

## **Investor Relations and IPO Performance \***

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# Investor Relations and IPO Performance

## Abstract

We analyze the value of investor relations (IR) strategies to IPO firms. Firms that are less visible and have inexperienced management tend to hire IR consultants prior to the issue date. IR consultants help create positive news coverage before an IPO event as reflected in a more optimistic tone of published media. Their presence is associated with a better (worse) IPO performance in the short-term (long-term). Furthermore, IR consultants' efforts attract some distant institutions into the issue, however a large percentage of post-IPO ownership still belongs to individual investors. Finally, IR-backed IPOs exhibit a disproportionately higher participation by the insiders. These findings suggest that IPO firm's IR programs are short-term oriented and they aim to facilitate the insiders' exit strategies.

*Keywords:* Initial public offering; Investor relations; Media; Institutional investors.

*JEL classification:* G12, G14, G30, L82.

“Publicity is absolutely critical. A good PR story is infinitely more effective than a front page ad.” – Richard Branson, the founder of Virgin Group.

## 1. Introduction

Prior studies suggest that the success of an initial public offering (IPO) depends on investor recognition of the firm (e.g., Miller, 1977; Merton, 1987; Derrien, 2005; Ljungqvist, Nanda, and Singh, 2006; Leavy and Sloan, 2008; Blankespoor, Hendricks, and Miller, 2017). However, IPO firms are often newly established firms with limited history, inexperienced management, and scant know-how in promoting their firms. Moreover, IPO firms are restricted by the “quiet period,” which prevents them from directly promoting their shares.<sup>1</sup> As a result, many recent issuing firms have decided to hire an investor relation (IR) firm – an external consultant specializing in public/investor relations – to improve their visibility and to ensure the success of their offering. While in year 2013 more than fifty percent of all IPOs in the US markets have hired an IR consultant, there is little academic research examining the role of public relations in the primary markets (see Karolyi and Liao, 2015, for a discussion). Our study fills this gap in the literature by examining the role(s) played by IR consultants around an IPO event.<sup>2</sup>

The IR consultants engage in different public relations strategies and promote firms i) by managing relations with financial press and improving the tone of the media coverage; ii) by arranging direct communication channels between firm managers and targeted institutional investors; and iii) by increasing the quality and timeliness of corporate disclosures (for

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<sup>1</sup> During the IPO process, issuing firms are subject to a “quiet period” starting with the filing of the registration statement with the Securities and Exchange Commission (SEC) till the time the SEC declares the statement to be effective. During this period, IPO firms are not allowed to advertise their equity offering. However, prior research (e.g., Bradley, Jordan, and Ritter; 2003) suggests that IPO firms still promote their shares during the quiet period, and third-party news articles are released even during the quiet period (Liu, Sherman, and Zhang, 2014). We show that some of these news articles’ tone is positively spun by the IR consultants, who are hired by the IPO firm. Hence, our finding is in line with Bradley et al. (2003) in that some IPO firms find a way to promote their shares even during the quiet period.

<sup>2</sup> While IPO firms may engage in IR activities through using internal resources (e.g., through the CEO or an IR manager), we follow Solomon (2012) and focus on those firms that use an external IR consultant for this purpose. An internal IR manager could be part of the management team and, thus, an endogeneity between firm-level news and media reporting is more likely to exist. In addition, we assume that IPO firms would use external IR activities when they lack IR expertise internally and, therefore, it is less likely that our results are driven by internal IR activities.

further details on the IR process, see Brennan and Tamarowski, 2000; Hong and Huang, 2003; and Bushee and Miller, 2012). They write and distribute press releases, speeches, pitches that are shared with journalists, and organize special events designed for media relations. They analyze their clients, find the optimistic messages and translate them into positive media stories. This allows IR consultants to provide their clients “with earned or free media – stories appearing on websites, newspapers, magazines, and TV programs – as compared to paid media or advertisements” (Wynne, 2013).<sup>3</sup> For firms going public in particular, IR consultants provide services that include IPO roadshow slide development, “pricing day” business press considerations, and preparation for first earnings release and conference call.<sup>4</sup> Given the limited economies of scale related to developing an internal IR division within a young and relatively small firm<sup>5</sup>, IR consultants can help issuing firms shape their communication plans towards investors, analysts, press, etc.

Despite the increasing importance of investor communications and disclosures in practice, there is still limited and mixed evidence on the role and the economic value of IR activities. Some researchers find that IR strategies for seasoned firms are primarily long-term oriented and aim at correcting stock valuation in the long-run (e.g., Brennan and Tamarowski, 2000; Bushee and Miller, 2012; Kirk and Vincent, 2014; Karolyi and Liao, 2015). They argue that IR activities help seasoned firms develop communication practices that are expected to mitigate asymmetric information in financial markets. These activities are intended to attract more institutional investors, improve the accuracy of analyst forecasts, increase the liquidity of shares, and reduce the cost of capital.

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<sup>3</sup> Robert Wynne, What does a public relations agency do? Forbes, Apr 10, 2013. <http://www.forbes.com/sites/robertwynne/2013/04/10/what-does-a-public-relations-agency-do/#4ed9335d62c3>

<sup>4</sup> See Appendix B for a list of IPO services provided by BlueShirt, one of the more active IR consultants in our sample.

<sup>5</sup> Pinpointing an IPO firm’s costs of hiring an outside IR consultant is challenging as these costs can vary substantially from IPO to IPO and from consultant to consultant. However, according to Adelina Paltea, “Show me the money – PR agency pricing structure fundamentals” <http://getmustr.com/blog/show-money-pr-agency-pricing-structure-fundamentals-2/>, a typical start-up firm is expected to pay somewhere between \$5,000 to \$10,000 retainer fees per month, with minimum commitment of six months. Most reputable IR agencies would have retainers ranging from \$20,000 to \$50,000 per month. Some IR consultants are also getting paid project-based fees. However, pay-for-performance types of pay structures do not appear to be common form of compensation for the IR consultants advising IPO firms.

However, consistent with the principal-agent problem between insiders (managers) and outsiders (potential investors), another stream of literature suggests that some firms use IR strategies opportunistically around certain important corporate events. For example, Hong and Huang (2005) argue that IR activities may lead to a divergence of interest between insiders (management) and dispersed outside shareholders. They show that IR activities may be used by insiders to enhance the liquidity of their block shares before they unload those shares, rather than to correct long-run stock misvaluations. Furthermore, Solomon (2012) finds that IR consultants spin their clients' news by creating more positive media coverage around a specific corporate event. This yields momentary improvements in valuation by enhancing market perceptions around preliminary earnings announcement events, but these improvements reverse following the actual earnings announcements.<sup>6</sup>

Using a sample of 380 IPOs from 2009 to 2013, whose IR consultant data is manually collected, we find evidence that IR consultants help IPO firms by improving media coverage in order to increase the short-term demand for the issue during the IPO event. These IR consultants are more likely to be hired by smaller IPOs and by those with lower CEO human capital (inexperienced CEOs). The presence of IR consultants is associated with lower cost of capital at the offer price, higher price revisions after the book-building process, stronger investor demand during the first trading day (higher underpricing), and higher post-issuance market liquidity (during the one-month period following the offering). However, we find that the presence of IR consultants is negatively related to the one-year buy-and-hold abnormal returns following the end of the first-day of trading. Thus, IPO firms' IR strategies seem to be event driven (a la Salomon, 2012) and primarily target short-term improvements (during and immediately after an IPO event). We also find that the participation ratio of IPO firm's insiders (old shares relative to the newly issued shares) is higher for the IR-backed IPOs. This finding, combined with the short-term over performance result described above, suggests that

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<sup>6</sup> In line with this stream of literature, Cohen, Lou, and Malloy (2013) show that firms may control information flow to the market through selecting bullish analysts during earnings conference calls, thus resulting in negative future earnings surprises and more insider selling.

IR consultants' primary function is to help IPO insiders exit successfully their investments during the public offering.

We further analyze how IR consultants help issuing firms. First, IR consultants help spin their clients' news and use the tone of the media news as a way to publicize the IPO (*the positive spin hypothesis*). We find a positive relation between the presence of IR consultants and the optimistic tone in the media, which is, in turn, positively (negatively) related to short-term (long-term) IPO performance. Our results control for the endogeneity of hiring an IR consultant, and show further robustness to controlling for the total number of media articles published about this IPO firm (Liu, Sherman, and Zhang, 2014).

Second, another strategy of IR consultants is to arrange face-to-face meetings and managerial presentations in front of targeted institutions in hope of providing direct communication channels between the firm management and institutional investors (Brennan and Tamarowski, 2000; Bushee and Miller, 2012). We find that such efforts do succeed in bringing relatively larger fraction of "distant" institutions (novice and inexperienced IPO investors) into the IR-backed issues. However, since sophisticated large institutions are better at interpreting public information (e.g., news articles with positive spin) and individual investors tend to misinterpret the relevance of such information (Field and Lowry, 2009), IR consultants efforts may not be enough to convince large and experienced institutional investors to invest in these smaller, less-profitable IR-backed IPOs. That is, larger more sophisticated institutional investors would probably be more effective in avoiding the long-run underperformance of IR-backed IPOs. Indeed, we find that at end of the first quarter following the IPO date, the ownership of the IR-backed IPOs is primarily constituted of individual investors and small institutions as well as "distant" institutions with scant experience in IPO investing.

To further corroborate our findings and mitigate endogeneity concerns, we use two different identification strategies. We first utilize a tightly matched control sample of non-IR-backed IPOs and apply a difference-in-difference analysis, which yields results similar to our

main findings. In our second identification strategy we use the staggered termination dates of the IR programs after the IPO event. The results show that the sooner the IR consultants leave the firm, the sooner the stock performance turns negative, which suggests that the IR program was designed with short-term goals in mind. This evidence implies a close link between the short-term orientation of an IR program and the post-IPO stock performance of the corresponding firm.

Our paper contributes to the existing literature in two main ways. First, we contribute to the emerging literature on the role of IR activities around major corporate events. To our knowledge, there is no research that examines the role of IR consultants during an IPO process, a major corporate event in the life cycle of firms (Shane and Stuart, 2002). An IPO represents an interesting setting to examine IR activities as most private firms going public are small (i.e., less visible) firms that lack the expertise in communicating with investors and financial markets. IPO firms are also characterized by heterogeneous investor expectations and high degree of value uncertainty (Miller, 1977; Derrien, 2005; Ljungqvist et al., 2006). As such, our study provides new evidence on the conditions under which IPO firms hire an IR consultant, and the potential outcomes of such decision on IPO performance. More specifically, we show that IR consultants could be considered as a resource that complements the missing skills – experience and education – of CEOs at the time of public offerings, and supports small (i.e., less visible) IPO firms. We develop a measure of an IR consultant’s popularity with prior IPOs (i.e., IR consultant’s reputation), and we show that highly reputable IR consultants are more valuable to the IPO firms. IR consultants’ presence adds value and affects IPO performance even if an IPO firm has a highly-reputable underwriter.

Second, we contribute to the growing literature that relates media news to stock prices (e.g., Tetlock, 2007; Fang and Peress, 2009; Engelberg and Parsons, 2011; Gurun and Butler, 2012) and media news to IPO performance (e.g., Cook, Kieschnick, and Ness, 2006; Liu et al., 2014). We find that IR strategies increase the coverage of good news relative to the bad news, which influences unsophisticated investors with limited attention (Hirshleifer and

Teoh, 2003; Solomon, 2012) and tendency to misread such news (Field and Lowry, 2009). This creates short-lasting improvements in the IPO stock's valuation concentrated around the offering date. These results are consistent with those of Solomon (2012), who finds similar pattern of positive media coverage and momentary valuation improvements around the earnings announcements.

In the following section, we discuss the related literature and our hypotheses. Section 3 presents our sample and descriptive statistics. Section 4 provides our main results. Section 5 conducts our identification tests, and section 6 provides the results from further investigations. Finally, section 7 concludes.

## **2. Related literature and hypotheses**

### *2.1. IR consultants and IPO performance*

IPOs are typically small and newly-established firms with limited managerial experience. Compared to large mature firms, IPO firms usually lack the expertise in investor relations that might affect the success of their public offerings. This shortage could be mitigated by hiring an IR consultant, who will help build relationships with institutional investors, as well as with the financial press. Given the disclosure limitations imposed on IPO firms during the “quiet period,” media news could play a significant role in the development of firm visibility and the assessment of its value (Drake, Guest, and Twedt, 2014).

Prior IPO literature examines a large number of factors that affect IPO success. Such factors range from firm characteristics (Willenborg, Wu, and Yang, 2015), the human capital of the CEO (Kaplan, Klebanov, and Sorensen, 2012; Cadman and Sunder, 2014), to the presence of sophisticated investors such as venture capitalists (Jain and Kini, 2000). There is also some evidence showing that pre-IPO promotion efforts, including media coverage and product market advertising, positively affect short-term (Benveniste and Spindt, 1989; Purnanandam and Swaminathan, 2004; DuCharme, Malatesta, and Sefcik, 2001; Cook et al.,



2006; Chemmanur and Yan, 2009) and long-term (Liu et al., 2014; Chemmanur and Yan, 2017) IPO performance.

Considering that IPO failures are extremely costly (Dunbar, 1998), we argue that IPO firms have strong incentive to hire IR consultants in order to succeed in their equity offerings specifically, rather than to correct a long-term misvaluation (Hong and Huang, 2005). Hence, IR consultants' efforts would focus on activities that mainly promote the equity offerings and increase the visibility of the IPO firms around the offering date. This would ultimately influence investor behavior (Andreassen, 1990), and increase the liking and acceptance of IPO firms by some investors who tend to buy "attention-grabbing stocks" that are in the news (Barber and Odean, 2002; Tetlock, 2007; Barber and Odean, 2008; Liu, Lu, Sherman, and Zhang, 2016). These arguments are in line with a stream of literature which shows that media coverage influence investor demand (e.g., Huberman and Regev, 2001; Tetlock, 2007; Tetlock, 2011; Gurun and Butler, 2012; Chen, Pantzalis, and Park, 2013; Ahern and Sosyura, 2014; Hillert, Jacobs, and Müller, 2014; Solomon, Soltes, and Sosyura, 2014).

Furthermore, through increasing the visibility of IPOs, IR consultants could increase investors' expectations, which in turn would lead to short-term upward pressure on stock prices (Cornelli, Goldreich, and Ljungqvist, 2006; Ljungqvist et al., 2006; Cook et al., 2006). Hence, IPOs that are advised by IR consultants are likely to attract more investors to the issue, and the demand for their shares would be higher. As a result, these IPOs would have a lower cost of capital at offering price, exhibit higher price revision and underpricing, and have better market liquidity compared to other IPO firms. Thus, our first hypothesis can be written in several parts as follows:

***Hypothesis 1.*** *Compared to other IPOs, IR-backed IPOs would be more successful in the short-run (during and just-after the IPO event). This success would be observable in:*

***H1A:*** *Lower cost of capital paid during the offering (lower COCO).*

***H1B:*** *Higher price revision during the book-building process.*

***H1C:*** *Higher total investor demand for the issue as reflected in the higher first-day returns.*

***H1D: Better market liquidity immediately after the offering (first month of trading).***

As the high level of investors' expectations cannot be sustained, a stock price underperformance in the long-run should be expected. Hence, IPOs with IR backing would then underperform other IPO firms in the long-term, as the asymmetric information about them dissipates, and the investors' information becomes more accurate. Our second hypothesis can be written as follows:

***Hypothesis 2. The long-term performance is lower in the IPOs advised by an IR consultant.***

Next, we analyze whether IR consultants use the tone of the media news to attract more investors, and we examine the impact of their presence on the involvement and the quality of institutional investors at the time of IPO.

## *2.2. IR consultants and the tone of media news*

Prior studies use computer-aided textual parsing techniques to examine the effect of the linguistic tone in the media news on investors' reaction. For instance, Tetlock (2007) finds that high media pessimism is associated with a downward pressure on stock prices followed by a revision to fundamentals. Gurun and Butler (2012) find that local media reports about local firms produce hype in the market since these reports contain fewer negative words compared to the same media reports about nonlocal firms. Furthermore, Hillert et al. (2014) show that, conditional on the tone of media news, firms covered by the media exhibit stronger momentum that reverses in the long-term.

Other related studies also show that firms manage the tone of their earnings press releases and of other disclosure forms with the purpose of influencing investors' reaction (e.g., Schleicher and Walker, 2010; Davis and Tama-Sweet, 2012; Loughran and McDonald, 2013; Huang, Teoh, and Zhang, 2014). For example, Davis and Tama-Sweet (2012) find that managers of high growth firms and firms that exactly meet or just beat earnings benchmarks in the current quarter report a lower proportion of total pessimistic language in their earnings press releases relative to the Management, Discussion & Analysis (MD&A) section. Their results suggest that managers omit or shift pessimistic language from their earnings press

releases when they have strong incentives to report strategically. Loughran and McDonald (2013) report that the tone of the S-1 forms filed by the IPO firms, in terms of its definitiveness and clarity, affects the first-day returns, absolute offer price revisions, and subsequent stock volatility.

More closely related to our study is the work of Solomon (2012). Using the linguistic tone of the press release around earnings announcements, Solomon (2012) finds that the IR consultants increase the media coverage of their clients' positive news relative to negative news, which he refers to as the spin hypothesis. He argues that if investors face costs and difficulties in processing news stories and use media reports when forming expectations, then more positive media coverage may cause investors to bid up the price.

