

Equity Issues and the Impact of Lead Manager Affiliation on Broker Market Share and Trading Volume

Abstract

This paper studies the trading volumes and market shares of brokers surrounding Seasoned Equity Offerings (SEOs) in the Australian equity market based on a unique broker ID dataset. We conduct regression analysis to investigate the drivers behind the behaviour of affiliated and unaffiliated brokers around SEOs. The findings contribute to the understanding of how broker affiliation impact SEO trading activity. Results show that broker affiliation is positively related to broker trading volumes and market share on both the announcement day and issuance day. However, there is no evidence suggesting that lead managers or co-manager generate additional trading volume compared to other underwriters. Broker reputation, market capitalization and relative offer size of the offering firm are shown as the primary determinants influencing broker trading activity.

Keywords: *Seasoned Equity Offerings, Equity Issues, Broker Affiliation, Broker Market Share*

Classification Codes: G10, G20, G24

1. Introduction

Given that seasoned equity offerings (SEOs) are widely regarded as one of the most important capital structure events for companies, a considerable amount of research has been dedicated to examine capital markets around SEOs. Masulis and Korwar (1986) state two major motivations for seasonal equity offerings: first, a firm's leverage level will be reduced when the equity capital is increased; second, the raised capital is typically used to finance capital expenditures, such as purchasing assets or financing acquisitions. The purpose of a SEO could reflect the performance or health of a firm. Therefore, investors would have various expectations on the future performance of the firm. As a result, abnormal trading activity is commonly associated with SEO events. Extant literature has documented significant changes in affiliated broker market share around various financial events in capital markets, such as SEOs, Initial Public Offerings (IPOs), Mergers and Acquisitions (M&As) and changes in analyst recommendations. Short selling activities around both the announcement and issuance dates of SEOs have been examined by Henry and Koski (2010). Kim and Masulis (2011) observe order imbalance activities after SEOs in the Australian financial market, suggesting that the trading pattern is a result of market-making activities by underwriters. Since underwriters have a significant role in capital markets around SEOs, it is also interesting to investigate their affiliated brokers trading pattern around these offering events¹.

The connections between the brokerage department and the corporate finance advisory department have been discussed by Ellis et al. (2000), Irvine (2001) and Niehaus and Zhang (2010). These papers find that investors who receive analyst research from the underwriting firms have an incentive to trade with their affiliated brokerage firms. Their findings suggest that a substantial proportion of investors tend to trade with affiliated brokers after IPOs. Similarly, in SEOs, investors are also likely to trade with affiliated brokerage firms. Previous studies mainly focus on the trading patterns in the capital markets around SEOs, including order flow imbalance, analyst coverage and short-selling behaviour. Gerard and Nanda (1993) examine the secondary market trading patterns prior to SEO events, while Henry and Koski (2010) and Safieddine and Wilhelm (1996) study short-selling behaviour around SEO events. Moreover, Lease et al. (1991) and Kim and Masulis (2011) examine order imbalance patterns around SEOs. Further, Corwin (2003) and Cotter et al. (2004) study trading activities, price

¹ Affiliated broker is known as the analyst or broker from the same firm as an advisor or underwriter in a SEO.

stabilisation and underpricing of SEOs by analysing security characteristics of SEO events. However, studies on the trading activities of affiliated brokers in SEOs are very limited in this area. With a unique dataset with broker identification codes provided by the Australian Securities Exchange (ASX), we attempt to investigate the trading behaviour of brokers around SEO events in the Australian financial market. Moreover, we examine the abnormal patterns of trading volumes and market share for both affiliated brokers and unaffiliated brokers around SEOs. Our results provide evidence that Australian broker trading activities are influenced by broker affiliation around SEO events. This paper also constructs regression analysis to examine the key determinants (such as stock characteristics, market movements, and broker characteristics) that affect affiliated and unaffiliated brokers' abnormal trading behaviour. The results explain the factors that significantly influence broker trading patterns in the Australian primary market.

In this paper, we employ the methodologies in Gerard and Nanda (1993) and Henry and Koski (2010) to examine the impact of SEO events and broker affiliation on the trading volume and market share of brokerage firms. We focus on changes in and the determinants of the trading volume and market share of both affiliated and unaffiliated brokers around private placements and rights offerings in the Australian equity market between 2000 and 2009. The characteristics of these offering events will also be investigated in this paper. The results in this paper will provide a better understanding of affiliated brokers' and unaffiliated brokers' trading volume and market share behaviour around SEOs in primary markets. Further regression analysis offer insights into the key determinants that may impact on broker trading behaviour and market share around equity offering events. The findings will be informative for the management of advisory firms as well as affiliated brokerage firms in deal structuring. This paper aims to show that affiliated brokers gain additional market share by obtaining abnormal trading volume during SEOs, which could be regarded as compensation for underwriting services. In addition, examining the characteristics of SEOs facilitates a better understanding of the determinants of abnormal trading activities around SEOs. These characteristics include the offer size, the level of underpricing, the reputation of brokers, the purpose of the offering event and the size of the offering firm. This information is valuable to underwriters and brokerage firms in searching and structuring deals.

The results suggest that broker affiliation has a significant impact on broker trading volume and market share around SEO announcement days and issuance days. Affiliated brokers are

shown to outperform other unaffiliated brokers by 147 percent in terms of trading volume on the SEO announcement day. This number goes up to 179 percent in the post-announcement period. Around issuance days, affiliated brokers are expected to obtain at least 151 percent more trading volume, and their abnormal volumes are expected to be 264 percent higher than those of unaffiliated brokers. However, there is no significant evidence showing that lead managers outperform other underwriters around SEO events. Co-managers are not expected to gain any abnormal volumes or market share around SEOs according to the results. Moreover, broker reputation and market capitalization of the offering firm are shown as the two major factors that influence broker market share around SEOs.

The rest of paper is organized as follows. Section 2 summarizes the existing literature on trading patterns and broker behaviour around equity offering events. Section 3 describes the relevant datasets. Section 4 lists the hypotheses that will be tested in this study. Research design is discussed in Section 5. Section 6 provides a discussion of the results and Section 7 concludes.

2. Literature Review

2.1. Broker Affiliation and Analyst Coverage

The trading volume and market share of brokerage firms is affected by various factors. There has been a substantial amount of research investigating the link between analyst coverage and affiliated broker trading volume. Niehaus and Zhang (2010) study the research coverage and affiliated broker market share in the US. They find that a broker's trading volume in a stock increases by 0.8 percent on average if that stock is covered by an affiliated analyst. This finding is supported by the empirical evidence in Irvine (2001) and Jackson (2005), who document a positive relationship between analyst research coverage and broker trading volume for individual stocks on the TSE and ASX respectively. Furthermore, both Jackson (2005) and Niehaus and Zhang (2010) suggest that a change in an analyst's recommendation tends to increase the affiliated broker's market share. Given this empirical relationship, it follows that affiliated brokerage firms have an incentive to issue optimistic recommendations.

The level of analyst research coverage is considered an important factor of the quality of the underwriter's service. Francis and Philbrick (1993) argue that analysts' earnings forecasts could be influenced by analysts' recommendations, as they need to maintain their relations with the management. A firm tends to be favourable to investors when there is a high level of research coverage on the firm. Hence, this may lead to a higher level of trading volume (Krigman et al., 2001). O'Brien and Bhushan (1990) examine the link between analyst coverage and affiliated brokers' coverage from institutional investors. They find that institutional investors' preferences and analyst coverage preferences are interactive. They suggest that analysts are likely to cover stocks with high levels of institutional ownership. On the other hand, institutional investors tend to buy stocks that are covered by analysts in the brokerage firms. From this point of view, the analyst coverage influences the trading volumes from institutional investors, while these volumes would also impact on the level of analyst coverage.

Moreover, Irvine (2001) uses a unique dataset with broker identifications to analyze the connection between the volume and stock coverage of brokerage firms. By comparing brokerage firm volume in covered and uncovered stocks, Irvine (2001) discovers that the broker trading volume in covered stocks is 3.8 percent higher than the volume in uncovered stocks. This result is consistent with the finding in Bhushan (1989) that the level of analyst research on a firm has a positive relationship with broker trading volume. Jackson (2005) studies the influence of analyst reputation on the trading volume of affiliated brokers. The results suggest that optimistic analysts with a good reputation tend to bring more trade for affiliated brokerage firms. The reputation of analysts is built on their accurate forecasts. Jackson also argues that an upward bias may exist in analyst forecasts and recommendation. However, this argument has been refuted in the literature. Irvine (2004) found no evidence that analyst forecast bias would increase the level of trading volume for brokerage firms. A compelling result is provided by Grant et al. (2010), who find that pessimistic analysts also generate higher levels of trading volume for affiliated brokers. This phenomenon is found to be more significant for retail brokerage firms compared to institutional brokerage firms. In addition, optimistic forecasts tend to generate higher trading volumes for affiliated brokers than pessimistic forecasts.

2.2. Broker Affiliation and Equity Offerings

Ellis et al. (2000), Irvine (2001) and Niehaus and Zhang (2010) have shown interactions between the brokerage department and the corporate finance advisory department. Underwriters are likely to provide analyst research coverage for the offering firms to improve the relationships with their clients. On the other hand, investors who receive analyst coverage have the incentive to trade with the underwriter's affiliated brokers in order to build up connections for future analyst research coverage. From this perspective, the connections between broker affiliation and analyst coverage may also appear between broker affiliation and underwriters in equity offering events. Aggarwal (2000) examines abnormal trading volumes around Initial Public Offerings (IPO) in the US market. She shows that underwriters tend to manage the stabilization process in the post-IPO period, which leads to abnormal trading volumes in the market. These post-IPO activities in the US have also been studied by Ellis (2006). Ellis examines the trading volumes in the first two days following an IPO. She finds that a substantial number of trades occur in the first two days after an IPO. The volume of these trades is equivalent to over 70 percent of the shares issued in the IPO. Ellis argues that the investors who cause these significant trading volumes are those who participate in IPOs and sell their allocated shares after the listing day.

