

Investor Relations, Firm Visibility, and Investor Following

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Abstract

Many small firms face significant challenges in improving visibility and attracting investors to their stock. One response to these challenges is to initiate an investor relations (IR) program. Through interviews and surveys with IR professionals, we learn that the IR process focuses on management access and company visibility as key drivers of the strategy's success, with attracting institutional investors as a common goal. Our empirical tests examine a sample of 210 small- and mid-cap companies that increased IR activities (proxied by the hiring of an outside IR firm). Our results show that the companies exhibit increases in disclosure, media coverage, and analyst following. They also exhibit substantial and ongoing increases in institutional investor ownership. As part of this increase, our sample firms experience a shift in investor composition toward institutions that are more geographically distant and that tend to invest in larger companies, consistent with the IR activities creating visibility to a different type of investor. Finally, there are improvements in valuation in the year following the IR initiation, as proxied by the book-to-price ratio and stock returns. Overall, our results indicate that IR activities focused on increasing firm visibility are successful in impacting market participants' interactions with the companies.

1. Introduction

A large body of literature documents important benefits of voluntary disclosure for liquidity and cost of capital. This work often implies that these benefits can be obtained by simply increasing the quantity and quality of disclosure. However, this assumption is challenged by the visibility literature, which suggests that large groups of securities are often overlooked by investors due to their low visibility (e.g., “home bias” in foreign investing), despite clear benefits in the risk-return trade off from investing in these securities more broadly. Prior work also documents that certain firm characteristics, such as size, liquidity, and exchange listing, tend to attract institutional investors and security analysts to firms, solving the visibility problem. Combined, these literatures suggest that some firms, notably smaller firms on minor exchanges, face significant challenges in improving visibility and attracting investors.

In response to these challenges, many firms voluntarily adopt an investor relations (IR) strategy with the goal of creating an understanding of the firm, attracting information intermediaries, and targeting a desired investor base (Brennan and Tamarowski (2000), Hong and Huang (2003)). While firms often make significant investments in these strategies, there is little academic research into the IR process as a whole (Brennan and Tamarowski (2000)). The goal of this paper is to establish a richer understanding of the actions taken in IR strategies and their consequences for a firm’s visibility. We investigate whether IR strategies are successful in impacting the firm’s following by institutional investors, analysts, and the media, as well as its market valuation.

Motivated by the complex nature of the IR process and the limited discussion of it in the literature, we conduct interviews and a survey of a small group of IR professionals to better understand the activities involved in successful IR programs. We focus on IR strategies for

small and mid-cap companies, which are most likely to face visibility issues and difficulties in attracting investors and information intermediaries. Our survey and interviews indicate that interactions with buy-side investors are considered crucial for the long-run success of an IR strategy. Analyst coverage is considered helpful, but is often viewed as unattainable for small and mid-cap companies due to the economics of analyst research. Media coverage is viewed as important in building visibility for companies, and in many cases is a more achievable goal than analyst coverage. While many IR specialists view high quality disclosure as important, they also argue that many firms have established a sufficient level of public disclosure prior to beginning an IR program. Instead, most argue that direct contacts with investors and information intermediaries increase management's credibility and, thus, have a greater impact on the success of the IR strategy.

We provide empirical evidence on the impacts of IR programs by studying a sample of 210 companies traded on the NASDAQ or other OTC markets that initiated a new IR strategy. We use the hiring of an outside IR firm to identify such firms. We create a matched sample based on exchange listing, industry, time listed, and institutional ownership. This sample allows us to control for many of the structural visibility constraints faced by smaller firms and to capture changes in macroeconomic conditions over the sample period.

We first examine some of the determinants of the decision to initiate a new IR strategy. Our goal is not to model the optimal decision of undertaking IR; rather, we view this analysis as primarily providing insights regarding a suitable control model for our examination of the impact of implementing an IR program. Our results indicate that IR initiation is related to undervaluation and several visibility measures. It also is related to structural changes in the firm and access to the capital market. We find no relation with prior stock performance or with prior

or future accounting performance. In general, these results suggest that IR is initiated for a variety of purposes with firm visibility being one of the major issues. We control for these factors in our examination of the impacts of initiating IR.

We find that many firms increase their press-release disclosure when initiating an IR program, consistent with managers ensuring that there is sufficient information regarding the firm to support other IR activities. We control for this change in disclosure as we examine the impact of IR on other activities, providing evidence that IR programs involve more than increased formal disclosure. We find that media coverage increases almost immediately. The increase is maintained over the next year, but does not grow over time. Analyst coverage also increases; however, it takes several quarters to develop and is not always sustained. Combined, this evidence suggests that the initiation of IR programs result in increased information provided by the firm (via disclosure) and increased coverage through information intermediaries (the press and analysts), both in absolute terms and relative to the control firms.

The initiation of IR programs also impacts equity market activity in the firm. Firms initiating IR activities experience a significant and persistent increase in both the number of institutions and the percentage of institutional ownership that is greater than for the control firms. These increases are significant starting in the second quarter after the IR initiation and continue to grow over the next two quarters, confirming the survey evidence that buy-side investment is a primary ongoing target in almost all IR strategies. We provide further insight into this result by examining changes in the composition of institutional investors before and after the IR initiation. We find that our sample firms experience a shift toward institutions that are more geographically distant and that tend to invest in larger companies, consistent with the IR activities helping to overcome local bias and to create visibility to a different type of investor. Finally, we document

that firms initiating IR programs experience significant improvements in their market valuation after hiring an IR firm, consistent with the IR program mitigating potential visibility-induced undervaluation.

