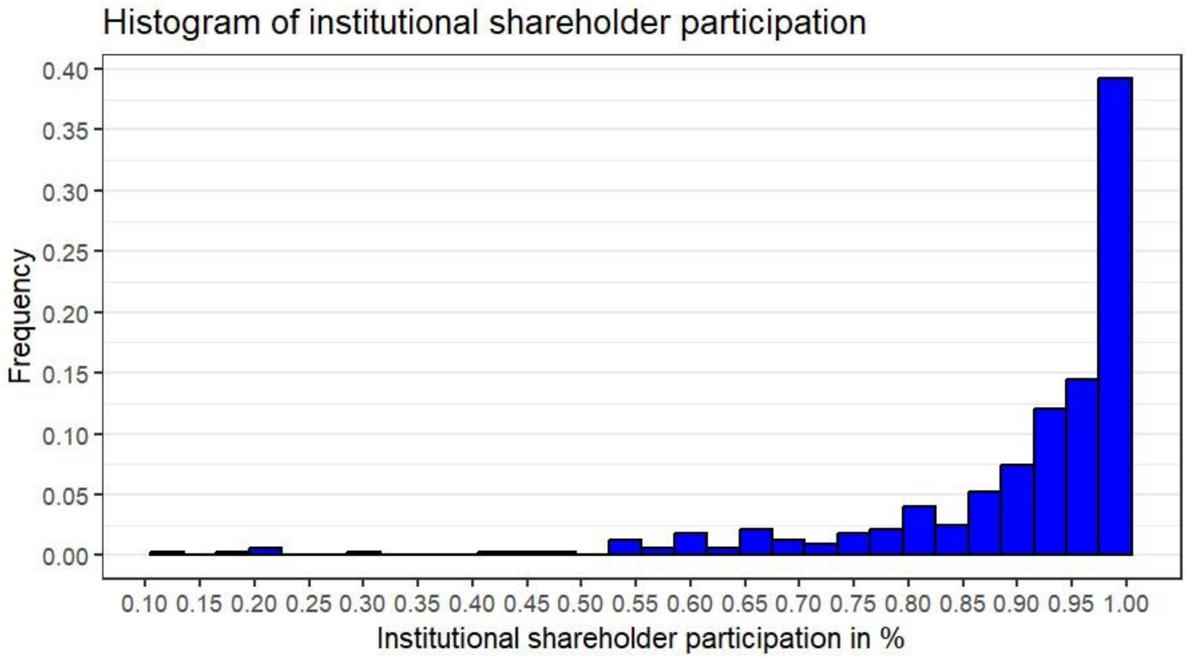


Figure 4 Institutional shareholders' participation in 324 rights offerings between 2009 and 2022

## 2.3 Wealth transfer

When existing shareholders choose not to participate in rights offerings, wealth will be transferred from non-participating shareholders to other parties. These parties could be existing shareholders, underwriters (in case of underwritten offers), and outside investors. Eckbo and Masulis (1992) only concerns wealth transfers to outside investors and Holderness and Pontiff (2016) measure wealth transfer to existing shareholders. This paper measures any wealth transfer from non-participating shareholders to any other party. For the first time, we also document wealth transfers to existing shareholders and underwriters.

Any wealth transfers will be a function of not only shareholder nonparticipation rates but also the discount of the offering to the exchange price and the number of shares offered. (Holderness & Pontiff, 2016). The larger any of these variables, the more prominent the resulting wealth transfers, ceteris paribus, will be. Following Holderness and Pontiff (2016)We measure wealth transfer in two ways. The first way focuses on the relationship between the wealth transfer and the specific amount of funds the company seeks to raise, providing a more event-specific insight. The second method contextualizes the wealth transfer within the total firm value, offering a broader view of its significance and market perception.

First, we estimate the wealth transfers as a percent of the funds sought by the company:

$$Wealth\ transfer = \frac{Non{-}participantion\ rate * Total\ subscripted\ shares * (P_{ex} - P_s)}{Shares\ offered * P_{ex}}$$

*Total subscription shares* are the number of shares sold in the offering. *Price ex* is the share price at the Ex-Date, and *SubPrice ex* is, for flexible offerings, the subscription that would be paid if the price at expiration were the Ex-Date price; otherwise, it is the actual subscription price. *Shares offered* are the total number of shares sought in the primary subscription (not including any overallotment).