There are also other market participants who contribute to the abnormal volumes after IPOs. Day traders play a significant role in the market. They appear to buy and sell their positions in the first few days following IPOs in order to capture volatile price movements (Ellis, 2006, and Geczy et al., 2002). Krigman et al. (1999) study abnormal volume patterns during the post-IPO period in the US market. They suggest that flipping investors were another group that contributed to abnormal volumes following IPOs. These investors tend to sell their allocated shares quickly after the listing day, mainly because of their low expectation of the long-run performance of the new listing firm. However, this phenomenon varies across different IPOs. Krigman et al. (1999) show that 45 percent of trading volumes were from flipping investors for cold IPOs. In contrast, this percentage goes down to 14 percent for hot IPOs. Existing literature documents compelling evidence of abnormal trading volumes around equity offering events. Although overall broker trading volume is expected to increase around equity offerings, the market shares of brokerage firms may depend on their affiliations with the underwriters (Ellis, 2006). Based on the existing findings (Aggarwal, 2000, Ellis, 2006, Gerard and Nanda, 1993, Henry and Koski, 2020, and Krigman et al., 1999), we

hypothesize that an affiliated broker is expected to obtain abnormal trading volume and market share around SEOs. This issue will be examined in this paper.

Lead underwriters provide research recommendations for more than 80 percent of IPOs after the offer date (Bradley et al., 2003, and Cliff and Denis, 2004). Cliff and Denis (2004) discovered that IPO firms are likely to switch underwriters in Seasoned Equity Offerings (SEO) if underwriters do not provide substantial research coverage in the post-IPO period.² From this perspective, IPO underwriters are likely to issue analyst research coverage for their clients for future potential business opportunities. Investors who receive analyst research from the underwriting firm have the incentive to trade with their affiliated brokerage firms (Ellis et al., 2000, and Niehaus and Zhang, 2010). Moreover, Huang and Zhang (2011) argue that investors who have connections with underwriters are more likely to participate in an SEO. In this case, when underwriters receive SEOs from either their former IPO clients or new clients, they are likely to use their investor networks to promote the SEO events. Hence, the affiliated brokerage firms would receive additional volumes from these investors. As a result, it is also valuable to investigate trading volumes around SEOs.

Further, Henry and Koski (2010) use daily data to examine short selling volumes around SEOs in the US market. They find no evidence of informed short selling around SEOs. Henry and Koski suggest that information and motivation are the two main drivers of short selling around SEOs. They argue that traders with private information before the SEO announcement may decide to short sell on their information. Interestingly, Henry and Koski (2010) also discover that the level of short selling around SEOs increases when there are large discounts on the offering shares.³ Gerard and Nanda (1993) document a possible explanation for this behaviour. They suggest that investors with private information prior to the SEO period tend to sell shares before their information is disclosed in the announcement and repurchase the shares at the discounted issue price to recover their secondary market losses. This argument is also supported by Safieddine and Wilhelm (1996). They discover substantial abnormal sell volumes in both the equity market and the derivatives market around SEOs. Short selling normally improves market price efficiency. However, Gerard and

² Cliff and Dennis (2004) found a negative relation between the unexpected amount of post-IPO analyst coverage and the probability of switching underwriters between IPO and SEO.

³ Safieddine and Wilhelm (1996) argue that rational uninformed investors will participate in SEOs only if there is a discount on the offering price in the secondary market.

Nanda (1993) and Henry and Koski (2010) document that prices became inefficient prior to the SEO period because of short selling in the market⁴.

2.3. Lead Underwriter in Equity Offerings

Ellis et al. (2000) suggest that the lead underwriter always takes large inventory positions in the aftermarket trading, becoming the dominant market maker after IPOs.⁵ In contrast, other market makers in the market normally have inventory positions close to zero. Apart from the lead underwriter, co-managers do not have significant roles in aftermarket trading. However, the results suggest that underwriters accumulate significant inventory positions for stocks trading below the offer price. The situation is different for stocks trading above offer prices, where underwriters play a significant role in market making. Since the majority of offering shares are allocated by lead underwriters, investors are likely to send their orders to the lead underwriters (Ellis, 2006). Michaely and Womack (1999) disagree with this argument on the basis that institutional investors often trade with a different broker from the one who issues research information. However, Logue et al. (2002) argue that the reputation of underwriters is a significant determinant of trading activities in the market. They also suggest that underwriter reputation influence the aftermarket price stabilization activities and long-run performance of listing firms. Since lead underwriters often have a strong reputation, they are likely to generate more volume in equity offerings. This is supported by Ellis (2006), who shows that lead underwriters have 35 percent market share in all investor-dealer trades. In contrast, only 19 percent of customers trade with unaffiliated market makers. Interestingly, besides significant market share, the lead underwriters also obtain 77 percent of compensation from underwriting fees (Ellis et al., 2000). According to the findings in Logue et al. (2002) and Ellis et al., (2000), we hypothesize that an affiliated lead manager is likely to obtain abnormal trading volume and market share during a SEO event. This hypothesis will be examined in this paper.

⁴ Gerard and Nanda (1993) found that informed traders may attempt to manipulate offering prices by selling shares before the SEO announcement, leading to temporary decreases in the share price.

⁵ Ellis et al. (2000) show that the lead underwriters take relatively large inventory positions in the stock. On average, seven percent of shares offered are taken by the lead underwriter.

3. Data and Sample Description

The broker trade data is obtained from a unique Australian Securities Exchange (ASX) database. ASX is the primary stock exchange group in Australia, ranked as the eighth largest exchange in the world. The major brokerage firms in the ASX consist of global investment banks. They focus their operations on large firms and provide research analysis for institutional investors. Relatively small brokerage firms mainly focus on medium and small firms and target retail traders (Grant et al., 2010, and Jackson, 2005). Jackson (2005) shows that institutional investors tend to submit orders to brokers who provide them with research coverage in order to maintain a good business connection. Moreover, less informed retail investors are also likely to trade based on the research provided by their brokerage firm analysts (Grant et al., 2010).⁶

The trade data contains ASX stock codes, trade prices, trade volumes, trade values, broker identification codes (including both buyer and seller identifications), trade dates and trade time stamps. There are 129 active brokers in this sample, 26 of which have been affiliated in at least one of the SEO events. Due to the availability of this unique data, the sample covers the period from January 2000 to December 2009.

Since every trade contains two parties, the buyer and the seller, a double counting problem becomes an issue if the total trade volume is computed by simply adding the total volume of each broker (Irvine, 2001). To avoid this problem, total trading volume is computed as follows:

$$VOL = \sum_{i=1}^I \sum_{t=1}^T \frac{TBVOL_{i,t} + TSVOL_{i,t}}{2} \quad (\text{Equation 1})$$

where VOL is the total volume over the sample period for an individual firm, $TBVOL_{i,t}$ is the total buy volume for an individual firm from broker i on day t , $TSVOL_{i,t}$ is the total sell volume for an individual firm from broker i on day t .

⁶ Grant et al. (2010) state that institutional investors often hire a panel of brokerage firms and allocate their trades to those brokers in order to maintain a good business relationship with the brokerage firm analysts and to receive a range of research coverage. On the other hand, retail investors normally deal with one investment advisor and are therefore typically less informed.

Private placement and rights offering datasets are collected from the Thomson Reuters Connect 4 database. The dataset consists of ASX stock codes, announcement dates, listed dates, GICS industry sector codes, equity raising types, issue prices, issue amounts, advisor types, and advisor identifications. The sample in this paper consists of 460 private placements and 67 rights offerings.

Previous studies have pointed out that the announcement dates and issuance dates of SEOs in collected datasets could be incorrect (Lease et al., 1991, and Kim and Masulis, 2011). Kim and Masulis (2011) suggested that the announcements could occur after trading hours. In this case, the effective announcement day should be the next trading day. To adjust these dates, the announcement date for all 527 SEOs is re-checked with the announcement documents provided on the ASX. If the announcement is released after trading hours, then the following trading day is set as the announcement day.

4. Research Design

This paper aims to examine the impact of broker affiliation on the trading volumes and market shares of brokerage firms around SEOs following the methodologies in Gerard and Nanda (1993) and Henry and Koski (2010). This section lists the measurement of key variables as well as statistical models used for hypothesis testing.

4.1. Market Share Measures

The market share for broker i on day t is computed as follows (See similar approach in Irvine, 2001):

$$MKTSHARE_{i,t} = \frac{DVOL_{i,t}}{DTVOL_t} \quad (\text{Equation 2})$$

where $MKTSHARE_{i,t}$ is the market share for broker i on an individual firm on day t , $DVOL_{i,t}$ is the daily volume for an individual firm from broker i on day t , and $DTVOL_{i,t}$ is the daily total volume for an individual stock on day t .

The abnormal market share for broker i on day t is computed as follows (see similar approach in Irvine, 2001):

$$ABMKTSHARE_{i,t} = \frac{MKTSHARE_{i,t}}{AVEMKTSHARE_i} - 1 \quad (\text{Equation 3})$$

where $ABMKTSHARE_{i,t}$ is the abnormal market share for broker i for an individual firm on day t , and $AVEMKTSHARE_i$ is the average market share for broker i on an individual firm over the benchmark period.

In line with Henry and Koski (2010) the benchmark period used is the 60 trading days preceding the 11 days prior to the event window, excluding days on which the trading volume is zero for the firm.

4.2. Abnormal Measures

Consistent with Henry and Koski (2010), the measures for abnormal trading volume are defined as below.

Firstly, the abnormal trading volume (buy + sell) for an individual firm from broker i on day t is computed as follows:

$$ABVOL_{i,t} = \frac{VOL_{i,t}}{AVEVOL_i} - 1 \quad (\text{Equation 4})$$

where $ABVOL_{i,t}$ is the abnormal trading volume for an individual firm from broker i on day t , $VOL_{i,t}$ is the total trading volume for an individual firm from broker i on day t , and

$AVEVOL_i$ is the average trading volume for an individual firm from broker i over the benchmark period.