Overall, these results suggest that IR activities play a significant role in helping small and mid-cap companies overcome their low visibility to attract a wider following by institutional investors and other information intermediaries. IR activities also appear to significantly impact firm valuation. Notably, these impacts are observed even after controlling for any increase in firm disclosure, indicating that the IR activities have an impact beyond that documented in the prior voluntary disclosure literature.

Our paper contributes to the literature by providing evidence regarding the IR process, for which there has been limited investigation in the past despite its alleged importance. Two prior studies use the summary AIMR ratings of firms' investor relations activities to document that more highly-rated IR actions are associated with greater analyst following (Lang and Lundholm (1996)) and greater ownership by transient institutional investors (Bushee and Noe (2000)). However, these studies only examine firms that are already large and highly visible and do not shed much light on the specific activities undertaken in the IR process. We use a survey and interviews to provide a richer understanding of this process and an empirical study to provide evidence on the consequences of IR strategies for firms experiencing low visibility.

Our paper also contributes to the disclosure, visibility, and investor following literatures by examining a mechanism by which firms can overcome fundamental problems they have in attracting investor following and trading. These literatures suggest that disclosure and visibility play an important role in attracting investors, improving liquidity, and reducing the cost of capital. However, prior work suggests that only firms with certain characteristics, such as size,

exchange listing, or existing liquidity, are able to obtain these benefits. We find that actively engaging in IR activities provides a possible avenue to overcome these problems and build an investor base, contributing to our understanding of one of the “black box” mechanisms that firms use to gain attention in a crowded market.

The next section reviews prior literature in more detail to motivate our investigation of the IR process. Section 3 presents the findings from our surveys and interviews of IR professionals. Section 4 outlines our empirical predictions and Section 5 describes the sample and data. Empirical results are presented in Section 6 and Section 7 concludes.

2. Motivation and prior literature

Investor relations (IR) integrates activities such as creating useful voluntary disclosure, attracting analyst and media following, and targeting desired investors for the company (Brennan and Tamarowski (2000), Hong and Huang (2003)). Companies incur significant costs in undertaking these activities. For example, an IR program in a typical small or newly-public firm will require 20-25% of the CEO’s time and approximately 50% of the CFO’s time (Hong and Huang (2003)). While the widespread use of IR and the large costs incurred suggests this is an important activity for many firms, there has been little academic research that has focused on the IR process (Brennan and Tamarowski (2000)). However, there are several streams of literature that provide evidence regarding the importance to firms of some of the key features of IR, namely disclosure, visibility, and attracting investors and analysts.

The disclosure literature provides many insights into areas of communication such as why specific disclosures are provided (Skinner (1994)), how disclosure can impact cost of capital (Botosan (1997)), how changes in disclosure impact following by information intermediaries and

stock price attributes like bid-ask spreads, volume, and volatility (Healy, Hutton, and Palepu (1999), Bushee and Noe (2000)), how investor bases impact disclosure practices (Bushee, Matsumoto, and Miller (2003)), and how packaging of a disclosure impacts its credibility (Hutton, Miller, and Skinner (2003)). This literature makes it clear that the quality and quantity of voluntary disclosure has an important impact on how the firm is viewed by outside stakeholders.

The disclosure literature implicitly assumes that all disclosure is read and utilized by market participants. Contrary to this assumption, there is a large literature regarding the visibility of the firm and its impact on price. This literature draws on Merton (1987), which suggests that an increase in the size of a firm's investor "base" (i.e., the number of investors that are aware of the firm's existence) will reduce its cost of capital. The empirical literature in this area primarily examines which visibility attributes drive investment preferences, including international home bias (e.g., French and Poterba (1991), Cooper and Kaplanis (1994), Kang and Stulz (1997)), within-country local bias (Coval and Moskowitz (1999), Huberman (2001), Hong, Kubik, and Stein (2004)), stock exchange listing (Kadlec and McConnell (1994)), advertising intensity (Grullon, Kanatas, and Weston (2004)), press coverage (Falkenstein (1996)), and presentations to analysts (Francis, Hanna, and Philbrick (1997)). Huberman (2001) summarizes this evidence by saying "Together, these phenomena provide compelling evidence that people invest in the familiar while often ignoring the principles of portfolio theory." This literature suggests that, for disclosure to be effective, there has to be some degree of visibility of the firm, highlighting the potential importance of IR activities that impact both visibility and disclosure. In fact, Leavy and Sloan (2005) suggest that firm visibility impacts price even more than firm fundamentals.

A key goal of many IR strategies is identifying and attracting investors with characteristics preferred by management, particularly institutional investors (Elgin (1992), Byrne (1999)). There is a large literature examining the firm characteristics that are associated with institutional investor ownership (e.g., O'Brien and Bhushan (1990), Del Guercio (1996), Falkenstein (1996), Gompers and Metrick (2001), Bushee (2001)). These papers consistently find that institutions prefer larger firms that are listed on stock indices and major exchanges. Prior work also finds that disclosure quality and visibility are important determinants of institutional investor ownership (Bushee and Noe (2000), Bradshaw, Bushee, and Miller (2004)). While these studies find that certain firm characteristics are significant determinants of investor following, they do not address the question of whether, or how, firms lacking these attributes can attract institutions. This gap provides a key motivation for examining the role of IR.