Given that it is easier for the IR consultants to produce more media coverage when the news is positive, a disproportionately greater coverage of positive news than negative news would attract more investors, sentiment investors in particular. An IR consultant might thus use the positive tone in the news as one of the ways to influence performance around the IPO date. However, the revelation of hard information or the failure to maintain high investor sentiment in the long-term (a la Salomon, 2012) may lead to lower long-term performance (i.e., stock price reversal). Hence, we hypothesize that IR consultants spin their clients' news and use the optimistic tone in the media news as a channel to publicize an IPO and influence its short-term performance:

***Hypothesis 3 (the positive spin hypothesis).*** *Compared to other IPOs, IR-backed IPOs have more optimistic tone in the media news, and this optimistic tone is positively (negatively) related to short-term (long-term) IPO performance.*

### *2.3. IR consultants and institutional investors*

IR consultants' primary role during an IPO appears to be formulating and spreading a positive message about their clients by spinning the tone of the news articles released to all investors. As hypothesized above, we expect this spin to increase the total demand for IR-backed IPOs during the offering. However, who creates this demand and which investors are

more susceptible to this positive spin remains an open question. These issues are the focus of our next hypothesis.

Prior research on the nature of investors participating in public offerings suggests that individual investors are attracted to “attention-grabbing stocks” that are in the news, and this leads to poor subsequent returns for them (Barber and Odean, 2008). In contrast, institutional investors are better in interpreting the readily available information, and thus they are less prone to be drawn into low-quality IPOs (Field and Lowry, 2009).

Determining which IPO firm is of low quality is a challenging task even for experienced investors. Institutional investors have advantages on this, as they are being favored by the underwriters and, consequently, they are able to obtain higher allocations in better-performing IPOs (Boehmer, Boehmer, and Fische, 2006). Similarly, Chemmanur, Hu, and Huang (2010) claim that institutions have some private information, which allows them to avoid underperforming IPOs, and to focus on the ones that have above-average returns in the first few months after the IPO date. In general, institutional investors are on average “smart” investors who are able to identify above-average investments (Gibson, Safieddine, and Sonti, 2004), and they are less likely to be influenced by media news than sentiment investors (Gurun and Butler, 2012). For instance, Chen, Harford, and Li (2007) find superior institutional ability in active monitoring of merger deals, which yields them superior returns in the long-run. Collectively, these papers suggest that large sophisticated institutions have some unique advantage that individuals may not have. This unique advantage could be private information, more diverse resources, or more effective analytical tools to interpret the publicly available information. Or it could simply be that individuals misinterpret the relevance of readily available public information.

However, not all institutional investors are “smart.” A recent study by Edelen, Ince, and Kadlec (2016) suggests that many institutional investors invest contrary to “anomaly prescriptions,” and thus have a poor long-run performance. IR consultants’ efforts towards establishing “direct access” channels between the firm management and institutional

investors could increase the participation of some “distant institutions” (institutions who usually do not invest in IPOs). Some institutional investors could knowingly participate in the IR-backed issue with the expectations of a higher first-day returns and quick profits. Therefore, we expect to see higher proportion of distant institutions invested in the IR-backed IPOs, as such institutions are not experienced in investing in “fresh” IPO stocks and are thus, more likely to respond to the IR consultants’ salesmanship.

In the long-run, however, IR-backed IPOs – who tend to be smaller, less-profitable, and with inexperienced CEOs – are not likely to attract as many institutional investors as the other IPOs can. Thanks to the IR consultants’ media efforts, there is more distorted information about these IR-backed IPOs. The unsophisticated investors (individuals, distant or low-quality small institutions), who tend to misinterpret the relevance of such information, would be more likely to create the demand for such attention-grabbing IPO stocks. In contrast, the sophisticated large institutional investors and those used to invest in IPOs are better at interpreting public information, and they will be more effective in avoiding the long-run underperformance of the IR-backed IPOs (by not investing in them or by quickly divesting out of them). Hence, we expect:

***Hypothesis 4A.** Compared to other IPOs, the IR-backed IPOs would have lower ownership by institutional investors.*

***Hypothesis 4B.** Compared to other IPOs, the IR consultants’ “direct-access” efforts will attract more distant institutions into the IR-backed IPOs.*

***Hypothesis 4C.** Compared to other IPOs, IR-backed IPOs would have higher proportion of smaller unsophisticated institutional investors.*

### **3. Sample and descriptive statistics**

#### *3.1. Sample*

Our IPO data comes from Securities Data Corporation (SDC) New Issues for the period of 2009 to 2013. Out of the entire population of 674 IPOs in the U.S. conducted during

that period, we first exclude 120 IPOs that are units, REITs and other special investment vehicles. We then exclude 88 IPOs for which the offer price is less than 5 dollars and 75 IPOs that are in the financial sector. To identify whether an IR consultant is hired by the IPO firm prior to the issuance date, we examine whether the IPO announcement includes an IR consultant as a contact.<sup>7</sup> Out of the remaining 391 IPOs, we exclude 11 IPOs for which we could not identify the contact party in the IPO announcement. Hence, our final sample consists of 380 IPOs, for which we obtain financial data from the IPO prospectuses and stock prices as well as market liquidity data from CRSP database.<sup>8</sup>

For each IPO, all media news articles about the IPO are retrieved from Lexis-Nexis database during the 90 days period prior to the IPO date. To measure the tone in the media news, we employ DICTION, a textual-analysis dictionary-based software that counts words characterized by linguistic theory (Hart, 2000, 2001). To obtain a measure of net optimism in the media news, we first upload the list of positive and negative words as classified by Loughran and McDonald (2011; 2016) into DICTION software.<sup>9</sup> We then subtract the percentage of negative, or pessimistic, words from the percentage of positive, or optimistic, words relative to the total number of words in a given media article.

Table 1 reports the year and industry distribution across our final sample of 380 IPOs. Panel A shows that, during the sample period (2009-2013) which starts after the financial crisis, there is almost a steady increase in the number of IPOs. With one year's exception (in 2010), the proportion of IR-backed IPOs also has been increasing from 0.306 in 2009 to 0.529 in 2013; an increase of 73% in five years. This suggests a substantial increase in popularity of IR programs among the recent IPOs conducted in US. For the industry distribution, Panel B shows that the sample IPOs are spread across the different industries but

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<sup>7</sup> As an example, see the IPO announcement of Five Below using the following link: <http://investor.fivebelow.com/releasedetail.cfm?ReleaseID=693218>.

<sup>8</sup> Our final sample involves 42 different IR consultants, led by ICR and Blueshirt who consulted a significant fraction of our sample IPOs (48 and 45 IPOs, respectively).

<sup>9</sup> The lists of words classified into various categories (negative, positive, uncertainty, etc.) are available through: [https://www3.nd.edu/~mcdonald/Word\\_Lists.html](https://www3.nd.edu/~mcdonald/Word_Lists.html).

are more concentrated in SIC 2-3 (manufacturing) and SIC 7 (personal, business, and recreation services) with 40% and 30% of total IPOs, respectively. With respect to the proportion of IPO firms that hire IR consultants in each industry, SIC 7 has the largest proportion with 51% and then comes SIC 2 with 46%.

**[Insert Table 1 Here]**

Next, we describe our indicators of short- and long-term IPO performance.

*3.2. Measuring cost of capital at offer (COCO)*

To calculate the cost of capital paid (implicitly) by the issuing firm during the offering (i.e., cost of capital at offer price or COCO), we estimate the relative valuation ratios for each IPO firm. In line with prior research in Purnanandam and Swaminthan (2004) and Colak, Durnev, and Qian (2016), we use relative (or adjusted) valuation ratios at the offer price. Specifically, we calculate two price-to-value (P/V) ratios where P is the IPO offer price and V is the “imputed value.” To calculate the IPO firm’s imputed value V, we rely on industry peers’ price multiples. V is calculated using a matching seasoned firm’s market price multiples and the IPO firm’s sales and EBITDA. For each IPO firm, we identify the closest comparable firm with similar sales and EBITDA (earnings before interest, taxes, depreciation and amortization) in the same industry based on the data available in the fiscal year prior to the IPO. Specifically, we start with all firms listed in both CRSP and Compustat. We then exclude firms that do not have ordinary common shares, REITs, close-end funds or ADRs, and all firms with a stock price that is less than 5 dollars at the end of the fiscal year prior to the IPO. We also exclude firms that went public within the three years before the sample firm IPO date. We then focus on firms in the same 4-digit SIC as the sample firm at the IPO date, and we identify the closest comparable firm in terms of sales and EBITDA within the +/-25% range. When there is no perfect matching, we gradually use the 3-digit, 2-digit, and 1-digit SIC. Our comparable same-industry matching sample includes 121 comparable firms within

the same 4-digit SIC, in addition to 117, 63, and 79 firms that were matched at the 3-, 2-, and 1-digit SICs, respectively.

Thus, the P/Sales (P/EBITDA) ratio for the IPO firm is calculated as the ratio between market capitalization calculated at the offer price and the sales (or EBITDA) of the issuing firm during the last fiscal year prior to the IPO date. For its matching firm, we use the closing price and shares outstanding on the IPO date (as provided in CRSP). The value of P/EBITDA is set to missing if EBITDA is negative. Adjusted versions of these measures are calculated as the IPO offer-price multiple relative to the matching firm's market price multiple. That is,

$$Adjusted\ P/Sales = (P/V)_{Sales} = \frac{(P/Sales)_{IPO}}{(P/Sales)_{Match-Firm}} \quad (1)$$

$$Adjusted\ P/EBITDA = (P/V)_{EBITDA} = \frac{(P/EBITDA)_{IPO}}{(P/EBITDA)_{Match-Firm}} \quad (2)$$

We also consider the IPO's *Price Revision* (the percentage change between the mid-price of the initial price range and the offer price) observed after the roadshows as an indirect measure of whether and by how much the cost of capital has increased or decreased after the information from the initial investor demand is incorporated into the offer prices.

### 3.3. Measuring the aftermarket performance of an IPO

To gauge the performance of an IR-backed IPO in the immediate aftermarket period (first few days after the event), we use IPO underpricing, the bid-ask spread of its shares, and its stocks trading volume. An IPO's *Underpricing*, which is equal to the ratio of the difference between the closing price on the first day of trading and the offer price to the offer price, has been used as an indicator of short-term performance of an IPO (Lowry and Shu, 2002; Bradley, Cooney, Jordan, and Singh, 2004; Cook et al., 2006). We examine also the association between the presence of an IR consultant and the market liquidity of an IPO's shares by using two proxies. Specifically, we use the *Bid-Ask Spread*, which is equal to the average daily closing spread ((bid-ask)/midpoint of the price range) during the one-month



period following the end of the first-day of trading, and *Trading Volume*, which is equal to the average number of daily traded shares during the one-month period following the end of the first-day of trading.

Finally, we measure the long-run aftermarket performance of an IPO using the buy-and-hold abnormal return, *BHAR*, over the one-year (12 months) period following the end of the first-day of trading.<sup>10</sup>

### 3.4. *Measuring institutional investors' involvement around IPOs*

To measure the extent to which institutional investors are involved with an IPO firm, we follow Field and Lowry (2009), and collect data on post-IPO institutional investors' involvement, using Thomson 13F Institutional Holdings database during the first quarter following the IPO date. Given that we are interested in the impact of IR consultants on outside investors, we focus on the voluntary post-IPO holdings by each institution, and exclude pre-IPO investors using the list of initial investors in the IPO prospectus (i.e., VC firms and any other institutional investors). We also exclude any institutional investor with more than 15% of the shares offered in the IPO based on the assumption that one entity is extremely unlikely to obtain such a large stake during the book-building period, suggesting that it probably owned these shares prior to the IPO (Field and Lowry, 2009). We first calculate the proportion of *Distant Institutional Investors* within an IPO firm's institutional investors' pool measured as of the end of the first post-IPO quarter. *Distant* investors are institutions that have not invested in any IPO during the past three years. An institution is considered to have invested in a IPO if it reports holdings in this IPO's shares within 120 days of the IPO date, which is in line with the methodology in Field and Lowry (2009, pages 492-493). We then compute post-IPO *Institutional Ownership* as the total number of shares owned by each institution and divided by the number of shares offered, i.e., the float, which is consistent with Field and Lowry (2009).

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<sup>10</sup> In a robustness test, we also utilize calendar-time portfolio approach in calculating the 12-month post-IPO returns. Our qualitative conclusions are unaffected when we use this alternative methodology.

We, next, analyze whether IR-backed firms are associated with smaller institutions. As a proxy for an institution's size we use its portfolio's size (in dollars). Smaller institutions are unlikely to be trusted by the retail investors, and thus they are unlikely to amass large retail investor capital. More specifically, to measure the size, of institutional investors, we first collect the size of their investment portfolios during the IPO year. We then sort them into quintiles, and calculate the proportion of institutional investors within the lowest four quintiles, excluding the highest quintile, for each IPO firm at the end of the first quarter following the IPO date (*Small Institutional Investors*).

### 3.5. Descriptive statistics

Table 2 reports the mean and standard deviation for the variables used in our study. All variables are defined in Appendix A. About 40.5% of IPOs in our sample have hired IR consultants prior to the IPO date. On a scale from 1 to 11 (least to most reputable IR consultants based on the total market capitalization of the IPOs it advised during the three-year period prior to the current IPO date), the mean reputation of IR consultants (untabulated) is 6.9. An average IPO firm has 14.9 media articles during the 90-day period prior to the IPO date and *Net Optimism* of these articles is negative and equal to -0.81%. The *CEO HC* is around 1 on a scale of 5, which indicates that most CEOs of IPO firms do not have large human capital (e.g., former IPO experience). 30.3% of CEOs in our sample are founders and 51.1% of IPOs are VC-backed. The means of *Price Revision* and *Underpricing* are -1.8% and 16.6%, respectively. The average adjusted *P/EBITDA* and *P/Sales* are equal to 3.144 and 3.684, respectively. For the market liquidity proxies, the means of bid-ask spread and trading volume during the one-month period following the end of the first-day of trading are 0.006 and 0.008, respectively. The buy-and-hold abnormal return over the one-year period following the end of the first-day of trading (BHAR) is -3.1%. The rest of the variables have properties similar to a typical IPO sample used in the prior literature.

Most importantly, Table 2 also reports the mean differences between the subsample of IPOs with IR support and the subsample of IPOs without such a support. Statistics show that *P/EBITDA*, *P/Sales*, price revision, underpricing and trading volume are significantly higher in IR-backed IPOs relative to other IPOs. In addition, the buy-and-hold abnormal return over the one-year period following the end of the first-day of trading is significantly lower in IR-backed IPOs relative to the rest of the IPOs. These findings provide a preliminary support to our first and second hypotheses. Furthermore, *Net Optimism* of media news is significantly greater in IR-supported IPOs, and on average it is positive, suggesting that IR consultants are associated with a higher fraction of positive words in the news articles related to their IPOs.

Table 2 results point also towards an important distinction between IR-backed and the other IPOs. IR-backed IPOs are younger, and are concentrated in the hi-tech and internet industries relative to the rest of the IPOs. They are more likely to be VC-backed and enlist in NASDAQ exchange. IPOs that had losses (used IPO proceeds to reduce debt) are more (less) likely to hire IR consultants. IR-backed IPOs have more CEO founders, and their CEOs have lower human capital. Thus, it seems that the “weaker” IPOs (i.e., young private firms with negative Net Income) are more likely to be associated with an IR consultant.<sup>11</sup>

These IR-backed IPOs also have higher participation ratio by the insiders (i.e., the fraction of old shares sold by the existing shareholders during the IPO), suggesting that the insiders prefer to exit their investments during the IPO. Given that the insiders (founders and VC firms) are the ones who make the decision to hire an IR consultant, the above results suggest that the involvement of IR consultants may be a part of an exit strategy by the insiders of relatively weaker IPO firms.

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<sup>11</sup> In a separate analysis, we find that there are 167 withdrawn IPOs during 2009-2013 period that fit our sample selection criteria (see Section 3.1). Only 5.39% of those withdrawn IPOs had an IR consultant, and the majority of these IR consultants were small or non-reputable. Thus, with lack of meaningful IR support and given the market conditions (usually announced in the withdrawal report), these already-fledgling IPOs had no choice but to withdraw. This finding indirectly supports our claim that IR consultants do provide valuable services before the IPO event, and the lack of these services can flip a “weak” IPO into a failed issue.

Further, Table 2 presents the descriptive statistics of the sub-sample of 333 IPOs for which we were able to collect data on their institutional ownership from the Thomson 13F Institutional Holdings database. It also shows the univariate comparison of institutional investors' participation in the IPOs from two different sub-samples: 139 IPOs with and 194 IPOs without IR consultants. It indicates that the average proportion distant of institutional investors is equal to 10.4% on average. IR-backed IPOs have a higher proportion of distant institutional investors than in the sub-sample of non-IR-backed IPOs (11.6% vs. 9.5%; difference significant at the 1% level). It also shows a sample average of post-IPO institutional ownership of 56% of the shares offered at the end of the first quarter following the IPO date, which is significantly lower ( $p$ -value < 1%) in IR-backed IPOs (51%) than in the other IPOs (59.5%). Moreover, the results show an average proportion of small institutional investors that is around 32.5% at the end of the first quarter following the IPO date, and it is significantly higher in IR-backed IPOs than in the other IPOs (34.9% versus 30.8%, respectively) at the 5% significance level.

**[Insert Table 2 Here]**

Finally, in untabulated tests we find that during the sampling period there is no significant time trend in our valuation measures (i.e., COCO and price revision) measures and in our post-market performance variables.