The abnormal buy (sell) volume for an individual firm from broker i on day t is computed as follows:

$$ABBV_{i,t}(ABSV_{i,t}) = \frac{TBVOL_{i,t}(TSVOL_{i,t})}{AVEBV_i(AVESV_i)} - 1 \quad (\text{Equation 5})$$

where $ABBV_{i,t}(ABSV_{i,t})$ is the abnormal buy (sell) volume for an individual firm from broker i on day t , $TBVOL_{i,t}(TSVOL_{i,t})$ is the total buy (sell) volume for an individual firm from broker i on day t , and $AVEBV_i(AVESV_i)$ is the average buy (sell) volume for an individual firm from broker i over the benchmark period.

Broker trading volume and market share can be used to proxy for broker size (Niehaus and Zhang, 2010). Jackson (2005), Grant et al. (2010) and Niehaus and Zhang (2010) used broker market share across all stocks as a proxy for broker size. Following this methodology, the measure for broker size is constructed as follows:

$$BROKERSIZE_{i,t} = \frac{TVOL_{i,t}}{ALLVOL_t} \quad (\text{Equation 6})$$

where $BROKERSIZE_{i,t}$ is the market share for broker i across the whole market on day t , and $ALLVOL_t$ is the daily total volume for the whole market on day t .

The relative offer size is a proxy to measure the size of a SEO. Following a similar methodology in Henry and Koski (2010), it is computed as follows:

$$RELOFF_n = \frac{NEWSHARE_n}{PRESHARE_n} \quad (\text{Equation 7})$$

where $RELOFF_n$ is the relative offer size for SEO event n , $NEWSHARE_n$ is the number of new shares offered during SEO event n , $PRESHARE_n$ is the number of shares outstanding before SEO event n .

4.4. Determinants of Broker Trading Volume and Market Share

Regression analyses are conducted in this paper to investigate the determinants of the trading volume patterns and market share of affiliated brokers. Following similar approaches in Grant et al. (2010) and Niehaus and Zhang (2010), the regression models that are employed in this paper are shown as follows:

$$DEPENDENT_{i,t} = \beta_0 + \beta_1 AFFILIATION_{i,t} + \beta_2 \ln(BROKERSIZE_{i,t}) + \beta_3 \ln(MKTCAP_t) + \beta_4 STD_t + \beta_5 RELSIZE_t + \beta_6 CLOSEOFFER_t + \varepsilon_{i,t} \quad (\text{Equation 8})$$

$$DEPENDENT_{i,t} = \beta_0 + \beta_1 \ln(BROKERSIZE_{i,t}) + \beta_2 \ln(MKTCAP_t) + STD_t + \beta_3 RELSIZE_t + \beta_4 CLOSEOFFER_t + \beta_5 UNDERWRITER_{i,t} + \beta_6 LEADMANAGER_{i,t} + \beta_7 COMANAGER_{i,t} + \varepsilon_{i,t} \quad (\text{Equation 9})$$

$BROKERSIZE_{i,t}$ refers to the total market share of broker i on day t across all stocks. $MKTCAP_t$ is the market capitalization of the offering firm on the trading day prior to the issuance day t . Since Broker Size and Market Capitalization are not normally distributed, the logarithm forms of these two variables are used in the regression model (see similar approaches in Henry and Koski, 2010). STD_t refers to the standard deviation of daily returns over the 30 trading days prior to the offering. $RELSIZE_t$ is the relative offer size of the offering firm on day t . $CLOSEOFFER_t$ refers to the close-to-offer return of the offering firm on issuance day t . In Regression 1, $AFFILIATION_{i,t}$ is a dummy variable equal one if broker i is affiliated in a SEO on day t , and zero otherwise. In Regression 2, $UNDERWRITER_{i,t}$ equals one if broker i for the offering event on day t is an underwriter, and zero otherwise. $LEADMANAGER_{i,t}$ equals one if broker i for the offering event on day t is a lead manager, and zero otherwise. $COMANAGER_{i,t}$ equals one if broker i for the offering event on day t is a

co-manager, and zero otherwise. If the above three dummy variables are all zero, it indicates that the broker is an unaffiliated broker.

Both Regression 1 and Regression 2 will be estimated against various dependent variables, $DEPENDENT_{i,t}$. These dependent variables consist of the abnormal market share for an individual firm from broker i on day t , the raw market share for an individual firm from broker i on day t , the abnormal volume for an individual firm from broker i on day t , and the abnormal market share for an individual firm from broker i on day t . The regression should provide insights into the characteristics of SEOs that determine broker trading volume and market share around SEOs.

5. Results

5.1. Descriptive Statistics of Sample

Table 1 shows the summary statistics for rights offerings and private placements in the sample period. In total, there are 527 offering events in the 10-year time frame of which private placements constitute the vast majority as compared to rights offerings. In Panel A, the offering events are grouped by industry sectors. Panel A shows that the Real Estate industry has by far the most offerings, comprising 24.48 percent of all SEOs among the 23 industry sectors (average less than five percent). The Energy sector has the second most SEOs with 14.04 percent during the sample. In contrast, the Chemicals sector and the Telecommunication sector have the lowest proportion of SEOs, each having participated in less than five offerings within the sample period. In terms of private placements more narrowly, the highest proportion is also from the Energy sector. Interestingly, the Diversified Financials sector has the most rights offerings in the sample. Although both the Banks sector and the Insurance sector only constitute around two percent of SEOs, they have the highest average issue value, both over \$500 million per offering.

<INSERT TABLE 1 HERE>

Panel B, which groups SEO events according to year, illustrates variation in SEO activity across time, reflecting the influence of market conditions. After 2000, the number of offerings per year and the average issue value remained relatively stable over the sample period, except for 2003, when the average issue value was greater than \$100 million. In 2008, the number of SEOs dropped dramatically in the market due to the Global Financial Crisis. However, the average issue value significantly increased to over \$260 million. After 2008, the number of SEOs rose again to 75 offerings and the average issue value dropped to \$161 million.

Table 2 lists mean values of relevant firm and offering characteristics in this study. The sample is grouped into four quartile subsamples based on market capitalization. In the last two columns, the SEOs are separated into two groups according to their offering type – private placement and rights offering. An interesting point is that the lower three quartiles are relatively small-cap firms. Their volumes tend to be much lower than the more liquid firms with larger market capitalizations. Therefore, it is important to control for market cap in further analysis. Moreover, Table 2 indicates that market capitalization is not normally distributed. Therefore, it is necessary to take the logarithm of market capitalization in further analysis in order to transform this variable from a skewed distribution to a relatively normal distribution. Large-cap firms have higher absolute offer values, providing an average of \$290 million per offer. However, their relative offer sizes tend to be lower than the other three quartile groups. The close-to-offer returns are negative for all quartile groups, suggesting that private placements and rights offerings are typically given at discounting prices. In addition, the lowest quartile group has the highest discounting rate of 12.27 percent. The latter two columns suggest that mean measures for most variables are higher for rights offerings compared to private placements, such as return volatility, relative offer size, close-to-offer return and offer-to-close return. A likely reason for this distinction is that the number of rights offerings is only a small proportion of the sample; thus, noting that most of these variables are naturally non-negative, it follows that extreme positive values from small-cap firms substantially bias these mean measures in an upward direction.

<INSERT TABLE 2 HERE>

5.2. Trading Activities around SEOs

Table 3 shows daily abnormal trading volume and market share statistics for brokers around SEOs. The event window is split into five periods. (-20)-(-10) refers to the period from 20 days prior to the event to 11 days prior to the event. Similarly, (-10)-(-6) refers to the period from 10 days prior to the event to six days prior to the event. Day(0) indicates the event day. This table provides insights into trading volume patterns before and after the issuance day. Panel A shows that affiliated brokers experience negative daily abnormal market shares in the first two periods ((-20)-(-11) and (-10)-(-6)), indicating that they underperform during these two periods. Their best performances in competing for market share appear on the issuance day. Significant positive abnormal volumes are observed both in the beginning and at the end of the event window period. The highest abnormal volume and abnormal buy volume are presented prior to the issuance day.

<INSERT TABLE 3 HERE>

In Panel B, significant positive abnormal volume measures for unaffiliated brokers are observed on the issuance day. They are expected to receive over 100 percent more volume compared to their average level. In the first ten days of the event window period, unaffiliated broker abnormal volumes are not significantly different from zero, indicating their trading activity reflects their average levels. Abnormal market shares of unaffiliated brokers remain significantly negative for most of the event window period, suggesting that affiliated brokers tend to take substantial market shares from unaffiliated brokers in SEOs.

5.3. Determinants of Trading Volumes and Brokers' Market Share

Table 4 displays the results from OLS regression analyses of various broker activity indicators on broker and market variables that are expected to be important determinants. The affiliation dummy variable is statistically significant at the one percent level in all specifications except those associated with abnormal volume. The coefficient on the affiliation dummy variable is also quite large; for example, affiliated broker volumes are expected to have at least 151 percent more volumes than unaffiliated brokers around the SEO

issuance day. Thus, controlling for potential sources of omitted variable bias, affiliation is clearly an economically significant determinant of broker volume and market share. The abnormal volume for affiliated brokers is also expected to be 364 percent higher. The coefficients of the broker size variable are all positive, and statistically significant at the one percent level, suggesting that brokers with a higher reputation tend to obtain higher volumes. Although the market capitalization of the offering firm has a significant impact on the total volume value, there is no evidence that it increases the likelihood of attaining abnormal volumes. Interestingly, close-to-offer return is only a significant determinant of broker trading volume, indicating that the level of underpricing is unlikely to affect broker market share during SEOs.