Similarly, IR strategies often attempt to use information intermediaries, such as analysts and the media, to increase firm visibility and attract investors. The literature on analyst following indicates they prefer to follow large firms listed on major exchanges with lower performance volatility (O'Brien and Bhushan (1990), Lang and Lundholm (1996)). Moreover, there is evidence that analyst following is impacted by institutional investor following and by voluntary disclosure, suggesting that there are opportunities to influence the likelihood of analysts following through these mechanisms (O'Brien and Bhushan (1990), Lang and Lundholm (1996)). There is only a limited literature on the press, but it indicates press coverage is highly correlated to both size and analyst following (Miller (2006)).

Obviously, the literatures discussed above are highly related and suggest an important role for IR in simultaneously addressing disclosure, visibility, and investor following concerns for companies. Due to the paucity of discussion of the complete IR process in the literature, the

next section presents evidence on the components of an effective IR strategy based on a small sample of interviews and a related survey of IR professionals.

3. Overview of the IR Process: Survey and Interview Evidence

3.1. Interview and Survey Approach

To better understand the IR process for small and mid-cap companies, we interviewed IR professionals at 11 firms that specialize in investor relations for small and mid-cap companies. We identified IR firms using web searches and practitioner recommendations. The IR professionals were all Chief Executives or Partners. Four of the 11 IR firms are based in Boston and two in New York City, consistent with large local investor bases. There is one firm each from California, Florida, Minnesota, Ohio, and upstate New York.

We conducted the interviews using open-ended questions and encouraged the IR professionals to discuss their views on the IR process. The interviews generally lasted between 60 and 90 minutes. Every IR professional we interviewed also completed a web-based survey. The survey is intended to provide a summary of the interviewees' views and a context for statistical tests later in the paper, not as a source of statistical data itself. The findings of the survey are reported in Table 1.

3.2. Overview of the IR Process

The most common reasons companies seek IR assistance are management displeasure with the stock price or investor composition. In other cases, management receives suggestions to seek IR assistance from current or potential investors. Interviewees also said that Reg FD and the Sarbanes-Oxley Act have generated clients looking for assistance in navigating the complex

communication requirements of these acts. Finally, some clients approach IR firms due to a major event, such as a merger or delisting, but extend the relationship to cover general IR.¹

Many IR professionals noted that they will not accept clients whose management is only looking for a short-term boost in stock price. The interviewees all felt that involvement in such situations would have negative consequences for the IR firm's reputation, potentially even leading to inadvertently being involved in a "pump and dump" scheme.²

Once an IR firm has been retained the general process is similar across firms. First, the IR professional meets with management to complete an internal evaluation process. Then, most IR professionals interview shareholders, prospective investors who recently declined to invest, and institutional investors of similar firms. As Table 1 shows, this an important step in the IR process, with a mean (median) rating of 5.8 (6) on a 7-point scale. These internal and external analyses are used to design a strategy for management communication. Most IR professionals indicated it is often just a matter of finding the right way to tell the story to the right investors.³ The IR professionals strive to ensure that management tells a single, clear story once they begin to interact with outsiders. Any disagreement in front of investors is considered "deadly".

The IR strategy generally includes plans for what information is needed and how it should be disseminated to investors, analysts, and the media. The IR professionals stressed that the strategy must be based on a thorough analysis of potential investors, which is often done using prior investments, stated investment styles, or prior experience with the investor (the mean (median) survey response of 6.1(6) supports the importance of this analysis). They also made it

¹ Interestingly, the majority of the firms do not "cold call" for prospective clients. Instead, most attempt to keep an active profile so that companies will approach them if they decide they need help.

² Given the limited information environments and low liquidity surrounding many of these companies, people claiming to be IR experts often develop false disclosures to drive up prices on the firms, then sell their position. This occurs frequently enough that one of the IR firms runs a successful hedge fund that shorts against those stocks.

³ Occasionally, the interviews indicate problems within the company that require major changes to the company. However, Table 1 notes that the importance of repositioning the company name or branding strategy received a much lower importance rating than identifying potential investors and surveying current market perceptions.

clear that these strategies depend heavily on the type of company involved. IR professionals agree it is important to view this as a long-term project. As one interviewee describes it, “IR is like Water Torture, you just keep dripping it out there and eventually people break.”

3.3. Buy-Side Investors

IR professionals consistently stated that direct communication with buy-side investors is the most crucial step in the IR process. In the survey, the importance of raising general awareness with buy-side investors received a mean (median) rating of 6.9 (7). The IR professionals believe that buy-side investors are essential for creating a stable base of sophisticated investors with the ability to understand the company. Once a company successfully attracts one or two buy-side investors, other buy-side investors are more willing to hear the company’s pitch. This interest encourages sell-side analysts to follow the firm and attracts media coverage, all of which help attract a dedicated retail following (one IR professional referred to this as “the circle of influence”). Almost all of the interviewees stressed that managers must be realistic in approaching the buy side. Small firms that do not trade on a major exchange are generally a hard placement. The IR professional attempts to target buy-side investors that are most likely to understand the firm’s value proposition and be open to investment from this type of firm.

All of the interviewees noted the importance of face-to-face contact between management and buy-side investors. In the survey, the importance of management meetings with the buy side received a mean (median) score of 7(7) (the only question with a unanimous rating of 7). In contrast, IR professional meetings with the buy side were rated as relatively unimportant with a mean (median) score of 2.45 (1). Many interviewees stated that, even with strong fundamentals, buy-side investors need to have faith in management; direct meetings are

crucial in developing credibility. Most IR professionals attempt to get management to dedicate at least two to three days each quarter for investor meetings and to commit to continued meetings once an investor has taken a position.