## **4. Results**

### *4.1. Performance of IR-backed IPOs*

The choice of hiring an IR consultant is not exogenous. As such, the study of the impact of IR consultants on IPO performance should control for the IPO firm's endogenous decision of hiring an IR consultant. Therefore, following Karolyi and Liao (2015), we use an instrumental variables approach. We identify the following three instruments as the most appropriate in our IPO context. First, *Cohort IR* captures the IR efforts of the recent IPO firms (all IPOs conducted during the last year prior to the current IPO's issue date). Such

efforts would likely induce a private firm contemplating an IPO to also hire an IR consultant (relevance criterion), but such external efforts by other firms should not directly affect our firm's IPO performance (exclusion criterion). For similar reasons our second instrument, *Advertising Expenses of Seasoned Firms* (the average advertising expenses as a percentage of sales for all publicly listed seasoned firms within the Compustat database during the last fiscal year prior to the IPO date) should also satisfy the exclusion criterion. Since advertising and IR publicity can be considered as substitutes, this instrument should also satisfy the relevance criterion. IPO firms are likely to benefit from the informative environment driven by the high level of advertising expenses in seasoned firms, thus leading to a lower need for the support provided by IR consultants at the time of IPOs. Finally, *CEO Experience in Marketing and Sales* (a dummy variable equals to one if the CEO has a former managerial experience or a degree in marketing or sales, zero otherwise) is capturing the CEO's positive attitude towards and familiarity with various marketing techniques. We conjecture that when a CEO knows about and believes in nontraditional marketing techniques, s/he will be more inclined to engage an IR consultant. While a CEO's marketing background may affect the IPO firm's IR hiring decisions, we are not aware of any evidence or academic study that claims that CEO's marketing experience is *per se* affecting firm valuation or IPO performance. Our instrument quality tests, reported below, indicate that these instruments are quite reliable.<sup>12</sup>

In the first stage regressions, beside our instruments, we also include various IPO and CEO characteristics, since we expect that these characteristics may influence the decision of hiring an IR consultant. Our testable 2SLS model is as follows:

$$IR\ Consultant = \alpha_0 + \alpha_1 Instruments\ for\ IR + \alpha_2 Controls + \varepsilon \quad (3a)$$

$$IPO\ Performance = \beta_0 + \beta_1 IR\ Consultant + \beta_2 Controls + \eta \quad (3b)$$

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<sup>12</sup> In further (untabulated) investigations, we examine the average level of each instrument per industry. Our test shows that our instruments are not industry related, but are fairly distributed among different industries.

Table 3, Model (1), presents the first-stage regression results. The data fit the model quite well. Wald  $\chi^2$  test on whether the coefficient estimates are jointly zero is significant with  $p$ -value less than 0.1% and the Pseudo  $R^2$  is 0.315. We find that the estimated coefficients on the *Cohort IR* and the *CEO Experience in Marketing and Sales* are positive and significant at the 1% and 5% level, respectively. The likelihood of hiring an IR consultant is negatively related to the *Advertising Expenses of Seasoned Firms* at the 1% level. Furthermore, IPO shares that are smaller (i.e., less visible), with lower equity offer size, and managed by CEOs with lower human capital are more likely to hire IR consultants. Results further show that IPOs are more likely to hire IR consultants when the participation ratio is higher (i.e. the fraction of the IPO proceeds that is sold by existing shareholders is higher). Involvement of an IR consultant is also more likely in firms going public following a period of lower market return and when IPOs are internet-related, VC-backed, and are listed on the NASDAQ.<sup>13</sup>

Models (2) to (8) in Table 3 (Models 2-8) report the results of the second-stage regression of the association between the presence of IR consultants and IPO performance, after controlling for the endogenous choice of hiring IR consultants and for other variables that could affect IPO performance (e.g., Hanley, 1993; Loughran and Ritter, 2002; Lowry and Murphy, 2007). As expected, Models (2) to (4) show that *IR Consultant* is positively related to *Price Revision* ( $p$ -value < 5%) and to both the *Adjusted P/EBITDA* and the *Adjusted P/Sales* ( $p$ -value < 5%). Also, as expected, the presence of IR consultants is associated with higher *Underpricing* ( $p$ -value < 1%) and higher market liquidity just after the IPO date. Specifically, *IR Consultant* is positively related to *Trading Volume* ( $p$ -value < 1%) and negatively related to *Bid-Ask Spread* ( $p$ -value < 10%). These results provide support to our first hypothesis. Furthermore, Model (8) shows that *IR Consultant* is negatively related to *BHAR* at the 1% significance level, a finding that is consistent with our second hypothesis. In terms of economic significance, relative to IPOs without IR consultants, IPOs with IR

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<sup>13</sup> Our data exhibits limited variation in the lockup period. The data shows that 370 out of the 380 IPOs in our sample have a lockup period of 180 days and the average lockup period is 177.44 days. We have thus decided to remove the lockup period from our list of control variables.

consultants have on average higher *Price Revision*, *Adjusted P/EBITDA*, *Adjusted P/Sales*, *Underpricing*, and *Trading Volume* by 3.5%, 11.97%, 32.57%, 13.8%, and 0.4%, respectively, and lower *Bid-Ask Spread* and *BHAR* by 0.1% and 31.0%, respectively.

Table 3 reports the Sargan's  $\chi^2$  test of over-identifying restrictions to assess whether our three instrumental variables (*Cohort IR*, *CEO Experience in Marketing and Sales*, and *Advertising Expenses of Seasoned Firms*) are uncorrelated with the error term (or the residual). We fail to reject the null hypothesis of the Hansen-Sargan's test in all models ( $p$ -values are all above 10%). This implies that the instrumental variables we use in the first-stage regression are uncorrelated with the residuals in the second-stage regression and, hence, they satisfy the exclusion criterion. To further test the quality of our instruments, we apply Stock and Yogo (2005) weak instrument test, and we find that the potential bias introduced by our instruments is small and less than 5%.<sup>14</sup> Finally, we find that  $F$ -statistics from the test of under-identification (instruments are irrelevant) is 16.86, which is firmly above 10 (the rule-of-thumb cutoff proposed by Staiger and Stock (1997)).

In sum, Table 3 provides support to our first two hypotheses. Specifically, we find that IPOs with IR consultants exhibit higher valuation multiples, i.e., lower cost of capital and higher short-term performance, which is followed by long-term underperformance. These results suggest that IPO firms hire IR consultants to increase short-term demand rather than to correct misvaluation. Thus, the IR strategies seem to help the IPO firm's owners/founders and the pre-IPO VC investors to exit their positions at a higher price (lower cost of capital).

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<sup>14</sup> As a robustness test, rather than using the above-described three instruments, we use the IR consultant's geographic location as an alternative instrument. Almost all of the IR consultants in our sample (93.5%) are clustered in four states (California, Connecticut, Massachusetts, and New York), and the IPO firm's decision to hire an IR consultant could be affected by whether the IPO firm is located in one of those four states. While this instrument is a relevant one and the results remain consistent with those reported in Table 3, we find that this instrument is weaker than the selected three. For example, according to Stock and Yogo (2005) test, the strength of the geographic location instrument indicates a potential bias that is less than 15%, which means that it allows for a larger bias than our three instruments. Thus, our three instruments collectively are better than this alternative instrument capturing the geographic location of the IPO firm.

The post-IPO investors, on the other hand, are the ones who see a larger-than-typical drop in stock price, and thus they are the ones who bear the costs of this temporary hype.<sup>15</sup>

**[Insert Table 3 Here]**

#### 4.2. *The channel used by IR consultants: The tone in the media*

In our third hypothesis, we predict that IR consultants spin their clients' news and use the optimistic tone in the media news as a channel to publicize the IPO and impact its valuation and IPO performance (the positive spin hypothesis). To test this hypothesis, we measure the tone in all media articles covering the IPO firm during the 90 day-period up to one day prior to the offer date. We focus on news during the 90 days prior to the offer date since older news is less likely to affect performance at the time of the IPO. We label the tone in the media news by *Net Optimism*, which is the percentage of positive words from the percentage of negative words relative to the total number of words in the media article.

To examine Hypothesis 3, we employ a three-stage least squares (3SLS) estimation procedure to test whether IR consultants use the optimistic tone as a channel to influence IPO performance. Hence, we add an additional equation to the 2SLS system with *Net Optimism* as the dependent variable and with *IR Consultant* and the same set of control variables used in Table 3 as independent variables. We also include in this equation a new instrumental variable, *Proportion of Local Media*, measured as the proportion of news articles published by the local media relative to the total number of media news. Gurun and Buttler (2012) find that local media publishes articles that have more positive "slant" in them. This instrument will directly affect our variable *Net Optimism*, and hence it satisfies the relevance criterion for an instrument. Furthermore, this instrument would also satisfy the exclusion criterion, because the local media can influence the local firm's valuations only through positive news coverage (i.e., only through *Net Optimism* of their news articles). We are not aware of any

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<sup>15</sup> In further robustness test, we employ Heckman (1979) self-selection model using the same instruments and variables of Table 3 (Model (1)) as predictors in the first stage, and introduce the Inverse Mills' ratio in the second stage. The results (untabulated) remain consistent with those reported in the paper.



other channel through which local media companies can help the local firms. For example, they cannot loan them cheap capital or provide them with more effective managerial consulting services. The only help they can provide is to improve local firms' image and increase local residents' familiarity with the local firms through publishing more positive news articles about these firms. Put differently, local media impacts firm valuations exclusively through *Net Optimism* of their published articles.<sup>16</sup> The *F*-statistics from the test of under-identification is 21.12 (i.e., greater than 10), which confirms the relevance of our selected instrument (Staiger and Stock, 1997).

As in Table 3, we instrument *IR Consultant* with the previously described three instruments (*Cohort IR*, *CEO Experience in Marketing and Sales*, and *Advertising Expenses of Seasoned Firms*). In the table we do not show the first-stage regressions for brevity, but the testing model is as follows:

$$IR\ Consultant = \alpha_0 + \alpha_1 Instruments\ for\ IR + \alpha_2 Controls + \varepsilon \quad (4a)$$

$$Net\ Optimism = \gamma_0 + \gamma_1 Instrument\ for\ Net\ Optimism + \gamma_2 IR\ Consultant + \gamma_3 Controls + \mu \quad (4b)$$

$$IPO\ Performance = \delta_0 + \delta_1 Net\ Optimism + \delta_2 Controls + v \quad (4c)$$

Results in both Panels A and B of Table 4 (Models (9a) to (15a)) show that the estimated coefficient on *IR Consultant* is consistently positive and significant (*p*-value < 1%). Hence, IPOs with IR consultants have more optimistic tone in the media news, suggesting that IR consultants spin their clients' news by focusing more on positive news and less on negative news. Results in Panel A (Models (9b) to (11b)) show that *Net Optimism* is positively related to *Price Revision* (*p*-value < 5%), *Adjusted P/EBITDA* (*p*-value < 10%), and *Adjusted P/Sales* (*p*-value < 1%). This suggests that the optimistic tone in the media news is likely to increase IPO valuation and reduce its cost of capital. Moreover, Panel B

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<sup>16</sup> To empirically test for the "exclusivity" of *Proportion of Local Media* we conduct a simple orthogonalization test. We first regress *Proportion of Local Media* on *Net Optimism* and retrieve the residuals. Then, we correlate these residuals with our IPO performance variables that are on the left-hand-side of equation (4c). The estimated correlation coefficients are statistically insignificant, suggesting that the impact of the alternative channel(s) through which *Proportion of Local Media* affects IPO performance is negligible.

(Models (12b) to (15b)) indicates that *Net Optimism* is positively associated with *Underpricing* ( $p$ -value  $< 1\%$ ) and *Trading Volume* ( $p$ -value  $< 5\%$ ), while negatively related to *Bid-Ask Spread* ( $p$ -value  $< 5\%$ ) and *BHAR* ( $p$ -value  $< 1\%$ ). These results show that the optimistic tone in the media has a positive (negative) impact on IPO short-term (long-term) performance. As in Table 3, the  $p$ -values of the Hansen-Sargan's over-identification test are all above 10%, suggesting that the residuals are uncorrelated with the instrument we use.

In summary, the findings in Table 4 are consistent with Hypothesis 3 (the positive spin hypothesis). IR consultants use the optimistic tone as a channel to publicize their clients and this optimistic tone creates hype in the market that has a positive impact on the short-term IPO performance.<sup>17</sup> However, the revelation of hard information or the failure to maintain high investor sentiment leads to lower long-term IPO performance.<sup>18</sup>

**[Insert Table 4 Here]**

#### 4.3. Do IR consultants help with institutional investors?

Next, we devise methods to test our claim in Hypothesis 4. In particular, we analyze i) the extent to which institutional investors are involved in an IPO immediately after its offering, ii) what proportion of the institutions invested in the IPO are distant (unfamiliar with the IPO market), and iii) what proportion of them are large and sophisticated .

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<sup>17</sup> Do IR consultants jeopardize their reputation with investors by marketing sub-par IPOs? IR consultants' primary job appears to be to provide additional information about the private firm by planting positive news articles. The asymmetric information around the IPO firms is huge. Thus, any additional information, albeit with "a spin," should be useful to the investors. As Solomon (2012) shows, any information, even the distorted one, about the firm is creating an "attention" towards the issue, which in turn creates an additional demand towards the stock. Furthermore, IR consultants do not have any book-building or placement responsibilities (like underwriters do), which can put the IR firm's own capital at risk. Thus, IR firm's reputation with investors has minimal consequences for their business. Their primary clients are the private firms who plan a future IPO. The more successful an IR firm is in marketing a "weak" IPO, the more clients it will get in the future. Finally, most investors are probably unaware of the role played by the IR consultants in preparing a particular news article, and hence IR consultants' own reputation is hardly at stake. IR consultants' role during the IPO process is a relatively unknown issue, and our article aims to provide further insights on this phenomenon.

<sup>18</sup> In further investigations, we calculate *Net Optimism* based on the original list of 10,000 search words classified by DICTION to characterize text on several dimensions (Davis and Tama-Sweet, 2012). We compute *Net Optimism* as the difference between the percentage of optimistic words and the percentage of pessimistic words relative to the total number of words in the media article (Davis, Piger, and Sedor, 2012). The DICTION's own list of positive and negative words yield mean *Net Optimism* values that are positive, suggesting that a typical IPO article has a positive tone. Our results remain qualitatively the same, however, and they are available upon request.

Panels A and B of Table 5 present the results from various multivariate regressions of *Institutional Ownership*, proportion of *Distant Institutional Investors*, and proportion of *Large Institutional Investors* on the same control variables as in Tables 3 and 4. Panel A presents the second stage regressions using each one of the institutional investors' characteristics as a dependent variable. The results show that hiring an IR consultant is negatively and significantly (at 5% significance level) related to institutional ownership (Model (16)) following the IPO date. The results under Models (17) and (18), however, suggest that IR consultants are helpful in attracting some distant and small institutions into the issue ( $p$ -value < 5% or better). Since *IR Consultant* is a dummy variable, economic interpretation is straightforward. Post-IPO institutional ownership of IR-backed IPOs is 7.4% lower, but proportion of distant (small) institutions is 3.5% (5.2%) larger. When measured immediately after the IPO event, IR-backed IPOs exhibit a higher ownership by individual investors and those institutional investors who retain ownership are of lower portfolio size and they tend to be inexperienced distant institutions. This is consistent with our Hypothesis 4, which says that IR strategies are more effective in attracting i) unsophisticated individual investors and ii) smaller and/or inexperienced distant institutions into the IPO firms.

The results in Models (19) to (21) in Panel B present the third stage regressions using the institutional investors' characteristics as dependent variables. Models (19) and (21) indicate that the initial spike in net optimism is followed by lower post-IPO institutional ownership and quality ( $p$ -value < 5%), and the distant institutions participation is positively related to *Net Optimism*. Overall, our findings support the claim formulated in Hypothesis 4.

The above findings are novel to the investor relations literature, as they imply that IR consultants have a different approach for bolstering IPO firms than the seasoned firms. It appears that IR strategies can vary with the most urgent task at hand. Rather than focus on long-run institutional ownership of a seasoned stock (a la Bushee and Miller, 2012; and Kirk and Vincent, 2014), the IR strategies for IPO firms seem to be event driven (a la Solomon, 2012). They are tailored towards increasing the short-term demand for IPO shares primarily

around the IPO date, which assures the success of the equity offering and benefits the insiders who tend to have higher participation ratio than the other IPO firms (see Table 2). As short-term and event driven strategies require a lot of “hype” and news spinning, they are ineffective on large sophisticated institutional investors who are better at interpreting publicly available information (Field and Lowry, 2009).

**[Insert Table 5 Here]**

## **5. Causal effects of hiring an IR consultant: Two identification strategies**

In this section we implement two identification strategies whereby we try to isolate the casual effects of hiring IR consultants on IPO performance during and after the issuance event. The first identification strategy utilizes difference-in-difference approach. The second one relies on staggered termination dates of IR consultants to determine the causal relationship between the length of the IR consultant’s advisory role and the longevity of the firm’s over performance in the post-IPO period.

### *5.1. Identification strategy 1: Difference-in-difference results*

To further test our claims in Hypotheses 1-4, we conduct a difference-in-difference (DID) analysis around the IPO event. Specifically, for each IR-backed IPO we identify a matching non-IR-backed IPO firm with very similar firm and industry characteristics. If at the time of the public offering the IR consultants are the cause of “a temporary hype”, we should see the traces of this hype only on IR-backed IPOs’ performance measures.

To run our DID analysis, we first identify a matched firm that went public without an IR consultant for each of our “treated firms” (each IPO firm with IR consultant) using the propensity score matching method (Hasan, Hoi, Wu, and Zhang, 2014; Irani and Oesch, 2016). To do so, we run a logistic regression, where the dependent variable is *IR Consultant*. Our independent variables include all the control variables in Model (1) of Table 3, which are likely to impact the probability of hiring an IR consultant. We then calculate the propensity score from the logistic regression, and we match each treated firm with the nearest IPO firm

in the control group without IR consultant. The propensity score matching approach allows us to identify 92 pairs of treated and control firms within a +/-10% difference in scores.