Second, we measure the wealth transfer as a percent of firm value on the ex-rights day:

$$Wealth\ transfer = \frac{Nonparticipation\ rate * Total\ suscripted\ shares * \ (P_{ex} - \ P_s)}{Exsiting\ Shares\ * \ P_{ex}}$$

Table 2 presents summary statistics of the wealth transfer measured in the above two ways. The total amount transferred from the nonparticipating shareholder averages 26% (median 5%) of the stated funds sought. The wealth transfer constitutes 7% (median 1%) of firm value. Wealth transfer to existing shareholders averages 9% (median 1%) of stated funds sought and 2% (median 0.2%) of firm value. Wealth transfer to underwriters averages 12% (median 3%) of stated funds sought and 5% (median 0.6%) of firm value.

Table 2 Wealth transfer

| Summary statistics on wealth transfers from nonparticipating shareholders in rights offerings between 2009 and 2022 | | | | | | |
|---|---|---|---|---|---|---|
| **Wealth transfer from non-participating shareholders** | Obs | Mean | Median | Max | Min | SD |
| Wealth transfers as a percent of stated capital sought in the offering | 1689 | 26.2% | 5.0% | 16518.1% | -45.7% | 407.4% |
| Wealth transfers as a percent of firm value on ex-day | 1739 | 6.8% | 1.0% | 511.6% | -82.8% | 28.1% |
| **Wealth transfer to existing shareholders** | | | | | | |
| Wealth transfers as a percent of stated capital sought in the offering | 542 | 8.5% | 0.9% | 516.8% | -8.1% | 38.7% |
| Wealth transfers as a percent of firm value on ex-day | 567 | 2.1% | 0.2% | 98.0% | -8.3% | 7.7% |
| **Wealth transfer to underwriters** | | | | | | |
| Wealth transfers as a percent of stated capital sought in the offering | 1316 | 12.0% | 3.3% | 702.6% | -41.7% | 41.4% |
| Wealth transfers as a percent of firm value on ex-day | 1363 | 5.2% | 0.6% | 396.5% | -82.8% | 21.9% |

## 2.4 Abnormal returns generation and test statistics

This study uses the event study framework to examine the price response of rights offering important dates at the first announcement of the rights offering date, the ex-date, the subscription close date, and the new shares trade date. Specifically, abnormal returns were generated for 1) the first announcement period 3-day event window, 2) the exdate, 3) the subscription close date, and 5) the trading period 3-day event window. The market model (0,1) was used to estimate abnormal returns. (Simmonds, 2004). The equally weighted average returns of all Australian shares from SIRCA served as the market proxy. This study uses t-statistics (standardized residual test statistics) to report the significance levels of the price reaction to the key dates.

Daily returns (adjusted for capitalization changes and dividends) were directly obtained from the SIRCA database.[3]. Daily returns are not recorded when no traded prices are available for the past date or today. Economists deal with missing values predominantly by using one of three methods. The first and the simplest is the complete data method, where observations with missing data are dropped; a second standard method is the dummy variable method, which enters a 0 for the missing values and includes an additional dummy variable that indicates "missingness"; a third method is an imputation, where the missing value is estimated based on the other available data. (Abrevaya & Donald, 2017; Bici, 2023; Kofman & Sharpe, 2003).

We chose a 3-day event window because crucial information about the offering, such as whether there will be an oversubscription, is often released in "the proposed issue of capital" immediately following the initial announcement. With accelerated issues, trading is halted on the announcement, and trading is resumed on ex-days to avoid speculation. This is not the case with non-accelerated issues. Regular trading allows investors to buy existing shares and become shareholders on the record day for non-accelerated issues. There are, on average, three trading days between announcement day and ex day. A short window is chosen to avoid capturing ex-day effects.

## 3. Determinant of Shareholder Participation

We report shareholder participation and wealth transfer in rights offerings for Australian companies. The results of univariate and cross-sectional analysis are reported.