<INSERT TABLE 4 HERE>

Table 5 provides the results from the OLS regression analyses relating to the determinants of broker trading volume and market share around SEO announcements. The affiliation dummy variable is significant at the one percent level in the first three equations. The coefficient of the affiliation dummy variable indicates that affiliated broker volumes are expected to be significantly higher than those of unaffiliated brokers in the pre- and post-announcement period and on the announcement day. Affiliated brokers receive 147 percent more volume than other brokers on average on the announcement days. This percentage increases to 179 percent even in the post-announcement period. However, affiliated brokers are expected to be the large brokerage firms in the market. For this reason, their volumes are higher than those from other brokerage firms. Both the broker size and the market capitalization are found to be correlated with broker trading activities around SEOs. The broker size has a positive impact on brokers' trading volumes and market share, indicating that large brokers are likely to take away a substantial market share from smaller brokers. Furthermore, abnormal trading volumes and abnormal market shares are also positively correlated with broker size. This suggests that the percentage changes in broker market share around SEOs are greater for larger brokerage firms. In comparison, market capitalization is negatively associated with broker trading activities. Brokers are expected to obtain higher trading volumes and market shares in relatively small firms around SEOs.

<INSERT TABLE 5 HERE>

When broker abnormal volumes are regressed against the six explanatory variables listed, the affiliation variable is only statistically significant in the post-announcement period and on the announcement day. When the SEO is announced in the market, the amount of additional volume that affiliated brokers receive is expected to be 10 times higher than those of unaffiliated brokers. The results also demonstrate that brokerage firms are expected to receive additional volume around SEO announcements if they are affiliated with the underwriter. The coefficients of the broker size variable are all positive, and statistically significant at the one percent level, suggesting that brokers with better reputations tend to obtain abnormal volumes. The market capitalization of the offering firm has a substantial influence on daily trading volumes only during the pre-announcement period and on the announcement day, but it is unlikely to influence broker abnormal trading volumes. The signs of the market capitalization variable are not consistent in different time periods. In the pre-announcement period, an SEO firm with a larger market capitalization provides higher trading volumes for brokers on average. However, on the announcement day, the market capitalization is shown to be negatively related to broker trading volume. Relative offer size is found to significantly impact broker trading volume only in the post-announcement period. It is unlikely to be an important factor of broker abnormal trading volume. Surprisingly, close-to-offer return is not a significant determinant, indicating that the level of underpricing is unlikely to affect the broker trading volume around the SEO announcement, which is inconsistent with findings in Henry and Koski (2010).

Affiliation is a significant determinant of broker daily market share and abnormal market share in most of the pre- and post-announcement periods and on the announcement day. In the pre-announcement period, the abnormal market share of brokers is unlikely to be influenced by broker affiliation. This is reflected in Table 3, in which the pre-announcement period appears to be relatively flat. Following the announcement, broker affiliation then becomes a significant determinant. The results indicate that a brokerage firm abnormal market share is expected to be 68 percent higher than those of unaffiliated brokers. This effect persists into the post-announcement period as well. Broker size and market capitalization are also found to be significant determinants of a broker's daily market share. All coefficients of broker size are positive, which suggests that the level of a broker's reputation has a direct relationship with their market share. Interestingly, the market capitalization of SEO firms appears to be negatively related to the daily market share of a broker. In contrast, market capitalization is expected to have a significant positive impact on

broker abnormal market share. Consistent with trading volume and abnormal volume, there is no evidence showing that relative offer size and level of underpricing would determine the levels of brokers' market shares and abnormal market shares.

Table 6 and Table 7 present the results of regression analyses on eight determinants of broker trading volume and market share around SEO issuance and announcement days. The affiliation dummy variable is replaced by three dummy variables: underwriter, co-manager, and lead manager. The results suggest that underwriters are expected to obtain significantly higher daily trading volumes than other brokers in the market. Lead managers are expected to receive a higher market share around SEO issuance days. Around announcement days, the results similarly show that lead managers are able to derive both a higher trading volume and a higher market share. However, the magnitude of their trading volume and market share is similar to those of underwriters. There is no significant evidence that lead managers are obtaining more trading volume and market share than other underwriters after controlling for broker sizes and market capitalizations. In contrast, co-managers are not expected to gain any abnormal volume or market share around SEO issuance days. However, Table 7 shows that co-managers are likely to receive additional market share on SEO announcement day. No significant results have been observed for co-managers on other days. These findings are consistent with the findings in Ellis et al. (2000). Similar to the results in previous tables, broker size and market capitalization are shown to be significant determinants of broker trading volume and market share around SEOs. The relative offer size only appears to be a significant factor on broker trading volume on and around SEO issuance days. The stock volatility and the level of underpricing are unlikely to impact on broker performance during SEOs.

<INSERT TABLE 6 HERE>

<INSERT TABLE 7 HERE>

5.4. Robustness Tests

In this section, a number of additional factors that may influence brokers trading volume and market share around SEOs are included as control variables in the regression analysis. These

qualitative control variables relate to the purpose of the equity offering, the target investor group, the convertibility condition of the SEO, and whether or not there is more than one type of SEO at on particular day. The purpose of the SEO and target investor group is expected to influence trading activities in the market. Firstly, the common reasons for private placements or rights offerings include funding acquisitions, reducing debts, increasing working capital, and growth and expansions. These different purposes may reflect both the performance and health status of a firm. Therefore, it is valuable to investigate the impact of SEO purpose on broker trading activities in regression analyses. Secondly, the SEO underwriters of SEOs may have specific groups of target investors, such as institutional investors, sophisticated investors, professional investors, or retail investors. Since different investor groups are expected to exhibit contrasting trading behavior, it is important to control for the target investor group on broker trading behaviour.

Table 8 and Table 9 present the results of these modified regressions in relation to SEO announcement days. The underwriter is shown to be a significant positive factor, which is consistent with previous results that underwriters are expected to obtain greater trading volume and market share over other brokers around SEO announcements. This behaviour differs for co-managers and lead-managers. Similar to the results in previous sections, co-managers are unlikely to outperform other brokers during SEO events. Moreover, lead managers are expected to gain a greater market share, but their trading volumes do not have substantial abnormal patterns during SEOs. Broker size is positively related to broker trading volume and market share. In contrast, market capitalization appears to positively influence broker abnormal market share, but negatively influence broker normal market share. Broker trading volume is more likely to increase when the purpose of the equity offering is growth and expansion. Other purposes are unlikely to affect broker trading activities. If an SEO involves both private placement and rights offering, then brokers are likely to attain higher trading volume and abnormal volume on the announcement day. However, it does not affect their market share. The convertibility of SEOs is found to be positively related to broker trading volume and abnormal volume. The results of the regression analysis on the determinants of broker trading volume and market share around SEO issuance days are reported in Appendix I and Appendix II. These results are consistent with those in Table 8 and Table 9.

<INSERT TABLE 8 HERE>

<INSERT TABLE 9 HERE>

6. Conclusions

This paper investigates broker trading volume and market share behaviour around SEO events in the Australian primary market based on a unique broker ID dataset. Pooled regressions were conducted to examine the key determinants that influence affiliated and unaffiliated broker behaviour, including stock characteristics, index movements, and broker characteristics. The findings provide insights into the key determinants that may impact on broker trading behaviour and market share around equity offering events.

Using evidence from the Australian market, this paper suggests that broker affiliation has a significant impact on broker trading volume and market share around both SEO announcement days and issuance days. Affiliated brokers are shown to outperform unaffiliated brokers by 147 percent in terms of trading volume on the SEO announcement day, and this number goes up to 179 percent in the post-announcement period. Around SEO issuance days, affiliated brokers are expected to obtain at least 151 percent more trading volume, and their abnormal volume is expected to be 264 percent higher than those of unaffiliated brokers. The results indicate that brokers are able to improve their turnover and performance by participating in SEOs. Among affiliated brokers, lead managers are expected to attain higher trading volume and market share around SEOs; however, the magnitude of both volume and market share is expected to be similar to underwriters. There is no significant evidence that lead managers outperform other underwriters around SEO events. Co-managers are not expected to gain abnormal volume or market share around SEOs according to the results. In this dataset, lead managers and co-managers only appear to participate in large equity offering events. A substantial proportion of SEOs are relatively smaller equity offering events, in which only one underwriter is required for the underwriting activities. The buying and selling activities of brokers around SEOs were also studied in this paper. Both the buy and sell volume are found to be abnormally high for affiliated brokers around SEO events. However, the increase in buy volume is much greater than the increase in sell volumes: affiliated broker abnormal buy volume is four times greater than their abnormal sell volume, indicating that there would be more investors submitting buy orders through

affiliated brokers during SEOs. This implies that brokers that are affiliated with underwriters gain abnormal trading volume and additional market share during SEOs, which could be regarded as compensation for underwriting services.

This paper identifies the key determinants of broker trading activities around SEOs based on regression analysis. The results show that broker size and the market capitalization of the issuing firm are two primary characteristics affecting broker performance around SEOs. Large brokers are expected to outperform other brokers in terms of trading volume and market share (both for raw and abnormal measures). It also shows that brokers are expected to obtain a greater abnormal market share in large firms. However, broker trading volume is shown to be negatively associated with the market capitalization during announcements. This indicates that brokerage firms that underwrite large firms tend to attain greater trading volume to obtain higher market share. On the other hand, SEOs of relatively small firms tend to be attractive to smaller brokerage firms, as they are able to obtain significant abnormal trading volume, indicating that they substantially outperform in the market compared to their average turnovers.

Furthermore, relative offer size appears to significantly impact broker trading volume in the post-announcement period, but their trading activities are unlikely to be affected by stock volatility and the level of underpricing of SEOs. Furthermore, the purpose of the offering is found to be a significant determinant. SEOs with a purpose of growth and expansion are expected to bring greater trading volume to brokers. These findings are also informative to the management of advisory firms as well as the affiliated brokerage firms. They imply that market capitalization, relative offer size, and purpose of offering are important factors that they should consider in searching for and constructing deals.

During SEOs, the underwriter could be different from the IPO underwriter of the issuing firm. Firms may switch underwriters due to post-IPO performance, analyst coverage, or change of the firm size. In future research, it would be interesting to examine the factors that influence a firm's decision on the choice of underwriters after IPOs. These factors could be an important source of an underwriter's competitive advantage.

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Table 1**Summary Statistics for Rights Offerings and Private Equity Placements**

This table summarizes the 527 rights offerings and private equity placements during the period January 2000 to December 2009. In Panel A, the sample is grouped into 23 subsamples according to their GICS sectors. In Panel B, the sample is grouped into 10 subsamples according to the year of offer. *Fraction* is the number of offerings in each category divided by the total number of offerings. *Market Cap* refers to the average market capitalization measured on the trading day prior to the issuance day.