We first run our diagnostic test to verify that the characteristics of the treated and control sub-samples are not significantly different. Panel A of Table 6 compares the means of each of the 15 different matching variables used in the propensity score approach between the treated and control sub-samples. It confirms that the differences in means are small and not significant, which suggests that the matching approach eliminates the observable differences other than the IPO performance measures. Thus, if there is any significant difference in these performance measures, it is likely driven by the presence (or absence) of the IR consultant.

The DID estimation results are reported in Panel B. For vast majority of our IPO performance indicators the IR-backed IPOs significantly outperform their corresponding matching firms. Specifically, IPOs with IR consultants have higher price revision ( $p$ -value < 5%), higher underpricing ( $p$ -value < 1%), higher price-to-sales ( $p$ -value < 5%), higher trading volume ( $p$ -value < 5%), and lower aftermarket performance ( $p$ -value < 1%) than non-IR-backed IPOs. We also find that the net optimism is significantly higher ( $p$ -value < 1%) in the sub-sample of IPOs with IR consultants. These findings provide further support to our predictions and imply a causal link between the IR strategies and the IPO performance. Given that the matching is done on 15 different dimensions (see Panel A), such a difference in outperformance of IR-backed IPOs is likely driven by the efforts of IR consultants.

In Panel C of the same table we report that IR-supported IPO firms have significantly lower institutional ownership at the end of the first quarter following the IPO date, and significantly higher proportion of these institutions are smaller in portfolio size ( $p$ -value < 5%). However, IR consultants efforts appear to be effective in convincing some distant institutions to invest in the promoted IPO firms ( $p$ -value < 1%). In short, the DID estimations yield results consistent with our Hypotheses 1-4.

**[Insert Table 6 Here]**

## 5.2. Identification strategy 2: Staggered termination dates of the IR programs

To establish a more causal link between the IR strategies and the IPO performance, we focus on the staggered termination dates of the IR programs shortly after the IPO date. These staggered termination dates could provide us with an identification strategy that is, in our context, as close as possible to a natural experiment of how the length of IR programs affects IPO performance. To gather the data on such IR-termination cases, we read the corporate press releases following the IPO date to check whether the name of its previously-established IR consultant (or any other IR consultant) is mentioned or it was replaced by a corporate contact. If we cannot locate the name of any IR consultant in the corporate press release, we assume that the firm terminated its relationship with the IR consultant.

Panel A of Table 7 displays the number of IPOs that terminate their IR programs within one year after the IPO date, and the average post-IPO *BHARs* of each IPO subsample. There is a pattern in that panel suggesting that the sooner a firm terminates its IR program, the sooner its *BHAR* turns negative. Put differently, the IPOs who continue their relationship with an IR consultant for a longer period, have higher *BHAR*. The results using medians yield similar qualitative conclusions and are suppressed to save space.

We test this relationship more formally in a regression setting. For this purpose, we create a new dummy variable, *IR-IPO Continuing Relationship*, which is equal to one if in the analyzed post-IPO period the relationship between the IR consultant and the IPO firm is still continuing, and zero otherwise. The analyzed post-IPO periods are the end of the first quarter (3 months), the end of the second quarter (6 months), the end of the third quarter (9 months), and the end of the fourth quarter (1 year). For each analyzed post-IPO period, we calculate the corresponding *BHAR* (3-month *BHAR*, 6-month *BHAR*, 9-month *BHAR*, and 12-month *BHAR*) for each IPO in our sample using its CRSP monthly returns data. Then, we run the following difference-in-difference regressions for each analyzed period separately (denoted with *N-mo*):

$$IR\ Consultant = \alpha_0 + \alpha_1 Instruments\ for\ IR + \alpha_2 Controls + \varepsilon \quad (5a)$$

$$BHAR_{N-mo} = \beta_0 + \beta_1 IR\ Consultant + \beta_2 IR-IPO\ Continuing\ Relationship + \beta_3 Controls + \eta \quad (5b)$$

Table 7, Panel B, reports the results from this estimation. For brevity we display only the estimated coefficients of *IR Consultant* and *IR-IPO Continuing Relationship*. Confirming the results we discussed earlier in Section 4.1, the dummy *IR Consultant* has a negative coefficient for all the analyzed post-IPO periods (significant starting with the second post-IPO quarter), suggesting that IR-backed IPOs in general have worse post-IPO stock performance than the rest of the IPOs. Most importantly, using the second dummy *IR-IPO Continuing Relationship*, we effectively split the IR-backed IPOs sample into two subsamples: the IR-backed IPOs who terminated their IR program (=0) and the ones who still continue their IR program (=1). The estimated coefficient for this dummy is always positive (statistically significant for the two quarters or longer post-IPO periods), implying that if IR consultants still continue their support for a firm, that firm's stock outperforms the rest of the IR-backed IPOs who terminated their IR programs. The economic significance of this continuing relationship is non-negligible either. The negative coefficient of -0.579 for *IR Consultant* implies that the IR-backed IPOs have a one-year *BHAR* that is 57.9% lower than the average one-year *BHAR* in our entire IPO sample (this average is -3.1% as reported in Table 2), i.e., around -4.9% (= -3.1% - 0.579 x (-3.1%)) on average. However, the one-year *BHAR* of IR-backed IPOs with a continuing IR-IPO relationship is 41.7% higher than the rest of IR-backed IPOs that terminated their IR contract in less than one year after the IPO date, i.e., around -3.6% = (-3.1% x (1+0.579-0.417)) on average.

In Panel C, we obtain qualitatively the same result but using a dummy, *Terminated IR Consultant*, which is equal to one for the IR-backed IPOs who terminated their IR consultant before the end of the analyzed post-IPO period, and zero otherwise. The sign of this dummy is significantly negative and much larger than the coefficient of *IR Consultant*, suggesting that the previously-reported underperformance of the IR-backed IPOs during the post-IPO

period (see Tables 3 and 4) is primarily driven by those IPOs who end their relationship with the IR consultants shortly after the IPO date. In short, the evidence from this table implies a clear link between the presence of IR consultants and the IPO performance in the post-IPO period. The continuation of the IR consultant's support is positive for the firm and the termination of such support substantially hurts its stock performance.

In further (untabulated) tests, we determine what type of IPOs chose to terminate their relationship with an IR consultant shortly after the IPO date. We find that they are younger, issue a greater number of news prior to their public offerings, and have a more optimistic tone in the news. Also, we find that these are the IPOs who have higher participation ratio than the rest of the IR-backed IPOs. This is consistent with the notion that the insiders (founders, pre-IPO shareholders, and VCs) of some IPO firms hire the IR consultants primarily to create a short-term positive out-performance in the firm shares, which in turn helps the insiders exit a larger portion of their positions in the firm successfully during the initial offering.

In another closely related test, we find a positive (albeit insignificant) association, between post-IPO insider ownership<sup>19</sup> and the continuation of IPO-IR relationship during the year following the IPO. Hence, if for whatever reason, the insiders did not unload all of their shares during the offering, then they prefer to continue the firm's relationship with the IR consultant. Furthermore, when looking at the differential effect of the presence of VC firms as the insiders in the IPO firm, we find that there is a positive and significant association between post-IPO ownership and the continuation of the IR-IPO relationship (over different quarters and up to one year following the IPO date) in the presence of VCs, whereas the association is negative and significant in non VC-backed IPOs (at the 5% level or better). This suggests that among the insiders, the VC firms are more likely to push for continuation of the involvement with IR consultants to secure a positive price momentum following the

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<sup>19</sup> The post-IPO ownership is measured one day after the IPO date using the number of shares retained by initial owners divided by the post-IPO number of shares outstanding as per SDC database.



end of the lockup period until their exit from their remaining positions. Since VC firms are usually quick to exit after the lockup expiration (Field and Hanka, 2001), they need the support of IR consultants to last a little longer. Other insiders, such as founders and managers, might decide to stay for the long-run and benefit from their share-ownership to maintain their controlling power within the business.

Finally, in a different (untabulated) test, we examine the association between the duration of the IR-IPO continuing relationship and the IPO operating performance at the end of the first year, using both the return-on-assets and the cash-flow-to-assets. Our results show a positive but insignificant association between our proxies for the IPO operating performance and the duration of the IR-IPO relationship following the IPO date. This finding and our *BHAR* results above collectively suggest two things. First, it is unlikely that the IR consultants quit for reasons related to the IPO's bad operating performance (e.g., IR consultants abandon "a sinking ship" to save their reputation) or due to lack of funds at the terminating IPO firms. Second, even though the operating performance of both types of IR-backed IPO firms – with continued and with terminated IR-IPO relationship – is similar, their post-IPO *BHARs* are not. The IR-backed IPOs who terminated their relationship by the end of the first year have significantly worse stock performance. Since the operating performance does not appear to be the reason for this stock underperformance, it is likely the discontinuation of the IR consultants' support that leads to this outcome. This in turn identifies the IR consultants' departure as the main driver of the relative stock underperformance.

**[Insert Table 7 Here]**

## **6. Further investigations**

### *6.1. IR reputation*

If the presence of IR consultants has indeed an impact on IPO performance, then we expect this impact to increase as the reputation of IR consultants with IPOs increases. Similar

increase in IPO performance has been observed for high-reputation underwriters (Carter, Dark, and Singh, 1998) and high-reputation venture capitalists (Krishnan, Ivanov, Masulis, and Singh, 2011). To measure IR consultant's reputation, we construct a ranking variable *IR IPO Reputation*, which ranges from one to eleven, least to most reputable IR consultant, and is based on the total market capitalization of IPOs that the IR consultant was engaged in during the last three years prior to the current IPO date.<sup>20</sup> The details about the construction of this variable and the reputation of each IR consultant are provided in Appendix C.

Table 8 explores the impact of IR consultant's reputation on IPO performance. Model (24) reports the results of the first-stage regression. The instruments we use for this regression test are the same as in Table 3. IPO firms that are smaller (i.e., less visible) and managed by CEOs with lower human capital are likely to hire more reputable IR consultants. IPOs with a higher participation ratio and smaller equity offer size are also backed by more reputable IR consultants. Moreover, our results indicate that IPOs are likely to hire more reputable IR consultants following a period of lower market return and when they are internet-related, listed on the NASDAQ, and have more reputable underwriters.

Results of the second-stage regressions (Models (25a) to (25g)) show that the IR consultant's reputation is positively related to price revision, valuation multiples, underpricing, and trading volume. Results further show that the IR consultant's reputation is negatively related to the one-year aftermarket abnormal returns. Overall, the results suggest that the higher the IR consultant's reputation with IPOs, the greater is the IR consultant's impact on IPO performance. Therefore, the findings in Table 8 are consistent with those in Table 3, and provide additional evidence on the important role of IR consultants in IPOs.

**[Insert Table 8 Here]**

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<sup>20</sup> In further investigations, we measure *IR Reputation* based on IPO proceeds. The results are consistent with the above findings and are available upon request.

## 6.2. CEO characteristics

In Table 3, we find that CEO human capital, which is the sum of five components (see Appendix A), is an important determinant of hiring an IR consultant prior to the IPO date. IPOs with lower CEO human capital are more likely to hire IR consultants. In this section, we examine what exactly in the CEO human capital that matters most to the decision of hiring an IR consultant while controlling for other insiders-related variables (e.g., VC, underwriter reputation, participation ratio) and IPO characteristics. Table 9 reports the first-stage regression results of *IR Consultant* (or *IR IPO Reputation*) on the three instruments, and on control variables after dividing the CEO human capital into its five components.

Results in Table 9 show that CEOs of IPO firms with lower finance education and lower former experience as CEOs are more likely to hire an IR consultant prior to the IPO date. Similar results are observed when we account for the reputation of IR consultants. With regard to the instrument and the other control variables, results are consistent with those of Table 3. In sum, the results in Table 9 suggest that the IR consultants could be considered as a resource that complements the missing skills of CEOs, especially those related to finance education and to prior managerial experience.

**[Insert Table 9 Here]**

## 6.3. The role of prior relationships

Next, we analyze whether the likelihood of hiring a specific IR consultant by the current IPO firm is a function of a previous relationship between the IR consultant and the underwriter, or between the IR consultant and the VC firm. Specifically, we examine the likelihood of having the same IR consultant in consecutive IPOs that involve the same underwriter. We find no evidence of any significant association between the IR consultant of the current IPO and the IR consultant of the previous IPO that involve the same underwriter. Similarly, we find no evidence of a significant association between VC firms and IR consultants in our sub-sample of VC-backed IPOs. Hence, these findings mitigate the concern

that, rather than it being the IPO firm's decision, the underwriter or the VC firm is influencing the choice of an IR consultant based on a previous relationship.

However, we find some evidence that each IR consultant tends to work with the same media outlets where they regularly plant articles about their client IPOs. For example, we randomly selected three different IR consultants with different market shares and examined the citation of their client IPOs in various media outlets. We find that different client IPOs of the same IR consultant are frequently cited in the same specific newspapers. For example, all the client IPOs of one of our large IR consultants has media coverage in 84 different media outlets. Out of these 84 media outlets, 5 media outlets were citing more than 20% of these IPOs. Similarly, all the client IPOs of another smaller IR consultant had media coverage in 14 different media outlets. Out of these 14 media outlets, 2 media outlets were mentioning more than 50% of these client IPOs. Finally, out of nine different media outlets, 2 media outlets were citing more than 40% of the client IPOs of our smallest-of-the-three IR consultants. These examples suggest that media coverage of IPO clients of a given IR consultant shows certain degree of concentration in specific media outlets, which in turn suggests that IR consultants tend to collaborate with specific media outlets.

#### *6.4. Do all IPOs hire IR consultants to hype short-term investor demand?*

Our empirical results so far suggest that IR-backed IPOs have on average a lower post-IPO market performance (*BHAR*), which is driven by two things. First, the IR strategies are tailored towards increasing investor attention towards the IPO event in order to bolster the short-term demand for the offered shares. As such, they involve short-term hyping that ultimately leads to a long-run reversal in the demand for the stock. Second, weaker IPOs with inexperienced CEOs are more inclined to hire an IR consultant, and once further information about these firms is released, we see a long-run underperformance in the stock.

However, whether these findings imply that the presence of IR consultants will always lead to higher agency concerns around IPO events is still not clear. The IR consultants

may still reduce information asymmetry and improve the information environment (a la Bushee and Miller, 2012) around some firms going public. In further investigations, we examine the fraction of high-quality IPOs in association with the presence of an IR consultant and the post-IPO long-run performance (i.e., whether the one-year *BHAR* is positive or negative). Specifically, we consider high-quality IPOs to be larger (than median size), profitable, low-tech, and underwritten by more reputable investment banks (i.e. underwriters with a reputation ranking equal to 9.1 as per Loughran and Ritter, 2004). We conduct a two-way sorting (a 2 x 2 matrix) of all of our IPOs based on the presence of an IR consultant during the IPO event and the level of 12-month *BHAR* (positive or negative). Then we examine what percentage of the IPOs in each cell of the matrix are of high quality. The 2 x 2 matrix shown in Table 10 suggests that the sub-sample of IR-backed IPOs with positive *BHAR* includes a greater fraction of high-quality IPOs than IR-backed IPOs with a negative *BHAR* (17.0% vs. 5.9%). Although not shown, these IR-backed IPOs with positive *BHAR* have CEOs with lower human capital, mostly a lower fraction of CEOs with a previous experience in publicly listed firms ( $p$ -value < 5%). This result suggests that at least some high-quality IPOs in our sample (i.e., the 53 firms shown under cell number II) are likely to hire IR consultants in an attempt to reduce the CEO-related information asymmetry rather than to create a short-term hyping of the investor demand.<sup>21</sup> However, since their number is far fewer than the other IR-backed IPOs (53 vs. 101), in our overall results we find that IR consultants are primarily associated with weaker IPOs who have short-term oriented and event-driven IR programs.

**[Insert Table 10 Here]**

## **7. Conclusion**

We examine the role played by the investor relations (IR) consultants during an initial public offering. We document that less visible IPOs with high asymmetric information

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<sup>21</sup> As a robustness test, we consider age (older than median age) and VC-backed as additional criteria of high-quality IPOs. The results remain consistent with the findings reported in Table 10 and are available upon request.

problem and lower CEO human capital are more likely to hire an IR consultant prior to their IPO date. The IR consultants help by increasing the optimistic tone in the media news articles covering their clients during the IPO quiet period, and this optimism is positively (negatively) related to short-term (long-term) IPO performance. Furthermore, we estimate that the IR-backed IPOs have lower cost of capital, higher IPO price revision, higher first-day stock returns (underpricing), and better post-IPO market liquidity. IR consultants' role in an IPO event seems to be more event-driven and short term oriented. Consequently, the investors who react favorably to such event-oriented short-term hyping strategies are primarily individual investors and institutions who are small, inexperienced, and unsophisticated. The percentage ownership of large and sophisticated institutional investors is significantly lower for IR-backed IPOs than in the other ones. We also find that the participation ratio of IPO firm's insiders (old shares relative to the newly issued shares) is higher for these IPOs.

These results are consistent with the principal-agent problem between insiders and outsiders, suggesting that IPO insiders use IR consultants to create a short-lived demand for the newly offered shares around the issuance date. This helps IPO insiders in exiting their investments successfully, by reducing the cost of equity capital during the initial public offering and increasing the investor-familiarity (visibility) of the firm. However, this positive effect is temporary and it reverses within a few years (a la Solomon, 2012). This suggests that the unsophisticated investors, who receive allocated shares and hold onto them for more than a year, and/or the post-IPO shareholders, who buy on the first day of the offering, bear the costs of such "a temporary hype."

