Seasoned Equity Offerings, Quality Signalling, and Private Benefits of Control

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Abstract

Seasoned equity offerings (SEOs) in the UK provide valuable choices to the issuer in terms of renounceability and control dilution. This is especially the case following the removal of the size restriction of £15 m on share placements to institutional investors in January 1996. We formulate a set of hypotheses from a quality-signalling perspective, affording an analysis of the key interrelations between renounceability, control dilution, shareholder takeup, and subscription price discount. We analyze SEOs from two perspectives: market reaction to the announcement, and identification of the factors driving the choice of issue type. Generally, we find strong support for our predictions—most notably that: high-quality firms signal quality via lower discounts and/or pre-renouncements; high-quality issuers have lower idiosyncratic risk; firms with widely dispersed ownership structures and firms with the largest market capitalizations will choose standalone placements with book-building; and firms with higher (lower) ownership concentration and lower (higher) shareholder takeup will choose fixed-price placements (rights offerings).

1.   Introduction

By focusing on renounceability, control dilution/private benefits of control and quality signalling, we provide new empirical evidence and further insights on the choice of seasoned equity offerings (SEOs). We use a large sample drawn from the UK market over the period 1996 to 2005 that captures four major SEO types: rights offerings, open offers, open offers with private placements and standalone placements. These SEO variants provide a wide-range of underlying characteristics that credibly elicit alternative managerial behavior, thus creating a potent framework upon which our key hypotheses are formulated. Our sample period is especially notable because it represents a "post-regulation" period during which placements in the UK were allowed without any size limitations.[1] This enables us to provide new insights into the relatively under-researched area of share placements to institutional investors, versus various forms of equity issuance to existing shareholders. We are particularly interested in how the market reacts to the characteristics of various SEO events, and we elucidate the determining factors for particular types of SEOs.

There are several ways in which the menu of SEO alternatives available in the UK market provides research leverage. First, in stark contrast to the US, public offerings—known as firm commitment offers—are rare in the UK (see, Barnes and Walker (2006, p. 60)). Thus, we have a setting in which the more subtle features of the SEO process can potentially be drawn out. Second, rights offerings in the UK are renounceable, which allows existing shareholders who do not wish to take up their entitlement of new shares to sell part or all of their rights in the issue. In contrast, open offers in the UK are non-renounceable and, thus, do not permit shareholders to sell the rights; any shares not taken up by the existing shareholders in open offer SEOs are

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[1] Prior to 1990, a maximum monetary value of £3 m was imposed by the London stock exchange on the total value of shares being placed. A higher ceiling of £15 m applied for the period 1990–95. While size restrictions existed pre-1996, the stock exchange reserved the right to allow placements in excess of the specified ceiling if it was convinced that the resultant shareholding would attain an acceptable level of dispersion. Beginning in January 1996, all size limitations were effectively removed, paving the way for an unconstrained choice of issue method by publicly listed firms (Barnes and Walker (2006)).

bought by the placees (institutional investors), as arranged prior to announcement of the issue.[2]

Once again, in contrast to the US, these rights offering–type SEOs are relatively common in the

UK, thereby imparting our research design with real power to detect the forces that underlie

managerial decision making, and the consequent market reactions to such offerings.

Third, in the UK, blockholders or directors who do not wish to take up their shares (and

thus decide to sell those shares to institutional investors) publicly disclose this decision at the

time of the SEO announcement—known as a "pre-renouncement." This feature of the SEOs in

our sample presents a non-trivial signalling device that is unique to the UK environment. Fourth,

a standalone share placement is a non-rights method of flotation in which shares are issued to

institutional investors and other outside investors, but withheld from the general public. After

removal of the size restrictions on placements by the London Stock Exchange (LSE) in January

1996, this form of placement has become the most common SEO method in the UK. Critically,

British firms use either accelerated book-building placements to institutional investors[3] or fixed-

price private placements.[4] These two placement alternatives add an additional level of choice

open to UK firms, which together with all the other SEO variants described above, create a

formidable research design.

Our research objectives sit within the context of a carefully blended framework distilled

from theoretical and/or empirical insights that emerge from the key papers in the literature:

Heinkel and Schwartz (1986); Booth and Smith (1986); Wruck (1989); Eckbo and Masulis

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[2] It should be noted that open offers differ from non-renounceable rights offerings in Australia (see Balachandran et al. (2008)). Shares are placed with institutional investors by verbal agreement before the offer is announced, in the majority of UK open offers, but existing shareholders retain the right to subscribe in proportion to their current holdings (known as clawback).

[3] Accelerated book-building placements typically have the following language (or similar) in their announcements: Members of the public are not eligible to take part in the placement. Terms and conditions set out herein are directed only at persons whose ordinary activities involve them acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of their businesses and who have professional experience in matters relating to investments…If you wish to participate in the book-building process you should communicate your bid by telephone to your usual sales contact ….If successful, your allocation will be confirmed to you orally following the close of book-building process….No prospectus has been or will be submitted to be approved by the UK listing authority or filed with registrar of companies in England and Wales in relation to the placement of shares and the placees' commitments will be made solely on the basis of the information contained in this announcement… (source: Tesco Plc's announcement of share placement on 13 January 2004)

[4] In the UK, over our sample period, the issuing firms of fixed-price private placements or accelerated book-building placements are not required to prepare or distribute a prospectus.

(1992); Hertzel and Smith (1993); Slovin, Sushka and Lai (2000); Barclay et al. (2007); and Balachandran, Faff and Theobald (2008). We develop a set of hypotheses with the following core predictions: high-quality firms will signal their quality by selecting lower issue price discounts irrespective of the SEO issuance mechanism used; high-quality issuers will have lower idiosyncratic risk irrespective of the SEO issuance mechanism used; high-quality firms will fully underwrite the issue to certify quality; firms having widely dispersed ownership structures with the largest market capitalizations/lowest information asymmetry will choose standalone placements with book-building; and firms with higher (lower) ownership concentration, lower (higher) shareholder takeup and higher (lower) information asymmetry will choose fixed-price placements (rights offerings). We find persuasive empirical support for these predictions.

Heinkel and Schwartz (1986) argue that high-quality firms (i.e., firms that are the most undervalued) are more likely to signal their own quality by choosing underwritten equity issues rather than non-underwritten rights issues or firm commitment offers (known as public offerings) to raise new capital. Eckbo and Masulis (1992) argue that managers and shareholders possess asymmetric information with regard to firm value, which influences expectations about the willingness of existing shareholders to participate in equity offerings, thereby determining the method of flotation. They argue that (a) managers expecting low shareholder participation choose firm-commitment offerings and retain underwriters to certify firm quality; and (b) managers of undervalued firms issue non-underwritten rights, since they expect the offered shares to be fully taken up. Balachandran et al. (2008) extend this literature by focusing on the Australian context, in which companies use underwritten rights, non-underwritten rights and partially underwritten rights offerings. They find strong empirical support for their prediction that superior quality firms are more likely to use underwritten rights issues over non-underwritten or partially underwritten rights issues, and they show that firms with higher expected shareholder takeup are more likely to favor underwritten rights issues over non-underwritten and partially underwritten rights issues. They also show that firms with higher

expected shareholder takeup and higher ownership concentration tend to choose renounceable rights issues ahead of non-renounceable rights issues. However, Heinkel and Schwartz (1986), Eckbo and Masulis (1992) and Balachandran et al. (2008) all ignore the role of share placement to institutional investors as a method of raising seasoned equity. Such an omission is likely to induce a skewed set of inferences, since it fails to capture the interplay of factors that fundamentally influence manager decisions between rights-type versus non-rights methods of equity financing.

A number of studies document positive price reactions to the announcement of private placements (see Wruck (1989), Hertzel and Smith (1993) and Barclay et al. (2007) in the US; Slovin et al. (2000) and Barnes and Walker (2006) in the UK; and Cronqvist and Nilsson (2005) in Sweden). Three explanations are provided for this positive price reaction in the US—(a) the monitoring hypothesis (Wruck (1989)): private placements are purchased by active investors who monitor management, ensure that corporate resources are used more efficiently, and increase the probability of value-increasing takeovers; (b) the certification hypothesis (Hertzel and Smith (1993)): private placements are purchased by informed investors who put their stamp of approval on the market's valuation of the firm by agreeing to purchase a large block of stock; and (c) the managerial entrenchment hypothesis (Barclay et al. (2007)): management places stock with friendly investors who will not "rock the boat."[5] Barclay et al. (2007) examine a much larger sample than prior studies in the US and find that private placements are often made to passive investors, thereby helping management to solidify their control of the firm.

Slovin et al. (2000) and Barnes and Walker (2006) provide strong empirical insights regarding UK SEO activity. They focus on rights offerings (renounceable) and fixed-price placements, in which an underwriter acquires shares directly from an issuing firm and sells shares to outside investors (primarily institutions, without a commission). Slovin et al. (2000) find a positive two-day announcement period price reaction of 3.31% for a sample of 76 fixed-

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[5] Dann and DeAngelo (1988) and Wruck (1989) also find some evidence consistent with this entrenchment rationale.

price placements in the UK during the period prior to the removal of the ceiling on proceeds (1986–1994), whereas there is a negative counterpart reaction of -2.90% for underwritten rights and -4.96% for non-underwritten rights offerings, respectively. They argue that, as placements entail the sale of shares to outside investors, there is a decline in ownership concentration, which enhances the potential for external monitoring and corporate control activity. Thus, Slovin et al. (2000) conclude that the option to conduct private placements enhances the ability of firms to signal their quality, from this monitoring perspective.

Barnes and Walker (2006) find a positive (negative) announcement date price reaction of 0.53% (-0.72%) for fixed-price placements (rights offerings) for the period 1989–1998.[6] Barnes and Walker (2006) attribute the differences in magnitude between their findings and the Slovin et al. (2000) findings to sample size and study period. Moreover, they suggest that poorer-quality firms would have been permitted to use placements in their study period, even if such an approach were ill advised, thereby attenuating the positive market reaction to placements generally. However, both Slovin et al. (2000) and Barnes and Walker (2006) fail to examine the impact of several widely used SEO methods employed by UK firms – specifically, open offers, combinations of open offers/private placements and standalone placements with book-building. They also ignore the role of expected shareholder takeup on issue choice.

Our study seeks to enhance and extend the literature in a number of critical ways. First, we examine a much larger sample of SEOs encompassing a rich and complete spectrum of the major methods, ranging from rights-type issues through to standalone placements. As such, we fill the gap left by prior UK studies, as discussed above. Second, our placement subsample comprises cases of accelerated book-building as well as fixed-price placements, thus allowing us to examine the potential for signalling variation via the pricing method. Third, we model expected shareholder takeup (Eckbo and Masulis (1992) and Balachandran et al. (2008)) and show that it is an important force underlying the choice of SEO type in the UK.[7] Fourth, we

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[6] Notably, they did not examine underwritten and non-underwritten rights offerings separately.
[7] We also investigate the more general factors that determine various SEO types in the UK.

show that the impact of ownership concentration and the private benefits of control are important factors underlying SEO method choice.

Issue price discount provides a strong signal to the market, as demonstrated in a number of papers (see, for example, Slovin et al. (2000) and Balachandran et al. (2008)). As such, given the strength of the quality signal, we argue that high-quality firms will predominantly use a lower price discount as a signalling device, irrespective of the mechanism by which they make the equity issue. The inherent quality signal contained within this lower discount choice will induce market reactions around announcement dates that are more favorable than in situations where this signal is absent. We predict that when companies make SEOs with a lower price discount, the price reaction will be stronger in the case of a standalone fixed-price private placement and of a combination of open offers and private placements, than for other forms of equity issues to existing shareholders, due to the additional implication of greater monitoring potential and of control dilution in the case of private placements. By contrast, low-quality firms will predominantly use a larger discount, irrespective of the equity issuance mechanism selected. The low-quality signal that derives from the larger discount would predict a negative market reaction in all cases. However, the market reaction will be less unfavorable for rights issues and open offers since these two issuing techniques have less dramatic implications in terms of the destruction of existing shareholder wealth.

Our results show that the price discount robustly reflects the quality of the issue. Price discount is positively related to idiosyncratic risk (a proxy for inverse quality, see Balachandran et al. (2008)) for each of the four categories of SEOs investigated. Market reaction is significantly more favorable for announcements by the lower discount group than for the larger discounts in all cases, except for rights offerings and open offers with no pre-renouncement (where there is no significant difference). With regard to the underwriter certification hypothesis, we find strong (some) support in the case of rights offerings (open offers and combined open offer/private placements). However, in the case of standalone placements, although the

magnitude of the market reaction is more favorable for fully underwritten issues, the impact is not significantly different from non-underwritten/partially underwritten issues.

The market reacts in a strongly positive fashion to the announcement of standalone private placements with fixed prices and combined open offer/private placement SEOs (compared to rights offerings and open offers) when companies make these issues with lower price discounts. This result also supports the notion that fixed-price private placements to institutional investors enhance external monitoring and corporate control activity, in addition to quality signalling. In contrast, the market reacts strongly and negatively to announcements of standalone private placements with fixed prices, standalone placements with accelerated book-building, and combined open offer/private placements (compared to rights offerings and open offers) when companies make these issues with higher price discounts. Such a finding indicates that the market is averse to seasoned equity issuance to institutional investors with a larger price discount, as this destroys existing stockholder wealth. A plausible reason for the issuance of private placements with larger discounts is that such companies are overvalued, and their existing shareholders are therefore uninterested in taking up those shares. Thus, institutional investors demand more compensation for bearing the risk of buying these shares and, hence, a larger discount ensues.

Surprisingly, we find a significantly negative price reaction to placements with book-building, irrespective of the price discount category, though, as anticipated, the price reaction for the lower discount group is significantly less negative than the group with larger price discounts. A plausible reason for this general negative reaction is that placements using book-building produce uncertainty over the issue price. Moreover, there might be a real concern that this SEO method suits the purposes of "intruders," since the market does not know who will be taking the shares issued at the time of the announcement. That is, there is a potential threat that such investors, motivated by a strategy of becoming "active" shareholders, will be looking for the

opportunity to take control of particular companies or to seize some of the private benefits of control of existing shareholders.