3.4. Retail Investors

Retail (or individual) investors are generally viewed as less important than buy side. The mean (median) survey scores for both general awareness and management presentations to retail investors were 4.09 (4) and 4.4 (4), respectively. Opinions on retail investors varied greatly across interviewees. Although most interviewees felt a dedicated retail investor base would be beneficial, many felt that targeting these investors was too difficult. As one consultant said “it is too hard to manage, you just throw it out there and hope it takes.” However, others felt retail investors could become an important part of the ownership base in some cases. For example, firms with strong local presence, such as banks or utilities, could use retail stock brokers in their areas of service as a conduit for attracting retail investors. Similarly, firms with a widely known consumer product may be able to target consumers as investors.

3.5. Sell-side Analysts

Many IR professionals felt that sell-side analysts play an important role in firm visibility. The survey found that the importance of visibility with analysts received a mean (median) rating of 5.3 (6) and management meetings had a mean and median rating of 6. Several interviewees stated that analyst exposure may lead to the company being included either in industry reports or as an industry comparison in a report on a larger company, creating both visibility and credibility. However, many felt that attracting analysts is unlikely for most small and many mid-cap companies. Even if analysts coverage is attracted, most interviewees felt it comes slowly and is driven by interest from other parties, particularly the buy-side.

3.6. The Media

The survey suggests IR professionals believe it is important to increase media awareness (mean and median rating of 6). Several interviewees said media coverage can be an effective tool to communicate to retail investors, especially if current and potential shareholders are concentrated in a geographic area, as regional media are often more willing to cover small companies than national media. The majority of interviewees viewed media coverage as helpful in attracting and retaining buy-side investors and analysts, often arguing it creates “credibility” for the company by creating the impression that the company is “a player” or “should be on their radar screen.” Several interviewees noted that press coverage is most effective when the article includes a positive quote from another buy-side investor or an analyst.

Most interviewees felt that management must be cautious in using the press. A common concern is that press coverage could lead to an unsustainable “pop” in price. Further, several IR professionals were concerned that large price movements could attract short sellers who might actively work against the firm and/or generate law suits when the price dropped. Several said companies should not try to tell “complicated” stories in the press. Similar to investors and analysts, the survey shows that direct access with management is the most important aspect in dealing with the press.

3.7. Disclosure

During the interviews, we asked general questions about the role of public disclosure. In the survey, we focused on four categories of disclosure (earnings announcements, annual reports, general press releases, and the company web site). As shown by the survey results, public disclosure is considered important, but not as important as direct contact with investors and

information intermediaries. Our interviews found that IR professionals view disclosure as being very conditional.⁴

Many interviewees indicated that the base level of disclosure in the US is generally high and, thus, not an area for additional opportunity. However, several noted that low levels of disclosure are sometimes an issue for smaller, less sophisticated companies. In the survey, there was a high level of importance placed on increasing the quality of disclosures, especially in earnings announcements and general press releases (both received median rankings of 7). As one respondent said “Investors and analysts are bombarded with disclosures every day, you have to make yours count. Then they will keep paying attention in the future.”

4. Empirical predictions and research design

4.1. Determinants of initiating an IR program

Although not the primary focus of our study, we first examine the possible determinants of the decision to undertake an IR program. Our interviews suggest there are a variety of reasons firms undertake IR. In some cases, the firm is responding to only one of these reasons, in others it may be that multiple reasons combine to create the incentive for IR. Thus, our goal is not to model the optimal decision of undertaking IR; rather, we view this analysis as primarily providing insights regarding a suitable control model for our examination of the impact of implementing an IR program.

Many of the reasons to initiate IR stem from managers’ or investors’ beliefs that the firm is not properly valued by the market; thus, we expect that firms with higher book-to-market ratios are more likely to undertake IR. These valuation concerns often stem from visibility

⁴ In fact, one interviewee did not respond to the disclosure questions in the survey due to their conditional nature, several others followed up afterwards to indicate they found those questions difficult to answer unambiguously.

concerns; thus, firms are more likely to initiate IR when they have lower following by analysts, the media, and institutional investors, as well as lower trading activity. We also include firm size as a general proxy for structural barriers to visibility. Our interviews indicated that IR programs are occasionally initiated in response to major changes in firm. We include indicator variables for whether the firm has recently completed a merger or acquisition, or changed its exchange listing, management team, or auditor in the prior year. Finally, although our interviews did not suggest that IR initiations occur as a result of changes in short-term firm performance or needs to access the debt and equity markets, we examine these factors as they are common predictions in the disclosure literature. Thus, we include prior stock returns and changes in net income, future changes in net income, an indicator for new equity issuances in the prior year, and leverage.

4.2. Impacts of initiating an IR program on firm communications

Broadly speaking, IR involves a dialog between shareholders and management that occurs through both formal public disclosure and direct meetings. We examine formal disclosure by investigating firm-initiated written disclosures, measured using both the quantity of disclosures and the word count. Our interviews indicated that many firms have sufficient disclosure prior to initiating a more formal IR program. This is particularly true of the NASDAQ firms which must meet the extra disclosure demands imposed by that market. However, interviewees suggested that, in the early stages of the IR strategy, increased firm-initiated disclosure will be used to “wake up the investor base” even for many of those firms. Further, for smaller firms, there may be a need to increase the firm’s disclosure. This suggests that some firms in the sample should increase disclosure while others continue to provide their current disclosure. Thus, we predict an increased level of disclosure for the sample as a whole.