Our paper contributes to the literature on the role of IR activities around corporate events and to the literature relating media news to stock prices. It provides new evidence on the role of IR consultants in the context of an initial public offering of equity. Future research can explore the role of IR consultants in other important corporate finance contexts such as initial public debt offerings (a la Datta, Iskandar-Datta, and Patel, 1997; 2000), seasoned-equity offerings (SEOs), as well as mergers and acquisitions (M&As).

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## Appendix A: Variable definitions

| Variable                      | Description   |
|-------------------------------|---|
| <i>IR Consultant</i>          | A dummy variable equals one if the IPO firm hired an IR consultant prior to the IPO date, and zero otherwise.   |
| <i>Net Optimism</i>           | The difference between the percentage of positive, or optimistic, words and the percentage of negative, or pessimistic, words relative to the total number of words in the media article. It is calculated using the word classifications of Loughran and McDonald (2011; 2016), and it is based on the media articles covering the IPO firm during the 90-day period up to one day prior to the offer date.    |
| <i>Price Revision</i>         | The percentage change between the mid-price of the initial price range and the offer price.   |
| <i>Adjusted P/EBITDA</i>      | The ratio of the market capitalization, which is equal to the IPO's offer price multiplied by the post-IPO shares outstanding, to the total EBITDA (earnings before interest, taxes, depreciation and amortization) of the issuing firm during the last year prior to the IPO date. This ratio is adjusted (scaled) by the P/EBITDA of the median seasoned firm from the same industry (3-digit SIC).           |
| <i>Adjusted P/Sales</i>       | The ratio of market capitalization, which is equal to the IPO's offer price multiplied by the post-IPO shares outstanding, to the total sales of the issuing firm during the last year prior to the IPO date. This ratio is adjusted (scaled) by the P/Sales of the median seasoned firm from the same industry (3-digit SIC).  |
| <i>Underpricing</i>           | The ratio of the difference between the closing price on the first day of trading and the offer price divided by the offer price.   |
| <i>Bid-Ask Spread</i>         | The average daily closing spread ((bid-ask)/midpoint of the price range) during the one-month period following the end of the first-day of trading.   |
| <i>Trading Volume</i>         | The average number of daily traded shares during the one-month period following the end of the first-day of trading.  |
| <i>BHAR</i>                   | The buy-and-hold abnormal return over the one-year period following the end of the first-day of trading, using CRSP data. As a benchmark market return index we use equally-weighted CRSP index.  |
| <i>CEO HC</i>                 | A human capital index of the CEO that ranges from 0 to 5. This index includes (1) former finance education background; (2) former experience as a top management team member of a publicly-listed firm; (3) former finance experience as a CFO, VC, PE, and/or investment banker; (4) former IPO experience; or (5) former CEO experience. It is calculated following the methodology in Pollock et al. (2009). |
| <i>CEO Founder</i>            | A dummy variable equals one if the CEO is the founder of the IPO firm, zero otherwise. Founders' data is obtained from the IPO prospectuses.  |
| <i>Equity Offer Size</i>      | The ratio of the number of shares issued at IPO date to the total number of shares outstanding after the public offering. Data is obtained from ThomsonOne database and the IPO prospectuses.   |
| <i>IR IPO Reputation</i>      | This variable captures IR consultant's reputation among the IPO firms. It ranges from one to eleven, least to most reputable IR consultant, and the ranking is based on the average market capitalization of IPOs that the IR consultant was engaged in during the last three years prior to the current IPO date. The ranking is done separately within each year.   |
| <i>Participation Ratio</i>    | The fraction of the IPO proceeds that is sold by existing shareholders. It is equal to the secondary shares sold by existing shareholders over the total number of shares offered, i.e., primary and secondary shares. Data is obtained from ThomsonOne database.   |
| <i>VC</i>                     | A dummy variable equals one if the IPO firm is VC-backed, zero otherwise. Data is obtained from ThomsonOne database.  |
| <i>Underwriter Reputation</i> | A reputation index for each underwriter calculated based on Loughran and Ritter (2004) within a 0 to 9.1 scale (least to most prestigious underwriter, respectively). Data is obtained from Jay Ritter website.   |
| <i>Number of News</i>         | The total number of media articles covering the IPO firm during the 90-day period up to one day prior to the offer date.  |
| <i>Market Cap</i>             | The offer price multiplied by the post-IPO number of shares outstanding as presented in the final IPO prospectuses.   |

|   |  |
|---|--|
| <i>Firm Age</i>                               | The number of years since the founding date of the IPO firm. Data is obtained from the IPO prospectuses or Jay Ritter's website for missing data.  |
| <i>Hi-tech</i>                                | A dummy variable equals one if the IPO is a hi-tech firm, zero otherwise. In line with Loughran and Ritter (2004), hi-tech firms are defined as those with SIC codes 3571, 3572, 3575, 3577, 3578 (computer hardware), 3661, 3663, 3669 (communications equipment), 3671, 3672, 3674, 3675, 3677, 3678, 3679 (electronics), 3812 (navigation equipment), 3823, 3825, 3826, 3827, 3829 (measuring and controlling devices), 3841, 3845 (medical instruments), 4812, 4813 (telephone equipment), 4899 (communications services), 7371, 7372, 7373, 7374, 7375, 7378, and 7379 (software). Data is obtained from ThomsonOne database. |
| <i>Internet</i>                               | A dummy variable equals one if the IPO is an internet firm as defined by ThomsonOne database, zero otherwise.  |
| <i>Loss</i>                                   | A dummy variable equals one if the IPO firm had losses (negative Net Income) during the last year prior to the IPO date, zero otherwise. Data is obtained from the IPO prospectuses.   |
| <i>Deleverage</i>                             | A dummy variable equals one if the IPO proceeds are used to reduce debt, zero otherwise. Data is extracted from the IPO synopsis, as listed in ThomsonOne database.  |
| <i>NASDAQ</i>                                 | A dummy variable equals one if the IPO firm is going public on NASDAQ stock exchange, zero otherwise. Data is obtained from ThomsonOne database.   |
| <i>Market Return</i>                          | The buy-and-hold return of the equally-weighted CRSP market index during the three-month period prior to the IPO date.   |
| <i>Hot IPO Market</i>                         | A dummy variable equals one if the heat measure during the quarter is higher or equal to 1.33, i.e., a hot quarter, zero otherwise. The heat measure is equal to the ratio of current quarter's number of IPOs to the moving average of the number of IPOs during the past 10 years (40 quarters). It is calculated by following the methodology in Yung, Colak, and Wang (2008).  |
| <i>Institutional Ownership</i>                | The proportion of shares held by institutional investors to total shares offered, i.e. the float, at the end of the first quarter following the IPO date. Data is from Thomson 13F Institutional Holdings database.  |
| <i>Distant Institutional Investors</i>        | The proportion of "distant" institutional investors within an IPO firm's institutional investors' pool measured at the end of the first post-IPO quarter. "Distant" investors are institutions that have not invested in any IPO during the past three years. An institution is considered to have invested in a IPO if it reports holdings in this IPO's shares within 120 days of the IPO date. The number of days (120) is chosen to reflect the methodology in Field and Lowry (2009). See p.492-493 of their study. Data is obtained from Thomson 13F Institutional Holdings database.  |
| <i>Small Institutional Investors</i>          | The proportion of small institutional investors within an IPO firm's institutional investors' pool measured as of the end of the first post-IPO quarter. To determine whether an institution is small, we first calculate the market capitalization of its portfolio at the end of each calendar year. Then, we sort all the institutions into size quintiles according to the market cap of their portfolios. An institution is considered small if it is not in the highest size quintile.   |
| <i>Cohort IR</i>                              | The proportion of same cohort IPO firms (recent IPOs issued within one year prior to the current IPO's offering date) that hired an IR consultant.   |
| <i>CEO Experience in Marketing and Sales</i>  | A dummy variable that equals to one if the CEO has a former managerial experience or a degree in marketing or sales, zero otherwise.   |
| <i>Advertising Expenses of Seasoned Firms</i> | The average advertising expenses as a percentage of sales for all publicly listed seasoned companies firms within the Compustat database during the last fiscal year prior to the IPO date.  |
| <i>Proportion of Local Media</i>              | The proportion of news articles published about an IPO firm by the local media relative to the total number of media news articles. In line with Gurun and Butler (2012), a media news article is considered to be local if the distance between the location of the newspaper's main office and the location of the IPO firm's head-office is less than 100 miles.  |

## Appendix B: IPO services provided by IR consultants

As per the webpage of BlueShirt, a major IR consultant in our sample, services provided to IPO firms include:

- Investment bank/sell-side analyst recommendations
- IPO roadshow slide development
- Presentation and Q&A preparation
- “Pricing day” business press considerations
- IR website development and coordination
- Shareholder communication systems
- Employee communications and spokesperson guidelines
- Conduct “Disclosure 101” programs for senior staff
- Create post-IPO sell-side, buy-side target lists
- Preparation for first earnings release and conference call

Source: <http://www.blueshirtgroup.com/services/ipo-advisory/default.aspx>

## Appendix C: Measuring the reputation of IR consultants

This appendix describes the construction of reputation measures for an IR consultant using similar methodologies to Carter et al. (1998), who construct such a measure for the IPO underwriters, and to Krishnan et al. (2011), who create reputation ranking variable for the venture capitalists involved with IPOs. Using our investor relations firm data, we determine the market capitalization of each IPO firm as of the end of the first trading day and who was its IR consultant (if any). Then, we determine the total market capitalization of the IPO firms that each IR consultant was involved with during the last three years. Each year, we rank the IR consultants from 1 to 11, such that the consultants in group 1 (11) have the lowest (highest) total market capitalization. We repeat this procedure to create proceeds-based version of this reputation measure by using the total proceeds raised in the last three years by the IPOs associated with each IR consultant. Table C1 below lists each IR consultant in our sample and shows its corresponding reputation measure for each of the years during our sampling period. Empty cell indicates that the IR consultant is not involved with any IPO firm during that year.

**Table C1. Reputation of each IR consultant**

| IR Consultant                  | <u>Based on Total Market Capitalization</u> |      |      |      |      | <u>Based on Total IPO Proceeds Raised</u> |      |      |      |      |
|--------------------------------|---|------|------|------|------|---|------|------|------|------|
|                                | 2009  | 2010 | 2011 | 2012 | 2013 | 2009                                      | 2010 | 2011 | 2012 | 2013 |
| Elite Financial Communications |   |      | 1    | 1    | 1    |   |      | 1    | 1    | 1    |
| Stapleton Communications       |   |      |      |      | 3    |   |      |      |      | 1    |
| LaVoie Group, Inc.             |   |      | 2    | 2    | 2    |   |      | 2    | 1    | 2    |
| Pure Communications            |   |      |      | 2    | 2    |   |      |      | 2    | 2    |
| Invigoratepr                   |   |      |      | 3    | 3    |   |      |      | 3    | 3    |
| russopartnersllc.com           |   |      |      |      | 1    |   |      |      |      | 3    |
| LaBreche                       |   |      |      |      | 4    |   |      |      |      | 4    |
| Lewis PR                       |   |      |      |      | 5    |   |      |      |      | 4    |
| Loomis Group                   |   |      |      | 6    | 5    |   |      |      | 5    | 5    |
| Market Street Partners         |   |      |      | 8    | 9    |   |      |      | 6    | 5    |
| Finn Partners                  |   |      |      |      | 8    |   |      |      |      | 6    |
| NMN Advisors, Inc.             |   |      |      |      | 7    |   |      |      |      | 6    |
| Scout Investor Relations       |   |      |      | 4    | 4    |   |      |      | 6    | 7    |
| Stern Investor Relations       |   |      |      | 6    | 6    |   |      |      | 7    | 7    |

|                                      |    |    |    |    |    |    |    |    |    |    |
|--------------------------------------|----|----|----|----|----|----|----|----|----|----|
| Sard Verbinnen & Co                  | 8  |    |    | 8  | 8  | 10 |    |    | 8  | 8  |
| EVC Group                            |    |    |    |    | 6  |    |    |    |    | 8  |
| The Ruth Group                       | 5  | 2  | 7  | 7  | 7  | 6  | 4  | 8  | 9  | 9  |
| Dennard - Lascar Associates          |    |    |    |    | 9  |    |    |    |    | 9  |
| Blueshirt                            |    | 7  | 10 | 10 | 10 |    | 8  | 10 | 10 | 10 |
| ICR, Inc.                            | 10 | 10 | 11 | 11 | 11 | 10 | 11 | 11 | 11 | 11 |
| Wilkinson Brimmer Katcher            |    | 3  | 1  | 1  |    |    | 4  | 3  | 3  |    |
| Lois Paul & Partners                 | 3  | 6  | 7  | 5  |    | 3  | 6  | 5  | 4  |    |
| Emanatepr.com                        |    | 11 | 11 | 9  |    |    | 10 | 9  | 9  |    |
| PR Financial Marketing, LLC          | 1  | 1  | 1  |    |    | 2  | 1  | 1  |    |    |
| oane & Company                       | 4  | 4  | 3  |    |    | 9  | 9  | 7  |    |    |
| Pondel Wilkinson                     | 6  | 5  | 6  |    |    | 6  | 5  | 4  |    |    |
| Brunswick Group                      | 10 | 9  | 8  |    |    | 9  | 9  | 7  |    |    |
| Dennard Rupp Gray & Easterly, LLC    | 10 | 10 | 9  |    |    | 8  | 7  | 6  |    |    |
| Cameron Associates                   | 1  | 1  |    |    |    | 1  | 1  |    |    |    |
| Porter, LeVay & Rose, Inc.           | 1  | 1  |    |    |    | 1  | 1  |    |    |    |
| Strategic Growth International, Inc. | 2  | 2  |    |    |    | 2  | 2  |    |    |    |
| Padilla Speer Beardsley              | 3  | 3  |    |    |    | 4  | 3  |    |    |    |
| Financial Dynamics                   | 4  | 3  |    |    |    | 5  | 3  |    |    |    |
| Ruder Finn West                      | 5  | 4  |    |    |    | 5  | 5  |    |    |    |
| Burns McClellan                      | 6  | 5  |    |    |    | 6  | 5  |    |    |    |
| Zimmerman Adams International        | 6  | 5  |    |    |    | 1  | 2  |    |    |    |
| GlobalFluency                        | 7  | 6  |    |    |    | 4  | 3  |    |    |    |
| Hill & Knowlton                      | 7  | 7  |    |    |    | 7  | 7  |    |    |    |
| Text 100 Public relations            | 8  | 7  |    |    |    | 8  | 7  |    |    |    |
| Triggerfish                          | 9  | 8  |    |    |    | 7  | 6  |    |    |    |
| Integrated Corporate Relations, Inc. | 11 | 8  |    |    |    | 11 | 8  |    |    |    |
| Silverman Heller Assoc.              | 9  | 9  |    |    |    | 9  | 9  |    |    |    |
| Taylor Rafferty                      | 9  | 9  |    |    |    | 10 | 10 |    |    |    |
| Investor Awareness, Inc.             | 1  |    |    |    |    | 1  |    |    |    |    |
| pnlifesciences                       | 2  |    |    |    |    | 2  |    |    |    |    |
| The Abernathy MacGregor Group Inc.   | 2  |    |    |    |    | 3  |    |    |    |    |
| weisscommpartners                    | 3  |    |    |    |    | 3  |    |    |    |    |
| Shelton IR                           | 4  |    |    |    |    | 4  |    |    |    |    |
| Janney Montgomery Scott LLC          | 5  |    |    |    |    | 6  |    |    |    |    |
| Matthew Clawson, Allen & Caron, Inc. | 6  |    |    |    |    | 7  |    |    |    |    |
| Sapphire Investor Relations, LLC     | 7  |    |    |    |    | 6  |    |    |    |    |
| CommVault, Investor Relations        | 8  |    |    |    |    | 8  |    |    |    |    |

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**Table 1. Sample distribution***Panel A: Distribution by year*

| Year  | Number     | Proportion   | IR Consultant |
|-------|------------|--------------|---------------|
| 2009  | 36         | 0.095        | 0.306         |
| 2010  | 75         | 0.197        | 0.240         |
| 2011  | 66         | 0.174        | 0.470         |
| 2012  | 82         | 0.216        | 0.390         |
| 2013  | <u>121</u> | <u>0.318</u> | 0.529         |
| Total | 380        | 1.000        |               |

*Panel B: Distribution by industry*

| SIC  | Number   | Proportion   | IR Consultant |
|--|----------|--------------|---------------|
| 1 Mining & Construction                    | 27       | 0.071        | 0.185         |
| 2 Manufacturing <sup>(a)</sup>             | 85       | 0.224        | 0.459         |
| 3 Manufacturing <sup>(b)</sup>             | 68       | 0.179        | 0.397         |
| 4 Transportation & Public Utilities        | 13       | 0.034        | 0.077         |
| 5 Wholesale & Retail Trade                 | 44       | 0.116        | 0.429         |
| 7 Personal, Business & Recreation Services | 115      | 0.303        | 0.513         |
| 8 Health, Educational, & Other Services    | 27       | 0.071        | 0.222         |
| 9 Public Administration                    | <u>1</u> | <u>0.002</u> | 1.000         |
| Total                                      | 380      | 1.000        |               |

This table reports the sample distribution by year (Panel A) and by 1-digit SIC industry code (Panel B). *IR Consultant* is a dummy variable that equals one if the IPO firm hired an IR consultant prior to the IPO date, zero otherwise. <sup>(a)</sup> represents manufacturing sectors in food, tobacco, textile, furniture, papers, and chemicals. <sup>(b)</sup> represents manufacturing sectors in plastics, leather, steel, engines, machineries, computer, and medical instruments.