We document several other interesting findings. First, firms with the lowest ownership concentration (with potentially less motivation toward private benefits of control), lower idiosyncratic risk, largest market capitalization, largest offer proceeds, and highest operating and stock return performance prior to the announcement, tend to choose book-building placements to obtain a higher issue price (lower discount). Second, firms with lower ownership concentration, lower idiosyncratic risk, larger market capitalization, higher growth opportunities, better operating and stock return performance prior to the announcement, and larger offer proceeds, tend to choose rights offerings with higher discounts, to enhance shareholder takeup. Third, firms with higher ownership concentration, higher idiosyncratic risk, smaller market capitalization, lower growth opportunities, relatively poor operating and return performance prior to the announcement, lower expected shareholder takeup, and smaller offer proceeds, tend to choose standalone private placements using the fixed-price method. Fourth, expected shareholder takeup loads positively onto the decision to use placements with book-building and rights offerings (without pre-renouncement), and negatively onto all other forms of SEO (except for rights offerings with pre-renouncement where the loading is not significant). Surprisingly, the estimated coefficient on expected takeup is much stronger for placements with book-building than for rights offerings (without pre-renouncement).

This paper proceeds as follows. Section 2 discusses the underlying theory and the development of hypotheses. Section 3 outlines basic elements of the research design. Section 4 presents empirical results using standard event study methods and cross-sectional regression analyses. In Section 5, we analyze the factors that drive the choice of alternative types of SEO, using probit analysis. Section 6 investigates the relations between subscription price discount, risk, and ownership concentration. Finally, our conclusions are presented in Section 7.

2.   Theory and hypothesis development

In this paper, we investigate the articulations between issue type, renounceability and the private benefits of control, drawing on the analyses in Myers and Majluf (1984); Heinkel and Schwartz (1986); Booth and Smith (1986); Wruck (1989); Eckbo and Masulis (1992); Hertzel and Smith (1993); Slovin et al. (2000); Barclay et al. (2007) and Balachandran et al. (2008). UK SEOs provide an especially attractive sample set for investigating these relationships. The UK market offers a full spectrum of SEO types in terms of existing shareholder/institutional investor participation: at one extreme of the taxonomy are rights issues and open offers, progressing through open offers with private placements, to standalone placements at the other end of the SEO range.

We develop a range of hypotheses that are organized into four areas: quality signalling; private benefits of control–ownership concentration; shareholder takeup; and pre-renouncement. Across the groups, the hypotheses fall naturally into three types: (a) hypotheses that focus on market price reactions; (b) hypotheses that focus on the likelihood of a particular SEO method choice; and (c) hypotheses that focus on linkages between alternative quality signalling proxies. This classification scheme presents a simple but useful framework to assist in fully comprehending the collective import of this work.

2.1   Quality Signalling

2.1.1   Price discount hypotheses

In order for a firm to avoid the costs associated with an offer that fails, a manager who assesses a higher probability of a stock price fall over the offer period will generally select a lower issue price. Hertzel and Smith (1993) argue that private placement discounts are strongly related to their proxies for information costs, and they interpret this as implying that buyers are compensated for information production and value certification. Balachandran et al. (2008) and Slovin et al. (2000) find that price discount is negatively related to price reaction for rights offerings. Balachandran et al. (2008) argue, with empirical support, that lower idiosyncratic risk

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is a proxy for higher-quality firms, and such firms tend to set lower price discounts. Effectively, a lower issue discount will provide a quality signal; this, then, leads to the following hypotheses:

H1(a) High-quality firms will use lower issue price discounts, and a negative relation will prevail between the issue price discount and the announcement period abnormal return, irrespective of the SEO mechanism employed.

H1(b) A positive relation will prevail between the subscription price discount and idiosyncratic risk for firms making SEOs.

In the context of information asymmetry, Myers and Majluf (1984) develop a model that predicts that equity issues are perceived by the market as negative signals (i.e., of firm over-valuation). They also suggest that undervalued firms with limited internal funds would have incentives to forego positive NPV projects, and not issue new equity, in circumstances where the wealth of existing shareholders would be diminished otherwise. Hertzel and Smith (1993, p. 461) argue that managers with favorable information, who, under the Myers and Majluf (1984) assumptions, would not issue equity to the public, may resort to making a private placement, rather than foregoing an investment opportunity. Even if underinvestment is not a problem, they show that undervalued firms will choose private placement over a public issue if doing so enables existing shareholders to retain a larger fraction of the firm. Hertzel and Smith (1993) conclude that their findings are consistent with the role of private placements as a solution to the Myers and Majluf underinvestment problem and with the use of private placements to signal undervaluation.

Wruck (1989) argues that active investors purchase private placements to the extent that such investors are motivated by monitoring and control objectives. Slovin et al. (2000) argue that the option to conduct fixed-price placements rather than rights offerings in the UK enhances the ability of firms to signal their quality and to use a SEO to reduce ownership concentration (given that public offerings are rare in the UK). Barclay et al. (2007) suggest that private placements can be made to passive investors, thereby helping management to solidify control over the firm. We argue that this is a possibility in the case of fixed-price private placements to institutional

investors in the UK. This is not necessarily the case, however, for placements with book-building, since under this method there is a potential threat of intruders, who are waiting to take over the company or seize some of the private benefits of control of existing shareholders. Moreover, information production costs are higher for firms using the book-building method compared to its fixed-price counterpart, as firms choosing the former variation undertake more complicated and detailed processes, such as analyst briefings and/or presentations to institutional investors to achieve issue success. In the context of IPO issuance in Japan, Kutsuna and Smith (2004) argue that book-building centralizes information production and provides more information to investors, and at a lower cost. In addition, there is an uncertainty associated with the placement price before book- building closes. Thus, it is plausible to argue that managers will more safely find "compliant"/"friendly" or more passive institutional investors in the "pre-marketing" phase by choosing a private placement with fixed-price, rather than a placement with book-building.

Synthesizing all these arguments, we may conclude that firms will more likely select placements rather than rights issues to signal their quality, and that this signal is more effectively achieved with fixed price rather than book-building, and at a lower discount. With large discounts, however, rights become preferable since existing shareholder wealth is more protected in this less favorable signalling environment. Accordingly, we propose the following hypotheses:

H1(c)   Price reaction will be more favorable for combined open offer/private placements, and fixed-price private placements than for rights offerings, open offers, or placements with book-building, when issues are made with a lower discount.

H1(d)   Price reaction will be more favorable for rights offerings and open offerings than for other SEO methods when issues are made with a larger discount, as other methods will destroy existing shareholder wealth.

2.1.2 *Underwriter quality certification hypothesis*

In seeking to raise new capital via rights offerings, Heinkel and Schwartz (1986) argue that most undervalued, high-quality firms signal their own quality by choosing underwritten equity issues. Balachandran et al. (2008) demonstrate that high-quality firms choose to issue fully underwritten rights issues rather than partial or non-underwritten rights issues. However, Heinkel and Schwartz (1986) and Balachandran et al. (2008) do not consider the role of placements to institutional investors among the methods of raising seasoned equity. Booth and Smith (1986) argue that there should be no abnormal returns related to fully underwritten issues and that in the case of incomplete certification, there will be a negative reaction. We extend and apply the signalling framework to underwriting status, using the structures proposed in Heinkel and Schwartz (1986), Booth and Smith (1986), and Balachandran et al. (2008), in the context of fixed-price and book-built placements with institutional investors as follows:

H1(e)   High-quality firms will offer fully underwritten issues to signal their quality and will experience the least unfavorable price reaction compared to non-underwritten or partially underwritten issues for each category of SEO.

2.2 *Private benefits of control – ownership concentration hypotheses*

Shleifer and Vishny (1986) argue that monitoring incentives will rise with increases in ownership concentration. However, as Wu (2004) points out, if ownership becomes concentrated in passive stockholders, monitoring incentives will not necessarily be improved. Wu and Wang (2007) argue that controlling shareholder concerns about a significant loss in their private benefits of control directly affects the choice of SEO method. In equity issues, changing contractual conditions means that the sharing of private benefits varies over time, even though the standing of controlling stockholders will remain broadly unchanged. That is, control-diluting new issues, unlike rights issues, have the potential to weaken the control of existing stockholders and to introduce different, and potentially more favored, stockholders.

Slovin et al. (2000, p. 184) argue that placements have the potential to increase shareholder dispersion, and high-quality firms with concentrated ownership structures could utilize placements rather than rights offerings both to raise external equity and to create greater ownership dispersion. They assert that placements attract increased external monitoring and greater exposure to the market for corporate control. Cronqvist and Nilsson (2005) argue that corporate control considerations in family-controlled firms have an important effect on the choice between pursuing a rights offering and a private placement. They conclude that family-controlled firms in Sweden avoid financing methods that dilute the private benefits of control, and that private placements are more likely where firms have high ownership concentrations. However, firms with higher ownership concentration may not want to choose placements with book-building since, as argued previously, during book-building there is a potential threat from "intruders" looking for the opportunity to take control of particular companies or to share in the private benefits of control of existing shareholders. Thus, other factors being equal, firms with higher ownership concentration choose fixed-price placements with friendly institutional investors. That being so, what types of firm will then choose the share placement under the book-building method? Only widely dispersed firms with large market capitalizations can afford to choose this method, since otherwise it will be too costly for existing shareholders motivated by control considerations. This leads naturally to our next pair of hypotheses:

H2(a)   Firms with dispersed (concentrated) ownership are more likely to choose placements with book-building (fixed price).

H2(b)   Firms where corporate control concerns are significant will more likely choose rights issues in order to protect the private benefits of control.

2.3   Shareholder takeup hypotheses

The importance of expected shareholder takeup in the choice of issue method is emphasized in a number of papers (for example, Eckbo and Masulis (1992); Bohren et al. (1997); and Balachandran et al. (2008)). Eckbo and Masulis (1992), for example, argue that managerial

choice of issue method will maximize the net benefit of the issue, conditional upon expected current shareholder takeup. Slovin et al. (2000) demonstrate that high shareholder takeup mitigates the negative share price response to underwritten rights issues in the UK. We argue, then, that UK firms with higher expected shareholder takeup will choose renounceable, cost effective rights offerings, rather than open offers or combined open offer/private placements, or standalone placements. The quality signals implicit within these arguments further suggest that higher shareholder takeup firms should experience more favorable price reactions. Therefore, we propose the following hypotheses:

H3(a)   The decision to make rights offerings (open offers) will be positively (negatively) related to expected shareholder takeup.

H3(b)   A positive relation between shareholder takeup and announcement period abnormal return will prevail.

2.4   Pre-renouncement hypotheses

Balachandran et al. (2008) demonstrate that firms with higher expected takeup select renounceable rights issues over non-renounceable issues in Australia. They also show that the higher the issue price discount, the larger the shareholder takeup. In the UK, blockholders and/or directors who do not wish to take up their shares (and, thus, are happy to sell those shares to institutional investors) disclose this information at the time of the SEO announcement—a "pre-renouncement." We argue that shareholders are unlikely to renounce their shares if they come with a larger discount, since this action will destroy their wealth. Moreover, we argue that if shareholders or directors pre-renounce their shares, the market will react more favorably (unfavorably) compared to the group that does not pre-renounce when such issues are made with small (large) discounts. That is, pre-renouncement provides an additional quality signalling mechanism. Thus, we propose the following hypotheses:

H4(a)   Subscription price discount will be smaller for issues with pre-renouncement than for issues without pre-renouncement for each category of SEO offered to existing shareholders.

H4(b)   Price reaction will be more positive for issues with pre-renouncement than for issues without pre-renouncement for each category of SEO offered to existing shareholders when issues are made with a lower discount, as this will certify the quality of the issue.

H4(c)   Price reaction will be more negative for issues with pre-renouncement than for issues without pre-renouncement when issues are made with a higher discount, as shareholders who pre-renounced the issue certify the lower quality.

Incorporating the findings of Cronqvist and Nilsson (2005), that corporate control considerations have an important effect on the choice between pursuing a rights offering and a private placement, we argue that firms with shareholders who have control concerns will be reluctant to pre-renounce their shares. This is encapsulated in the hypothesis:

H4(d)   To protect the private benefits of control, SEO firms with lower ownership concentration will be less likely to have share pre-renouncements.

To complete the picture of how these hypotheses collectively provide a powerful research design framework relevant to our stated objectives, Table 1 summarizes the interaction between the trichotomous classification scheme described earlier and the themes of hypothesis that we have developed.

3.   Research design

3.1.   Data and sample

SEOs announced from 1996 to 2005 by British public companies listed on the London Stock Exchange (LSE) constitute our primary source data. The Bloomberg database is used to identify British public companies that raised seasoned equity via rights issues, open offers, a combination of open offers/private placements, and standalone placements. Shareholder takeup,

percentage of "pre-renounced" shares (as described earlier), offer proceeds, subscription price, underwriter information and other information for each issue are also obtained from the Bloomberg database. Datastream is used to obtain daily share price data for each company one year prior to its SEO announcement through to the day after the announcement and the market capitalization of equity for each company one month prior to its SEO announcement. This database is also used to source (at the balance sheet date immediately prior to the SEO announcement) leverage ratio (both total debt to total assets and long-term debt to total assets), book value of equity, total assets, and market capitalization for each issue. Book-to-market ratio is defined as the book value of total assets to the market value of total assets (total assets − book value of equity + market value of equity) at the balance sheet date immediately prior to the SEO announcement. Blockholder ownership data are hand-collected from the Macmillan Stock Exchange Yearbook (1995–1999) and from the Waterlow Stock Exchange Yearbook (2000–2007).