[3] *SIRCA calculates daily returns as:* $Return(pastDate\ to\ today) = \frac{Close(today)x\ CumulativeFactor(today)}{Close(pastDate)x\ CumulativeFactor(pastDate)} - 1$

*The cumulative factor is the cumulative product of factor values after today, excluding non-trading dates.*

## 3.1 Univariate analysis

| **Panel A. Wealth transfer and shareholder takeup** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | All | Shareholder takeup >Median (60%) | Shareholder takeup<=Median | t-Test | | |
| Shareholder participation | Mean (%) | **0.45** | **0.59** | **0.27** | 24.47 | *** | |
| | Median (%) | 0.44 | 0.60 | 0.27 | | | |
| | *t-stats* | 80.07 | 58.84 | 31.49 | | | |
| | N | 1856 | 377 | 300 | | | |
| Wealth Transfer | Mean (%) | **6.76** | **5.08** | **8.87** | -1.54 | | |
| | Median (%) | 0.99 | 1.06 | 0.70 | | | |
| | *t-stats* | *10.04* | *5.58* | *3.89* | | | |
| | N | 1741 | 363 | 287 | | | |
| **Panel B. Wealth transfer and underwritten status** | | | | | | | |
| | | NU | FU | PU | t-Test NU vs FU | t-Test NU vs PU | t-Test FU vs PU |
| Shareholder participation | Mean (%) | **0.43** | **0.49** | **0.44** | -4.84 | -0.61 | 2.42 |
| | Median (%) | 0.43 | 0.50 | 0.43 | *** | | ** |
| | *t-stats* | 59.86 | 47.74 | 25.22 | | | |
| | N | 1106 | 563 | 187 | | | |
| Wealth Transfer | Mean (%) | **7.09** | **5.86** | **7.61** | 0.90 | -0.20 | -0.67 |
| | Median (%) | 1.01 | 0.99 | 0.95 | | | |
| | *t-stats* | *7.67* | *5.73* | *3.19* | | | |
| | N | 1016 | 547 | 178 | | | |
| **Panel C. Wealth transfer and renounceability** | | | | | | | |
| | | NR | RR | t-Test | | | |
| Shareholder participation | Mean (%) | **0.44** | **0.47** | **-2.14** | ** | | |
| | Median (%) | 0.44 | 0.48 | | | | |
| | *t-stats* | 72.62 | 34.34 | | | | |
| | N | 1492 | 364 | | | | |
| Wealth Transfer | Mean (%) | **3.74** | **18.70** | -4.90 | *** | | |
| | Median (%) | 0.96 | 1.39 | | | | |
| | *t-stats* | *12.30* | *6.16* | | | | |
| | N | 1390 | 351 | | | | |
| **Panel D. Wealth transfer and offer size** | | | | | | | |

| | | Offer size>Median (33%) | Offer size<=Median (33%) | t-Test | |
|---|---|---|---|---|---|
| Shareholder participation | Mean (%) | **0.41** | **0.48** | -6.20 | *** |
| | Median (%) | 0.40 | 0.48 | | |
| | *t-stats* | 50.48 | 63.43 | | |
| | N | 837 | 1021 | | |
| Wealth Transfer | Mean (%) | **14.30** | **0.81** | 9.09 | *** |
| | Median (%) | 4.78 | 0.46 | | |
| | *t-stats* | *9.66* | *10.36* | | |
| | N | 767 | 974 | | |
| **Panel E. Wealth transfer and rights offerings with or without attached options** | | | | | |
| | | NO | OO | t-Test | |
| Shareholder participation | Mean (%) | **0.46** | **0.40** | 4.83 | *** |
| | Median (%) | 0.46 | 0.38 | | |
| | *t-stats* | 70.24 | 39.39 | | |
| | N | 1358 | 498 | | |
| Wealth Transfer | Mean (%) | **7.16** | **5.69** | 1.09 | |
| | Median (%) | 1.03 | 0.75 | | |
| | *t-stats* | *8.55* | *5.40* | | |
| | N | 1266 | 475 | | |

*Table 3 wealth transfer and offer characteristics (Welch's t-test is used for significance difference)*

Panel A reveals significant insights into shareholder participation and wealth transfer based on the level of total shareholder take-up. When the take-up exceeds the median (60%), the mean participation rate is significantly higher at 59% compared to just 27% when take-up is at or below the median. This difference is statistically significant, as indicated by a t-test value 24.47. However, the mean wealth transfer for higher take-up is 5.08%, while it is 8.87% for lower take-up, with a t-test value of -1.54, suggesting no significant difference. Therefore, higher shareholder take-up significantly increases participation rates but does not significantly impact wealth transfer. This is consistent with findings by Holderness and Pontiff (2016), who investigated the difference between shareholder takeup and shareholder participation and their effects on wealth transfer.