**Table 2. Descriptive statistics**

|   | <u>Entire Sample</u> |         | <u>With IR (N=154)</u> |        | <u>Without IR (N=226)</u> |         | P-value<br>t-stat of Diff.    |
|---|----------------------|---------|------------------------|--------|---------------------------|---------|-------------------------------|
|   | Mean                 | s.d.    | Mean                   | s.d.   | Mean                      | s.d.    |                               |
| <u>The main variables</u>                                       |                      |         |                        |        |                           |         |                               |
| <i>IR Consultant</i>  | 0.405                | 0.492   |                        |        |                           |         |                               |
| <i>Cohort IR</i>  | 0.373                | 0.086   | 0.396                  | 0.077  | 0.356                     | 0.088   | 0.000***                      |
| <i>Advert Expenses Seasoned Firms</i>                           | 0.112                | 0.064   | 0.101                  | 0.058  | 0.120                     | 0.120   | 0.005***                      |
| <i>CEO Exper.in Market and Sales</i>                            | 0.308                | 0.462   | 0.390                  | 0.489  | 0.252                     | 0.252   | 0.004***                      |
| <i>Net Optimism</i>   | -0.812               | 3.725   | 0.624                  | 2.802  | -1.790                    | 3.958   | 0.000***                      |
| <i>Proportion of Local Media</i>                                | 0.155                | 0.266   | 0.189                  | 0.304  | 0.132                     | 0.234   | 0.042**                       |
| <u>Cost of capital at offer price (COCO) and price revision</u> |                      |         |                        |        |                           |         |                               |
| <i>Adjusted P/EBITDA<sup>(a)</sup></i>                          | 3.144                | 4.233   | 4.354                  | 5.479  | 2.486                     | 3.202   | 0.001***                      |
| <i>Adjusted P/Sales<sup>(a)</sup></i>                           | 3.684                | 7.366   | 5.354                  | 10.652 | 2.602                     | 3.642   | 0.001***                      |
| <i>Price Revision</i>   | -0.018               | 0.146   | 0.000                  | 0.156  | -0.030                    | 0.138   | 0.054*                        |
| <u>Post-market performance measures (short-run)</u>             |                      |         |                        |        |                           |         |                               |
| <i>Underpricing</i>   | 0.166                | 0.259   | 0.256                  | 0.264  | 0.104                     | 0.236   | 0.000***                      |
| <i>Bid-Ask Spread</i>   | 0.006                | 0.006   | 0.007                  | 0.006  | 0.006                     | 0.006   | 0.136                         |
| <i>Trading Volume</i>   | 0.008                | 0.012   | 0.009                  | 0.016  | 0.007                     | 0.008   | 0.100*                        |
| <u>Post-market performance measures (long-run)</u>              |                      |         |                        |        |                           |         |                               |
| <i>BHAR</i>   | -0.031               | 0.558   | -0.164                 | 0.498  | 0.060                     | 0.579   | 0.000***                      |
| <u>Insiders-related variables</u>                               |                      |         |                        |        |                           |         |                               |
| <i>CEO HC</i>   | 0.579                | 0.797   | 0.403                  | 0.672  | 0.699                     | 0.853   | 0.000***                      |
| <i>CEO Founder</i>  | 0.303                | 0.460   | 0.396                  | 0.491  | 0.239                     | 0.427   | 0.001***                      |
| <i>Equity Offer Size</i>  | 0.266                | 0.166   | 0.251                  | 0.157  | 0.276                     | 0.171   | 0.149                         |
| <i>Participation Ratio</i>                                      | 0.216                | 0.302   | 0.288                  | 0.327  | 0.167                     | 0.274   | 0.000***                      |
| <i>VC</i>   | 0.511                | 0.501   | 0.688                  | 0.465  | 0.389                     | 0.489   | 0.000***                      |
| <i>Underwriter Reputation</i>                                   | 8.317                | 1.675   | 8.344                  | 1.428  | 8.299                     | 1.826   | 0.795                         |
| <u>Other IPO characteristics</u>                                |                      |         |                        |        |                           |         |                               |
| <i>Number of News</i>   | 14.932               | 44.672  | 6.818                  | 10.128 | 20.460                    | 56.709  | 0.003***                      |
| <i>Market Cap (in \$mil)</i>                                    | 1489.48              | 5307.87 | 618.16                 | 809.23 | 2083.20                   | 6792.47 | 0.008***                      |
| <i>Firm Age</i>   | 13.439               | 17.209  | 11.623                 | 11.212 | 14.676                    | 20.238  | 0.090*                        |
| <i>Hi-tech</i>  | 0.345                | 0.476   | 0.435                  | 0.497  | 0.283                     | 0.452   | 0.002***                      |
| <i>Internet</i>   | 0.145                | 0.352   | 0.234                  | 0.425  | 0.084                     | 0.278   | 0.000***                      |
| <i>Loss</i>   | 0.439                | 0.497   | 0.506                  | 0.502  | 0.394                     | 0.490   | 0.030**                       |
| <i>Deleverage</i>   | 0.447                | 0.498   | 0.377                  | 0.486  | 0.496                     | 0.501   | 0.022**                       |
| <i>NASDAQ</i>   | 0.558                | 0.497   | 0.701                  | 0.459  | 0.460                     | 0.500   | 0.000***                      |
| <i>Market Return</i>  | 0.051                | 0.057   | 0.047                  | 0.059  | 0.054                     | 0.056   | 0.220                         |
| <i>Hot IPO Market</i>   | 0.289                | 0.454   | 0.286                  | 0.453  | 0.292                     | 0.456   | 0.894                         |
| <u>Variables related to institutional investors</u>             |                      |         |                        |        |                           |         |                               |
|   | <u>Entire Sample</u> |         | <u>With IR</u>         |        | <u>Without IR</u>         |         | P-value of<br>t-test for Diff |
|   | (N=333)              |         | (N=139)                |        | (N=194)                   |         |                               |
|   | Mean                 | s.d.    | Mean                   | s.d.   | Mean                      | s.d.    |                               |
| <i>Distant Institutional Investors</i>                          | 0.104                | 0.059   | 0.116                  | 0.045  | 0.095                     | 0.066   | 0.002***                      |
| <i>Institutional Ownership</i>                                  | 0.560                | 0.282   | 0.510                  | 0.272  | 0.595                     | 0.285   | 0.006***                      |
| <i>Small Institutional Investors</i>                            | 0.325                | 0.175   | 0.349                  | 0.208  | 0.308                     | 0.145   | 0.035**                       |

This table reports the mean and standard deviation for the variables used in our analysis for the entire sample of 380 IPOs, except for institutional investors-related variables where we have missing observations. All variables are defined in Appendix A. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5% and 10% levels, respectively.

<sup>(a)</sup> The data for *Adjusted P/EBITDA* and *Adjusted P/Sales* is available for 230 and 328 IPOs, respectively. For the *Adjusted P/EBITDA*, 81 IPOs have IR consultants and 149 IPOs do not. For the *Adjusted P/Sales*, 129 IPOs have IR consultants and 199 IPOs do not.

**Table 3. IR Consultants and IPO performance (2SLS)**

|  | (First-stage)      | (Second-stage)                              |                   |                    |   |                    |                   |                    |
|--|--------------------|---|-------------------|--------------------|---|--------------------|-------------------|--------------------|
|  | IR Consultant      | <i>Measures of cost of capital at offer</i> |                   |                    | <i>Aftermarket performance in short-run</i> |                    |                   | <i>in long-run</i> |
|  | (1)                | Price Revision                              | Adjusted P/EBITDA | Adjusted P/Sales   | Underpricing                                | Bid-Ask Spread     | Trading Volume    | BHAR (1 year)      |
|  | (1)                | (2)   | (3)               | (4)                | (5)   | (6)                | (7)               | (8)                |
| Constant                                   | 0.480<br>0.833     | -0.212***<br>0.065                          | 1.578<br>3.115    | 4.616<br>4.114     | -0.218*<br>0.114                            | 0.025***<br>0.002  | -0.006<br>0.005   | 0.830***<br>0.251  |
| <i>IR Consultant</i>                       |                    | 0.035**<br>0.017                            | 1.197**<br>0.589  | 3.257***<br>0.946  | 0.138***<br>0.029                           | -0.001*<br>0.001   | 0.004***<br>0.001 | -0.313***<br>0.064 |
| <i>Cohort IR</i>                           | 5.739***<br>1.024  |   |                   |                    |   |                    |                   |                    |
| <i>Advertising Expenses Seasoned Firms</i> | -5.460***<br>1.379 |   |                   |                    |   |                    |                   |                    |
| <i>CEO Exper. in Marketing and Sales</i>   | 0.344**<br>0.170   |   |                   |                    |   |                    |                   |                    |
| <i>CEO HC</i>                              | -0.206***<br>0.068 | 0.000<br>0.006                              | 0.133<br>0.219    | 0.375<br>0.337     | 0.010<br>0.010                              | 0.000<br>0.000     | 0.000<br>0.000    | 0.027<br>0.023     |
| <i>CEO Founder</i>                         | 0.035<br>0.176     | -0.021<br>0.016                             | -0.573<br>0.678   | 0.609<br>0.940     | 0.017<br>0.029                              | 0.001*<br>0.001    | 0.002*<br>0.001   | 0.035<br>0.064     |
| <i>Equity Offer Size</i>                   | -1.670**<br>0.698  | -0.053<br>0.054                             | -0.819<br>1.828   | -0.409<br>3.099    | -0.172*<br>0.095                            | 0.001<br>0.002     | 0.009**<br>0.004  | -0.383*<br>0.209   |
| <i>Participation Ratio</i>                 | 1.563***<br>0.298  | 0.008<br>0.026                              | 0.298<br>0.871    | -0.340<br>1.387    | 0.069*<br>0.041                             | 0.001<br>0.001     | -0.005**<br>0.002 | 0.185*<br>0.098    |
| <i>VC</i>                                  | 0.481**<br>0.203   | 0.031*<br>0.019                             | 3.074***<br>0.707 | 3.038***<br>1.051  | 0.046*<br>0.027                             | -0.001<br>0.001    | -0.002<br>0.002   | -0.007<br>0.072    |
| <i>Underwriter Reputation</i>              | 0.122*<br>0.065    | -0.004<br>0.005                             | 0.012<br>0.283    | -1.025***<br>0.318 | 0.012<br>0.009                              | -0.001***<br>0.000 | 0.000<br>0.000    | 0.022<br>0.021     |
| <i>Number of News</i>                      |                    | 0.000<br>0.000                              | 0.003<br>0.006    | 0.002<br>0.010     | 0.000<br>0.000                              | 0.000<br>0.000     | 0.000***<br>0.000 | -0.001*<br>0.001   |
| <i>Log (Market Cap)</i>                    | -1.305***<br>0.244 | 0.079***<br>0.021                           | 0.221<br>0.746    | 2.774**<br>1.163   | 0.057*<br>0.033                             | -0.005***<br>0.001 | 0.003**<br>0.002  | -0.254***<br>0.080 |
| <i>Firm Age</i>                            | -0.023<br>0.098    | -0.009<br>0.008                             | -0.207<br>0.261   | -1.083**<br>0.443  | 0.008<br>0.014                              | 0.000<br>0.000     | 0.000<br>0.001    | -0.015<br>0.031    |
| <i>Hi-tech</i>                             | 0.104<br>0.184     | 0.030*<br>0.017                             | -0.342<br>0.678   | -1.714*<br>0.943   | 0.004<br>0.030                              | 0.000<br>0.001     | 0.001<br>0.001    | -0.123*<br>0.065   |
| <i>Internet</i>                            | 0.635***<br>0.233  | 0.015<br>0.023                              | 0.094<br>0.810    | -0.801<br>1.224    | -0.002<br>0.040                             | -0.001<br>0.001    | 0.004**<br>0.002  | -0.013<br>0.088    |

|                                       |                           |                          |                          |                        |                        |                          |                          |                           |
|---------------------------------------|---------------------------|--------------------------|--------------------------|------------------------|------------------------|--------------------------|--------------------------|---------------------------|
| <i>Loss</i>                           | -0.002<br><i>0.178</i>    | 0.009<br><i>0.016</i>    | 2.342***<br><i>0.611</i> | 0.707<br><i>0.893</i>  | 0.020<br><i>0.028</i>  | 0.001**<br><i>0.001</i>  | 0.000<br><i>0.001</i>    | -0.063<br><i>0.062</i>    |
| <i>Deleverage</i>                     | 0.214<br><i>0.175</i>     | -0.022<br><i>0.015</i>   | -0.600<br><i>0.570</i>   | -0.232<br><i>0.859</i> | -0.001<br><i>0.027</i> | 0.000<br><i>0.001</i>    | 0.000<br><i>0.001</i>    | 0.006<br><i>0.060</i>     |
| <i>NASDAQ</i>                         | 0.403**<br><i>0.173</i>   | -0.009<br><i>0.016</i>   | -0.529<br><i>0.563</i>   | -0.530<br><i>0.869</i> | 0.012<br><i>0.028</i>  | 0.003***<br><i>0.001</i> | -0.003**<br><i>0.001</i> | 0.032<br><i>0.061</i>     |
| <i>Market Return</i>                  | -4.523***<br><i>1.476</i> | 0.363***<br><i>0.127</i> | 0.025<br><i>4.677</i>    | 4.961<br><i>6.779</i>  | 0.378*<br><i>0.223</i> | -0.005<br><i>0.004</i>   | 0.012<br><i>0.010</i>    | -1.977***<br><i>0.491</i> |
| <i>Hot IPO Market</i>                 | -0.217<br><i>0.190</i>    | -0.003<br><i>0.016</i>   | -0.018<br><i>0.591</i>   | -0.059<br><i>0.903</i> | 0.036*<br><i>0.020</i> | 0.000<br><i>0.001</i>    | -0.001<br><i>0.001</i>   | 0.010<br><i>0.062</i>     |
| <i>N</i>                              | 380                       | 380                      | 380                      | 380                    | 380                    | 380                      | 380                      | 380                       |
| Adjusted $R^2$ (Pseudo $R^2$ )        | (0.315)                   | 0.129                    | 0.200                    | 0.092                  | 0.144                  | 0.445                    | 0.117                    | 0.113                     |
| <i>F</i> -Statistics (Wald $\chi^2$ ) | (161.630)                 | 4.300                    | 4.360                    | 2.960                  | 4.760                  | 18.880                   | 3.960                    | 3.840                     |
| <i>P</i> -value                       | 0.000                     | 0.000                    | 0.000                    | 0.000                  | 0.000                  | 0.000                    | 0.000                    | 0.000                     |
| Hansen-Sargan's $\chi^2$              |                           | 1.052                    | 1.995                    | 5.84                   | 5.442                  | 0.706                    | 5.803                    | 2.13                      |
| <i>P</i> -value                       |                           | 0.789                    | 0.573                    | 0.121                  | 0.142                  | 0.872                    | 0.122                    | 0.546                     |

This table reports the results of the two-stage least squares (2SLS) regressions of IPO performance on *IR Consultant* and IPO characteristics. All variables are defined in Appendix A. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. The *t*-statistics are based on White (1980) heteroskedasticity-consistent standard errors and covariances. The standard errors are in italics below the coefficients.

**Table 4. IR consultants and the tone in the media***Panel A: Price revision and COCO measures – 3SLS*

|  | Net<br>Optimism<br>(9a) | Price<br>Revision<br>(9b) | Net<br>Optimism<br>(10a) | Adjusted<br>P/EBITDA<br>(10b) | Net<br>Optimism<br>(11a) | Adjusted<br>P/Sales<br>(11b) |
|--|-------------------------|---------------------------|--------------------------|-------------------------------|--------------------------|------------------------------|
| <i>Constant</i>                            | 0.569<br>1.630          | -0.223<br>0.072           | -0.999<br>2.955          | 2.146<br>3.250                | 0.745<br>2.054           | 3.503<br>5.091               |
| <i>IR Consultant</i>                       | 1.767***<br>0.418       |                           | 2.257***<br>0.614        |                               | 1.997***<br>0.467        |                              |
| <i>Net Optimism</i>                        |                         | 0.019**<br>0.010          |                          | 0.481*<br>0.273               |                          | 1.552***<br>0.579            |
| <i>Proportion of Local Media</i>           | 0.247***<br>0.062       |                           | 0.224***<br>0.060        |                               | 0.226***<br>0.062        |                              |
| <i>CEO HC</i>                              | -0.148<br>0.149         | 0.003<br>0.007            | -0.234<br>0.207          | 0.239<br>0.254                | -0.174<br>0.168          | 0.639<br>0.437               |
| <i>CEO Founder</i>                         | 0.270<br>0.414          | -0.027<br>0.018           | 0.727<br>0.646           | -0.925<br>0.771               | 0.410<br>0.469           | -0.031<br>1.183              |
| <i>Equity Offer Size</i>                   | -0.133<br>1.361         | -0.050<br>0.059           | 0.646<br>1.734           | -1.166<br>1.919               | -0.074<br>1.546          | -0.329<br>3.783              |
| <i>Participation Ratio</i>                 | 0.966*<br>0.493         | -0.010<br>0.031           | 1.765**<br>0.828         | -0.505<br>1.169               | 1.058*<br>0.618          | -1.900<br>1.945              |
| <i>VC</i>                                  | 0.232<br>0.471          | 0.046**<br>0.021          | -0.448<br>0.671          | 3.308***<br>0.746             | 0.046<br>0.524           | 3.000**<br>1.285             |
| <i>Underwriter Reputation</i>              | -0.179*<br>0.103        | -0.001<br>0.006           | -0.199*<br>0.107         | 0.109<br>0.303                | -0.196*<br>0.106         | -0.719*<br>0.401             |
| <i>Number of News</i>                      | -0.004<br>0.005         | 0.000<br>0.000            | -0.004<br>0.006          | 0.005<br>0.007                | -0.003<br>0.005          | 0.007<br>0.012               |
| <i>Log (Market Cap)</i>                    | -0.362<br>0.518         | 0.086***<br>0.023         | -0.120<br>0.708          | 0.256<br>0.797                | -0.365<br>0.580          | 3.323**<br>1.457             |
| <i>Firm Age</i>                            | -0.089<br>0.204         | -0.007<br>0.009           | 0.002<br>0.250           | -0.215<br>0.276               | -0.147<br>0.222          | -0.866**<br>0.419            |
| <i>Hi-tech</i>                             | 0.453<br>0.425          | 0.021<br>0.019            | 1.169<br>0.645           | -0.926<br>0.769               | 0.405<br>0.471           | -2.363**<br>1.169            |
| <i>Internet</i>                            | 0.309<br>0.574          | 0.008<br>0.026            | 0.548<br>0.769           | -0.154<br>0.900               | 0.189<br>0.612           | -1.072<br>1.523              |
| <i>Loss</i>                                | 0.799**<br>0.402        | -0.007<br>0.020           | 0.882**<br>0.446         | 2.016***<br>0.691             | 0.881**<br>0.446         | -0.671<br>1.218              |
| <i>Deleverage</i>                          | -0.499*<br>0.258        | -0.012<br>0.017           | -0.526*<br>0.271         | -0.599<br>0.602               | -0.537*<br>0.286         | 0.606<br>1.078               |
| <i>NASDAQ</i>                              | -0.223<br>0.401         | -0.004<br>0.017           | -0.833<br>0.539          | -0.095<br>0.598               | -0.046<br>0.437          | -0.406<br>1.054              |
| <i>Market Return</i>                       | 0.128<br>3.194          | 0.358***<br>0.138         | 1.773<br>4.442           | -1.003<br>4.875               | 0.563<br>3.382           | 3.869<br>8.226               |
| <i>Hot IPO Market</i>                      | 0.466<br>0.404          | -0.012<br>0.018           | 0.947*<br>0.563          | -0.486<br>0.681               | 0.495<br>0.451           | -0.832<br>1.139              |
| <i>N</i>                                   | 380                     | 380                       | 380                      | 380                           | 380                      | 380                          |
| <i>Wald <math>\chi^2</math></i>            | 70.950                  | 62.200                    | 54.950                   | 65.820                        | 66.700                   | 33.020                       |
| <i>P-value</i>                             | 0.000                   | 0.000                     | 0.000                    | 0.000                         | 0.000                    | 0.000                        |
| <i>Hansen-Sargan's <math>\chi^2</math></i> |                         | 7.397                     |                          | 7.316                         |                          | 9.736                        |
| <i>P-value</i>                             |                         | 0.402                     |                          | 0.397                         |                          | 0.197                        |