Initially, we identified a sample of 2342 SEOs. We then excluded those issues that had been announced simultaneously with mergers, takeovers, restructurings, repurchases, stock dividends, stock splits, public offerings, convertible bonds, convertible preference shares, warrants, and rights issues of options announcements. Details of these sample exclusions are provided in Table 2, Panel A. Our final total uncontaminated sample size is 1001. Panel B of Table 2 shows that we identify a clean sample of 182 rights offerings without pre-renouncement of takeup, 45 rights offerings with pre-renouncement of takeup, 107 open offers without pre-renouncement of takeup, 145 open offers with pre-renouncement of takeup, 123 combined open offers/private placements without pre-renouncement of takeup, 71 combined open offers/private placements with pre-renouncement of takeup, 267 standalone placements with fixed-price and 61 standalone placements with book-building.

Panel C of Table 2 shows the total proceeds (£m) for all SEOs, and for eight sub-groups: (a) Rights offerings without pre-renouncement of takeup (RO-NP); (b) Rights offerings with pre-

renouncement (RO-PR); (c) Open offers without pre-renouncement (OO-NP); (d) Open offers with pre-renouncement (OO-PR); (e) Combined open offers/private placements without pre-renouncement (OOPP-NP); (f) Combined open offers/private placements with pre-renouncement (OOPP-PR); (g) standalone placements with book-building (SP-BB); and (h) standalone private placements with fixed price (SP-FP). First, it can be seen that book-building placements are a major component of SEO activity, with a total of £23 billion (representing 43% of all SEO funds raised by the companies in our UK sample) reflecting the removal of restrictions on their use at the start of our sample frame. However, in terms of the number of issues, book-building placements are very low at just 6% of the sample (61 cases out of 1001).[8] Second, rights offers with no pre-renouncement are the second most popular issuance method in our sample, with a total of £13.7 b representing 25% (18%) of total funds raised (total number of SEO issues). Third, stand alone placements with fixed price are the third most popular issuance method in our sample, with a total of £7.5 billion, representing 14% (27%) of total funds raised (total number of SEO issues). Fourth, of the other methods, open offers (both NP and PR varieties) and combined OOPP with no pre-renouncement are all of approximately similar (lower) importance. Each of these methods constitute about 4-5% of the total proceeds raised across our full sample of firms.[9] Fifth, the least "important" methods involve pre-renouncement in the case of rights offerings and combined OOPP. Of these two, the former plays the smallest role in our sample: 45 cases (out of 1001 SEOs) with proceeds of less than £1 b (1.68 %).

In Table 3, we present sample mean and median values of key economic variables for the total sample, as well as for the eight subgroups of SEOs, as described above. The table also documents some basic non-parametric univariate tests (Kruskal-Wallis) for the difference in median values across the eight subgroups. The variables examined (chosen because they feature

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[8]The Monopolies and Mergers Commission report on Underwriting Services for Share Offers (1999, p. 32) documents that placements with fixed-price and book-building require shareholders to waive their pre-emption rights, and by far the most important reason they are not used more frequently is that such waivers above the 5% level specified in the pre-emption guidelines) are either not sought or are refused.

[9] Note that there are no limits on the offer proceeds for rights and open offerings, but, in the case of placements, the offer proceeds are limited to 5% p.a., or 7.5% per 3 years, of existing market capitalisation. However, in the case of placement related to acquisitions or mergers the offer proceeds are limited to 10% (without shareholders approval).

as potential proxies in our hypothesis development and later in our multivariate testing) are: Market value; IDYRISK; Price discount; Total debt/total assets; Long-term debt/total assets; Offer proceeds; offer proceeds to market value (OP/MV); and Book-to-market ratio. Several features are worthy of note from the table.

In terms of size (as measured by average market value), placements using book-building are clearly made by the very largest UK firms. At the other end of the spectrum, smaller companies tend to opt for combined Open offer/private placements without pre-renouncement. With regard to IDYRISK, we find that the highest risk measure goes to OOPP-NP, while the lowest is found for RO-NP and SP-BB. Interestingly, these reverse match the size (MV) extremes noted above. The SEO price discount is largest for rights offerings (regardless of pre-renouncement), with an average of around 20% (median around 17%). In contrast, the lowest median price discount of around 3.9% occurs for placements with book-building.[10] In terms of leverage ratios (TD/TA and LTD/TA), we see that the SP-BB group has the highest median value across all subgroups, suggesting that these firms tend to have higher levels of financial risk. At the other end, private placements with fixed price show the lowest median values for both leverage ratios, indicating low financial risk for these SEO firms.

The highest average and median offer proceeds relate to the SP-BB subgroup, which matches the large size of firms in this subgroup, noted earlier. The relative size of offer proceeds has the largest average and median for the combined OOPP-NP subgroup, at 89% and 48%, respectively. Notably, the smallest median value for this relative proceeds measure occurs for the placement with book-building firms at 6%, again corresponding with a size rationale. At face value, the book-to-market medians are quite uniform across the subgroups of SEO firms— ranging from 0.48 to 0.66. Nevertheless, the formal KW test of equality is rejected. In the case of NOCF/TA, firms that have the highest average and median corporate liquidity belong to the SP-BB group. This result starkly contrasts with the SP-FP counterpart group of firms, which exhibit

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[10] Open offerings and placements normally have an upper discount limit of 10% permitted by UK listing rules, unless the LSE is satisfied that the issuer is in severe financial difficulties or there are other exceptional circumstances, while there is no limit on the discount for rights offerings.

much lower cash flow liquidity. Across the groups, OOPP-NP and RO-PR firms tend to be most cash flow starved. Notably, the RO-PR category strongly contrasts with its no pre-renouncements rights offering counterpart (RO-NP), with the latter having firms that are much healthier from this liquidity perspective.

For EBIT/TA, our measure of firm profitability, it is notable that the patterns observed here strongly mimic those just discussed for the cash flow variable. For example, SP-BB firms are most profitable, and are considerably more profitable than their fixed price rivals. This result, combined with the cash flow case, suggests that firms in financial distress are more likely to choose a fixed-price versus a book-building placement. For the rights offering pairing, a similar result prevails—rights offerings with pre-renouncement are more likely to be used by financially distressed firms than is RO-NP. Furthermore, SP-BB firms have the strongest runup performance, which is appreciably better than SP-FP. Interestingly, all categories of SEO firms have a positive median runup, with the OOPP-NP and OO-NP cases suggesting the weakest equity return performance heading into their respective issues. SP-BB firms tend to be the oldest, followed by the RO-NP group. In contrast, younger firms tend to employ the RO-PR, OO-PR or SP-FP methods. In terms of the formal KW tests of equality of a given variable across groups, the null hypothesis is soundly rejected in each case. This suggests that "behavioral" patterns for the SEO method might exist. It is to this question that we now turn with a careful and targeted analysis.

Table 4 presents the mean and median of various ownership variables for a restricted subsample for which ownership data are available. Specifically, we have (a) blockholder-level information based on the 5% or more (3% or more) definition for a sample of 692 firms in the pre-SEO announcement setting; and (b) changes in blockholder ownership based on the 5% or more (3% or more) definition for a sample of 555 firms in the pre to post announcement setting. The table presents descriptive statistics for the total sample, as well as the eight separate subgroups of SEOs, as described above. The table also documents some basic non-parametric

univariate tests (Kruskal-Wallis) for the difference in median values across the subgroups, and the Wilcoxon signed rank test for ownership changes to test whether the median is significantly different from zero.

Two main features are evident in Table 4. First, with regard to blockholder-level data, we see that OO-PR firms have the highest median ownership concentration, at around 48% (56%), based on the 5% or more (3% or more) definition. In contrast, the lowest median ownership concentration of 29% (40%) and 30% (38%) is found for SP-BB and RO-NP firm subgroups, respectively, based on the 5% or more (3% or more) definition. These subgroup variations in ownership appear to be quite large, which is formally confirmed by significant KW test statistics (1% level). Second, with regard to blockholder change data, we see that based on either measure, blockholder ownership structure seems relatively stable over the SEO event, regardless of type of issue employed. Indeed, the KW test statistics are insignificant, suggesting that median ownership change values do not greatly differ from each other across subgroups. The only category showing statistically detectable changes in blockholder ownership is the open offers with pre-renouncement category, where the median falls 3.9% (6.3%) points, significant at the 10% (5%) level, based on the 5% or more (3% or more) blockholder definition.

3.2. The takeup variable

The takeup variable assumes considerable importance in the theory developed by Eckbo and Masulis (1992), and must be carefully modeled utilizing an appropriate proxy for actual takeup. We use actual takeup of existing shareholders, consistent with Balachandran et al. (2008). We collect actual takeup data from the Bloomberg database for a total of 654 announcements from our sample: 180 for RO-NP, 44 for RO-PR, 101 for OO-NP, 142 for OO-PR, 117 for OOPP-NP and 70 for OOPP-PR. The percentage of shares taken up by existing shareholders is calculated as shares taken by existing shareholders, divided by shares offered to existing shareholders.[11] In our sample, we find that the mean (median) takeup is 80% (91%) for RO-NP; 68% (76%) for RO-

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[11] In the case of pre-renounced issues, shares offered to existing shareholders are equal to shares on offer, minus pre-renounced shares.

PR; 57% (57%) for OO-NP; 62% (70%) for OO-PR; 58% (58%) for OOPP-NP; and 58% (60%) for OOPP-PR.

4.   Price reaction results

4.1   Event study results

In this section, we use the event study framework to examine the impact of SEO announcements on share prices within the theoretical structure developed in Section 2. The daily returns are measured in logarithmic form, adjusted for dividends. Abnormal returns are generated for the three-day event window beginning on the day prior to announcement day, and continuing through the day after announcement day. The market model is used to estimate abnormal returns, with an estimation period spanning 260 days to 61 days prior to the announcement day (day -260 to day -61). The t-test statistic (standardized residual test statistic) employed by Eckbo and Masulis (1992) and Balachandran et al. (2008) is used to report the significance levels of the price reaction to the announcement.

Table 5 displays mean/median three-day event window abnormal returns for a four-way classification of SEOs (ignoring pre-renouncement and the pricing method of standalone placements) as: rights offerings, open offers, combined open offers/private placements, and standalone placements (Panel A); the previous four-way sort partitioned on underwriting status—that is, fully underwritten versus non/partially underwritten (Panel B); an eight-way classification scheme that distinguishes the groups in Panel A according to pre-renouncement status and pricing method of standalone placements (Panel C); and the eight-way sort just described, but partitioned on median price discount (Panel D). In addition, Table 5 reports idiosyncratic risk in Panel E, across the same eight-way sort of SEO types partitioned on median price discount.

In Panel A, we observe that both rights and open offerings have significant three-day event window abnormal returns—for the former, the mean is negative (-1.59%), while for the latter the mean is positive (1.85%). Notably, the other two SEO groupings of combined OOPP

and standalone placements show negligible short-term market reactions. The ANOVA results suggest that mean abnormal returns are significantly different across the four groups, indicating that the market differentiates between the various SEO mechanisms. However, our theoretical analyses in Section 2 indicate that the impacts of alternative SEO offerings upon market reactions are multifactorial, depending upon other phenomena such as pre-renouncement, subscription price discount and placement pricing mechanisms. We now turn to this multidimensionality in our test results.

We examine the impact of the underwriting status of SEOs in Panel B. Generally, we observe that the magnitude of the average announcement period market reaction is more favorable for fully underwritten seasoned equity issues than for counterpart non-underwritten/partially underwritten issues, in all four SEO categories. Moreover, the pair-wise reactions are statistically different from each other for rights offerings (5% level), and for the open offer and combined open offer/private placement subgroups (10% level). There is no significant difference for standalone placements.[12] These results provide good support for the underwriter quality certification hypothesis (*H1(e)*)—particularly for rights offerings. The weaker (lack of) support for open offers and combined open offer/private placements (standalone placements) most probably derives from the prominent involvement of institutional investors in these offerings, since institutional investors themselves provide some form of quality guarantee, thereby reducing the signalling value of full underwriting in such circumstances. Thus, we examine the difference in market reaction between issues that had agreements (clawbacks) with institutional investors, and those that did not, for open offers and combinations of open offers/private placements. In unreported results, we find that average market reaction is significantly positive (2.91%) for the sample of 158 open offers with clawback agreements, and insignificant (0.06%) for the sample of 94 open offers without clawback; and average market

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[12] In unreported results we find that the average price reaction is insignificantly different from zero (0.33%) for the sample of nine fully underwritten bookbuilt placements; significantly negative (-2.46%) for the sample of 52 non-underwritten bookbuilt placements; significantly positive (2.52%) for the sample of 42 fully underwritten fixed-price placements and insignificantly different from zero (-0.13%) for the sample of 225 non-underwritten fixed-price placements.

reaction is significantly positive (0.33%) for the sample of 158 combinations of open offers/private placements with clawback agreements, and significantly negative (-5.82%) for the sample of 36 combinations of open offers/private placement without clawback. The price reaction is significantly stronger for announcements with clawback agreements than without for both the OO and OOPP cases at the 10% and 5% level, respectively. When we partition the sample into a group with fully underwritten and/or clawbacks, and a group with non-underwritten/partially underwritten/non-clawbacks, we find that price reaction is stronger for the former at the 5% level for both OO and OOPP.

Panel C of Table 5 analyses the major SEO groups, conditioned on the pre-renouncement (PR) characteristic and the pricing method of placements. The pre-renouncement condition shows little apparent affect on rights offerings—both cases are significantly negative. With regard to open offers, while pre-renouncement does not affect the sign (both significantly positive), it does impact the relative magnitudes of the market reaction—the pre-renouncement segment has a strongly positive market reaction of 2.6%, versus a much more modest 0.8% reaction for the "non–pre-renouncement" group. This result is puzzling, but as demonstrated in Panel D, this can be explained by the multifactorial nature of the relationships, via the interactive effect of the price discount variable, which enhances the quality signalling mechanism. Moving to the separation of the OOPP group by "PR" status (in Panel C), we observe a stark asymmetry of impact—for those that have no pre-renouncement, a significantly negative mean market impact is observed (-2.36%), whereas for the case of OOPP with pre-renouncement, the mean market impact is strongly positive (1.7%). It is notable that this reinforces the nature of the finding for open offers, suggesting that pre-renouncement is a quality-signalling device, as the abnormal return is more positive than its non-PR counterpart. With regard to the standalone placement partition, we see that book-building produces a significant (1% level), and negative, mean market impact (-2.05%), which contrasts with the small positive and significant (5% level) counterpart for the fixed-price alternative. The positive reaction for fixed-price private

placements supports the monitoring hypothesis (Wruck (1989)), and the managerial entrenchment hypothesis (Barclay et al. (2007)). A potential reason for the negative reaction to placements with book-building may be that the uncertainty of the placement price or the potential threat of intruders makes this an unattractive mechanism to the market or higher issue costs for this type of SEO than others.[13] Finally, in Panel C ANOVA test results are statistically significant, indicating that the market reaction to the announcements varies across the alternative SEO types.