Panel B compares wealth transfer across non-underwritten (NU), fully underwritten (FU), and partially underwritten (PU) rights offerings. The average shareholder participation rates are highest for FU at 49%, followed by PU at 44% and NU at 43%, with t-tests showing a significant difference between these types. Regarding wealth transfer, the mean percentages are lowest for FU at 5.86%, higher for NU at 7.09%, and highest for PU at 7.61%. The t-tests, however, indicate no significant differences in wealth transfer among these groups. This suggests that underwriting influences shareholder participation. However, it does not impact wealth transfer. This observation aligns with Balachandran et al. (2008) and Heinkel and Schwartz (1986), who explore underwriting's role in rights offerings.

Panel C compares non-renounceable (NR) and renounceable (RR) rights offerings. The average shareholder participation rate for NR offerings is 44%, slightly lower than the 47% for RR offerings. The t-test (t = -2.14) indicates a statistically significant difference in participation rates. Regarding wealth transfer, NR offerings have a mean rate of 3.74%, significantly lower than the 18.70% for RR offerings, with a highly significant t-test (t = -4.90). These results indicate that wealth transfer is substantially higher in renounceable rights offerings, consistent with the literature.

Panel D explores the impact of offer size on shareholder participation and wealth transfer, comparing offerings above and below the median size. Larger offer sizes (>median) are associated with a mean shareholder participation rate of 41%, significantly lower than the 48% observed for smaller offers, with a highly significant t-test result (t = -6.20). Conversely, wealth transfer for larger offers is markedly higher, with a mean of 14.30% compared to just 0.81% for smaller offers, also showing a highly significant difference (t = 9.09). These findings suggest that smaller offer sizes have higher shareholder participation and less wealth transfer from non-participating shareholders. This observation is consistent with Slovin, Sushka, and Lai (2000), who examine the impact of offer size on participation.

Panel E examines shareholder participation and wealth transfer in rights offerings without attached options (NO) versus with attached options (OO). The mean shareholder participation rate is 46% for NO and 40% for OO, with a statistically significant difference (t = 4.83). Regarding wealth transfer, the mean percentage is 7% for NO and 6% for OO, with no significant difference (t = 1.09). These results suggest that shareholder participation is higher in rights offerings without attached options, while the wealth transfer rates do not significantly differ between the two offerings.

Next, we analyse the interactions of these offer characteristics on the impact of shareholder participation and wealth transfer.

Panel F. Pair-wise groupings based on renounce ability, underwriting status, and attached options

| | | NR+NU | NR+NU+O | NR+FU | NR+FU+O | NR+PU | NR+PU+O | RR+NU | RR+NU+O | RR+FU | RR+FU+O | RR+PU | RR+PU+O | ANOVA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Shareholder participation | Mean (%) | **0.43** | **0.40** | **0.48** | **0.44** | **0.44** | **0.42** | **0.49** | **0.41** | **0.53** | **0.44** | **0.51** | **0.39** | 4.43 |
| | Median (%) | 0.44 | 0.38 | 0.50 | 0.41 | 0.43 | 0.40 | 0.48 | 0.40 | 0.54 | 0.46 | 0.57 | 0.34 | *** |
| | *t-stats* | *46.00* | *29.26* | *41.34* | *14.56* | *20.10* | *9.32* | *20.09* | *16.35* | *18.49* | *6.85* | *8.20* | *9.80* | |
| | N | 602 | 297 | 418 | 44 | 102 | 29 | 126 | 81 | 87 | 14 | 23 | 33 | |
| Wealth Transfer | Mean (%) | **3.84** | **3.74** | **4.27** | **1.90** | **2.67** | 0.69 | **22.84** | **17.45** | **14.76** | 10.83 | **48.27** | 0.57 | 12.04 |
| | Median (%) | 0.94 | 0.58 | 1.08 | 0.37 | 1.20 | 0.58 | 1.95 | 3.79 | 0.50 | 0.48 | 1.32 | 0.71 | *** |
| | *t-stats* | *7.82* | *5.80* | *6.81* | *2.39* | *2.84* | *0.40* | *3.64* | *3.21* | *2.57* | *1.61* | *2.96* | *0.26* | |
| | N | 542 | 276 | 405 | 44 | 95 | 28 | 118 | 80 | 84 | 14 | 22 | 33 | |