*Panel B: Underpricing, bid-ask spread, trading volume, and BHAR – 3SLS*

|  | Net<br>Optimism<br>(12a) | Under-<br>pricing<br>(12b) | Net<br>Optimism<br>(13a) | Bid-Ask<br>Spread<br>(13b) | Net<br>Optimism<br>(14a) | Trading<br>Volume<br>(14b) | Net<br>Optimism<br>(15a) | BHAR<br>(15b)             |
|--|--------------------------|----------------------------|--------------------------|----------------------------|--------------------------|----------------------------|--------------------------|---------------------------|
| <i>Constant</i>                            | 0.569<br><i>1.630</i>    | -0.262<br><i>0.172</i>     | 0.568<br><i>1.630</i>    | 0.025***<br><i>0.002</i>   | 0.563<br><i>1.630</i>    | -0.007<br><i>0.007</i>     | 0.567<br><i>1.630</i>    | 0.928**<br><i>0.374</i>   |
| <i>IR Consultant</i>                       | 1.767***<br><i>0.414</i> |                            | 1.786***<br><i>0.418</i> |                            | 1.837***<br><i>0.416</i> |                            | 1.789***<br><i>0.414</i> |                           |
| <i>Net Optimism</i>                        |                          | 0.077***<br><i>0.024</i>   |                          | -0.001**<br><i>0.000</i>   |                          | 0.002**<br><i>0.001</i>    |                          | -0.173***<br><i>0.052</i> |
| <i>Proportion of Local Media</i>           | 0.248***<br><i>0.046</i> |                            | 0.237***<br><i>0.065</i> |                            | 0.230***<br><i>0.056</i> |                            | 0.211***<br><i>0.046</i> |                           |
| <i>CEO HC</i>                              | -0.148<br><i>0.149</i>   | 0.021<br><i>0.016</i>      | -0.148<br><i>0.149</i>   | 0.000<br><i>0.000</i>      | -0.147<br><i>0.149</i>   | 0.000<br><i>0.001</i>      | -0.148<br><i>0.149</i>   | 0.002<br><i>0.036</i>     |
| <i>CEO Founder</i>                         | 0.270<br><i>0.414</i>    | -0.004<br><i>0.044</i>     | 0.273<br><i>0.414</i>    | 0.001*<br><i>0.001</i>     | 0.282<br><i>0.414</i>    | 0.002<br><i>0.002</i>      | 0.274<br><i>0.414</i>    | 0.083<br><i>0.095</i>     |
| <i>Equity Offer Size</i>                   | -0.133<br><i>1.361</i>   | -0.160<br><i>0.142</i>     | -0.141<br><i>1.361</i>   | 0.001<br><i>0.002</i>      | -0.165<br><i>1.361</i>   | 0.009*<br><i>0.005</i>     | -0.143<br><i>1.361</i>   | -0.410*<br><i>0.220</i>   |
| <i>Participation Ratio</i>                 | 0.966*<br><i>0.492</i>   | 0.116***<br><i>0.045</i>   | 0.953**<br><i>0.458</i>  | 0.001<br><i>0.001</i>      | 0.917**<br><i>0.427</i>  | -0.007**<br><i>0.003</i>   | 0.951**<br><i>0.426</i>  | 0.173<br><i>0.164</i>     |
| <i>VC</i>                                  | 0.232<br><i>0.471</i>    | 0.116**<br><i>0.050</i>    | 0.229<br><i>0.471</i>    | 0.000<br><i>0.001</i>      | 0.218<br><i>0.471</i>    | -0.003<br><i>0.002</i>     | 0.228<br><i>0.471</i>    | 0.031<br><i>0.108</i>     |
| <i>Underwriter Reputation</i>              | -0.179*<br><i>0.103</i>  | 0.025*<br><i>0.014</i>     | -0.178*<br><i>0.103</i>  | -0.001***<br><i>0.000</i>  | -0.177*<br><i>0.103</i>  | 0.001<br><i>0.001</i>      | -0.178*<br><i>0.103</i>  | -0.008<br><i>0.031</i>    |
| <i>Number of News</i>                      | -0.004<br><i>0.005</i>   | 0.001<br><i>0.001</i>      | -0.004<br><i>0.005</i>   | 0.000<br><i>0.000</i>      | -0.004<br><i>0.005</i>   | 0.000***<br><i>0.000</i>   | -0.004<br><i>0.005</i>   | -0.002*<br><i>0.001</i>   |
| <i>Log (Market Cap)</i>                    | -0.362<br><i>0.518</i>   | 0.085*<br><i>0.046</i>     | -0.358<br><i>0.518</i>   | -0.006***<br><i>0.001</i>  | -0.347<br><i>0.518</i>   | 0.004**<br><i>0.002</i>    | -0.357<br><i>0.518</i>   | -0.315***<br><i>0.121</i> |
| <i>Firm Age</i>                            | -0.089<br><i>0.204</i>   | 0.014<br><i>0.021</i>      | -0.085<br><i>0.204</i>   | 0.000<br><i>0.000</i>      | -0.075<br><i>0.204</i>   | 0.000<br><i>0.001</i>      | -0.085<br><i>0.204</i>   | -0.029<br><i>0.046</i>    |
| <i>Hi-tech</i>                             | 0.453<br><i>0.425</i>    | -0.032<br><i>0.046</i>     | 0.458<br><i>0.425</i>    | 0.000<br><i>0.001</i>      | 0.472<br><i>0.425</i>    | 0.000<br><i>0.002</i>      | 0.459<br><i>0.425</i>    | -0.042<br><i>0.099</i>    |
| <i>Internet</i>                            | 0.309<br><i>0.574</i>    | -0.027<br><i>0.061</i>     | 0.314<br><i>0.574</i>    | -0.001<br><i>0.001</i>     | 0.327<br><i>0.574</i>    | 0.003<br><i>0.002</i>      | 0.315<br><i>0.574</i>    | 0.043<br><i>0.133</i>     |
| <i>Loss</i>                                | 0.799**<br><i>0.401</i>  | -0.042<br><i>0.047</i>     | 0.803**<br><i>0.402</i>  | 0.002***<br><i>0.001</i>   | 0.812**<br><i>0.402</i>  | -0.001<br><i>0.002</i>     | 0.803**<br><i>0.401</i>  | 0.077<br><i>0.102</i>     |
| <i>Deleverage</i>                          | -0.499*<br><i>0.258</i>  | 0.037<br><i>0.042</i>      | -0.499*<br><i>0.258</i>  | -0.001<br><i>0.001</i>     | -0.499*<br><i>0.258</i>  | 0.001<br><i>0.002</i>      | -0.499*<br><i>0.258</i>  | -0.080<br><i>0.091</i>    |
| <i>NASDAQ</i>                              | -0.223<br><i>0.399</i>   | 0.054*<br><i>0.031</i>     | -0.235<br><i>0.401</i>   | 0.003***<br><i>0.001</i>   | -0.267<br><i>0.400</i>   | -0.002<br><i>0.002</i>     | -0.237<br><i>0.400</i>   | -0.012<br><i>0.089</i>    |
| <i>Market Return</i>                       | 0.127<br><i>3.190</i>    | 0.359*<br><i>0.195</i>     | 0.179<br><i>3.195</i>    | -0.005<br><i>0.004</i>     | 0.323<br><i>3.192</i>    | 0.011<br><i>0.012</i>      | 0.189<br><i>3.190</i>    | -1.932***<br><i>0.718</i> |
| <i>Hot IPO Market</i>                      | 0.466<br><i>0.404</i>    | 0.000<br><i>0.044</i>      | 0.467<br><i>0.404</i>    | 0.000<br><i>0.001</i>      | 0.468<br><i>0.404</i>    | -0.002<br><i>0.002</i>     | 0.467<br><i>0.404</i>    | 0.091<br><i>0.095</i>     |
| <i>N</i>                                   | 380                      | 380                        | 380                      | 380                        | 380                      | 380                        | 380                      | 380                       |
| <i>Wald <math>\chi^2</math></i>            | 70.950                   | 36.880                     | 70.990                   | 60.150                     | 71.770                   | 46.100                     | 71.070                   | 30.280                    |
| <i>P-value</i>                             | 0.000                    | 0.000                      | 0.000                    | 0.000                      | 0.000                    | 0.000                      | 0.000                    | 0.000                     |
| <i>Hansen-Sargan's <math>\chi^2</math></i> |                          | 11.681                     |                          | 10.118                     |                          | 11.556                     |                          | 7.664                     |
| <i>P-value</i>                             |                          | 0.119                      |                          | 0.182                      |                          | 0.116                      |                          | 0.421                     |

This table reports the results of the three-stage least squares (3SLS) regressions of IPO performance on *Net Optimism*, which is regressed on *IR Consultant* and IPO characteristics. All variables are defined in Appendix A. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. The *t*-statistics are based on White (1980) heteroskedasticity-consistent standard errors and covariances. The standard errors are in italics below the coefficients.

**Table 5. Post-IPO institutional investors' characteristics**

| <i>Panel A: IR consultants and institutional investors (2SLS)</i>                |                                |                                       |                                     |
|--|--------------------------------|---------------------------------------|-------------------------------------|
|  | Institutional<br>Ownership (%) | Proportion of<br>Distant Institutions | Proportion of<br>Small Institutions |
|  | (16)                           | (17)                                  | (18)                                |
| <i>IR Consultant</i>   | -0.074**<br><i>0.034</i>       | 0.035***<br><i>0.034</i>              | 0.052**<br><i>0.023</i>             |
| Firm Characteristics   | Yes                            | Yes                                   | Yes                                 |
| <i>N</i>   | 333                            | 333                                   | 333                                 |
| Adjusted $R^2$   | 0.155                          | 0.224                                 | 0.044                               |
| <i>F</i> -Statistics   | 4.570                          | 6.730                                 | 1.900                               |
| <i>P</i> -value ( <i>F</i> -Statistics)  | 0.000                          | 0.000                                 | 0.018                               |
| <i>P</i> -value (Hansen-Sargan's $\chi^2$ )                                      | 0.325                          | 0.475                                 | 0.300                               |
| <i>Panel B: IR consultants, net optimism, and institutional investors (3SLS)</i> |                                |                                       |                                     |
|  | Institutional<br>Ownership (%) | Proportion of<br>Distant Institutions | Proportion of<br>Small Institutions |
|  | (19)                           | (20)                                  | (21)                                |
| <i>Net Optimism</i>  | -0.043**<br><i>0.022</i>       | 0.079***<br><i>0.031</i>              | 0.173***<br><i>0.023</i>            |
| Firm Characteristics   | Yes                            | Yes                                   | Yes                                 |
| <i>N</i>   | 333                            | 333                                   | 333                                 |
| Wald $\chi^2$  | 61.370                         | 69.300                                | 49.880                              |
| <i>P</i> -value (Wald $\chi^2$ )   | 0.000                          | 0.000                                 | 0.023                               |
| <i>P</i> -value (Hansen-Sargan's $\chi^2$ )                                      | 0.157                          | 0.142                                 | 0.240                               |

This table reports the test of the association between *IR Consultant*, *Net Optimism* and Post-IPO Institutional investors' involvement around the IPO event (i.e., institutional involvement at the end of the first quarter following the IPO date). Institutional investors' involvement is measured through institutional ownership in the IPO stock (in %), the invested institutions' tendency to purchase recent IPO shares (i.e., what proportion of them are classified as "distant institutions"), and the proportion of invested institutions that are small. All variables are defined in Appendix A. Panel A examines the association between the presence of IR consultants and institutional investors' involvement using the estimation model from Table 3. Panel B presents the results of the 3SLS regressions run on the association between net optimism and institutional investors' involvement as in Table 4. The estimated coefficients of the control variables are suppressed to save space. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. The *t*-statistics are based on White (1980) heteroskedasticity-consistent standard errors and covariances. The standard errors are in italics below the coefficients.

**Table 6. IR consultants and IPO performance measures: Difference-in-difference analysis**

*Panel A: Differences in observables after propensity score matching*

|                               | Treated<br>Sub-sample<br>(N = 92) | Control<br>Sub-sample<br>(N = 92) | Diff.  | P-value |
|-------------------------------|-----------------------------------|-----------------------------------|--------|---------|
| <i>CEO HC</i>                 | 0.489                             | 0.435                             | 0.054  | 0.587   |
| <i>CEO Founder</i>            | 0.326                             | 0.239                             | 0.087  | 0.192   |
| <i>Equity Offer Size</i>      | 0.249                             | 0.255                             | -0.006 | 0.720   |
| <i>Participation Ratio</i>    | 0.149                             | 0.141                             | 0.008  | 0.819   |
| <i>VC</i>                     | 0.630                             | 0.554                             | 0.076  | 0.296   |
| <i>Underwriter Reputation</i> | 8.375                             | 8.294                             | 0.081  | 0.709   |
| <i>Market Cap (in \$mil)</i>  | 717.724                           | 722.721                           | -4.997 | 0.974   |
| <i>Firm Age</i>               | 11.598                            | 12.465                            | -0.867 | 0.671   |
| <i>Hi-tech</i>                | 0.402                             | 0.359                             | 0.043  | 0.546   |
| <i>Internet</i>               | 0.120                             | 0.130                             | -0.011 | 0.825   |
| <i>Loss</i>                   | 0.533                             | 0.489                             | 0.043  | 0.558   |
| <i>Deleverage</i>             | 0.359                             | 0.424                             | -0.065 | 0.368   |
| <i>NASDAQ</i>                 | 0.598                             | 0.576                             | 0.022  | 0.766   |
| <i>Market Return</i>          | 0.044                             | 0.046                             | -0.003 | 0.763   |
| <i>Hot IPO Market</i>         | 0.304                             | 0.273                             | 0.22   | 0.748   |

*Panel B: IPO Performance Measures*

|                          | Treated<br>Sub-sample | Control<br>Sub-sample | Diff.  | P-value  |
|--------------------------|-----------------------|-----------------------|--------|----------|
| <i>Price Revision</i>    | 0.013                 | -0.036                | 0.049  | 0.025**  |
| <i>Adjusted P/EBITDA</i> | 3.708                 | 2.716                 | 0.992  | 0.261    |
| <i>Adjusted P/Sales</i>  | 5.785                 | 2.525                 | 3.261  | 0.032**  |
| <i>Underpricing</i>      | 0.271                 | 0.135                 | 0.136  | 0.001*** |
| <i>Bid-Ask Spread</i>    | 0.007                 | 0.008                 | -0.001 | 0.309    |
| <i>Trading Volume</i>    | 0.008                 | 0.006                 | 0.002  | 0.049**  |
| <i>BHAR</i>              | -0.165                | 0.051                 | -0.216 | 0.007*** |
| <i>Net Optimism</i>      | 0.838                 | -1.661                | 2.5000 | 0.000*** |

*Panel C: Post-IPO Institutional investors' Distance, Ownership, and Size*

|  | Treated<br>Sub-sample | Control<br>Sub-sample | Diff.  | P-value  |
|--|-----------------------|-----------------------|--------|----------|
| <i>Distant Institutional Investors</i> | 0.118                 | 0.084                 | 0.034  | 0.000*** |
| <i>Institutional Ownership</i>         | 0.488                 | 0.570                 | -0.082 | 0.031**  |
| <i>Small Institutional Investors</i>   | 0.365                 | 0.298                 | 0.068  | 0.039**  |

The table reports the propensity score matching and difference-in-difference analysis results. Panel A reports the matching results by comparing key control variables across the treatment and the control groups. *P*-value is reported for each key variable. Panel B reports the comparison of IPO performance, and Panel C compares institutional investors' involvement between treatment and control group immediately after the IPO event. All variables are defined in Appendix A. \*, \*\* and \*\*\* denote statistical significance at the 10%, 5% and 1% levels, respectively.