Panel D of Table 5 considers the market reaction relating to the division of the eight groups based on a median price discount of 10.06%. Perhaps most notable is the observation that the average price reaction is significantly negative for all subgroups when their subscription price discount is greater than or equal to the median subscription price discount of the total sample. This finding is consistent with the predictions of *H1(a)*, namely that the quality of firms will be lower, the higher the discount, with a consequent negative price reaction. The largest negative reaction across these categories occurs for SP-BB and OOPP with no pre-renouncement—the mean short-term price reaction is, respectively, -7.43% and -7.2%. Our results suggest that the price discount is a dominantly strong signal of inverse quality, as predicted by *H1(a)*, that becomes magnified in the OOPP case. There is no significant difference in mean or median abnormal returns across the eight subgroups within the high discount partition, indicating that the market does not distinguish the low-quality signal provided by the various SEO mechanisms. Moreover, this finding suggests that the price discount is the dominant signal. However, the magnitude of the negative reaction increases for pre-renouncement subgroups in comparison with non-PR subgroups for the case of rights offerings and open offers, when companies make SEO issues with large discounts, thereby supporting the argument that pre-renouncement provides a further quality signalling device, as embedded in *H4(c)*. We do not find support for *H4(c)* in the case of OOPP with larger discounts where the SEO issue type itself

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[13] The cost of raising capital (underwriting fees and other expenses) was lower for rights issues than for many other types of issue, particularly those involving book-building (p. 40, Monopolies and Mergers Commission Report on Underwriting Services for Share Offers (1999).

signals lower quality. Moreover, the magnitude of the price reaction is less unfavorable for the RO-NP and OO-NP sub groups than for other subgroups when issues are made with a larger discount, providing support for *H1(d)* at the 10% level (t-statistic of 1.68, not reported).

In the low price discount results, there is a strong tendency toward significantly positive mean market impacts, reinforcing the quality signalling argument for price discount. Only the SP-BB case shows a significantly negative mean reaction (-0.86%, at the 5% level).[14] The role of pre-renouncement is interesting when discounts are low—there is a strong tendency toward cases with PR status producing larger positive mean reactions. Again, this is consistent with the argument that pre-renouncement is a quality signalling device, as postulated in *H4(b)*. The notion that the market impact varies across the groups is reinforced by significant ANOVA statistics. Finally in Panel D, we show results for the test of mean differences between the low and high price discount partitions. There are five subgroups that reveal significant differences at the 1% level: OO-PR; OOPP-NP; OOPP-PR; SP-FP; and SP-BB. These results provide further support for the quality signalling argument applied to the price discount variable as postulated in *H1(a)*.

Panel E of Table 5 shows that idiosyncratic risk differs significantly (1% level) across the eight categories of SEO for both low and high price discount groups. For the low discount case, the highest idiosyncratic risk occurs for the OOPP-PR and SP-FP cases (ignoring RO-PR due to small sample size), while RO-NP shows the lowest risk. Alternatively, for the high discount case the highest idiosyncratic risk occurs for OOPP-NP, followed by SP-FP and OO-NP, while RO-NP still produces the lowest risk. Perhaps most noticeable from this final panel is the fact that idiosyncratic risk is uniformly higher for the high discount partition (controlling for SEO type)— six of the eight cases are statistically significant (mostly at the 1% level), supporting *H1(b)*. Moreover, the magnitude of price reaction is least favorable for the SP-BB group, moderately favorable for the RO-NP and OO-NP subgroups, and most favorable for other subgroups, when

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[14] The RO-PR category shows an insignificant market reaction, but it should be noted that the sample size is very small in this case, compromising the power of the test.

issues are made with a smaller discount. As such, these findings provide support for *H1(d)* at the 1% level using an ANOVA test with an F-value of 5.55 (not reported).

Overall, in terms of abnormal returns around issue announcements, we find support for the notion that SEO choice does provide a quality signal in the context of the work of Hertzel and Smith (1993), Slovin et al. (2000), and Balachandran et al. (2008). As we argued previously, however, there is a multidimensionality to this effect, and the results provide support for this contention and for quality-related signalling, as implied in hypotheses *H1(a-e)* and *H4(b & c)*.

4.2   Cross-sectional regression analysis of aggregate SEO impact

In this section, we estimate cross-sectional regressions of three-day SEO announcement period abnormal returns on a range of potential explanatory variables and, as a consequence, we are able to investigate further the multidimensional aspects deriving from our hypotheses within a multivariate framework. Based on our development of research hypotheses in Section 2, which are strongly driven by quality signalling, and on variables used in other relevant literature, our independent variables comprise (i) the subscription price discount suggested by *H1(a)*; (ii) the book-to-market ratio, reflecting potential growth opportunities; (iii) the natural logarithm of the market value of the company, a potential quality/asymmetric information proxy, one month prior to the SEO announcement; (iv) the natural logarithm of the offer proceeds; (v) a relative offer proceeds variable, measured by the natural logarithm of the ratio of offer proceeds to market value one month prior to the SEO announcement date; (vi) a "runup" measure, captured by the raw return for the one-year period prior to the SEO announcement date (return from -260 to day -2), which will provide a further potential proxy for quality; (vii) idiosyncratic risk, another quality/asymmetric information based variable, measured as the standard error of the market model regression of daily stock returns over the period from day -260 to day -61 for each issuing company; (viii) blockholder holdings of shares of 5% or more; (ix) total debt to total assets; and (x) a dummy variable, DUW, taking a value of one for fully underwritten issues, and zero otherwise (a proxy for quality

certification deriving from *H1(e)*). The results of running a variety of specifications for the cross-sectional regressions are reported in Table 6.[15]

Initially, we sequentially show a set of 11 simple regressions that test the role of each individual variable outlined above, (except Model 9, which explores a quadratic specification involving the blockholder variable). The univariate regressions identify four significant variables: price discount, runup, the dummy variable for fully underwritten issues, and idiosyncratic risk (significant at the 1%, 1%, 5%, and 5% levels, respectively). The coefficients of these variables are in the directions predicted by the quality signalling arguments that underpinned our hypothesis developments: negative, positive, positive, and negative signs, respectively. Models 12 to 18 then explore multiple regressions involving various combinations of variables. Several features are evident from these regressions.

First, the significance and negative sign of the estimated coefficient on price discount is robustly maintained across each model. Indeed discount is the most dominant variable, and its negative role supports the hypothesis that quality and discount are negatively related (*H1(a)*). This confirms similar evidence from the literature (e.g., most recently, Balachandran et al. (2008) on Australian rights issues). Second, with regard to runup, a further potential quality signal, we see that it retains its positive significance (at the 5% level) in Models 16 to 18. Third, contrary to the univariate regressions, idiosyncratic risk does not have a significant impact on the three-day abnormal SEO return. That is, once we control for the other variables in these models, the role of risk is subsumed by their collective impact (for example, in *H1(b)*, we argue that there is a negative correlation between discount and idiosyncratic risk). Fourth, there is a negative role for the size variable in this modelling, as LMV shows uniform significance across Models 12 to 17. This finding suggests that larger firms tend to experience lower (and possibly negative) market reaction to the announcement of SEOs, regardless of type. This result very likely reflects, in part, that size (due to its coarseness for this purpose) might not be the most appropriate proxy

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[15] As is usually the case in these types of regressions, multicollinearity between various groups of variables prevents meaningful incorporation of all variables in one 'comprehensive' specification of the model.

for quality within the signalling framework that we adopt. For example, in terms of the asymmetric information/quality articulation, high-quality small firms may be more inclined to signal their quality via private placements with fixed price, thereby leading to the most favorable price reactions.

Fifth, Models 13 to 17 reveal a significantly positive relation (5% and 10% levels) between SEO market impact and offer proceeds. One would expect larger firms to have larger offer proceeds and, thus, despite the negative role of firm size (as discussed above), it seems that the higher is the offer proceeds, the greater is the positive impact on share price. Taking this and the previous point together suggests that large firms making small offers will tend to experience a "double whammy" negative impact, whereas small firms making large SEO offers will be even more likely to see a positive market response. That is, the size of issue provides a strong quality signal. Sixth, blockholder dominance has no role in how the market reacts to SEOs. Seventh, the underwriter certification dummy has the expected positive sign, and is significant at the 5% level in Models 11 and 12, thus supporting the underwriter quality certification hypothesis *H1(e)*. Eighth and finally, it is quite noticeable that Model 1—the simple regression involving price discount—has an exceptionally high adjusted R^2 of 15.78%. This fact is clearly recognized when we compare it to the highest multiple regression model counterpart of 17.25% (Model 17—which includes the discount, firm size, offer proceeds, and runup variables). Price discount is the dominant explanatory variable in the cross-sectional models that focus on the broad market impact of SEOs, and emphasizes the importance of *H1(a)*. Of course, what this analysis ignores is the potentially rich tapestry of varying relations that could exist for the alternative subgrouping of SEOs discussed above. It is in this direction that we now turn our attention.

4.3   Cross-sectional regression analysis of SEO sub-group impact

Table 7 reports the outcome from estimating various cross-sectional regressions in which the dependent variable is the three-day announcement period abnormal return, measured for different basic types of UK SEOs, to provide further insight into the mulifactorial nature of the

results. The independent variables investigated are: price discount (as postulated by *H1(a)*); the percentage of pre-announced shares (postulated by *H4(b & c)*); a dummy variable capturing the fact that a "pre-renouncement" has been made; takeup (% shares taken up by existing shareholders), as postulated by *H3(b)*; a dummy variable capturing underwriter quality certification (as postulated by *H1(e)*); a dummy variable capturing clawback agreement; and a dummy variable capturing whether the standalone placement is of the book-building type (relating in part to *H1(c & d)*). Groups of regressions are performed for each of the four basic SEO types contained in our UK sample: (a) rights offers (Panel A); (b) open offers (Panel B); (c) combined open offer/private placements (Panel C); and (d) standalone placements (Panel D).

In Panel A, we present six alternative specifications for the rights offer category. The first important feature is the dominant role again of price discount—it is uniformly significant (at a minimum 5% level), and negative in all cases. This confirms the aggregate regression results discussed above and is, again, strongly supportive of *H1(a)*. Second, takeup is found to have a very important and significantly positive relation with the market impact experienced by rights offer firms, as predicted in *H3(b)*. Indeed, the adjusted R^2 increases substantially when takeup is included—for example, Model 1 (ex-takeup) has an adjusted R^2 value of 8.55%, compared to Model 2 (cum-takeup), with a value more than double this figure, at 18.1%. As such, for this category of SEOs, takeup is at least as important as the discount in explaining market reaction. Collectively, the two variables, which provide quality signals as argued previously, are a strong joint signal—firms that have a low discount and a high takeup will tend to deliver very large and favorable market reactions. Third, of the remaining variables tested in Panel A, only the dummy for fully underwritten issues is significant—though only in its univariate form (Model 6). As such, its effect is subsumed by the other variables in the fuller specification of Model 5. While a deeply discounted rights issue can be more cost effective with reduced underwriting risk, the quality signal inherent in the discount is predominant. Notably, the pre-renouncement variables (as suggested in *H4(a)* and *H4(b)*) do not enhance the statistical performance of the regressions,

thus indicating that, for rights offerings, this potential signal (at least, singly) is not heavily weighted by the market.

Panels B and C of Table 7 reveal analogous sets of regressions for the open offer and OOPP categories of SEO, respectively. In short, we observe very similar sets of findings to that just discussed for the rights offer group. Specifically, we find strong roles for price discount (negative) and takeup (positive). That is, again, we observe strong support for *H1(a)* and *H3(b)*. The dummy variable for fully underwritten issues is significant and has a positive sign, supporting *H1(e)*—though only in its univariate form (Models 11 and 18 for OO and OOPP, respectively). We also find significantly positive signs for the clawback dummy variable for both OO and OOPP at the 5% and 10% level, respectively, indicating that clawback agreements with institutional investors provide positive signals. Finally, Panel D reports regression results for the standalone placement category. As before, the coefficient on the price discount variable is strongly significant and negative, supporting *H1(a)*. The dummy variable for book-building is significantly negative, indicating that the market has a strongly negative reaction to the book-building method compared to the fixed-price placement alternative.

In summary, the results reported in Section 4 provide strong support for the notion that quality signalling does impact upon price reaction. Moreover, while the source of quality signal can derive from a number of channels, we establish that in our UK setting, it most strongly emanates from subscription price discount, expected shareholder takeup, with some support for underwriter quality certification.

5.   Analyzing the probability of choosing rights offerings, open offerings, and a combination of open offerings/private placements and standalone placements

5.1   *Modelling expected shareholder takeup*

We model expected shareholder takeup of UK SEO issues using the general approach of Balachandran et al. (2008). Specifically, we investigate the explanatory power of quality-related variables, including subscription price discount, a measure of pre-announcement returns (runup),

book-to-market ratio—a measure of growth opportunities, the natural logarithm of market value, idiosyncratic risk, the natural logarithm of offer proceeds, and blockholder ownership concentration measures (3% and 5% cases described above)—all of which are discussed in preceding sections of this analysis, including hypothesis development.