Panel G. Pair-wise groupings based on renounce ability, underwriting status, attached options: offer size > median versus offer size<= median

| Offer size > median | | | | | | | | | | | | | | - |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NR+NU | NR+NU+O | NR+FU | NR+FU+O | NR+PU | NR+PU+O | RR+NU | RR+NU+O | RR+FU | RR+FU+O | RR+PU | RR+PU+O | ANOVA |
| Shareholder | Mean (%) | **0.39** | **0.39** | **0.46** | **0.41** | **0.38** | **0.43** | **0.41** | **0.37** | **0.45** | **0.34** | **0.42** | **0.33** | 1.37 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| participation | Median (%) | 0.38 | 0.34 | 0.46 | 0.41 | 0.37 | 0.40 | 0.40 | 0.36 | 0.45 | 0.34 | 0.48 | 0.26 | |
| | *t-stats* | *27.50* | *18.88* | *24.32* | *7.62* | *11.98* | *8.21* | *14.84* | *13.37* | *11.23* | *5.63* | *5.60* | *5.34* | |
| | N | 240 | 130 | 165 | 14 | 47 | 21 | 77 | 60 | 43 | 10 | 16 | 14 | |
| Wealth Transfer | Mean (%) | **8.58** | **8.10** | **9.78** | 3.24 | **4.60** | 0.84 | **36.54** | **23.18** | **29.74** | 14.64 | **70.99** | 1.29 | 7.36 |
| | Median (%) | 4.40 | 5.21 | 4.42 | 2.27 | 3.51 | 2.97 | 12.60 | 6.74 | 2.88 | 0.00 | 26.43 | 3.39 | *** |
| | *t-stats* | *7.28* | *5.77* | *6.30* | *1.37* | *2.27* | *0.35* | *3.71* | *3.20* | *2.62* | *1.58* | *3.28* | *0.25* | |
| | N | 210 | 115 | 153 | 14 | 43 | 20 | 73 | 59 | 41 | 10 | 15 | 14 | |
| Offer size <= median | | | | | | | | | | | | | | |
| | | NR+NU | NR+NU+O | NR+FU | NR+FU+O | NR+PU | NR+PU+O | RR+NU | RR+NU+O | RR+FU | RR+FU+O | RR+PU | RR+PU+O | |
| Shareholder participation | Mean (%) | **0.46** | **0.40** | **0.50** | **0.45** | **0.50** | **0.38** | **0.61** | **0.51** | **0.61** | **0.67** | **0.71** | **0.43** | 6.35 |
| | Median (%) | 0.46 | 0.38 | 0.51 | 0.41 | 0.47 | 0.39 | 0.66 | 0.52 | 0.63 | 0.62 | 0.81 | 0.44 | *** |
| | *t-stats* | *37.35* | *22.31* | *33.95* | *12.31* | *17.14* | *4.22* | *15.68* | *10.48* | *16.07* | *7.60* | *10.82* | *8.52* | |
| | N | 362 | 167 | 255 | 30 | 55 | 8 | 49 | 21 | 44 | 4 | 7 | 19 | |
| Wealth Transfer | Mean (%) | **0.84** | **0.64** | **0.92** | **1.28** | **1.08** | 0.32 | **0.62** | **1.35** | **0.48** | **1.29** | **-0.40** | 0.04 | 0.84 |
| | Median (%) | 0.55 | 0.07 | 0.61 | 0.37 | 0.51 | 0.17 | 0.37 | 0.63 | 0.25 | 1.10 | 0.33 | 0.55 | |
| | *t-stats* | *6.13* | *2.22* | *7.89* | *3.23* | *4.16* | *0.86* | *2.36* | *2.59* | *3.41* | *2.58* | *-0.48* | *0.07* | |
| | N | 332 | 161 | 252 | 30 | 52 | 8 | 45 | 21 | 43 | 4 | 7 | 19 | |
| Difference between subgroups with offer size> median and subgroups with offer size< =median | | | | | | | | | | | | | | |
| | | NR+NU | NR+NU+O | NR+FU | NR+FU+O | NR+PU | NR+PU+O | RR+NU | RR+NU+O | RR+FU | RR+FU+O | RR+PU | RR+PU+O | |
| Shareholder participation | *t-Test* | *-3.26* | *-0.25* | *-1.86* | *-0.63* | *-2.65* | *0.49* | *-4.29* | *-2.47* | *-2.86* | *-3.08* | *-2.91* | *-1.30* | |
| Wealth Transfer | | *6.52* | *5.21* | *5.69* | *0.82* | *1.72* | *0.22* | *3.65* | *3.00* | *2.57* | *1.44* | *3.30* | *0.24* | |

*Table 4 The interactions of these offer characteristics on the impact of shareholder participation and wealth transfer*

Panel F provides insights into shareholder participation and wealth transfer across different categories. Shareholder participation varies across different categories, with the mean ranging from 39% (RR+PU+O) to 53% (RR+FU). The highest median participation rate is 57% (RR+PU). The evidence suggests that while the combination structure of renounceability and use of underwriters tends to achieve higher participation rates, attached free options will reduce shareholder participation. Accordingly, wealth transfer also varies significantly, with the mean ranging from 1% (RR+PU+O) to 48% (RR+PU), suggesting that firms do not offer much discount if they offer free attached options. The highest median wealth transfer is 4% (RR+NU+O), suggesting that firms attract institutional investors by offering attached free options and not underwriting the offers.