Panel A

GICS Sector	SEOs		Rights Offerings		Private Placements		Market Cap (\$ 000s)	Average Issue Value (\$ 000s)
	N	Fraction	N	Fraction	N	Fraction		
Automobiles	5	0.95%	0	0.00%	5	1.09%	\$250,499	\$28,032
Banks	13	2.47%	1	1.49%	12	2.61%	\$9,619,001	\$594,193
Capital Goods	50	9.49%	6	8.96%	44	9.57%	\$536,289	\$34,441
Chemicals	2	0.38%	1	1.49%	1	0.22%	\$3,641,983	\$276,126
Commercial & Professional	21	3.98%	5	7.46%	16	3.48%	\$956,945	\$78,420
Construction	7	1.33%	1	1.49%	6	1.30%	\$1,817,864	\$158,017
Consumer Discretionary	13	2.47%	1	1.49%	12	2.61%	\$1,255,413	\$160,234
Diversified Financials	34	6.45%	11	16.42%	23	5.00%	\$679,493	\$63,030
Energy	74	14.04%	6	8.96%	68	14.78%	\$269,682	\$31,926
Food & Staples	5	0.95%	0	0.00%	5	1.09%	\$1,570,870	\$122,490
Food Beverage	18	3.42%	7	10.45%	11	2.39%	\$256,135	\$52,208
Health Care	29	5.50%	7	10.45%	22	4.78%	\$505,424	\$55,541
Insurance	10	1.90%	0	0.00%	10	2.17%	\$6,564,323	\$547,458
Media	12	2.28%	0	0.00%	12	2.61%	\$1,093,342	\$80,131
Paper & Forest	8	1.52%	2	2.99%	6	1.30%	\$648,215	\$80,308
Pharmaceuticals	24	4.55%	2	2.99%	22	4.78%	\$1,664,811	\$131,683
Real Estate	129	24.48%	10	14.93%	119	25.87%	\$1,155,536	\$83,640
Retailing	10	1.90%	0	0.00%	10	2.17%	\$343,209	\$14,409
Software & Services	9	1.71%	1	1.49%	8	1.74%	\$157,323	\$10,600
Technology Hardware	5	0.95%	1	1.49%	4	0.87%	\$187,664	\$25,646
Telecommunication	4	0.76%	2	2.99%	2	0.43%	\$204,471	\$14,977
Transportation	24	4.55%	1	1.49%	23	5.00%	\$1,806,296	\$256,710
Utilities	21	3.98%	2	2.99%	19	4.13%	\$1,240,928	\$166,719
Total	527		67		460			

Panel B

Year	SEOs		Rights Offerings		Private Placements		Average Issue Value (\$ 000s)	Market Cap (\$ 000s)
	N	Fraction	N	Fraction	N	Fraction		
2000	25	4.74%	3	4.48%	22	4.78%	\$61,958	\$921,514
2001	54	10.25%	6	8.96%	48	10.43%	\$93,181	\$1,195,491
2002	63	11.95%	9	13.43%	54	11.74%	\$62,981	\$793,438
2003	45	8.54%	5	7.46%	40	8.70%	\$101,627	\$1,132,457
2004	57	10.82%	7	10.45%	50	10.87%	\$61,939	\$672,700
2005	47	8.92%	11	16.42%	36	7.83%	\$79,440	\$898,842
2006	61	11.57%	8	11.94%	53	11.52%	\$78,615	\$848,992
2007	66	12.52%	7	10.45%	59	12.83%	\$84,525	\$938,172
2008	34	6.45%	1	1.49%	33	7.17%	\$266,187	\$3,860,854
2009	75	14.23%	10	14.93%	65	14.13%	\$161,271	\$1,589,155
Total	527		67		460			

Table 2**Firm and Offering Characteristics for the SEOs**

This table summarizes mean values of firms and offering characteristics of 527 SEOs in the sample from January 2000 to December 2009. The sample is grouped into four quartile subsamples based on market capitalization. The Total column reports the results for the whole sample. The last two columns show the sample summaries for private placements and rights offerings respectively. The measures of offering characteristics are consistent with Henry and Koski (2010). Std Dev Returns refers to the standard deviation of daily returns over the 30 trading days prior to the offering. Relative Offer Size refers to the size of offering divided by the number of shares outstanding prior to the offering. Close-to-Offer Return is computed as the difference between the offer price and the closing price prior to the issuance day divided by the closing price prior to the issuance day. Offer-to-Close Return is computed as the difference between the closing price on the issuance day and the offer price divided by the offer price. Pre-Issue Shares and Pre-Issue Market Cap are taken on the trading day prior to the issuance day.

	Total	Market Cap				SEO Type	
		Q1	Q2	Q3	Q4	Placement	Rights
Share Offered (000s)	49862	43103	30086	66180	60183	43409	94363
Offer Price	\$3.00	\$0.49	\$1.60	\$3.13	\$6.77	\$3.14	\$2.02
Offer Value (\$ 000s)	\$102,323	\$6,527	\$34,718	\$79,366	\$290,434	\$107,154	\$69,012
Pre-Issue Shares (000s)	374628	222553	193435	353159	735433	389154	274462
Pre-Issue Market Cap (\$ 000s)	\$1,254,667	\$45,171	\$204,272	\$629,142	\$4,188,296	\$1,370,636	\$454,995
Std Dev Returns	8.01%	9.04%	7.35%	4.21%	11.68%	5.13%	27.88%
Relative Offer Size	15.33%	19.82%	18.02%	15.13%	8.37%	13.06%	31.01%
Close-to-Offer Return	-7.18%	-12.27%	-6.37%	-5.31%	-5.02%	-5.91%	-15.90%
Offer-to-Close Return	8.74%	15.02%	8.05%	6.64%	5.57%	7.00%	20.69%

Table 3: Broker Trading Activity around SEO

This table summarizes broker trading volumes and market share around issuances. The event window is from 20 days prior to the SEO (-20) to 20 days after the SEO (20). Day 0 refers to the issuance day. Abnormal Volume is measured as a broker's daily volume on the offering firm divided by the average daily volume calculated over the benchmark period. Abnormal Market Share is measured as a broker's daily market share on the offering firm divided by the average daily market share calculated over the benchmark period. Abnormal Buy/Sell Volume is measured as a broker's daily buy/sell volume on the offering firm divided by the average daily buy/sell volume calculated over the benchmark period. The asterisks refer to the level of significance for a t-test of means that the mean value is different from zero. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels respectively for the abnormal measures.

Panel A: Affiliated Broker Volume Statistics around SEOs

	(-20)-(-11)	(-10)-(-6)	(-5)-(-1)	Day(0)	(1)-(5)	(6)-(10)	(11)-(20)
Abnormal Volume	47.06%***	58.67%***	636.44%***	549.01%***	330.04%***	223.44%***	136.82%***
Abnormal Market Share	-21.60%***	-17.09%***	13.78%***	66.48%***	38.98%***	18.07%***	4.80%
Abnormal Buy Volume	112.41%***	101.31%***	1794.80%**	555.80%***	386.30%***	269.35%***	187.32%***
Abnormal Sell Volume	52.34%***	64.61%***	522.12%***	625.01%***	357.59%***	242.21%***	144.84%***

Panel B: Unaffiliated Broker Volume Statistics around SEOs

	(-20)-(-11)	(-10)-(-6)	(-5)-(-1)	Day(0)	(1)-(5)	(6)-(10)	(11)-(20)
Abnormal Volume	31.67%***	37.29%***	187.66%***	212.90%***	104.28%***	69.37%***	43.58%***
Abnormal Market Share	-28.58%***	-20.03%***	-23.41%***	6.25%*	-17.71%***	-21.02%***	-20.50%***
Abnormal Buy Volume	79.09%***	72.31%***	216.48%***	242.22%***	111.53%***	88.25%***	65.16%***
Abnormal Sell Volume	45.93%***	52.71%***	236.05%***	291.74%***	156.38%***	105.59%***	75.32%***

Table 4: Determinants of Broker Trading Volume and Market Share around Issuance Day

This table summarizes the results of the regression analysis on determinants of brokers' trading volumes and market shares around SEO issuance days. Ln(Volume), Abnormal Volume, Broker Market Share and Abnormal Market Share are regressed against six dependent variables. (-5)-(-1) refers to the period from five days prior to the event to one day prior to the event. Day(0) refers to the announcement day. (1)-(5) refers to the period from one day after the event to five days after the event. Standard errors are listed in parentheses. ***, **, * denote the statistical significance at the 1%, 5%, and 10% levels respectively.