**Table 7. Termination date of the IR-IPO relationship and the IPO stock performance***Panel A: BHAR depending on when the IPO terminated its relationship with the IR consultant*

|  | BHAR   | BHAR     | BHAR     | BHAR     |
|--|--------|----------|----------|----------|
| <i>IR-IPO Termination Date</i>                 | 3-mo   | 6-mo     | 9-mo     | 12-mo    |
| Within one year of the IPO date (N = 50)       |        |          |          |          |
| Mean   | 0.004  | -0.098   | -0.353   | -0.436   |
| Longer than one year of the IPO date (N = 104) |        |          |          |          |
| Mean   | 0.116  | 0.111    | 0.061    | -0.034   |
| <i>P-value for Mean Diff.</i>                  | 0.097* | 0.004*** | 0.000*** | 0.000*** |

*Panel B: 2SLS estimation of IR-IPO continuing relationship's effect on BHAR*

|                                       | BHAR         | BHAR         | BHAR         | BHAR         |
|---------------------------------------|--------------|--------------|--------------|--------------|
|                                       | 3-mo         | 6-mo         | 9-mo         | 12-mo        |
|                                       | (22a)        | (22b)        | (22c)        | (22d)        |
| <i>IR Consultant</i>                  | -0.049       | -0.180**     | -0.396***    | -0.580***    |
|                                       | <i>0.084</i> | <i>0.088</i> | <i>0.113</i> | <i>0.086</i> |
| <i>IR-IPO Continuing Relationship</i> | 0.087        | 0.160*       | 0.257**      | 0.414***     |
|                                       | <i>0.086</i> | <i>0.090</i> | <i>0.116</i> | <i>0.091</i> |
| <i>Firm Characteristics</i>           | Yes          | Yes          | Yes          | Yes          |
| Adjusted R <sup>2</sup>               | 0.029        | 0.036        | 0.065        | 0.159        |
| F-Statistics                          | 1.630        | 1.780        | 2.450        | 4.990        |
| P-value (F-Statistics)                | 0.050        | 0.026        | 0.001        | 0.000        |
| P-value (Hansen-Sargan's $\chi^2$ )   | 0.463        | 0.309        | 0.201        | 0.701        |

*Panel C: 2SLS estimation of terminated IR consultant's effect on BHAR*

|                                     | BHAR         | BHAR         | BHAR         | BHAR         |
|-------------------------------------|--------------|--------------|--------------|--------------|
|                                     | 3-mo         | 6-mo         | 9-mo         | 12-mo        |
|                                     | (23a)        | (23b)        | (23c)        | (23d)        |
| <i>IR Consultant</i>                | 0.052        | -0.006       | -0.103       | -0.210***    |
|                                     | <i>0.043</i> | <i>0.051</i> | <i>0.074</i> | <i>0.066</i> |
| <i>Terminated IR Relationship</i>   | -0.116*      | -0.198**     | -0.452***    | -0.474***    |
|                                     | <i>0.066</i> | <i>0.079</i> | <i>0.114</i> | <i>0.103</i> |
| <i>Firm Characteristics</i>         | Yes          | Yes          | Yes          | Yes          |
| Adjusted R <sup>2</sup>             | 0.035        | 0.044        | 0.091        | 0.160        |
| F-Statistics                        | 1.760        | 1.970        | 3.120        | 5.020        |
| P-value (F-Statistics)              | 0.029        | 0.011        | 0.000        | 0.000        |
| P-value (Hansen-Sargan's $\chi^2$ ) | 0.465        | 0.359        | 0.179        | 0.727        |

This table uses the IPOs that terminate their IR contracts as a natural experiment to better identify the link between the IR consultants and the IPO performance. Panel A determines how many IPOs have terminated their IR contracts by the end of the first post-IPO year and how many are continuing the relationship with the IR consultant beyond the first year. It also presents the *BHARs* (3-, 6-, 9-, and 12-months) for each subsample of IPOs. Panels B and C report the results from the 2SLS regressions run by adding the *IR-IPO Continuing Relationship* dummy (in Panel B) or *Terminated IR Consultant* dummy (in Panel C) to the second-stage regression. The dependent variable is the *BHAR* for each post-IPO period (3-, 6-, 9-, and 12-months). In the *BHAR* (3-mo) column, *IR-IPO Continuing Relationship* (*Terminated IR Consultant*) takes a value of one if a given IPO has continued (terminated) its relationship with an IR consultant as of the end of the first post-IPO quarter, and zero otherwise. In the *BHAR* (6-mo) column, *IR-IPO Continuing Relationship* (*Terminated IR Consultant*) is one if the relationship continued beyond (terminated before) six months, and so on for the other *BHAR* columns. All other variables are defined in Appendix A. The estimated coefficients of the control variables in Panels B and C are suppressed to save space. \*, \*\* and \*\*\* denote statistical significance at the 10%, 5% and 1% levels, respectively. The *t*-statistics are based on White (1980) heteroskedasticity-consistent standard errors and covariances. The standard errors are in italics below the coefficients.



**Table 8. Does the reputation of the IR consultant matter?**

|  | IR IPO<br>Reputation<br>(First-stage)<br>(24) | Price<br>Revision<br>(25a) | Adjusted<br>P/EBITDA<br>(25b) | Adjusted<br>P/Sales<br>(25c) | Underpricing<br>(Second-stage)<br>(25d) | Bid-Ask<br>Spread<br>(25e) | Trading<br>Volume<br>(25f) | BHAR<br>(25g)      |
|--|---|----------------------------|-------------------------------|------------------------------|---|----------------------------|----------------------------|--------------------|
| Constant                               | 0.780<br>1.428                                | -0.204***<br>0.064         | 2.164<br>3.057                | 6.001<br>4.101               | -0.163<br>0.114                         | 0.024***<br>0.002          | -0.004<br>0.005            | 0.715***<br>0.249  |
| <i>IR IPO Reputation</i>               |   | 0.006***<br>0.002          | 0.144**<br>0.067              | 0.310***<br>0.103            | 0.013***<br>0.003                       | 0.000<br>0.000             | 0.000***<br>0.000          | -0.034***<br>0.007 |
| <i>Cohort IR</i>                       | 9.983***<br>1.817                             |                            |                               |                              |   |                            |                            |                    |
| <i>Advert. Expenses Seasoned Firms</i> | -9.373***<br>2.397                            |                            |                               |                              |   |                            |                            |                    |
| <i>CEO Exper. Marketing and Sales</i>  | 0.544*<br>0.295                               |                            |                               |                              |   |                            |                            |                    |
| <i>CEO HC</i>                          | -0.379***<br>0.121                            | 0.001<br>0.006             | 0.141<br>0.218                | 0.384<br>0.340               | 0.010<br>0.011                          | 0.000<br>0.000             | 0.000<br>0.000             | 0.025<br>0.023     |
| <i>CEO Founder</i>                     | 0.027<br>0.301                                | -0.021<br>0.016            | -0.566<br>0.675               | 0.613<br>0.944               | 0.019<br>0.029                          | 0.001<br>0.001             | 0.002*<br>0.001            | 0.032<br>0.064     |
| <i>Equity Offer Size</i>               | -2.910**<br>1.277                             | -0.050<br>0.054            | -0.991<br>1.813               | -0.876<br>3.105              | -0.180*<br>0.096                        | 0.001<br>0.002             | 0.009**<br>0.004           | -0.371*<br>0.210   |
| <i>Participation ratio</i>             | 2.775***<br>0.534                             | 0.007<br>0.025             | 0.191<br>0.873                | -0.049<br>1.382              | 0.087**<br>0.045                        | 0.000<br>0.001             | -0.004**<br>0.002          | 0.154<br>0.097     |
| <i>VC</i>                              | 0.840**<br>0.352                              | 0.035*<br>0.019            | 3.140***<br>0.702             | 3.419***<br>1.045            | 0.061*<br>0.033                         | -0.001<br>0.001            | -0.002<br>0.002            | -0.040<br>0.072    |
| <i>Underwriter Reputation</i>          | 0.200*<br>0.112                               | -0.005<br>0.005            | -0.018<br>0.282               | -1.060***<br>0.321           | 0.010<br>0.009                          | -0.001***<br>0.000         | 0.000<br>0.000             | 0.026<br>0.021     |
| <i>Number of News</i>                  |   | 0.000<br>0.000             | 0.003<br>0.006                | 0.002<br>0.010               | 0.000<br>0.000                          | 0.000<br>0.000             | 0.000***<br>0.000          | -0.001*<br>0.001   |
| <i>Log (Market Cap)</i>                | -2.270***<br>0.431                            | 0.078***<br>0.020          | 0.180<br>0.737                | 2.536**<br>1.162             | 0.046<br>0.036                          | -0.005***<br>0.001         | 0.003*<br>0.002            | -0.231***<br>0.079 |
| <i>Firm Age</i>                        | -0.003<br>0.171                               | -0.009<br>0.008            | -0.212<br>0.261               | -1.091**<br>0.445            | 0.006<br>0.014                          | 0.000<br>0.000             | 0.000<br>0.001             | -0.012<br>0.031    |
| <i>Hi-tech</i>                         | 0.189<br>0.311                                | 0.022<br>0.017             | -0.470<br>0.672               | -2.098**<br>0.952            | -0.013<br>0.030                         | 0.000<br>0.001             | 0.001<br>0.001             | -0.078<br>0.066    |

|  |                           |                          |                          |                        |                        |                          |                          |                           |
|--|---------------------------|--------------------------|--------------------------|------------------------|------------------------|--------------------------|--------------------------|---------------------------|
| <i>Internet</i>                                      | 1.121***<br><i>0.403</i>  | 0.007<br><i>0.023</i>    | -0.055<br><i>0.818</i>   | -0.879<br><i>1.244</i> | -0.008<br><i>0.041</i> | -0.001<br><i>0.001</i>   | 0.003*<br><i>0.002</i>   | 0.011<br><i>0.089</i>     |
| <i>Loss</i>  | 0.039<br><i>0.307</i>     | 0.009<br><i>0.016</i>    | 2.382***<br><i>0.608</i> | 0.709<br><i>0.897</i>  | 0.023<br><i>0.028</i>  | 0.001**<br><i>0.001</i>  | 0.000<br><i>0.001</i>    | -0.068<br><i>0.062</i>    |
| <i>Deleverage</i>                                    | 0.381<br><i>0.301</i>     | -0.026*<br><i>0.015</i>  | -0.748<br><i>0.574</i>   | -0.427<br><i>0.869</i> | -0.010<br><i>0.027</i> | 0.000<br><i>0.001</i>    | -0.001<br><i>0.001</i>   | 0.028<br><i>0.060</i>     |
| <i>NASDAQ</i>  | 0.735**<br><i>0.300</i>   | -0.008<br><i>0.016</i>   | -0.526<br><i>0.558</i>   | -0.401<br><i>0.869</i> | 0.022<br><i>0.028</i>  | 0.003***<br><i>0.001</i> | -0.003**<br><i>0.001</i> | 0.012<br><i>0.061</i>     |
| <i>Market Return</i>                                 | -7.343***<br><i>2.563</i> | 0.402***<br><i>0.128</i> | 0.391<br><i>4.674</i>    | 5.600<br><i>6.863</i>  | 0.428*<br><i>0.227</i> | -0.005<br><i>0.004</i>   | 0.014<br><i>0.011</i>    | -2.132***<br><i>0.497</i> |
| <i>Hot IPO Market</i>                                | -0.329<br><i>0.329</i>    | -0.003<br><i>0.016</i>   | -0.062<br><i>0.589</i>   | -0.143<br><i>0.907</i> | 0.037<br><i>0.028</i>  | 0.000<br><i>0.001</i>    | -0.001<br><i>0.001</i>   | 0.009<br><i>0.062</i>     |
| <i>N</i>   | 380                       | 380                      | 230                      | 328                    | 380                    | 380                      | 380                      | 380                       |
| <i>Adjusted R<sup>2</sup> (Pseudo R<sup>2</sup>)</i> | (0.318)                   | 0.140                    | 0.204                    | 0.085                  | 0.131                  | 0.441                    | 0.116                    | 0.109                     |
| <i>F-Statistics (Wald <math>\chi^2</math>)</i>       | (163.140)                 | 4.640                    | 4.460                    | 2.770                  | 4.370                  | 18.620                   | 3.920                    | 3.730                     |
| <i>P-value (F-Statistics)</i>                        | 0.000                     | 0.000                    | 0.000                    | 0.000                  | 0.000                  | 0.000                    | 0.000                    | 0.000                     |
| <i>P-value (Hansen-Sargan's <math>\chi^2</math>)</i> |                           | 0.786                    | 0.628                    | 0.253                  | 0.250                  | 0.948                    | 0.369                    | 0.167                     |

This table reports the results of the two-stage least squares (2SLS) regressions of IPO performance on *IR IPO Reputation* and IPO characteristics. *IR IPO Reputation* ranges from one to eleven, least to most reputable IR consultant, and is based on the market capitalization of IPOs that the IR consultant was engaged in during the last three years prior to the current IPO date. The instrumental variables are the same as in Table 3. All other variables are defined in Appendix A. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. The *t*-statistics are based on White (1980) heteroskedasticity-consistent standard errors and covariances. The standard errors are in italics below the coefficients.

**Table 9. What CEO characteristics matter?**

|                                   | IR Consultant<br>(26a)  | IR IPO Reputation<br>(26b) |
|-----------------------------------|-------------------------|----------------------------|
| <i>Constant</i>                   | 0.581<br><i>0.867</i>   | 0.987<br><i>1.501</i>      |
| <i>CEO Public Firm Experience</i> | 0.162<br><i>0.355</i>   | 0.194<br><i>0.615</i>      |
| <i>CEO IPO Experience</i>         | 0.254**<br><i>0.124</i> | 1.372**<br><i>0.692</i>    |
| <i>CEO Finance Education</i>      | -0.384<br><i>0.333</i>  | -0.833<br><i>0.616</i>     |
| <i>CEO Finance Experience</i>     | 0.308<br><i>0.376</i>   | 0.608<br><i>0.660</i>      |
| <i>CEO Experience</i>             | -0.695*<br><i>0.396</i> | -1.243*<br><i>0.696</i>    |
| Instruments                       | Yes                     | Yes                        |
| Control variables                 | Yes                     | Yes                        |
| <i>N</i>                          | 380                     | 380                        |
| <i>Pseudo R<sup>2</sup></i>       | 0.336                   | 0.340                      |
| <i>Wald <math>\chi^2</math></i>   | 172.120                 | 174.190                    |
| <i>P-value</i>                    | 0.000                   | 0.000                      |

This table reports the first-stage regression results of *IR Consultant* (or *IR IPO Reputation*) on IPO characteristics after dividing *CEO HC* into its components. *IR IPO Reputation* ranges from one to eleven, least to most reputable IR consultant, and is based on the market capitalization of IPOs that the IR consultant was engaged in during the last three years prior to the current IPO date. The instrumental variables are the same as in Table 3. *CEO Public Firm Experience* equals one if the CEO has a former experience as a top management team member of a publicly-listed firm, zero otherwise. *CEO IPO Experience* equals one if the CEO has a former IPO experience as a top management team member, zero otherwise. *CEO Finance Education* equals one if the CEO has a former finance education background, zero otherwise. *CEO Finance Experience* equals one if the CEO has a former experience as a CFO, VC, PE, and/or investment banker, zero otherwise. *CEO Experience* equals one if the CEO has a former CEO experience, zero otherwise. All other variables are defined in Appendix A. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. The *t*-statistics are based on White (1980) heteroskedasticity-consistent standard errors and covariances. The standard errors are in italics below the coefficients.

**Table 10. IR consultants, IPO quality and the one-year post-IPO market performance**

|                                |       | Negative BHAR     | Positive BHAR    | <i>P</i> -value for Mean Diff. |
|--------------------------------|-------|-------------------|------------------|--------------------------------|
|                                |       | <b>I</b>          | <b>II</b>        | <b>I vs. II</b>                |
| IR-backed IPOs                 | N.    | 101               | 53               |                                |
|                                | Mean  | 0.059             | 0.170            | 0.028**                        |
|                                | s.d.  | 0.238             | 0.379            |                                |
|                                |       | <b>III</b>        | <b>IV</b>        | <b>III vs. IV</b>              |
| Non-IR-backed IPOs             | N.    | 122               | 104              |                                |
|                                | Mean  | 0.287             | 0.250            | 0.536                          |
|                                | s.d.  | 0.454             | 0.435            |                                |
|                                |       | <b>II vs. III</b> | <b>I vs. III</b> | <b>II vs. IV</b>               |
| <i>P</i> -value for Mean Diff. | 0.102 | 0.000***          | 0.256            | 0.000***                       |

This table reports the fraction of high-quality IPOs in association with the presence of an IR consultant and the post-IPO long-run performance (i.e., whether the one-year *BHAR* is positive or negative). We consider high-quality IPOs to be the ones that are larger (than median size), profitable (positive net income), low-tech (*Hi-tech*=0), and underwritten by more reputable investment banks (i.e., underwriters with a reputation ranking equal to 9.1 as per Loughran and Ritter, 2004). All other variables are defined in Appendix A. \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5% and 10% levels, respectively.