Panel G presents shareholder participation and wealth transfer data across different categories, segmented by offer size. For larger offer sizes, average shareholder participation does not differ significantly among the groups. However, with large offer sizes, the interactions of offering characteristics significantly impact wealth transfer.  Average wealth transfer ranges significantly, from 1% (NR+PU+O) to 71% (RR+PU). The highest median wealth transfer is 26% (RR+PU), indicating significant wealth transfer in large offerings. For smaller offer sizes, average shareholder participation is significantly different, ranging from 38% (NR+PU) to 71% (RR+PU). The highest median participation rate is 81% (RR+PU). ANOVA value of 6.35 with significance suggests significant differences in participation rates. The results suggest that when the offer size is small, renounceable and underwritten issues tend to have higher shareholder participation. However, when the offer size is small, those offering characteristics don’t matter to wealth transfers. The t-test values indicate the differences in participation rates and wealth transfer between the two subgroups for each category. Most categories show negative t-test values of shareholder participation and positive t-test values of wealth transfer, indicating higher participation for smaller offer sizes and larger wealth transfer for larger offer sizes. Some insignificances in some categories indicate that offer size doesn't matter to those categories.

These results reveal that the combination of offer characteristics impacts shareholder participation and wealth transfer differently. Next, we explore the impact of interactions of offer characteristics on shareholder participation and wealth transfer.

## 3.2 Cross-sectional regression analysis

| | 1 | | 2 | | 3 | | 4 | |
|---|---|---|---|---|---|---|---|---|
| | Funds raised | | Funds raised | | Funds raised to stated funds | | Funds raised to stated funds | |
| Offer renounceable | 0.21 | | -0.12 | | -0.01 | | 0.01 | |
| Option attachment | **-0.48** | *** | -0.14 | | 0.05 | | 0.03 | |
| Fully underwritten | **0.48** | *** | **0.58** | ** | **0.04** | ** | **0.05** | * |
| Partially underwritten | -0.10 | | -0.10 | | -0.01 | | 0.00 | |
| Discount on anday | -0.59 | | -0.76 | | -0.02 | | 0.17 | |
| Offer ratio | **0.25** | *** | **0.28** | *** | 0.00 | | 0.00 | |
| Firm size | 0.00 | | 0.00 | | 0.00 | | 0.00 | |
| Institutional Onwership | **2.72** | ** | 1.28 | | 0.29 | | -0.04 | |
| Amihud measure | -6.78 | | -2.74 | | -0.06 | | -0.07 | |
| **Shareholder participation** | **1.01** | *** | **1.18** | * | -0.03 | | 0.04 | |
| **Shareholder takeup** | | | -0.42 | | | | -0.10 | * |
| (Intercept) | 1.22 | *** | 1.10 | *** | 1.03 | *** | 1.03 | *** |
| Adjusted R-squared | 0.30 | | 0.45 | | 0.03 | | 0.00 | |

*Table 5*

In columns 1 and 2, we estimate the firm's funds raised as a function of offering characteristics, including shareholder participation. The coefficients for shareholder participation, offer size, and fully underwritten in all two specifications are highly significant. A 1% increase in shareholder participation is associated with more than a 1% increase in the funds raised. Fully underwritten offerings are associated with 48-58% more funds raised. A 30% increase in offer size is associated with 8% more funds raised. This finding is economically significant as well. For example, a firm offers one new share to five existing shares. The firm is seeking funds equal to an extra 20% of its market capitalization is associated with additional funds raised equal to 5.6% of its market capitalization (20%*0.28).

Comparably, in columns 3 and 4, the ratio of funds raised to stated funds is the dependent variable. Shareholder participation is not significant at all levels. We conclude that while shareholder participation affects the amount of funds raised, it does not impact the firm's ability to achieve its targeted funds.