Period	<i>Ln(Volume)</i>			<i>Abnormal Volume</i>			<i>Broker Market Share</i>			<i>Abnormal Market Share</i>		
	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)
Intercept	7.790 (0.989)***	8.686 (0.993)**	8.267 (0.979)***	4.530 (19.004)	-6.941 (9.386)	0.791 (5.270)	0.287 (0.050)***	0.465 (0.080)***	0.375 (0.060)***	-0.684 (0.527)	-3.270 (1.182)***	-1.601 (0.611)***
Affiliation	1.951 (0.169)***	1.512 (0.170)***	1.862 (0.169)***	4.693 (3.234)	3.640 (1.597)**	1.725 (0.897)*	0.073 (0.009)***	0.106 (0.028)***	0.096 (0.010)***	0.384 (0.090)***	0.817 (0.201)***	0.755 (0.104)***
Ln(Broker Size)	0.831 (0.069)***	0.634 (0.068)***	0.710 (0.068)***	2.015 (1.297)	0.311 (0.640)***	-0.503 (0.360)	0.024 (0.003)***	0.028 (0.005)***	0.021 (0.004)***	0.206 (0.036)***	0.080 (0.081)	0.110 (0.042)***
Ln(Market Cap)	0.252 (0.045)***	0.192 (0.045)***	0.213 (0.045)***	0.198 (0.865)	0.452 (0.427)	-0.089 (0.240)	-0.008 (0.002)***	-0.017 (0.004)***	-0.013 (0.003)***	0.047 (0.024)**	0.170 (0.054)***	0.080 (0.028)***
Std Dev	-0.021 (0.250)	-0.162 (0.258)	-0.261 (0.249)	-0.678 (4.915)	-1.716 (2.427)	-1.378 (1.363)	-0.003 (0.013)	-0.022 (0.021)	-0.019 (0.016)	-0.131 (0.136)	-0.247 (0.306)	-0.217 (0.158)
Relative Offer Size	1.695 (0.328)***	1.387 (0.334)***	1.606 (0.326)***	-3.066 (6.430)	3.009 (3.176)	7.049 (1.783)***	0.001 (0.017)	-0.022 (0.027)	-0.028 (0.020)	0.527 (0.178)***	-0.228 (0.400)	-0.040 (0.207)
Close-to-Offer	-1.776 (0.795)**	-2.261 (0.802)***	-1.433 (0.784)*	-0.966 (15.303)	-3.157 (7.558)	6.162 (4.244)	-0.048 (0.041)	-0.127 (0.065)	0.003 (0.049)	-0.455 (0.425)	-0.330 (0.952)	0.244 (0.492)
R-Square	0.412	0.153	0.370	0.009	0.014	0.037	0.236	0.192	0.225	0.126	0.042	0.114

Table 5: Determinants of Broker Trading Volume and Market Share around Announcement

This table summarizes the results of the regression analysis on determinants of brokers' trading volumes and market shares around SEO announcements. Ln(Volume), Abnormal Volume, Broker Market Share and Abnormal Market Share are regressed against six dependent variables. (-5)-(-1) refers to the period from five days prior to the event to one day prior to the event. Day(0) refers to the announcement day. (1)-(5) refers to the period from one day after the event to five days after the event. Standard errors are listed in parentheses. ***, **, * denote the statistical significance at the 1%, 5%, and 10% levels respectively.

Dependent Variable	<i>Ln (Volume)</i>			<i>Abnormal Volume</i>			<i>Broker Market Share</i>			<i>Abnormal Market Share</i>		
	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)
Intercept	10.367 (0.489)***	13.889 (0.478)***	12.130 (0.475)***	-2.264 (0.585)***	8.773 (5.521)	2.093 (5.157)	0.145 (0.011)***	0.183 (0.020)***	0.145 (0.012)***	-1.691 (0.188)***	-1.850 (0.421)***	-1.429 (0.298)***
Affiliation	1.137 (0.116)***	1.472 (0.117)***	1.789 (0.112)***	0.059 (0.159)	10.498 (1.500)***	3.270 (1.401)**	0.034 (0.003)***	0.119 (0.005)***	0.083 (0.003)***	-0.023 (0.051)	0.684 (0.114)***	0.646 (0.081)***
Ln(Broker Size)	0.491 (0.027)***	0.411 (0.026)***	0.517 (0.027)***	0.141 (0.032)***	0.798 (0.305)***	0.790 (0.285)***	0.013 (0.001)***	0.013 (0.001)***	0.013 (0.001)***	0.111 (0.010)***	0.078 (0.023)***	0.121 (0.016)***
Ln(Market Cap)	0.057 (0.024)**	-0.086 (0.023)***	-0.004 (0.023)	0.142 (0.028)***	-0.090 (0.269)	0.104 (0.251)	-0.003 (0.001)***	-0.005 (0.001)***	-0.003 (0.001)***	0.088 (0.009)***	0.103 (0.021)***	0.076 (0.015)***
Std Dev	-0.301 (0.038)***	-0.391 (0.038)***	-0.402 (0.038)***	-0.169 (0.046)***	-0.801 (0.437)*	-0.314 (0.408)	-0.001 (0.001)	-0.001 (0.002)	0.001 (0.001)	0.022 (0.015)	-0.004 (0.033)	0.152 (0.024)***
Relative Offer Size	0.223 (0.240)	0.002 (0.237)	0.784 (0.229)***	0.080 (0.293)	-2.145 (2.764)	2.651 (2.581)	0.005 (0.006)	-0.005 (0.010)	0.004 (0.006)	-0.159 (0.094)*	-0.351 (0.211)*	-0.400 (0.149)***
Close-to-Offer	-0.438 (0.225)*	-0.563 (0.228)**	-0.346 (0.227)	-0.323 (0.277)	-1.161 (2.615)	-0.412 (2.442)	-0.003 (0.005)	-0.004 (0.010)	0.003 (0.006)	-0.044 (0.089)	0.103 (0.199)	-0.074 (0.141)
R-Square	0.162	0.172	0.238	0.014	0.02	0.005	0.185	0.198	0.283	0.056	0.024	0.064

Table 6: Determinants of Broker Trading Volume and Market Share around Issuance Day

This table summarizes the results of the regression analyses related to the determinants of broker trading volume and market share around SEO issuance days. Broker Trading Volume, Abnormal Volume, Broker Market Share, and Abnormal Market Share are regressed against eight dependent variables. (-5)-(-1) refers to the period from five days prior to the event to one day prior to the event. Day(0) refers to the announcement day. (1)-(5) refers to the period from one day after the event to five days after the event. Standard errors are listed in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels respectively.

Dependent Variable	<i>Ln(Volume)</i>			<i>Abnormal Volume</i>			<i>Broker Market Share</i>			<i>Abnormal Market Share</i>		
	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)
Intercept	7.765 (0.986)***	8.686 (0.983)***	8.296 (0.973)***	4.482 (19.035)	-6.962 (9.395)	0.807 (5.277)	286 (0.050)***	0.463 (0.080)***	0.375 (0.061)***	-0.691 (0.528)	-3.284 (1.182)***	-1.605 (0.610)***
Underwriter	1.990 (0.170)***	1.581 (0.169)***	1.908 (0.169)***	4.867 (3.258)	3.826 (1.608)**	1.803 (0.903)**	0.073 (0.009)***	0.107 (0.014)***	0.097 (0.010)***	0.388 (0.090)***	0.848 (0.202)***	0.774 (0.104)***
Co-Manager	1.507 (1.146)	0.732 (1.172)	2.682 (1.137)**	-1.028 (22.514)	-0.810 (11.112)	1.198 (6.241)	0.054 (0.060)	-0.001 (0.096)	0.076 (0.072)	-0.041 (0.625)	-0.478 (1.398)	0.221 (0.722)
Lead Manager	0.899 (0.470)*	-0.127 (0.454)	0.655 (0.442)	1.137 (8.713)	-0.354 (4.300)	-0.104 (2.415)	0.088 (0.023)***	0.090 (0.037)**	0.084 (0.028)***	0.356 (0.242)	0.216 (0.541)	0.365 (0.279)
Ln(Broker Size)	0.834 (0.069)***	0.634 (0.067)***	0.708 (0.067)***	2.020 (1.299)	0.315 (0.641)	-0.503 (0.360)	0.024 (0.003)***	0.028 (0.005)***	0.021 (0.004)***	0.207 (0.036)***	0.081 (0.081)	0.110 (0.042)***
Ln(Market Cap)	0.253 (0.045)***	0.191 (0.045)***	0.211 (0.044)***	0.199 (0.867)	0.451 (0.428)	-0.090 (0.240)	-0.008 (0.002)***	-0.017 (0.004)***	-0.013 (0.003)***	0.048 (0.024)**	0.171 (0.054)***	0.080 (0.028)***
Std Dev	0.093 (0.278)	0.022 (0.284)	-0.272 (0.276)***	0.157 (5.498)	-0.988 (2.714)	-1.206 (1.524)	-0.002 (0.015)	-0.009 (0.023)	-0.017 (0.018)	-0.083 (0.153)	-0.071 (0.341)	-0.136 (0.176)
Relative Offer Size	1.690 (0.327)***	1.376 (0.330)***	1.618 (0.324)***	-3.151 (6.447)	2.941 (3.182)	7.039 (1.787)***	0.001 (0.017)	0.023 (0.027)	-0.028 (0.020)	0.521 (0.179)***	-0.247 (0.400)	-0.048 (0.207)
Close-to-Offer	-1.807 (0.793)**	-2.396 (0.795)***	-1.504 (0.780)	-1.353 (15.345)	-3.554 (7.573)	6.010 (4.254)	-0.047 (0.041)	-0.131 (0.065)**	0.002 (0.049)	-0.466 (0.426)	-0.402 (0.953)	0.203 (0.492)
R-Square	0.418	0.317	0.380	0.010	0.016	0.038	0.237	0.194	0.226	0.127	0.046	0.118

Table 7: Determinants of Broker Trading Volume and Market Share around Announcement Day

This table summarizes the results of the regression analysis on determinants of brokers' trading volume around SEO announcements. Broker Trading Volume and Abnormal Volume are regressed against eight dependent variables. Standard errors are listed in brackets. (-5)-(-1) refers to the period from five days prior to the event to one day prior to the event. Day(0) refers to the announcement day. (1)-(5) refers to the period from one day after the event to five days after the event. Standard errors are listed in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels respectively.