A positive coefficient is expected for the subscription price discount, since the greater the discount, the greater the likelihood of participation from a signalling perspective; and a positive coefficient would be anticipated for pre-announcement returns, as strong performance over prior periods might induce shareholders to participate because of the potential quality signal that is inherent therein. A positive relation would be anticipated between expected takeup and market value, since a larger firm provides a higher quality signal about, for example, potential investment. Given its stated role as an inverse quality proxy, idiosyncratic risk should impact negatively on expected takeup. We expect a positive coefficient for book-to-market ratio, as the larger the growth opportunities, the greater the shareholder takeup. We expect a negative coefficient for the offer proceeds variable, as the larger the issue, the greater the likelihood that current shareholders will face capital or diversification constraints that will prevent them from participating in the offer. Finally, a positive coefficient for the ownership concentration variables would be expected, as large shareholders have strong incentives to maintain their proportional holding in the firm to capture monitoring and control-oriented benefits (see Bohren et al., 1997).

Our estimation results for the expected shareholder takeup model are presented in Table 8. In Panel A, we report the results of the general modelling exercise. It is clear that almost all variables are statistically significant (minimum 5% level) and in the predicted directions. Notably, our strong findings for price discount, runup, and firm size variables (all significantly positive), confirm similar outcomes reported by Balachandran et al. (2008) on Australian rights issues. In addition, we also find a significantly negative role for idiosyncratic risk—the higher is the risk of firm and information asymmetry, the lower is the likely takeup. The only contrasting

results found are that the offer proceeds and ownership concentration variables do not feature strongly in the expected takeup model for UK SEOs.

5.2   Probit modelling of SEO choice based on expected shareholder takeup

In Panel B of Table 8, we report univariate probit modelling of decisions to proceed with several types of SEO, analyzed solely, at this stage, in terms of the expected takeup variable generated in the Panel A analysis. The eight SEO subgroup decisions investigated are: (a) RO-NP (Model B1); (b) RO-PR (Model B2); (c) OO-NP (Model B3); (d) OO-PR (Model B4); (e) OOPP-NP (Model B5); (f) OOPP-PR (Model B6); (g) SP-FP (Model B7); and SP-BB (Model B8).

Generally we find that in seven out of eight cases, the expected takeup variable has a significant coefficient in the probit models. In five of these seven cases, the significant coefficient is negative, while in only two cases it is positive. Model B1 has a positive expected takeup coefficient, indicating that the higher the expected takeup, the more likely UK firms will issue rights with no pre-renouncement, consistent with *H3(a)*. Model B8 shows a similar result— placements with book-building are more likely when shareholder takeup is expected to be high. It is puzzling and notable that these firms choose placements with book-building rather than rights offerings. Also, it is noted that the estimated coefficient on the expected takeup is much stronger for placements with book-building than for rights offerings (without pre-renouncement). A close inspection of the ownership concentration, market capitalization, and issue price discount shows that the largest and most widely dispersed firms, which have lower corporate control considerations, choose placements with book-building to obtain the maximum offer price (least discount) rather than choosing rights offerings with a larger discount to increase shareholder takeup. In Models B3, B4, B5, B6 and B7, the impact of expected takeup is reversed—there is a lower likelihood of these SEO types (OO-NP, OO-PR, OOPP-NP, OOPP-PR and SP-FP) being used if the expected takeup is higher. Thus, it seems that the negative role of expected shareholder takeup is uniform across both the open offer and combined open

offer/private placement type SEOs (irrespective of the pre-renouncement feature) and is, as such, consistent with *H3(a)* for the OO case.

Comparisons across different models provide additional insight. First, comparing the outcome for rights versus open offers, we see that rights are more likely with higher expected takeup, whereas open offers are less likely, per *H3(a)*. Given that UK rights are renounceable but open offers are not, our findings are consistent with the work of Balachandran et al. (2008) on Australian rights issues. Second, it is notable that the magnitude of the takeup effect is more strongly negative in the case of combined open offer/private placements than it is for standalone open offers. Given the argument that expected takeup correlates with quality, which effectively underpins *H3(b)*, open offers can be characterized as being of generally higher quality than the combined OOPP category. Third, there is a magnitude differential at work in the comparison of the pre-renouncement, versus the no pre-renouncement condition. Specifically, for rights and open offers, the importance of the expected takeup variable in the no pre-renouncement case is less negative than its pre-renouncement counterpart. This suggests that the absence of pre-renouncement is a quality signal for higher takeup. Fourth, the fact that the two types of standalone placement SEO produce contrasting roles of expected takeup is important in itself. Specifically, placements based on book-building are more likely with higher expected takeup, whereas fixed-price counterparts are less likely. This suggests that book-building placements to institutional investors present a more positive quality signal to the market.

In terms of the mechanism utilized in standalone placements, our results indicate that those firms with low expected takeup tend to choose the fixed-price mechanism, while those firms with high expected takeup tend to select the book-building method. Since *H3(b)* implies a quality argument associated with takeup, these results imply a quality signal identified with the latter choice. Effectively, the higher quality signal inherent in this choice justifies these firms incurring a higher cost of generating information.

5.3   Probit modelling of SEO choice—multivariate analysis

To further analyze the question of choice of SEO type in the UK, multivariate analyses (excluding expected takeup to avoid collinearity impacts) are conducted. In particular, we model the decision to issue standalone private placements with fixed-price, rights offers (without pre-renouncement), and standalone placements with book-building. These cases are chosen because they represent the three SEO types that possess potentially the largest divergence in terms of firm quality; thus, focusing on them provides us with the sharpest tool for gaining further insight into the quality signalling mechanism underlying the SEO process. We use variables from earlier parts of our study, and the results for modelling these three cases are presented in Table 9, Panels A, B, and C, respectively.

With regard to the private placement decisions with fixed price (Panel A), across the various specifications (Models A1−A9) we see that the variables with significant coefficients are: price discount, idiosyncratic risk, firm size, age, profitability, cash flow, runup, offer proceeds, and leverage. Many of these are plausible proxies for the quality effects that underpin the choice between an issue to existing shareholders and institutional investors. Price discount takes a negative role; that is, lower discounts (higher quality) indicate a higher likelihood of UK firms choosing standalone placements, other factors being equal. Similarly, smaller firm size (lower analyst coverage), less maturity, and lower leverage (less monitoring) imply higher information asymmetry; thus, it is more probable that fixed-price private placements will be chosen. The runup, profitability, and liquidity (cash flow to total assets) variables have negative coefficients, indicating that financially distressed or financially constrained firms are more likely to select private placements with fixed price. Also of note is that the coefficient on the blockholder variable (*BH5*) is significantly positive, supporting *H2(a)*, that firms with higher ownership concentration select private placements with fixed price.

Panel B of Table 9 displays the corresponding probit modelling results for the rights offering method, without pre-renouncement. Perhaps the most striking general finding here is

that the pattern of significant variables is almost a complete reversal of those found for fixed-price private placements (Panel A). Surprisingly, all of the 11 variables that were significant for private placements with fixed price are also significant for rights offers—but, notably, their signs have all changed. The significant coefficients on the issue discount, firm size, book-to-market, age, runup, offer proceeds, leverage, liquidity, and profitability variables are now positive; while those on idiosyncratic risk and blockholders are now negative. This is strong evidence of the "polar" quality differential that these two SEO methods represent. The sign reversal is consistent with the quality reversal in moving from Panel A to Panel B, implying that firms with higher information asymmetry will make private placements with fixed price.

As can be seen in Panel C of Table 9, the largest firms, oldest firms, firms with the highest profitability/liquidity, and/or firms with the largest issues are more likely to make placements using the book-building method. The size variable alone has a McFadden R-squared value of 39%, while issue size alone has a McFadden R-squared value of 21%. This SEO method tends to be used by firms with dispersed share ownership, as the blockholder variable is significantly negative, consistent with *H2(a)*. It is noteworthy that the discount and idiosyncratic risk variables also negatively impact the probability of this type of issue.

5.4   Probit modelling of pre-renouncement versus ownership concentration

Cronqvist and Nilsson (2005) argue that corporate control considerations have an important effect on choosing between pursuing a rights offering and a private placement. Thus, to examine whether firms with blockholders and/or directors who pre-renounce shares have less corporate control concerns, we conduct a univariate probit analysis for the RO, OO, and OOPP SEO cases, separately.[16] We find that the decision to pre-renounce is positively related to ownership concentration at the 5% (10%) level for rights offerings (open offers), thereby supporting *H4(d)*, that firms with relatively lower concerns about corporate control will have share pre-renouncements. We find no relation between the decision to pre-renounce shares and ownership

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[16] These results are not reported, to conserve space. They are available from the authors upon request.

concentration for the OOPP group.

6. Subscription price discount, idiosyncratic risk (Quality) and Ownership Concentration

In Section 2, we argued that idiosyncratic risk (inverse proxy for quality) will be positively correlated with issue price discount (*H1(b)*) and, up to this point, we have provided a wide range of empirical support for this hypothesis. In a fashion similar to Balachandran et al. (2008), the relation between (a) idiosyncratic risk, and (b) ownership concentration, to the subscription price discount is now examined. Deep SEO discounts result in a potentially negative signalling effect, as deep discounts signal poor quality and reduce the value of existing shareholders' holdings, per *H1(a)*. Managers of firms with higher ownership concentrations may be constrained from issuing SEO with deep discounts. Therefore, we expect a negative correlation between ownership concentration and subscription price discount. Bohren et al. (1997) argue that the market demands a price discount to hedge against the risk that the offered security is overvalued, assuming managers do not have an incentive to sell underpriced stock; they show that the adverse selection price discount increases with the idiosyncratic risk of the security issued. Accordingly, the subscription price discount should be positively related to idiosyncratic risk.

The total sample, as well as the four major SEO types (defined earlier), are analyzed using censored tobit regression analysis, and the results are reported in Table 10. The dependent variable is the subscription price discount. The independent variables are the idiosyncratic risk, measured as the standard error of the market model regression of daily stock returns over the period from day -260 to day -61 for each issuing company; blockholder holdings of more than 3% of shares; the natural logarithm of offer proceeds; the natural logarithm of the market value of the issuing firm; and a dummy variable capturing the blockholder and/or director pre-renouncement of their share entitlement. For standalone placements, a book-building dummy variable is also employed.

Panel A reports the full sample results. We find that the estimated coefficient on idiosyncratic risk is positive, and on ownership concentration is negative, both as predicted, and

both significant at the 1% level. We also find that offer proceeds have a positive role to play—it indicates that the larger the SEO issue, the greater the subscription price discount, potentially indicating some lumpiness in the issue process. Firm size shows a negative relationship, in that larger firms tend to choose smaller price discounts—a finding that is consistent with the previous quality arguments. In Panel B, the results for rights issues are presented where there are no price discount limits. The major finding here is that while idiosyncratic risk retains its positive significance, blockholder ownership is now insignificant. The estimated coefficients on dummy variables—pre-renouncement and underwriter quality certification—have the expected sign and are statistically significant; that is, they indicate that rights offerings with pre-renouncements and underwriter certifications tend to have lower price discounts (with a clear articulation with higher quality).

Panel C of Table 10 presents the results for standalone placements. However, in a similar fashion to the unrestricted rights offer case, the major finding here is that while idiosyncratic risk retains its positive significance, consistent with *H1(b)*, blockholder ownership is insignificant. The estimated coefficient on the dummy variable for book-built placements is significantly negative only in its univariate form; it indicates that the discount is smaller for SP-BB than SP-FP, which corroborates the results, reported in the previous section. The estimated coefficient on the underwriter certification dummy variable has the expected negative sign in all the models reported, however, it is significant only in Model 16 (10% level). In Panel D, the results for combined open offer/private placements confirm the robust positive role of idiosyncratic risk as a "determinant" of price discounts per *H1(b)*. Notably, the blockholder variable returns to being negatively significant. Furthermore, as is the case for rights offerings (Panel B), the negative significance of the pre-renouncement dummy variable indicates that OOPP issues with this feature tend to have lower price discounts (*H4(a)*). The estimated coefficient on the underwriter certification dummy variable has the expected negative sign and is statistically significant in all the models reported, indicating lower price discounts (and higher quality).

Finally, Panel E provides the results for open offers. The estimated coefficient on idiosyncratic risk is positive and significant, while blockholder ownership is insignificant. Other significant coefficients occur for offer proceeds (positive), firm size (negative), and the pre-renouncement dummy (negative) (*H4(a)*). The most pervasive and robust results observed in Table 10 include the significantly positive relation between idiosyncratic risk and issue price discount (*H1(b)*) and negative relation between the pre-renouncement dummy variable and issue price discount (*H4(a)*).

7.   Conclusions

In this paper, the interrelations between renounceability, the private benefits of control, and quality lead to the development of several testable hypotheses regarding the choice of SEOs. We select the UK market as our research setting, from which a large and diverse sample of SEO events is obtained over the period 1996 to 2005. A compelling feature of this dataset is that it encompasses rich information on four major SEO types: rights offerings, open offers, open offers with private placements, and standalone placements. These alternative SEO mechanisms permit a wide range of permutations/interactions (most notably relating to price discount, pre-renouncement, underwriting status, and pricing method) that provide a unique opportunity to meaningfully explore the multi-factorial linkages between quality signalling and the private benefits of control.

Our hypotheses present a number of central themes relating to: (1) market reaction; (2) the likelihood of choice for SEO methods; and (3) the general linkages between quality proxies. The essence of these perspectives is captured in the following core predictions: high-quality firms will signal their quality by selecting lower issue price discounts; high-quality firms will fully underwrite the issue; high-quality issuers will have lower idiosyncratic risk; high-quality firms will signal their quality by the use of share pre-renouncements; firms with widely dispersed ownership structures, and with the largest market capitalizations, will choose standalone placements with book-building; and firms with higher (lower) ownership

concentration and lower (higher) shareholder takeup will choose fixed-price placements (rights offerings). Strong empirical support is garnered in all cases.

We find fundamental and robust support for the notion that SEO choice does provide a quality signal in the context of the work of Heinkel and Schwartz (1986), Hertzel and Smith (1993), Slovin et al. (2000), and Balachandran et al. (2008). We find some support for the underwriter quality certification hypothesis—particularly for rights offerings. The weaker (lack of) support for open offers and combined open offer/private placements (standalone placements) most probably derives from the prominent involvement of institutional investors in these offerings, since institutional investors themselves provide some form of quality guarantee, thereby reducing the signalling value of full underwriting in such circumstances. Thus, our evidence for the UK is in contrast to the results reported in Balachandran et al. (2008) for Australian rights offerings in which underwriting was found to have a major role in the quality signalling framework. It seems that the wider and different mix of quality signalling avenues available to the managers of UK firms (and their associated costs) encourage them to consider seriously the merits of these alternatives to underwriting.