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| | Shareholder participation | Shareholder participation | Wealth transfer | Wealth transfer | Wealth transfer | Shareholder takeup |
| Offer renounceable | **0.09** *** | 0.02 | 0.03 | 0.08 | 0.02 | **0.17** *** |
| Option attachment | **-0.10** *** | **-0.08** *** | 0.02 | -0.03 | -0.01 | -0.04 |
| Fully underwritten | 0.03 | 0.00 | 0.00 | 0.01 | 0.00 | **0.06** ** |
| Partially underwritten | 0.08 * | -0.02 | 0.13 | 0.17 | 0.02 | **0.16** *** |
| Discount on anday | **0.43** *** | 0.08 | **0.82** *** | **1.04** ** | **0.69** *** | **0.39** *** |
| Offer ratio | **-0.02** ** | 0.00 | 0.00 | -0.01 | **-0.01** *** | **-0.02** *** |
| Firm size | 0.00 | **0.00** ** | 0.00 | 0.00 | 0.00 | 0.00 |
| Institutional Onwership | 0.02 | -0.10 | 0.06 | 0.07 | 0.05 | 0.10 |
| Amihud measure | -1.29 | 0.20 | 3.09 | 2.45 | -0.14 | **-0.89** ** |
| **Shareholder participation** | | | | **-0.50** * | | |
| **Shareholder takeup** | | **0.59** *** | | | **-0.15** *** | |
| (Intercept) | 0.43 *** | 0.10 *** | -0.08 | 0.13 * | 0.06 ** | 0.54 *** |
| Adjusted R-squared | 0.21 | 0.64 | 0.19 | 0.25 | 0.56 | 0.22 |

*Table 6 Regression analysis of the determinant of shareholder participation, the wealth transfer, and the total shareholder take-up*

In Table 6, we investigate the determinant of shareholder participation, the wealth transfer, and the total shareholder take-up (the sum of shareholder pro-rata participation and rights taken up under an oversubscription facility).

Column 1 of Panel A estimates the association between shareholder participation and various offering characteristics. The renounceable offerings are associated with an increase in participation of 10%. This supports the signal theory that shareholders see renounceable offerings as a positive signal to encourage participation. This figure is smaller than a reduction of 25% in non-participation, as reported by Holderness. Offerings with attached options are associated with a 10% reduction in participation. This contradicts our initial expectation as these options are mechanically always free. However, the novelty of such offerings may be too confusing for some, perhaps unsophisticated investors. Partially underwritten offerings have an increase of 8% in participation. The strongest determinant of shareholder participation is discount.

Column 2 adds the total take-up by existing shareholders as an explanatory variable for shareholder participation. Shareholder participation and takeup are realized simultaneously when the results of offerings are announced. Take-up is essential; the significant change in the Adjusted R square from column 1 to column 2 implies that most of the variation in participation is explained by an offering's shareholder takeup. This suggests that when shareholders expect high shareholder takeup, they participate in the offerings. Renounceability, underwritten status, and even discounts do not matter to them. However, the attached options discourage shareholder participation and decrease to 8%. Firm size is also significant when shareholders consider oversubscribing their offerings.

Columns 3 through 5 relate offering characteristics to the wealth transfers as a percentage of offering value. The strongest determinant of wealth transfers is the discount. A 1% increase in discount is associated with wealth transfers of offering value from nonparticipating shareholders by about 1% of offering value. Offerings with larger discounts tend to have higher wealth transfers, implying that the increased participation associated with larger discounts (column 3) is more than offset by the direct wealth transfers implied by bigger discounts. Different from Holderness, we find positive but insignificant renounceability on wealth transfer. The renounce ability allows shareholders to sell rights if they do not want to exercise them. It is a way to protect existing shareholders, allowing them to sell the rights if they do not want to exercise them due to financial constraints. We believe shareholders do not sell renounceable rights. Renounceable rights not exercised or sold by shareholders will go through the book-building process. In our data, we record samples of existing shareholders who receive premiums. They often receive higher premiums than those sold by themselves. This explains that renounced ability does not impact wealth transfer in Australia because they do not use transferability but treat it as a quality signal.

In column 4, the Adjusted R square slightly increases to 25% from 19% by adding shareholder participation as explanatory variables. 1% Higher shareholder participation is reducing wealth transfers by 0.5%. In column 5, we add the takeup variable, which is also significant and the adjusted r square significantly increased to 56%. Offer ratio positively impacts wealth transfer.