Dependent Variable	<i>Ln(Volume)</i>			<i>Abnormal Volume</i>			<i>Broker Market Share</i>			<i>Abnormal Market Share</i>		
	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)
Intercept	10.367 (0.490)***	13.871 (0.479)***	12.128 (0.476)***	-2.269 (0.585)***	8.686 (5.523)	2.048 (5.159)	0.146 (0.011)***	0.184 (0.020)***	0.146 (0.012)***	-1.689 (0.188)***	-1.852 (0.421)***	-1.427 (0.298)***
Underwriter	1.135 (0.119)***	1.49 (0.120)***	1.793 (0.115)***	0.074 (0.163)	10.888 (1.538)***	3.467 (1.437)**	0.032 (0.003)***	0.118 (0.005)***	0.082 (0.003)***	-0.026 (0.052)	0.696 (0.117)***	0.656 (0.083)***
Co-Manager	1.375 (0.999)	1.709 (1.056)*	1.502 (0.999)	0.016 (1.467)	-0.637 (13.839)	-2.012 (12.927)	0.019 (0.025)	0.121 (0.045)***	0.029 (0.027)	-0.239 (0.472)	0.288 (1.056)	-0.501 (0.747)
Lead Manager	1.113 (0.475)***	1.108 (0.476)**	1.776 (0.450)***	-0.248 (0.706)	4.907 (6.666)	0.357 (6.227)	0.060 (0.011)***	0.139 (0.020)***	0.106 (0.012)***	0.084 (0.227)	0.523 (0.509)	0.720 (0.360)**
Ln(Broker Size)	0.491 (0.027)***	0.41 (0.026)***	0.517 (0.027)***	0.141 (0.032)***	0.804 (0.305)***	0.793 (0.285)***	0.013 (0.001)***	0.013 (0.001)***	0.013 (0.001)***	0.111 (0.010)***	0.078 (0.023)***	0.121 (0.016)***
Ln(Market Cap)	0.057 (0.024)**	-0.085 (0.023)***	-0.004 (0.023)	0.142 (0.029)***	-0.086 (0.269)	0.106 (0.251)	-0.003 (0.001)***	-0.005 (0.001)***	-0.003 (0.001)***	0.088 (0.009)***	0.103 (0.021)***	0.076 (0.015)***
Std Dev	-0.302 (0.038)***	-0.392 (0.038)***	-0.402 (0.038)***	-0.169 (0.046)***	-0.785 (0.437)*	-0.306 (0.408)	0.000 (0.009)	-0.001 (0.002)	0.001 (0.001)	0.023 (0.015)	-0.004 (0.033)	0.153 (0.024)***
Relative Offer Size	0.224 (0.242)	0.021 (0.238)	0.786 (0.230)***	0.088 (0.293)	-1.960 (2.769)	2.745 (2.587)	0.004 (0.006)	-0.007 (0.010)	0.002 (0.006)	-0.161 (0.094)*	-0.346 (0.211)	-0.397 (0.150)***
Close-to-Offer	-0.439 (0.225)*	-0.567 (0.228)**	-0.345 (0.227)	-0.323 (0.277)	-1.131 (2.615)	-0.398 (2.443)	-0.003 (0.005)	-0.004 (0.010)	0.004 (0.006)	-0.043 (0.089)	0.104 (0.200)	-0.071 (0.141)
R-Square	0.162	0.172	0.238	0.014	0.021	0.005	0.186	0.198	0.284	0.057	0.024	0.064

Table 8: Determinants of Broker Trading Volume around Announcement Day

This table summarizes the results of the regression analysis on determinants of broker trading volume around SEO announcements. Broker Trading Volume and Abnormal Volume are regressed against 18 dependent variables. Growth is a dummy variable, which equals one if an SEO has a purpose of growth and expansion and zero otherwise. Funding Acquisition is a dummy variable, which equals one if an SEO has a purpose of growth and expansion and zero otherwise. Working Capital is a dummy variable, which equals one if an SEO has a purpose of working capital, and zero otherwise. Institutional is a dummy variable, which equals one if an SEO has a target investor group of institutional investors, and zero otherwise. Sophisticated is a dummy variable, which equals one if an SEO has a target investor group of sophisticated investors, and zero otherwise. Institutional and Professional is a dummy variable, which equals one if an SEO has a target investor group of institutional and professional investors, and zero otherwise. Institutional and Sophisticated is a dummy variable, which equals one if an SEO has a target investor group of institutional and sophisticated investors, and zero otherwise. Professional and Sophisticated is a dummy variable, which equals one if an SEO has a target investor group of professional and sophisticated investors, and zero otherwise. Placement and Rights is a dummy variable, which equals one if an SEO involves both private placement and rights offering at one time, and zero otherwise. Convertible is a dummy variable, which equals one if an SEO is convertible, and zero otherwise. (-5)-(-1) refers to the period from five days prior to the event to one day prior to the event. Day(0) refers to the announcement day. (1)-(5) refers to the period from one day after the event to five days after the event. Standard errors are listed in parentheses. ***, **, * denote the statistical significance at the 1%, 5%, and 10% levels respectively.

Dependent Variable	<i>Ln(Volume)</i>			<i>Abnormal Volume</i>			
	Period	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)
Intercept		9.724 (0.497)***	12.792 (0.486)***	11.442 (0.483)***	-2.587 (0.604)***	7.538 (5.692)	1.712 (5.340)
Underwriter		1.124 (0.120)***	1.537 (0.120)***	1.866 (0.115)***	0.068 (0.167)	10.941 (1.572)***	2.858 (1.475)*
Co-Manager		1.294 (0.980)	1.706 (1.036)*	1.244 (0.979)	-0.177 (1.464)	-0.669 (13.792)	-2.891 (12.938)
Lead Manager		0.920 (0.466)**	1.008 (0.467)**	1.623 (0.441)***	-0.360 (0.706)	5.173 (6.649)	-0.709 (6.237)
Ln(Broker Size)		0.502 (0.027)***	0.417 (0.026)***	0.532 (0.026)***	0.154 (0.032)***	0.874 (0.304)***	0.819 (0.286)***
Ln(Market Cap)		0.076 (0.024)***	-0.053 (0.023)**	0.030 (0.023)	0.156 (0.029)***	-0.025 (0.275)	0.138 (0.258)
Std Dev		-0.296 (0.043)***	-0.389 (0.042)***	-0.370 (0.042)***	-0.118 (0.052)**	-0.590 (0.487)	-0.119 (0.457)
Relative Offer Size		0.490 (0.248)**	0.326 (0.244)	0.899 (0.236)***	0.145 (0.306)	-1.197 (2.881)	2.328 (2.702)
Close-to-Offer		-0.678 (0.226)***	-0.631 (0.229)***	-0.549 (0.228)**	-0.441 (0.284)	-1.023 (2.674)	-0.742 (2.509)
Growth		0.549 (0.122)***	0.648 (0.119)***	0.408 (0.122)***	0.090 (0.149)	-2.465 (1.402)*	0.793 (1.315)
Funding Acquisition		0.012 (0.125)	0.129 (0.123)	-0.287 (0.125)**	-0.360 (0.154)**	-2.942 (1.448)**	-0.498 (1.359)
Working Capital		0.242 (0.160)	-0.238 (0.159)	-0.357 (0.159)**	0.018 (0.200)	-4.194 (1.882)**	-1.190 (1.765)
Institutional		-0.010 (0.086)	0.064 (0.084)	0.015 (0.084)	0.210 (0.105)**	3.605 (0.987)***	-0.495 (0.926)
Sophisticated		1.431 (0.305)***	0.945 (0.312)***	0.231 (0.308)	0.177 (0.382)	-0.586 (3.598)	-2.650 (3.375)
Institutional and Professional		-1.159	-0.606	-1.692	-0.526	0.186	-1.959

	(0.314)***	(0.316)*	(0.328)***	(0.401)	(3.775)	(3.541)
Institutional and Sophisticated	0.079	0.209	-0.008	0.096	2.290	-0.941
	(0.116)	(0.112)*	(0.112)	(0.138)	(1.305)*	(1.224)
Professional and Sophisticated	-1.292	-0.891	-1.274	-0.016	1.809	-1.769
	(0.203)***	(0.191)***	(0.193)***	(0.237)	(2.232)	(2.094)
Placements and Rights	-0.340	0.394	0.104	0.223	6.365	0.798
	(0.133)**	(0.128)***	(0.129)	(0.159)	(1.502)***	(1.409)
Convertible	0.975	0.655	0.477	0.674	2.052	6.305
	(0.230)***	(0.235)***	(0.226)**	(0.290)**	(2.734)	(2.565)**
R-Square	0.200	0.207	0.273	0.022	0.032	0.008

Table 9: Determinants of Broker Market Share around Announcement Day

This table summarizes the results of the regression analysis on determinants of broker market share around SEO announcement. Broker Market Share and Abnormal Market Share are regressed against 18 dependent variables. (-5)-(-1) refers to the period from five days prior to the event to one day prior to the event. Day(0) refers to the announcement day. (1)-(5) refers to the period from one day after the event to five days after the event. Standard errors are listed in parentheses. ***, **, * denote the statistical significance at the 1%, 5%, and 10% levels respectively.

Dependent Variable	<i>Broker Market Share</i>			<i>Abnormal Market Share</i>		
	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)
Intercept	0.154 (0.012)***	0.203 (0.021)***	0.152 (0.013)***	-1.653 (0.194)***	-1.728 (0.435)***	-1.315 (0.308)***
Underwriter	0.033 (0.003)***	0.113 (0.005)***	0.081 (0.003)***	-0.014 (0.054)	0.708 (0.120)***	0.664 (0.085)***
Co-Manager	0.019 (0.025)	0.120 (0.045)***	0.031 (0.028)	-0.336 (0.470)	0.129 (1.054)	-0.583 (0.747)
Lead Manager	0.061 (0.011)***	0.139 (0.020)***	0.107 (0.012)***	0.036 (0.227)	0.485 (0.508)	0.685 (0.360)*
Ln(Broker Size)	0.013 (0.001)***	0.013 (0.001)***	0.013 (0.001)***	0.113 (0.010)***	0.085 (0.023)***	0.124 (0.017)***
Ln(Market Cap)	-0.004 (0.001)***	-0.006 (0.001)***	-0.004 (0.001)***	0.092 (0.009)***	0.107 (0.021)***	0.081 (0.015)***
Std Dev	-0.001 (0.001)	-0.001 (0.002)	0.001 (0.001)	0.032 (0.017)*	0.024 (0.037)	0.152 (0.026)***
Relative Offer Size	0.002 (0.006)	-0.008 (0.011)	0.004 (0.006)	-0.218 (0.098)**	-0.369 (0.220)*	-0.436 (0.156)***
Close-to-Offer	-0.002 (0.005)	-0.008 (0.001)	0.004 (0.006)	-0.098 (0.091)	-0.036 (0.204)	-0.124 (0.144)
Growth	-0.005 (0.003)*	-0.008 (0.005)*	0.001 (0.003)	-0.028 (0.048)	-0.248 (0.107)**	-0.181 (0.076)**
Funding Acquisition	-0.001 (0.003)	-0.001 (0.005)	0.007 (0.003)**	-0.172 (0.049)***	-0.473 (0.111)***	-0.283 (0.078)***
Working Capital	-0.003 (0.004)	-0.003 (0.007)	0.002 (0.004)	-0.006 (0.064)	-0.146 (0.144)	-0.213 (0.102)**
Institutional	-0.002 (0.002)	0.002 (0.004)	0.001 (0.002)	-0.025 (0.034)	0.223 (0.075)***	0.026 (0.053)
Sophisticated	-0.008 (0.007)	-0.004 (0.014)	-0.004 (0.008)	-0.283 (0.123)**	-0.186 (0.275)	-0.138 (0.195)
Institutional and Professional	-0.006 (0.008)	0.006 (0.014)	-0.004 (0.008)	-0.164 (0.129)	-0.379 (0.288)	-0.293 (0.205)
Institutional and Sophisticated	0.001 (0.003)	-0.004 (0.005)	-0.001 (0.003)	-0.041 (0.045)	0.059 (0.099)	0.034 (0.071)
Professional and Sophisticated	0.002 (0.005)	0.000 (0.008)	0.000 (0.005)	-0.223 (0.076)***	-0.122 (0.171)	-0.136 (0.121)
Placements and Rights	-0.004 (0.003)	-0.004 (0.006)	-0.003 (0.003)	-0.091 (0.051)*	0.036 (0.115)	-0.031 (0.081)
Convertible	-0.011 (0.006)*	0.044 (0.010)***	-0.001 (0.006)	0.041 (0.093)	0.190 (0.209)	0.086 (0.148)
R-Square	0.189	0.204	0.286	0.067	0.033	0.069