Moreover, consistent with the full package of our arguments, the resultant specific hypotheses developed herein, and the high level of corroboration achieved across all aspects of our empirical analysis, there is an unmistakable multidimensionality to quality-related signalling. As such, our findings suggest a coherent set of messages surrounding the quality dimension associated with SEO issue choice. First, firms with the lowest information asymmetry (i.e., the oldest, largest, and most profitable firms), and those with the most widely dispersed ownership, tend to choose placements with book-building. Second, firms with lower information asymmetry (i.e., older, larger and more profitable firms) and with intermediate levels of ownership concentration, tend to choose rights issues. Third, firms with high information asymmetry (i.e., the youngest, smallest, and the firms most likely to be distressed), and with higher ownership concentration tend to choose private placements with fixed prices. Fourth, high-quality firms

signal their quality by selecting lower issue price discounts, and have lower idiosyncratic risk irrespective of the SEO mechanism employed.

Table 1: Summary of Hypotheses

	Type of hypothesis		
	Price reaction	Likelihood of choice	Quality proxy linkages
Panel A: Quality signalling hypotheses			
H1(a)	✓		
H1(b)			✓
H1(c)	✓		
H1(d)	✓		
H1(e)	✓		
Panel B: Ownership concentration hypotheses			
H2(a)		✓	
H2(b)		✓	
Panel C: Shareholder takeup hypotheses			
H3(a)			✓
H3(b)	✓		
Panel D: Pre-renouncement hypotheses			
H4(a)			✓
H4(b)	✓		
H4(c)	✓		
H4(d)		✓	

Table 2: Summary of Sample Selection and Exclusions

Panel A: Exclusions	
Reason for Sample Exclusion	No of offerings
Initial Sample by British Firms before Exclusions	2342
Less Exclusions	
- Offering of options (warrants)	49
- Offering of convertible securities	14
- Offerings by trusts/funds	77
- Offering of preference stocks and A & B shares	38
- Part of restructuring program, mergers or trading halt around the announcement period	66
- Resolution not passed/offering suspended	4
- Announced simultaneously with debt offering or miscellaneous offer	178
- Announced simultaneously with buyback or stock split or stock dividend or spin-off or divestment or executive stock option plan	112
- Accounting/share price data unavailable	167
- Detailed information about the issue or prospectus is unavailable	636
Total Exclusions	1341
Final Uncontaminated Sample	1001

Panel B: Distribution across SEO types	
Rights Offerings without Pre-renouncement of takeup (RO-NP)	182
Rights Offerings with Pre-renouncement of takeup (RO-PR)	45
Open Offers without Pre-renouncement of takeup (OO-NP)	107
Open Offers with Pre-renouncement of takeup (OO-PR)	145
Combination of Open Offers and private placements, without pre-renouncement of takeup (OOPP-NP)	123
Combination of Open Offers and private placements, with pre-renouncement of takeup (OOPP-PR)	71
Standalone private placements with fixed price (SP-FP)	267
Standalone placements with book-building (SP-BB)	61
Final Uncontaminated Sample	1001

Panel C: Total proceeds across SEO types	£M	%
Rights Offerings without Pre-renouncement of takeup (RO-NP)	13706.38	25.26
Rights Offerings with Pre-renouncement of takeup (RO-PR)	909.93	1.68
Open Offers without Pre-renouncement of takeup (OO-NP)	2696.64	4.97
Open Offers with Pre-renouncement of takeup (OO-PR)	2546.76	4.69
Combination of Open Offers and private placements, without pre-renouncement of takeup (OOPP-NP)	2324.21	4.28
Combination of Open Offers and private placements, with pre-renouncement of takeup (OOPP-PR)	1499.33	2.76
Standalone private placements with fixed price (SP-FP)	7542.05	13.90
Standalone placements with book-building (SP-BB)	23028.29	42.95
Total Sample	54253.60	100.00

Table 3: Some Basic Univariate Tests

This table provides univariate tests across eight groups: (a) Rights Offerings without Pre-renouncement of takeup (RO-NP); (b) Rights Offerings with Pre-renouncement of takeup (RO-PR); (c) Open Offers without Pre-renouncement of takeup (OO-NP); (d) Open Offers with Pre-renouncement of takeup (OO-PR); (e) combination of Open Offers and private placements without Pre-renouncement of takeup (OOPP-NP); (f) combination of Open Offers and private placements with pre-renouncement of takeup (OOPP-PR); (g) standalone private placements with fixed price (SP-FP); and (h) standalone placements with book-building (SP-BB). The table also provides non-parametric, Kruskal–Wallis (KW) test statistics for the difference in median values across the different groupings.

		Total Sample	RO-NP	RO-PR	OO-NP	OO-PR	OOPP-NP	OOPP-PR	SP-FP	SP-BB	KW test
Market value ($M)	Mean	533.13	355.41	83.26	91.26	105.20	43.53	65.29	527.54	4743.69	208.29***
	Median	40.54	104.59	28.20	28.09	34.99	17.63	32.68	31.35	935.48	
IDYRISK	Mean (%)	2.88	2.20	3.30	2.78	2.61	3.50	2.98	3.31	2.15	100.88***
	Median (%)	2.39	1.70	2.91	2.41	1.96	3.20	2.51	3.00	1.84	
Price discount	Mean (%)	13.10	22.75	19.56	13.52	6.47	18.78	10.43	9.09	3.83	186.77***
	Median (%)	10.06	16.81	17.80	8.57	6.43	11.11	9.93	7.69	3.85	
Total debt to total assets	Mean (%)	20.26	24.25	18.47	23.30	21.46	20.47	20.16	15.60	21.62	43.11***
	Median (%)	16.17	21.84	17.84	20.07	17.27	16.85	14.57	8.85	20.07	
Long-term debt to total assets	Mean (%)	12.49	16.63	10.28	14.00	12.78	10.84	11.21	9.39	16.85	50.71***
	Median (%)	5.59	11.04	7.44	5.56	6.15	3.99	4.32	2.34	14.54	
Offer proceeds ($M)	Mean	54.20	75.31	20.22	25.20	17.56	18.90	21.12	28.25	377.51	205.65***
	Median	10.25	25.56	9.81	9.91	10.02	9.00	10.70	4.00	56.75	
OP to MV	Mean (%)	41.55	32.17	38.96	44.02	30.45	89.27	55.52	34.37	12.47	242.23***
	Median (%)	24.71	25.86	31.75	30.10	25.00	47.73	36.76	11.71	5.90	
Book-to-market ratio	Mean	0.62	0.69	0.62	0.72	0.54	0.62	0.60	0.59	0.61	29.23***
	Median	0.59	0.66	0.58	0.66	0.48	0.59	0.61	0.52	0.62	
NOCF/TA	Mean (%)	-6.44	2.85	-15.72	-7.40	-3.92	-17.80	-5.82	-10.43	8.03	57.46***
	Median (%)	2.99	5.76	0.11	0.93	4.22	-0.76	3.59	-0.42	8.32	
EBIT/TA	Mean (%)	-12.13	-0.99	-20.68	-10.34	-7.08	-28.92	-15.67	-17.38	6.69	64.25***
	Median (%)	3.34	5.88	2.79	1.03	5.16	-5.98	3.47	-0.90	7.07	
RUNUP	Mean (%)	11.52	16.22	9.66	0.33	24.44	-14.92	12.19	12.65	35.40	22.47***
	Median (%)	17.19	23.70	22.68	6.53	25.95	2.57	13.63	17.65	30.90	
Age (years)	Mean	10.01	13.90	8.66	10.75	8.11	9.50	9.10	7.47	15.81	66.00***
	Median	5.62	9.72	3.76	7.33	3.87	6.84	4.89	4.14	11.12	
Sample size		1001	182	45	107	145	123	71	267	61	

* Significantly different from zero at the 10% level; ** significantly different from zero at the 5% level; ***significantly different from zero at the 1% level.

Table 4. Ownership Information

This table provides mean and median blockholder data for the subsample of firms for which ownership structure data are available: (i) ownership level prior to the announcement, and (ii) changes in ownership (post- minus pre-announcement) partition into eight groups: (a) Rights Offerings without Pre-renouncement of takeup (RO-NP); (b) Rights Offerings with Pre-renouncement of takeup (RO-PR); (c) Open Offers without Pre-renouncement of takeup (OO-NP); (d) Open Offers with Pre-renouncement of takeup (OO-PR) (e) combination of Open Offers and private placements without Pre-renouncement of takeup (OOPP-NP); (f) combination of Open Offers and private placements with pre-renouncement of takeup (OOPP-PR); (g) standalone private placements with fixed price (SP-FP); and (h) standalone placements with book-building (SP-BB). The table also provides non-parametric, Kruskal–Wallis (KW) test statistics for the difference in median values across the different groupings, Wilcoxon signed rank test for ownership changes to show whether the median is significantly different from zero.

		Total Sample	RO-NP	RO-PR	OO-NP	OO-PR	OOPP-NP	OOPP-PR	SP-FP	SP-BB	KW test
Blockholders (5% or more) – pre-announcement	Mean (%)	40.68	33.25	43.91	44.70	48.89	39.62	38.82	43.50	27.02	49.22***
	Median (%)	37.43	30.31	45.48	40.81	47.59	34.35	36.32	42.14	28.81	
	N	692	132	27	73	106	77	52	181	44	
Changes in blockholders (5% or more): post-ownership minus pre-ownership	Mean (%)	-1.24	0.27	-2.18	0.62	-4.09	-2.99	-0.69	-0.53	-2.13	4.38
	Median (%)	0.00	0.00	-0.45	0.76	-3.92	0.00	0.00	-0.76	0.00	
	N	555	111	22	56	83	63	42	144	34	
WSR test		1.87*	0.67	0.73	1.10	1.79*	0.86	0.04	0.70	0.88	
Blockholders (3% or more) – pre-announcement	Mean (%)	49.60	42.59	51.56	52.86	58.26	48.45	48.59	51.79	37.41	45.84***
	Median (%)	47.57	38.03	55.30	49.81	56.06	43.38	47.09	49.26	40.34	
	N	692	132	27	73	106	77	52	181	44	
Changes in blockholders (3% or more): post-ownership minus pre-ownership	Mean (%)	-0.69	1.56	-0.34	2.97	-4.96	-1.94	-1.12	0.17	-4.47	9.85
	Median (%)	0.00	0.00	-0.32	4.13	-6.33	0.00	0.09	0.62	-2.42	
	N	555	111	22	56	83	63	42	144	33	
WSR test		0.75	0.21	0.21	1.70*	2.15**	0.46	0.41	0.29	1.28	

* Significantly different from zero at the 10% level; ** significantly different from zero at the 5% level; *** significantly different from zero at the 1% level.

Table 5: Price Reaction to SEO Announcements in the UK

This table reports mean and median abnormal returns and the standardized residual t-tests (SRT), employing the market model for seasoned equity issue announcements for the period the day before the announcement date to day after. Panel A reports results for four subgroups: (a) Rights Offerings (RO); (b) Open Offer (OO); (c) combination of Open Offers and private placements (OOPP); and (d) standalone placements (SP). Panel B reports the price reaction, classifying Panel A into a further pair of subgroups based on fully underwritten versus non-underwritten/partially underwritten cases. Panel C reports results for eight subgroups: (a) Rights Offerings without Pre-renouncement of takeup (RO-NP); (b) Rights Offerings with Pre-renouncement of takeup (RO-PR); (c) Open Offers without Pre-renouncement of takeup (OO-NPR); (d) Open Offers with Pre-renouncement of takeup (OO-PR); (e) combination of Open Offers and private placements without Pre-renouncement of takeup (OOPP-NP); (f) combination of Open Offers and private placements with pre-renouncement of takeup (OOPP-PR); (g) standalone private placements with fixed price (SP-FP); and (h) standalone placements with book-building (SP-BB). Panel D reports the price reaction classifying Panel C into a further pair of subgroups, divided on median discount of the total sample. Panel E reports idiosyncratic risk for pairs of subgroups, divided on median discount of the total sample. This table also provides parametric ANOVA statistics for the difference in mean abnormal returns/idiosyncratic risk across the different groupings, and t-statistics for difference in mean abnormal returns/ idiosyncratic risk between the two subgroups.