4.3. Impacts of initiating an IR program on visibility to information intermediaries

Analysts play an important role in increasing firm visibility (Irvine (2003)). Our interviews suggest that attempts to attract analysts are an important component of the IR strategy; although structural barriers, such as low potential trading commissions, make this difficult for many small and mid-cap firms. Given the significant efforts devoted to attracting analysts, we predict an increase in analyst following after the initiation of the new IR program.

The media is also an important information intermediary in financial markets (Miller (2006), Bushee, et al. (2007)). The interviews indicate that press coverage can be beneficial in some situations; however, press coverage is unpredictable in content and audience. Thus, many IR professionals prefer other methods of communicating with and attracting investors. Further, prior literature suggests that the press is also more likely to cover larger, already visible firms (Miller (2006)). Thus, even if efforts are made to increase press coverage, it is likely to face structural barriers similar to those in attracting analysts. Combined, this suggests media coverage is not likely to be the primary visibility mechanism in enhanced IR, but because it plays a role for some firms, we predict an increase in media coverage for our IR sample.

4.4. Impacts of initiating an IR program on investor following and market valuation

The primary goal of IR programs is to increase the firm's interactions with investors in an attempt to attract a larger investor base and potentially mitigate any visibility-driven misvaluations. Prior research finds that institutional investor ownership is a significant component of visibility and firm pricing (Chen, Hong, and Stein (2002), Lehar and Sloan (2005)). Consistent with these studies, our interviews indicate that increasing both the breadth of institutional following in the firm and the percentage of institutional ownership are primary goals of almost all IR strategies. Accordingly, we predict both the number of institutions and the percentage of institutional holdings will increase for companies undertaking new IR programs.

Finally, impacting valuation is one of the ultimate goals in most IR programs. If some of the components discussed above are successfully impacted by IR, undervaluation of the firm is likely to be mitigated. Thus, we predict firms initiating new IR programs will experience improvements in valuation, proxied by changes in the book-to-price ratio and stock returns in the year after hiring the IR firm.

5. Sample and variables

5.1. Sample

We form a test sample of small and mid-cap firms that have initiated new IR programs by identifying companies that have hired an external IR firm. Our test sample consists of 210 companies hiring IR firms between 1998 and 2004 and trading on NASDAQ or other OTC markets. Table 2 documents the sources from which we obtain our sample. First, starting in January 1999, PR Newswire issues a weekly “Agency Roster” which summarizes “account wins” by PR and IR firms during the prior week. From this roster, we find 100 companies that explicitly state the IR firm was hired for investor relations.⁵ Second, using the list of IR firms announcing clients on the Agency Roster and a list of IR firms obtained from the National Investor Relations Institute, we searched Factiva for any additional press releases announcing new clients that were not picked up by the Agency Roster.⁶ We found an additional 80 companies in this manner. Third, we went to the websites of those IR firms to check whether they posted a client list with the dates each client signed with the IR firm. We found 12

⁵ We drop companies that hire IR firms for reasons such as advertising, public relations, agency of record services, or specific promotions (e.g., publicizing the company’s centennial). We also drop any private companies. If no detail is given in the Agency Roster, we refer to the original press release from earlier in the week to determine the reason the company hired the IR firm, and we drop companies for which we cannot find the reason.

⁶ In discussions with people at IR firms, we were unable to determine what criteria are used by PR Newswire for inclusion of new accounts on the Agency Roster.

companies on IR websites. Finally, we contacted all of the IR firms on the NIRI list of firms to ask whether they had any additional clients not found in any of these other sources. Three IR firms were willing to provide client lists and dates, adding another 18 companies to our sample. There are 34 IR firms that were hired by the sample companies; however, five firms account for roughly half of the sample and only 12 firms have five or more clients in the sample.

We define the date the IR firm was hired (IRDATE) as either the date of the press release in Factiva or the date the relationship commenced according to the IR firm. Table 2 shows that the sample is fairly evenly distributed across the years 1998 to 2004, with a small spike in 2001 that could be due to Reg FD or to the decline in the stock market that year. Our sample includes firms that trade on the NASDAQ (38.6%), the OTC Bulletin Board (OTCBB) (56.7%), and the Pink Sheets (4.8%). The industry representation of the sample is quite broad. There are 64 industries represented in the sample and only two industries—computer services (9%) and software (7%)—account for more than 5% of the sample observations (not tabled).

We obtain stock return, trading volume, and market value data from the Datastream International database, which follows a larger number of OTCBB and Pink Sheets companies than CRSP. Institutional investor data are obtained from the Thomson Financial Spectrum database of quarterly Form 13F filings. Data on analyst following are obtained from the I/B/E/S database. We use the Factiva “Intelligent Indexing” service to obtain press release and media coverage data.⁷ We collect data on mergers, acquisitions, and new equity issuances from the SDC database. We obtain data on company characteristics from the Compustat database, supplemented with hand collection from Edgar for companies that file with the SEC but are not

⁷ There are two alternatives for searching companies on Factiva: Intelligent Indexing and Free Text. The Indexed search picks up only those articles that Factiva considers to be about the company, whereas Free Text picks up any mention of the words in the company name. While the Indexed search may miss some mentions of the company in the indexing process, Free Text searching returns many spurious uses of the company name. As a check, we collected article counts with Free Text searches on a subsample of firms and found similar counts.

picked up by Compustat. Finally, we obtain data on management and auditor changes from SEC filings on the Edgar database.