Appendices

Appendix I: Determinants of Broker Trading Volume around Issuance Day

This table summarizes the results of the regression analysis on determinants of broker trading volume around SEO issuance. Broker Trading Volume and Abnormal Volume are regressed against 18 dependent variables. (-5)-(-1) refers to the period from five days prior to the event to one day prior to the event. Day(0) refers to the announcement day. (1)-(5) refers to the period from one day after the event to five days after the event. Standard errors are listed in parentheses. ***, **, * denote the statistical significance at the 1%, 5%, and 10% levels respectively.

Dependent Variable	<i>Ln(Volume)</i>			<i>Abnormal Volume</i>		
	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)
Intercept	7.804 (1.058)***	8.289 (1.070)***	8.612 (1.046)***	15.551 (20.937)	-11.869 (10.412)	-2.642 (5.724)
Underwriter	1.572 (0.207)***	1.161 (0.207)***	1.661 (0.208)***	1.795 (4.052)	2.917 (2.015)	1.663 (1.107)
Co-Manager	0.932 (1.131)	0.243 (1.1659)	2.419 (1.123)**	-5.908 (22.603)	-1.985 (11.241)	1.555 (6.180)
Lead Manager	0.352 (0.485)	-0.628 (0.473)	0.278 (0.459)	-4.528 (9.185)	-1.558 (4.568)	-1.043 (2.511)
Ln(Broker Size)	0.814 (0.069)***	0.612 (0.067)***	0.699 (0.067)***	2.264 (1.314)*	0.155 (0.653)	-0.433 (0.359)
Ln(Market Cap)	0.284 (0.048)***	0.214 (0.049)***	0.190 (0.048)***	-0.106 (0.955)	0.781 (0.475)*	-0.068 (0.261)
Std Dev	0.063 (0.273)	0.028 (0.281)	-0.328 (0.271)	-0.332 (5.493)	-0.803 (2.732)	-1.289 (1.501)
Relative Offer Size	1.799 (0.381)***	1.559 (0.382)***	2.383 (0.377)***	-0.266 (7.598)	2.342 (3.779)	11.632 (2.077)***
Close-to-Offer	-2.046 (0.836)**	-2.744 (0.839)***	-1.445 (0.815)*	0.252 (16.474)	-0.621 (8.193)	11.633 (4.504)**
Growth	-0.349 (0.293)	0.320 (0.296)	0.360 (0.290)	-0.765 (5.796)	-2.065 (2.883)	3.301 (1.584)**
Funding Acquisition	-0.692 (0.294)**	0.011 (0.299)	0.331 (0.295)	-9.749 (5.885)*	-1.736 (2.927)	3.399 (1.609)**
Working Capital	-0.582 (0.357)	-0.452 (0.362)	0.285 (0.356)	-4.019 (7.142)	-3.224 (3.552)	3.458 (1.952)*
Institutional	0.249 (0.182)	0.108 (0.184)	-0.007 (0.180)	4.600 (3.633)	1.362 (1.807)	0.512 (0.993)
Sophisticated	0.995 (1.239)	-0.732 (1.277)	-1.440 (1.230)	-6.863 (24.734)	-3.591 (12.300)	-4.375 (6.762)
Institutional and Professional	0.852 (0.886)	0.560 (0.912)	-1.089 (0.879)	-0.735 (20.268)	2.798 (10.079)	0.115 (5.541)
Institutional and Sophisticated	-0.194 (0.259)	0.077 (0.259)	-0.810 (0.258)***	-3.197 (5.085)	0.391 (2.529)	-4.558 (1.390)***
Professional and Sophisticated	-1.493 (0.359)***	-0.828 (0.355)**	-1.242 (0.350)***	-0.183 (6.919)	-0.824 (3.441)	-0.255 (1.891)
Placements and Rights	-0.027 (0.321)	-0.269 (0.318)	-0.497 (0.319)	2.085 (6.427)	7.681 (3.196)**	6.700 (1.757)***
Convertible	1.000 (0.311)***	1.252 (0.320)***	0.783 (0.315)***	19.644 (6.226)***	-4.969 (3.096)	-2.166 (1.702)
R-Square	0.455	0.349	0.418	0.040	0.031	0.001

Appendix II: Determinants of Broker Market Share around Issuance Day

This table summarizes the results of the regression analysis on determinants of broker market share around SEO issuance. Broker Market Share and Abnormal Market Share are regressed against 18 dependent variables. (-5)-(-1) refers to the period from five days prior to the event to one day prior to the event. Day(0) refers to the announcement day. (1)-(5) refers to the period from one day after the event to five days after the event. Standard errors are listed in parentheses. ***, **, * denote the statistical significance at the 1%, 5%, and 10% levels respectively.

Dependent Variable	Broker Market Share			Abnormal Market Share		
	(-5)-(-1)	(0)	(1)-(5)	(-5)-(-1)	(0)	(1)-(5)
Intercept	0.359 (0.055)***	0.493 (0.089)***	0.427 (0.066)***	-0.394 (0.579)***	-2.860 (1.299)**	-1.306 (0.672)*
Underwriter	0.075 (0.011)***	0.127 (0.017)***	0.104 (0.013)***	0.292 (0.112)	0.728 (0.251)***	0.685 (0.130)***
Co-Manager	0.061 (0.060)	0.021 (0.096)	0.088 (0.072)	-0.187 (0.626)	-0.733 (1.403)	0.128 (0.725)
Lead Manager	0.095 (0.024)***	0.110 (0.039)***	0.092 (0.029)***	0.229 (0.254)	-0.013 (0.570)	0.236 (0.295)
Ln(Broker Size)	0.026 (0.003)***	0.030 (0.006)***	0.023 (0.004)***	0.212 (0.036)***	0.097 (0.082)	0.123 (0.042)***
Ln(Market Cap)	-0.011 (0.003)***	-0.019 (0.004)***	-0.017 (0.003)***	0.034 (0.026)	0.150 (0.059)**	0.058 (0.031)*
Std Dev	-0.002 (0.015)	-0.010 (0.023)	-0.017 (0.017)	-0.075 (0.152)	-0.062 (0.341)	-0.135 (0.176)
Relative Offer Size	-0.005 (0.020)	-0.023 (0.032)	0.006 (0.024)	0.550 (0.210)***	-0.227 (0.471)	0.211 (0.244)
Close-to-Offer	-0.059 (0.043)	-0.109 (0.069)	-0.002 (0.052)	-0.614 (0.456)	-0.598 (1.022)	0.117 (0.528)
Growth	-0.036 (0.015)**	0.002 (0.024)	0.020 (0.018)	0.009 (0.160)	0.175 (0.360)	0.221 (0.186)
Funding Acquisition	-0.029 (0.015)*	-0.001 (0.025)	0.032 (0.019)*	-0.235 (0.163)	-0.362 (0.365)	0.090 (0.189)
Working Capital	-0.007 (0.019)	0.031 (0.030)	0.040 (0.022)*	-0.022 (0.198)	-0.309 (0.443)	0.029 (0.229)
Institutional	0.016 (0.010)*	-0.004 (0.015)	0.009 (0.011)	0.262 (0.101)***	0.401 (0.225)*	0.192 (0.117)*
Sophisticated	-0.028 (0.066)	-0.124 (0.106)	-0.149 (0.079)*	-0.200 (0.685)	-1.245 (1.535)	-1.213 (0.793)
Institutional and Professional	0.062 (0.047)	0.129 (0.075)*	-0.012 (0.057)	-0.099 (0.561)	-0.564 (1.258)	-0.243 (0.650)
Institutional and Sophisticated	0.003 (0.013)	-0.013 (0.021)	-0.034 (0.016)**	0.066 (0.141)	0.140 (0.316)	-0.130 (0.163)
Professional and Sophisticated	0.052 (0.018)***	0.052 (0.029)*	0.045 (0.022)**	0.065 (0.192)	0.787 (0.429)*	0.370 (0.222)*
Placements and Rights	0.003 (0.016)	0.004 (0.026)	-0.023 (0.020)	-0.068 (0.178)	-0.031 (0.399)	-0.042 (0.206)
Convertible	0.017 (0.017)	-0.026 (0.027)	-0.017 (0.020)	0.461 (0.172)***	0.515 (0.386)	0.346 (0.200)*
R-Square	0.259	0.210	0.251	0.157	0.076	0.145