		RO	OO	OOPP	SP	ANOVA
Panel A: Price reaction to SEOs – four-way classifications						
Four subgroups	Mean (%)	-1.59	1.85	-0.89	-0.15	3.57[***]
	Median (%)	-0.77	0.18	0.00	0.00	
	SRT	(-9.80)[***]	(14.30)[***]	(-0.17)	(0.07)	
	Sample size	227	252	194	328	
Panel B: Price reaction for pair-wise groupings based on fully underwritten versus non-underwritten/partially underwritten cases						
Fully underwritten	Mean (%)	-1.04	2.53	0.61	2.13	3.14[**]
	Median (%)	-0.56	0.38	0.23	0.79	
	SRT	(-6.66)[***]	(16.02)[***]	(3.89)[***]	(6.22)[***]	
	Sample size	208	183	120	51	
Non-underwritten or partially underwritten	Mean (%)	-7.51	0.05	-3.30	-0.57	2.90[**]
	Median (%)	-3.36	0.18	-0.15	-0.02	
	SRT	(-11.83)[***]	(1.24)	(-5.23)[***]	(-2.59)[**]	
	Sample size	19	69	74	277	
Difference in average price reaction between pair-wise groupings based on fully underwritten versus non-underwritten/partially underwritten						
t-test		2.35[**]	1.78[*]	1.76[*]	1.50	

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		RO-NP	RO-PR	OO-NP	OO-PR	OOPP-NP	OOPP-PR	SP-FP	SP-BB	ANOVA
Panel C: Price reaction to SEOs—eight-way classifications										
Eight subgroups	Mean (%)	-1.66	-1.29	0.79	2.63	-2.36	1.66	0.29	-2.05	2.64**
	Median (%)	0.31	-1.66	-0.34	1.15	-0.24	0.11	0.12	-2.06	
	SRT	(-8.60)***	(-4.70)***	(4.63)***	(14.88)***	(-2.53)**	(3.04)***	(2.60)**	(-5.28)***	
	Sample size	182	45	107	145	123	71	267	61	
Panel D: Price reaction for pair-wise groupings based on discount < median vs. discount ≥ median for eight subgroups										
Subgroup with price discount < median	Mean (%)	0.13	-1.41	1.92	4.06	3.61	6.07	2.73	-0.86	2.52**
	Median (%)	0.83	-0.98	0.31	1.89	0.86	1.26	0.84	-0.89	
	SRT	(3.99)***	(-1.55)	(7.77)***	(21.20)***	(8.88)***	(11.85)***	(13.69)***	(-2.72)**	
	Sample size	26	07	61	105	55	36	160	50	
Subgroup with price discount ≥ median	Mean (%)	-1.95	-1.27	-0.71	-1.13	-7.20	-2.87	-3.37	-7.43	1.60
	Median (%)	-0.60	-1.75	-0.55	-1.96	-3.15	-1.58	-0.88	-8.85	
	SRT	(-10.92)***	(-4.45)***	(-1.88)*	(-6.07)***	(-11.39)***	(-7.69)***	(-12.63)***	(-6.62)***	
	Sample size	156	38	46	40	68	35	107	11	
Difference in average price reaction between subgroups with price discount > median and subgroups with price discount ≤ median										
t-test		1.14	-0.02	1.18	3.08***	4.03***	2.81***	8.25***	3.63***	
Panel E: Idiosyncratic risk for pair-wise groupings based on discount < median versus discount ≥ median for eight subgroups										
Subgroup with price discount < median	Mean (%)	1.56	2.95	2.21	2.38	2.54	2.87	3.02	2.05	5.84***
	Median (%)	1.25	2.97	1.78	1.79	2.10	2.40	2.68	1.79	
	Sample size	26	07	61	105	55	36	160	50	
Subgroup with price discount ≥ median	Mean (%)	2.30	3.37	3.54	3.20	4.28	3.09	3.73	2.61	9.34***
	Median (%)	1.79	2.87	3.30	2.95	4.04	2.62	3.47	2.30	
	Sample size	156	38	46	40	68	35	107	11	
Difference in average idiosyncratic risk between subgroups with price discount > median and subgroups with price discount ≤ median										
t-test		2.11**	0.49	3.59***	2.49***	5.12***	0.54	4.29***	1.56	

* Significantly different from zero at the 10% level; ** significantly different from zero at the 5% level; *** significantly different from zero at the 1% level.

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Table 6: Cross-sectional Regression Analysis of Abnormal Price Reaction to SEO Announcements in the UK

This table provides cross-sectional regression results explaining the market response to SEO announcements. The dependent variable used in this regression is the three-day abnormal price movement from the day before the announcement to the day after the announcement date of the SEO issue employing the market model. Independent variables are *DISC*: the subscription price discount; *BM*: book-to-market ratio measured as book value of assets to market value of assets; *LMV*: the logarithm of the market value of the issuing firm one month prior to the announcement; *LOP*: natural logarithm of the offer proceeds; *LOPtoMV*: natural logarithm of the ratio of offer proceeds to market value one month before the announcement date; *RUNUP*: raw return for the one-year period prior to the announcement date (return from -260 to day -2); *IDYRISK*: the idiosyncratic risk measured as the standard error of the market model regression of daily stock returns over the period from day -260 to day -61 for each issuing company; *BH5*: blockholders holding shares of 5% of more; *TD/TA*: total debt to total assets; and *DUW:* dummy variable equal to 1 if the issue is fully underwritten, and zero otherwise. White heteroskedasticity-consistent t-statistics are provided in parentheses.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Constant	0.0369 (7.65)***	-0.0002 (-0.28)	-0.0066 (-0.60)	-0.0025 (-0.34)	-0.0051 (-0.62)	-0.0048 (-1.14)	0.0158 (2.37)**	0.0006 (0.08)	-0.0032 (-0.23)	0.0016 (0.28)	-0.0123 (-2.09)**	0.0541 (1.74)*	0.0688 (2.22)**	0.0819 (2.27)**	0.0680 (2.22)**	0.0580 (4.02)***	0.0534 (4.52)***	0.0459 (4.98)***
DISC	-0.2907 (-7.79)***											-1.2729 (-5.93)***	-0.2681 (-5.86)***	-0.2716 (-5.79)***	-0.2683 (-5.87)***	-0.2787 (-12.18)	-0.2770 (-7.56)***	-0.2772 (-7.56)***
BM		0.0019 (0.18)										-0.0096 (-0.85)	-0.0103 (-0.91)	-0.0120 (-0.95)	-0.0109 (-0.95)	-0.0066 (-0.68)		
LMV			0.0014 (0.63)									-0.0110 (-2.15)**	-0.0131 (-2.54)**	-0.0136 (-2.54)**	-0.0131 (-2.54)**	-0.0100 (-2.87)**	-0.0093 (-2.50)**	
LOP				0.0006 (0.25)								0.0069 (1.43)	0.0100 (2.07)**	0.0101 (2.07)**	0.0100 (2.07)**	0.0069 (1.85)*	0.0065 (1.68)*	
LOPtoMV					-0.0027 (-0.70)													0.0086 (2.37)**
RUNUP						0.0319 (3.77)***						0.0077 (0.83)	0.0087 (0.93)	0.0091 (0.97)	0.0088 (0.94)	0.0192 (4.05)***	0.0193 (2.54)**	0.0179 (2.45)**
IDYRISK							-0.5899 (-2.16)**					0.3657 (1.15)	0.2807 (0.87)	0.2719 (0.86)	0.2872 (0.90)	0.0143 (0.69)		
BH5								0.0000 (0.00)	0.0224 (0.33)			-0.0194 (-0.83)	-0.0216 (-0.91)	-0.0885 (-1.18)	-0.0222 (-0.93)			
BH5²									-0.0242 (-0.31)					0.0704 (0.88)				
TD/TA										-0.0136 (-0.80)		-0.0082 (-0.49)	-0.0078 (-0.46)					
DUW											0.0199 (2.56)**	0.0199 (2.44)**						
Adj R²	0.1578	-0.0010	-0.0005	-0.0009	-0.0004	0.0437	0.0069	-0.0014	-0.0027	-0.0005	0.0067	0.1500	0.1442	0.1457	0.1452	0.1712	0.1725	0.1720
F-statistic	188.43	0.03	0.45	0.05	0.61	46.66	7.92	0.0000	0.07	0.06	6.62	14.55	15.55	15.73	17.77	35.43	53.11	70.25
P value	0.0000	0.8530	0.5015	0.8172	0.4356	0.0000	0.0050	0.9987	0.9300	0.4710	0.0102	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
N	1001	1001	1001	1001	1001	1001	1001	692	692	1001	1001	692	692	692	692	1001	1001	1001

* Significantly different from zero at the 10% level; ** significantly different from zero at the 5% level; ***significantly different from zero at the 1% level.

Table 7: Subscription Discount, Pre-renounced shares, Shareholder Takeup, Underwriting, and Price Reaction

This table provides separate cross-sectional regression results on the impact of subscription price discount, pre-renounced shares, shareholder takeup and full underwriting, on the announcement period abnormal returns for subgroups: Rights Offerings (Panel A); Open Offers (Panel B); combined Open Offer/ Private Placements (Panel C); and Standalone Placements (Panel D). The dependent variable is the three-day abnormal return. Independent variables are DISC: subscription price discount; %PR: percentage of pre-renounced shares; DPR: dummy variable equal to 1 when a blockholder or director pre-renounces shares, and zero otherwise; Takeup: is the percentage of shares taken up by existing shareholders; DUW: dummy variable equal to 1 if the issue is fully underwritten, and zero otherwise; DCLAW: dummy variable equal to 1 if the issue with clawback, and zero otherwise; and DBB: dummy variable equal to 1 if the standalone placement used the book-building process, and zero otherwise.

	Panel A: Rights offerings						Panel B: Open offers						
	1	2	3	4	5	6	7	8	9	10	11	12	13
Constant	0.0339 (2.05)**	-0.0819 (-2.26)**	0.0375 (2.34)**	-0.0787 (-2.15)**	-0.1093 (-2.29)**	-0.0735 (-2.63)***	0.0374 (3.24)**	-0.0143 (-0.75)	0.0309 (2.47)**	-0.0185 (-0.94)	0.0005 (0.05)	0.0006 (0.05)	-0.0263 (-1.25)
DISC	-0.2330 (-2.92)***	-0.2444 (-3.14)***	-0.2376 (-3.02)***	-0.2493 (-3.25)***	-0.2309 (-3.10)***		-0.1944 (-2.33)**	-0.1757 (-2.08)**	-0.1861 (-2.23)**	-0.1701 (-2.02)**			-0.1732 (-2.07)**
%PR	0.0267 (0.34)	0.0639 (0.81)			0.0634 (0.81)		-0.0026 (-0.11)	-0.0009 (-0.04)					-0.0025 (-0.10)
DPR			-0.0039 (-0.17)	0.0151 (0.64)					0.0091 (0.72)	0.0067 (0.51)			
Takeup		0.1484 (4.12)***		0.1474 (4.02)***	0.1485 (4.11)***			0.0843 (3.45)***		0.0836 (3.40)***			0.0820 (3.39)***
DUW					0.0262 (0.74)	0.0624 (2.15)**					0.0247 (1.78)*		0.0183 (1.37)
DCLAW												0.0285 (2.04)**	
Adj R²	0.0855	0.1810	0.0843	0.1760	0.1803	0.0157	0.0714	0.1197	0.0732	0.1206	0.0076	0.0141	0.1220
F statistic	11.56	17.42	11.40	16.88	13.27	4.61	10.65	11.97	10.92	12.07	2.92	4.59	9.41
P value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0329	0.0000	0.0000	0.0000	0.0000	0.0887	0.0331	0.0000
N	227	224	227	224	227	227	252	243	252	243	252	252	243

	Panel C: Combined open offer- private placements								Panel D: Standalone placements				
	14	15	16	17	18	19	20	21	22	23	24	25	26
Constant	0.0558 (4.19)***	0.0068 (0.27)	0.0530 (3.68)***	0.0038 (0.15)	-0.0332 (-1.89)*	-0.0582 (-1.87)*	0.0537 (3.25)***	0.0040 (0.14)	0.0262 (3.61)***	0.0353 (4.08)***	-0.0057 (-0.80)	-0.0013 (-0.16)	0.0323 (3.81)***
DISC	-0.4114 (-4.87)***	-0.4352 (-4.99)***	-0.4081 (-4.83)***	-0.4316 (-4.93)***			-0.4097 (-4.88)***	-0.4333 (-5.01)***	-0.3416 (-5.18)***	-0.3567 (-5.34)***			-0.3539 (-5.38)***
%PR	0.0000 (0.75)	0.0104 (0.15)						0.0085 (0.13)					
DPR			0.0062 (0.33)	0.0091 (0.48)									
Takeup		0.0848 (2.12)**		0.0845 (2.16)**				0.0852 (2.10)					
DUW					0.0393 (1.76)*		0.0030 (0.18)	0.0038 (0.19)			0.0269 (1.50)	0.0267 (1.48)	0.0171 (1.10)
DCLAW						0.0612 (1.85)*							
DBB										-0.0421 (-4.43)***		-0.0231 (-2.14)**	-0.0418 (-4.42)***
Adj R²	0.2556	0.2979	0.2560	0.2986	0.0107	0.0195	0.2557	0.2941	0.1838	0.2004	0.0038	0.0066	0.2007
F statistic	34.13	27.30	34.20	27.40	3.10	4.84	34.15	20.38	74.66	41.98	2.25	2.09	28.37
P value	0.0000	0.0000	0.0000	0.0000	0.0800	0.0289	0.0000	0.0000	0.0000	0.0000	0.1342	0.1257	0.0000
N	194	187	194	187	194	194	194	187	328	328	328	328	328

* Significantly different from zero at the 10% level; ** significantly different from zero at the 5% level; ***significantly different from zero at the 1% level.

Table 8: Modelling Expected Shareholder Takeup

Panel A models expected shareholder takeup in a Tobit regression setting. The dependent variable is the actual percentage takeup by existing shareholders. The independent variables are *DISC*: the subscription price discount; *RUNUP*: raw return for the one-year period prior to the announcement date (return from −260 to day −2); *LMV*: the logarithm of the market value of the issuing firm one month prior to the announcement; *IDYRISK:* the idiosyncratic risk measured as the standard error of the market model regression of daily stock returns over the period from day −260 to day −61; *BM*: book-to-market ratio measured as book value of assets to market value of assets; *LOP*: the natural logarithm of offer proceeds; *BH5*: blockholders' holding of 5% or more; and *BH3*: blockholders' holding of 3% or more. Panel B models the probability of choosing various SEO methods based on expected takeup variable developed from model A1 in Panel A of this table.