Before collecting data for our sample companies, we compiled a history of all name changes, ticker symbol changes, and movements between exchanges to ensure we found all data for the company on each database. For companies trading on the NASDAQ, we used the CRSP database to compile the history. For companies trading on the OTCBB and Pink Sheets at any point in their history, we used the Daily List on the OTCBB website to track any changes.

In our empirical tests, we examine the determinants and impacts of initiating a new IR program for our test sample by benchmarking it to a set of control companies that did not hire IR firms. During the sample period, the stock market rose and fell, the economy entered a recession, and scandals in the investment banking industry led to a retrenchment in analyst coverage, especially for smaller firms (Leone (2004)). These market-wide effects likely had an impact on investor following and company visibility beyond hiring the IR firm.

We form a sample of control companies that did not hire IR firms by matching based on exchange listing, industry, time listed, and institutional investor following immediately prior to the time each sample company hired the IR firm.⁸ We did not attempt to match based on company size because market values are often unreliable for firms traded on the OTCBB and Pink Sheets (Bushee and Leuz (2005)). However, the institutional investor following variable should serve as a good proxy for company size (Gompers and Metrick (2001)). We use the following algorithm to find control companies. First, we pull a list of all companies in the same industry and traded on the same exchange as the sample company at the time it hired the IR firm. Next, we search for the closest match in institutional investor following within the set of

⁸ Although some of our control companies may have retained the services of an IR firm, our tests are centered in event time, and it is unlikely that both the sample company and the control company hired IR firms at the same time.

companies whose time listed was within two years of the sample company. We then follow the same procedure of compiling company histories for the control companies to ensure we collect all available data.

5.2. Variable definitions

All variables are defined on a calendar quarter basis to align the variables with the institutional holdings data, with the calendar quarter containing the IRDATE defined as quarter zero. Figure 1 provides a timeline that illustrates the timing of variable measurement

We measure firm-initiated disclosure using press release wires on Factiva. These disclosures include press releases issued by the firm, the detailed earnings announcement, and transcripts of conference calls. We define two measures: the log of one plus the number of press releases issued by the firm during the quarter (*LNDISC*) and the log of one plus the mean word count of the press releases (*LWCDISC*).

We use the log of one plus the number of analysts issuing earnings forecasts (*LNAL*) as the measure of analyst following (O'Brien and Bhushan (1990), Botosan (1997)). We compute this measure by counting the number of unique analysts issuing an earnings forecast for any horizon during the quarter. We assume analyst following is zero for any period when the company is listed but there are no forecasts on IBES.

We measure media coverage using the log of one plus the number of articles about the company appearing in edited sources during the quarter (*LNMEDIA*) articles. We form this group by choosing "All Sources not Press Release Wires" in Factiva, which ensures we retrieve articles for which the news agency makes an editorial decision about whether to carry the item.⁹

⁹ We also used the log of one plus the mean word count of articles appearing in edited sources and found nearly identical results.

If a company did not exist for the entire quarterly period, we drop the observation to eliminate unusual coverage surrounding an IPO or delisting.

We examine two measures of institutional investor following. First, we use the log of one plus the number of institutional investors that have nonzero holdings in the stock (*LNIH*). This measure has been used in prior research as a proxy for institutional following (e.g. O'Brien and Bhushan, (1990), Walther (1997), Amihud, Mendelson, and Uno (1999)) and does not require data on total shares outstanding, which are missing for some firms in our sample. Second, we compute the percentage ownership by institutional investors (*PIH*), defined as total shares owned by institutions divided by the total shares outstanding. This construct is the most commonly used proxy for institutional ownership (e.g., Bushee (2001), Gompers and Metrick (2001)). These variables are available each calendar quarter end. For both measures, we assume that institutional holdings are zero for any period when the company is listed on an exchange but there is no data available on institutional holdings.

Finally, we proxy for valuation impacts with the change in the book-to-price ratio (*CBP*) and stock returns (*RET*) in the year after the initiation of IR. We compute *CBP* as the difference between the book-to-price ratio at the last fiscal year end prior to the company hiring the IR firm and the first fiscal year end occurring more than one year after hiring the IR firm. We require at least one year after to ensure that the IR actions have had sufficient time to have an impact. Following prior work, we exclude any observations with a negative BP ratio at either point (e.g., Liu, et al. (2002)). We compute *RET* as the buy-and-hold stock return starting on the first day of quarter one and ending on the last day of quarter four. We exclude quarter zero to more closely tie the returns to the outcome of the IR efforts.¹⁰

¹⁰ We use raw returns because of the lack of a good market benchmark for companies traded on the OTCBB and Pink Sheets (Bushee and Leuz (2005)). However, we require that both the test firm and its matched control firm

Figure 2 graphically presents the mean cumulative change in each of these variables starting four quarters prior to IRDATE through four quarters subsequent to the IRDATE. Panel A (B) shows the means of the variables for the test (control) firms. In both panels, the year prior to IRDATE shows no discernable trend for any of the variables, other than an uptick in disclosure and media coverage for test firms in quarter -1. Following IRDATE, panel A shows a shift upward for all variables, consistent with the initiation of IR having an impact on these variables. Disclosure and media coverage spike immediately, whereas institutional investor and analyst following build more slowly. Each of these increases tends to be sustained throughout the subsequent year. Panel B indicates most variables for the control firms have no trend or a slight shift downward, especially number of analysts and institutional investors. Combined, these results provide preliminary evidence that IR has a significant impact distinct from any economy wide trends. In the following sections, we examine these trends using regressions with controls for possible determinants of the decision to initiate new IR programs.