Column 6 of Table 6 estimates take-up as a function of offering characteristics. Column 9 adds shareholder participation as an explanatory variable for shareholder participation. Compare to the determinants of shareholder participation in Column 1, the attached options are not a concern for existing shareholders consider take additional rights. Consistent with literature, information asymmetric also significantly impact shareholder’s takeup.

## 4. Wealth Transfer and Price Reactions

| Panel E. Price reaction and wealth transfer | | | | | |
|---|---|---|---|---|---|
| | | All | Wealth transfer >Median (1%) | Wealth transfer<=Median (1%) | t-Test |
| Anday (-1,1) | Mean (%) | 0.45 | **3.37*** ** | **-1.73*** ** | *** |
| | Median (%) | -0.22 | 0.26 | -0.67 | |
| | *t-stats* | *1.44* | *4.09* | *-3.70* | |
| | Sample Size | 2814 | 719 | 764 | |
| Exday | Mean (%) | -0.48 | **3.19*** ** | **-4.27*** ** | *** |
| | Median (%) | -0.94 | 0.60 | -2.04 | |
| | *t-stats* | *-1.20* | *3.21* | *-9.22* | |
| | Sample Size | 1914 | 492 | 559 | |
| Closeday | Mean (%) | **1.07*** ** | **1.70*** ** | **0.82** ** | |
| | Median (%) | -0.01 | 0.14 | -0.06 | |
| | *t-stats* | *5.28* | *3.95* | *2.15* | |
| | Sample Size | 2390 | 587 | 687 | |
| Tradeday (-1,1) | Mean (%) | **-0.56** ** | -0.98* | -0.67* | |
| | Median (%) | -0.50 | -0.88 | -0.49 | |
| | *t-stats* | *-2.41* | *-1.77* | *-1.76* | |
| | Sample Size | 2798 | 712 | 756 | |

*Table 7 Price reactions on key dates.*

Table 7 examines the price reactions to the magnitude of wealth transfer around key event days (Monday, Exday, Closeday, Tradeday). The mean price reaction on Anday for all observations is 0.45%, with a significant difference between high and low wealth transfer groups, showing 3.37% for wealth transfers above the median and -1.73% for those below, indicated by a t-test value of 5.39. Exday shows a mean price reaction of -0.48% overall, with 3.19% for high wealth transfers and -4.27% for low, and a significant t-test value of 6.81. On Closeday, the mean reaction is 1.07%, with moderate significance between high (1.70%) and low (0.82%) wealth transfers, t-test value 1.52. Tradeday's overall mean reaction is -0.56%, with no significant difference between high (-0.98%) and low (-0.67%) wealth transfers, indicated by a t-test value -0.46. This analysis highlights significant price reactions on Anday and Exday linked to wealth transfer levels, while Closeday shows moderate significance and Tradeday shows none. According to our expectations, larger wealth transfers are associated with favorable price reactions during the announcement period and ex-day.

| Abnormal return analysis | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Key events | Anday(-1,1) | Anday(-1,1) | Ex-day | Ex-day |
| Wealth transfers as pct of market cap. | 0.06 | 0.13 | 0.41*** | 0.46*** |
| Shareholder take-up | | 0.07* | | 0.01 |
| (Intercept) | 0.00 | -0.04* | -0.03*** | -0.04*** |
| Adjusted R square | 0.01 | 0.02 | 0.22 | 0.38 |

*Table 8 Price reactions to wealth transfer*

In Table 8, we estimate regressions of the abnormal stock returns from the announcement period on announcement period and ex day. We aim to determine if the amount of money transferred from the nonparticipating shareholders is associated with different stock return reactions. We use shareholder take-up as a control variable.

The market reacts neutrally to wealth transfers during the announcement period and significantly positive on ex day. The findings suggest that the market might not fully incorporate the implications of rights issues immediately upon announcement but rather when they are executed.

## 5. Conclusion

We document that shareholders participate only 45% of offering value on average in valuable rights offerings. We find that shareholder participation is higher in the underwritten offers, renounceable offers, smaller offer sizes, and offers without attached options.

Shareholder nonparticipation causes wealth transfers from those shareholders who do not participate to those who do participate that average almost 26% of the capital being raised. The larger is the issue discount, the larger are the wealth transfers to existing shareholders and underwriters. Shareholder nonparticipation significantly impact the amount of funds raised but does not impact firms achieving targeted stated funds due to demand from existing shareholder and underwriters. The market view larger wealth transfer as a positive signal for achieving funds target. But the market might not fully incorporate the implications of rights issues immediately upon announcement but rather when they are executed.

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