Panel A: Expected shareholder takeup in a tobit regression setting										
Model	C	DISC	RUNUP	LMV	IDYRISK	BM	LOP	BH5	BH3	Adj. R^2
A1	0.4153	0.2305	0.0165	0.0560	-2.1671	0.0732				0.1549
	$(10.85)^{***}$	$(4.08)^{***}$	$(2.36)^{**}$	$(9.48)^{***}$	$(-3.45)^{***}$	$(2.79)^{***}$				
A2	0.4230	0.2265	0.0168	0.0479	-2.2042	0.0682	0.0106			0.1541
	$(10.41)^{***}$	$(4.00)^{***}$	$(2.38)^{**}$	$(3.41)^{***}$	$(-3.49)^{***}$	$(2.48)^{**}$	(0.66)			
A3	0.3692	0.2565	0.0336	0.0452	-2.2745	0.0674	0.0183	0.0664		0.1587
	$(6.18)^{***}$	$(3.64)^{***}$	$(3.05)^{***}$	$(2.44)^{**}$	$(-2.62)^{***}$	$(1.91)^{*}$	(0.90)	(1.19)		
A4	0.3667	0.2561	0.0336	0.0450	-2.2600	0.0678	0.0178		0.0621	0.1581
	$(5.82)^{***}$	$(3.62)^{***}$	$(3.04)^{***}$	$(2.43)^{**}$	$(-2.60)^{***}$	$(1.92)^{*}$	(0.88)		(1.10)	

Panel B: Probit models—expected takeup versus various SEO types												
Model	SEO Type	C	ETAKEUP	McF R^2	LR statistic	Prob.	Model	SEO Type	C	ETAKEUP	McF R^2	LR statistic	Prob.
B1	RO-NP	-3.5556	3.8841	0.1019	96.7623	0.0000	B5	OOPP-NP	0.1438	-2.0463	0.0305	22.7340	0.0000
		$(-11.98)^{***}$	$(9.04)^{***}$						(0.46)	$(-4.18)^{***}$			
B2	RO-PR	-1.3633	-0.5127	0.0021	0.7600	0.3833	B6	OOPP-PR	-0.5075	-1.5051	0.0163	8.3608	0.0038
		$(-4.63)^{***}$	(-1.16)						$(-1.91)^{*}$	$(-3.72)^{***}$			
B3	OO-NP	-0.7416	-0.7743	0.0044	2.9935	0.0836	B7	SP-FP	0.6972	-2.0436	0.02894	33.5990	0.0000
		$(-2.93)^{***}$	$(-2.02)^{**}$						$(2.78)^{***}$	$(-5.28)^{***}$			
B4	OO-PR	-0.3867	-1.0392	0.0075	6.2171	0.0127	B8	SP-BB	-6.0764	6.2505	0.2574	118.2902	0.00000
		$(-1.70)^{*}$	$(-3.03)^{***}$						$(-11.56)^{***}$	$(8.91)^{***}$			

* Significantly different from zero at the 10% level; ** significantly different from zero at the 5% level; ***significantly different from zero at the 1% level.

This table models the probability of choosing three alternative SEO methods using multivariate probit regression analysis. Panel A presents the results for standalone private placements with fixed price. Panel B presents the results for rights offering (without pre-renouncement). Panel C presents the results for standalone placements with book-building. The independent variables are *DISC*: the subscription price discount; *IDYRISK*: the idiosyncratic risk measured as the standard error of the market model regression of daily stock returns over the period from day -260 to day -61; *LMV*: the logarithm of the market value of the issuing firm; *BM*: book-to-market ratio measured as book value of assets to market value of assets; *LNAGE*: the logarithm of age of the issuing firm; *RUNUP*: the raw return for the one-year period prior to the announcement date (return from -260 to day -2); *LOP*: the rights-issue size measured by the natural logarithm of offer proceeds; *TD/TA*: total debt to total assets; *NOCF/TA*: net operating cash flow to total assets; *EBIT/TA*: earnings before interest and tax to total assets; *BH5*: blockholders' holding of 5% or more; and *BH3*: blockholders' holding of 3% or more.

Panel A: Multivariate probit regression analysis of the decision to issue a standalone private placement with fixed-price																
Model	Constant	*DISC*	*IDYRISK*	*LMV*	*BM*	*LNAGE*	*RUNUP*	*LOP*	*TD/TA*	*NOCF/TA*	*EBIT/TA*	*BH5*	*BH3*	McF R^2	LR stat.	Prob.
A1	0.0947 (0.72)	-1.7570 (-5.49)***	8.0539 (3.19)***					-0.2800 (-7.70)***	-0.6944 (-2.62)***					0.1358	157.64	0.0000
A2	-0.6406 (-6.54)***	-1.7903 (-5.58)***	14.6050 (5.69)***				-0.0965 (-2.86)***		-0.8152 (-3.17)***					0.0663	76.99	0.0000
A3	-0.4042 (-2.27)**	-1.7522 (-5.81)***	12.0614 (4.89)***	-0.0616 (-2.24)**	-0.2158 (-1.75)*									0.0550	63.88	0.0000
A4	-0.3213 (-4.38)***	-1.4053 (-4.76)***							-0.9181 (-3.60)***		-0.3148 (-2.99)***			0.0433	50.33	0.0000
A5	-0.3145 (-4.30)***	-1.4066 (-4.77)***							-0.9011 (-3.55)***	-0.4313 (-2.98)***				0.0434	50.40	0.0000
A6	-0.5005 (-4.47)***	-1.6728 (-5.60)***	12.6688 (5.21)***			-0.1746 (-4.20)***								0.0625	72.60	0.0000
A7	-0.8102 (-7.72)***											0.4148 (1.89)*		0.0045	3.57	0.0587
A8	-0.8179 -6.39)***												0.3599 (1.55)	0.0030	2.41	0.1208
A9	-0.8274 (-5.64)***	-1.8980 (-4.90)***	14.4555 (4.64)***						-0.8852 (-3.15)***			0.3931 (1.67)*		0.0699	55.63	0.0000

	Panel B: Multivariate probit regression analysis of the decision to make a pure rights offering (without pre-renouncement)															
Model	Constant	DISC	IDYRISK	LMV	BM	LNAGE	RUNUP	LOP	TD/TA	NOCF/TA	EBIT/TA	BH5	BH3	McF R²	LR stat.	Prob.
B1	-1.4754 (-9.02)***	3.7618 (9.58)***	-25.6953 (-4.78)***				*	0.2339 (7.10)***						0.2181	207.00	0.0000
B2	-0.8057 (-7.39)***	3.9588 (8.55)***	-29.4289 (-5.23)***			0.2005 (2.07)**								0.1793	170.17	0.0000
B3	-1.8841 (-8.04)***	3.9417 (9.84)***	-25.1781 (-4.76)***	0.1700 (6.11)***	0.4570 (3.09)***									0.2099	199.22	0.0000
B4	-1.1990 (-7.37)***	3.7562 (9.69)***	-29.4065 (-5.12)***			0.2324 (4.77)***								0.1947	184.77	0.0000
B5	-1.4326 (-17.22)***	3.0643 (9.49)***							0.4960 (2.09)**		1.0984 (4.27)***			0.1346	127.81	0.0000
B6	-1.4873 (-17.09)***	3.1438 (9.57)***							0.4912 (2.03)**	1.7021 (5.37)***				0.1449	137.58	0.0000
B7	-0.4868 (-4.35)***											-1.0134 (-3.81)***		0.0255	17.16	0.0000
B8	-0.3756 (-2.76)***												-1.0519 (-3.88)***	0.0250	16.85	0.0000
B9	-1.5063 (-4.50)***	4.9844 (8.41)***	-29.6463 (-4.11)***	0.1211 (3.48)***	0.5475 (2.98)***							-0.7198 (-2.34)**		0.2584	174.28	0.0000
	Panel C: Multivariate probit regression analysis of the decision to issue a standalone placement with book-building															
Model	Constant	DISC	IDYRISK	LMV	BM	LNAGE	RUNUP	LOP	TD/TA	NOCF/TA	EBIT/TA	BH5	BH3	McF R²	LR stat.	Prob.
C1	-1.0461 (-7.01)***	-2.1955 (-3.91)***	-13.3315 (-2.86)***						0.1057 (0.71)					0.0721	33.11	0.0000
C2	-4.4371 (14.33)***			0.5561 (10.14)***										0.3866	177.66	0.0000
C3	-4.4139 (-12.27)***	-2.8515 (-4.32)***		0.5919 (8.95)***										0.4374	201.00	0.0000
C4	-1.2472 (-6.29)***	-2.3243 (-3.91)***	-12.1691 (-2.63)***		-0.3632 (-1.98)**	0.2176 (3.23)***								0.0997	45.83	0.0000
C5	-2.9642 (-17.12)***							0.4444 (9.73)***						0.2089	95.99	0.0000
C6	-2.8810 (-15.19)***	-2.9157 (-4.98)***						0.4907 (9.59)***						0.2727	125.33	0.0000
C7	-1.3546 (-18.23)***	-2.1581 (-3.85)***									1.3613 (3.86)***			0.0953	43.81	0.0000
C8	-1.3958 (-18.74)***	-2.1502 (-3.85)***								1.6607 (4.33)***				0.0957	43.99	0.0000
C9	-1.5976 (-25.00)***						0.2272 (3.92)***							0.0147	6.75	0.0094
C10	-0.9683 (-7.07)***											-1.6105 (-4.48)***		0.0573	18.78	0.0000
C11	-0.8571 (-5.06)***												-1.5064 (-4.16)***	0.0489	16.02	0.0000

* Significantly different from zero at the 10% level; ** significantly different from zero at the 5% level; ***significantly different from zero at the 1% level.

Table 10: Quality of the Firm, Ownership Concentration and the Subscription Price Discount

This table provides censored Tobit regression results. The dependent variable is *DISC*: the subscription price discount. The independent variables are: *IDYRISK*: the idiosyncratic risk measured as the standard error of the market model regression of daily stock returns over the period from day -260 to day -61 for each issuing company; *BH3*: Blockholders' holding of more than 3% shares; *LOP*: natural logarithm of offer proceeds; *LMV*: the logarithm of the market value of the issuing firm; *DPR*: dummy variable which takes a value of 1 when a blockholder or director pre-renounce their shares; *DUW:* dummy variable equal to 1 if the issue is fully underwritten and zero otherwise; and *DBB*: dummy variable which takes a value of 1 if a standalone placement is issued using book-building and zero otherwise. Panel A reports the full sample results; Panel B the results for rights offerings; Panel C the results for standalone placements; Panel D the results for combined open offer/private placements; and Panel E the results for open offers.

	Panel A: Total sample				Panel B: Rights offerings					Panel C: Standalone placements						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Constant	0.0530	0.0991	0.1543	0.1225	0.1410	0.0954	0.2351	0.2704	0.2768	0.0102	0.718	0.0879	0.0770	0.0588	0.0814	0.1037
	(6.13)***	(5.55)***	(9.26)***	(4.32)***	(9.40)***	(2.28)**	(4.07)***	(8.63)***	(4.17)***	(0.66)	(2.39)**	(8.53)***	(2.49)**	(2.59)**	(9.06)***	(2.02)**
IDYRISK	2.5841	2.4109		2.3651	3.3035	3.5710	3.6195		3.6945	2.1625	1.7247		1.6242			1.140
	(8.44)***	(7.71)***		(5.76)***	(5.46)***	(5.55)***	(6.09)***		(4.79)***	(4.28)***	(3.10)***		(2.85)***			(1.43)
BH3			-0.0733	-0.0867				-0.1013	-0.0823					0.0260		-0.0198
			(-2.39)***	(-2.78)***				(-1.46)	(-1.48)					(0.58)		(-0.41)
LOP		0.0302		0.0190		0.0227	0.0221		0.0154		0.0052		0.0068			-0.0063
		(4.80)***		(2.60)***		(1.57)	(1.57)		(0.83)		(0.64)		(0.85)			(-0.81)
LMV		-0.0292		-0.0206		-0.0070	-0.0049		0.0003		-0.0138		-0.0134			-0.0092
		(-5.26)***		(-3.12)***		(-0.49)	(-0.38)		(0.02)		(-1.82)*		(-1.68)**			(-1.14)
DPR							-0.0519		-0.0737							
							(-2.36)**		(-2.80)***							
DUW							-0.1502		-0.1567				-0.0257		-0.0344	-0.0374
							(-3.62)***		(-3.78)***				(-1.27)		(-1.64)	(-1.70)*
DBB												-0.0630	-0.0185			0.0207
												(-2.33)**	(-0.78)			(0.85)
Adj R²	0.0888	0.1221	0.0060	0.1159	0.1488	0.1632	0.2610	0.0058	0.2944	0.0712	0.0921	0.0180	0.0886	-0.0075	-0.0015	0.0848
N	1001	1001	692	691	227	227	227	159	159	328	328	328	328	225	328	225

	Panel D: Combination of open offers and private placements							Panel E: Open offers					
	17	18	19	20	21	22	23	24	25	26	27	28	29
Constant	0.0164	0.0681	0.1036	0.2099	0.1795	0.2189	0.1384	0.0220	0.1752	0.1923	0.0398	0.1024	0.1066
	(0.77)	(1.51)	(2.23)**	(8.61)***	(9.14)***	(5.15)***	(1.87)	(1.51)	(5.03)***	(5.01)***	(1.38)	(4.92)***	(1.82)*
IDYRISK	4.0717	3.8467	3.5882				3.4546	2.5935	1.9131	1.8886			2.3863
	(5.76)***	(5.24)***	(4.91)***				(3.40)***	(4.59)***	(3.72)***	(3.87)***			(4.07)***
BH3						-0.1872	-0.1168				0.0664		0.0329
						(-2.46)**	(-1.69)*				(1.35)		(0.72)
LOP		0.0023	0.0031				-0.0270		0.0337	0.0249			0.0251
		(0.11)	(0.16)				(-1.14)		(2.25)***	(1.71)*			(1.51)
LMV		-0.0160	-0.0080				0.0187		-0.0593	-0.0525			-0.0426
		(-0.97)	(-0.50)				(0.88)		(-4.36)***	(-4.10)***			(-2.83)***
DPR			-0.0464		-0.0813		-0.0425			-0.0624			-0.0372
			(-1.92)*		(-3.11)***		(-1.71)*			(-3.69)***			(-1.93)*
DUW			-0.0590	-0.0979			-0.0635			-0.0207		-0.0164	-0.0231
			(-1.86)*	(-3.27)***			(-1.88)*			(-1.03)		(-0.68)	(-1.05)
Adj R²	0.1671	0.1712	0.2029	0.0398	0.0294	0.0394	0.2313	0.1021	0.1285	0.2764	-0.0078	-0.0080	0.2110
N	194	194	194	194	194	129	129	252	252	252	178	252	178

* Significantly different from zero at the 10% level; ** significantly different from zero at the 5% level; ***significantly different from zero at the 1% level.

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