6. Empirical Results

6.1. Determinants of initiating an IR program

Table 3, Panel A presents means and medians for the potential determinants of the decision to initiate an IR program. Each of these variables, except for the future change in net income, is computed for the test and control firms prior to the IRDATE (see Figure 1).¹¹ As measures of the firms' prior visibility, we include the log of total assets (*PLTA*), which is a general proxy for structural barriers to visibility, and the benchmark-period average of the

have nonmissing return data; thus, the control firm returns provide a benchmark for risk and market effects. We also note that a problem with stock returns is that the timing and direction of the effect is unclear. Companies with successful IR programs should first experience positive returns in correcting an undervaluation and then, at some point, lower returns that reflect the lower cost of capital (see Lehavy and Sloan (2005) for an in-depth discussion).

¹¹ For all variables with outliers, we winsorize the extreme 1% of each tail.

percentage of institutional ownership (*PPIH*), the log of the number of institutional owners (*PLNIH*), the log of the number of analysts following the firm (*PLNAL*), the log of the number of press-initiated articles in Factiva (*PLNMEDIA*), the log of the number of firm-initiated articles in Factiva (*PLNDISC*). We examine two measures of prior trading activity. First, we use share turnover (*PTRN*), computed as volume divided by shares outstanding. Because shares outstanding are sometimes missing or unreliable for companies traded on the OTCBB or the Pink Sheets (Bushee and Leuz (2005)), we also compute the percent of days traded (*PDAYS*), defined as the number of days with a nonzero volume in a month divided by the total number of trading days. Both variables are monthly averages during the calendar quarter. We include the book-to-price ratio (*PBP*) as of the most recent fiscal year prior to the *IRDATE* to proxy for undervaluation. We include stock returns (*PRET*) over the benchmark period and the most recent change in net income (*PCNI*) prior to *IRDATE* to proxy for changes in firm performance. To capture any motivations to initiate IR in response to expected performance changes, we include the change in net income *after* the *IRDATE* (*CNI*). To proxy for sensitivity to the capital markets, we include an indicator variable for whether the firm had any merger or acquisition activity (*DMRG*) in the benchmark period, an indicator variable for any equity issuances (*DISS*) in the benchmark period, and leverage (*PLEV*), measured as debt-to-assets. Finally, we include indicator variables for other major changes in the benchmark period, including changes in exchange listing (*DEXC*), changes in the CEO or CFO (*DMGMTC*), and changes in the company's auditor (*DAUDC*).

Table 3 shows that, in general, the means and medians of these variables are not significantly different between the test and control sample. Notably, the test firms are significantly more likely to have a merger or equity issuance, a higher percent of days traded,

and lower analyst following prior to the IRDATE. There is also weak univariate evidence that test firms tend to be smaller with higher prior stock returns, but lower changes in net income.¹²

We report two multivariate models in Panel B of Table 3 to test for significant determinants of the decision to initiate IR programs. Because we have a matched sample design, we estimate conditional logistic regressions. The first model requires all values of the independent variables to be nonmissing for the both the test firm and its matched control firms. This requirement reduces the sample size to 124 test firms and 124 control firms, with the biggest observation loss occurring from the prior and future change in net income variables. Because we intend to use the variables in this model as control variables in our subsequent tests of the impacts of IR, such a large loss in sample size reduces our power in those tests. Consequently, in the second model, we use a multiple imputation procedure to replace each missing value with a set of plausible values that represent the uncertainty about the right value to impute (Rubin (1987)).¹³ This approach increases the power to detect a significant relation on any given variable by increasing the number of observations with nonmissing data that can be used in the analysis. This procedure increases the sample size to 210 each of the test and control firms.¹⁴ Because this procedure is sensitive to the number of indicator variables included in the model, we create an index of the three major change indicators, which are all insignificant in Panel A, by summing them and dividing by three (*MAJCHG*).

¹² We examined a number of other potential proxies including market value of equity; total sales; change in sales; indicator variables for loss firms; zero revenue firms; firms which change their names; and absolute values of the change in net income and stock returns. The means and medians of all of these other proxies were not significantly different between the test and control samples.

¹³ In SAS, we use PROC MI to impute the multiple data sets and PROC MIANALYZE to compute proper standard errors from the conditional logistic regressions estimated on each imputed data set. See SAS Technical Bulletin P267-25 for more details.

¹⁴ We also estimated a version of the multiple imputation model that required a financial statement be available for the firms. This reduced the sample size to 154 each of the test and control firms. The results were quantitatively similar. Thus, imputing financial statement data for firms without financial statements does not meaningfully change the results.

Table 3 shows that smaller firms (*PLTA*) with higher book-to-price ratio (*PBP*) and lower prior analyst following (*PLNAL*) are significantly more likely to initiate an IR program, consistent with visibility concerns. The prior percent of institutional ownership (*PPIH*) and percent of days traded (*PDATES*) are significantly higher for firms initiating an IR program, which is inconsistent with visibility concerns.¹⁵ In the former case, because we formed the matched sample based on the number of institutional investors, the significant coefficient on *PPIH* likely does not reflect visibility concerns, but rather demands by existing institutional investors for more liquidity in the company's stock. In the latter case, the significant coefficient on *PDATES* suggests that low visibility in terms of trading activity does not appear to trigger the IR program; rather, this result could be proxying for a major event in the firm that triggers the decision to start the IR program. Consistent with this notion, firms recently completing mergers or acquisitions (*DMRG*) or with a number of major changes in the firm (*MAJCHG*) are significantly more likely to initiate an IR program, as are firms issuing equity (*DISS*) and with high leverage (*PLEV*).¹⁶ Notably, the results are very similar with and without multiple imputation; although the larger sample size of multiple imputation provides significantly more power for some variables. This increase in power is not due to the imputed variables, but rather to the additional actual observations that can be used when other missing variables are imputed.

In general, we find a number of possible motivations for initiating an IR program, including visibility concerns. These results are consistent with the interview responses, which mention a number of possible triggers on new IR initiatives. However, our main focus is the

¹⁵ We do not include the number of institutional investors (*PLNIH*), number of firm-initiated disclosures (*PLNDISC*), or share turnover (*PTRN*) because they are highly correlated with *PPIH*, *PLNMEDIA*, and *PDATES*, respectively. We choose *PPIH* over *PLNIH* because we matched on *PLNIH* in forming the control sample; we choose *PLNMEDIA* over *PLNDISC* because we wanted to capture visibility, rather than disclosure, in this model; and we chose *PDATES* over *PTRN* because turnover is a noisier measure given the reporting problems on Datastream for small firms. Each of these excluded variables is insignificant when include them in the model.

¹⁶ When we included the components of *MAJCHG* (*DEXC*, *DMGMTC*, *DAUDC*) separately in the regression, all three were insignificant. Thus, it is the number of these changes, rather than any one change, that drives the results.

impact that IR has on firm visibility and following by market participants. A number of these significant determinants are possible factors that would cause an increase in visibility or following absent IR activities. Thus, we will include this entire set of controls in our subsequent analyses to both control for the impact of the decision to initiate IR and for any general relation between these variables and changes in firm visibility or investor following.

6.2. Impacts of initiating an IR program

In this section, we examine the impact of initiating an IR program on firms' disclosure activity, visibility, and investor following. For each dependent variable, we first provide mean and median values of the change in the variable between the average level in the year prior to the IRDATE (i.e., quarters -4 to -1) and the level in quarters 1, 2, 3, and 4 subsequent to the IRDATE (see Figure 1).¹⁷ We also report the change in quarter zero; although it is difficult to interpret because we do not know whether the activity occurred before or after the IR firm was hired, or was in fact driven by the announcement of the IR program (which directly affects the firm disclosure and media coverage variables). Finally, we provide the change in the average level of the variables between the year before and the year after the IR program starts (i.e., quarters +1 to +4). As this measure excludes the ambiguous quarter zero and captures sustained changes, rather than transitory effects, we will focus on these changes in the regression analysis.

Next, we report a regression of these annual changes in the dependent variables on an indicator variable (*TEST*) for whether the company hired an IR firm, the change in the dependent variable in the year prior to the IRDATE (*PCHG*) (i.e., quarter -1 minus quarter -4), and the set

¹⁷ We also examined seasonal changes in the variables (the value of the variable in a given quarter minus the value in the same quarter the prior year) and changes relative to the quarter -1. Seasonal changes control for calendar quarter effects, but do not indicate whether the changes occurred before or after the IRDATE. Our results are similar, and often stronger, using seasonal changes. The drawback to the second measure is that it is sensitive to any unusual effects in a single quarter. Using this change measure, our results are again similar, except for *PIH* changes, which are less significant. This is driven by an unusual spike in *PIH* among control firms in quarter -1.

of control variables examined in the determinants test. The change in the year prior to the IRDATE controls for any underlying trends in the variables of interest.

In all tests, we require that the test company and its matched control company both have nonmissing data to be included in the table. However, we allow the number of matched pairs to vary by quarter. All significance tests are one-tailed where we have a prediction (e.g., increases for test companies and larger increases for test companies than for control companies) and two-tailed otherwise.

Table 4 reports results for changes in firm-initiated disclosure after the IRDATE. Panel A shows a significantly greater mean and median increase in disclosure for test firms after the IRDATE, both in terms of number of press releases (*LNDISC*) and mean word count (*LWCDISC*). These results suggest that, on average, companies view an increase in disclosure as an important component of a new IR program. Panel B presents results from the regression approach. The significant positive coefficients on *TEST* in both regressions suggest that new IR strategies involve an immediate and sustained increase in disclosure after the IRDATE. Because we are interested whether new IR strategies have a significant impact on visibility and investor following beyond this increase in disclosure, we will control for the change in average annual disclosure in the subsequent regressions.¹⁸

In Table 5, we present results for changes in the number of analysts (*LNAL*) after the initiation of the new IR program. Panel A shows that test firms exhibit significantly greater mean and median changes in analyst following than the control firms in each of the future quarters. Control firms experience declines in following in almost every quarter, consistent with Leone (2004), which documents significant losses in analyst coverage for many small

¹⁸ The increased disclosures may also be viewed as a control for public knowledge of underlying changes in the economics of the firm (for example, a new drug announcement or product launch). In both situations, this control helps to isolate the impact of the IR activities from the impact of new or expanded information regarding the firm.

companies. These control firm decreases help to create the significant differences across the individual quarters. However, test firms experience significant increases in analyst following over the prior year starting two quarters after the IRDATE. This pattern suggests that the initiation of the IR strategy helps the test firm first retain analysts and then attract new analysts. In Panel B, the regression shows that test firms experience significantly greater increases in analyst following, even after controlling for prior trends in analyst following and the previously-documented increase in disclosure (*CLNDISC*), both of which are positively associated with changes in analyst following. Thus, the results support the prediction that increased IR helps to create visibility with analysts.

Table 5 also reports results for changes in media coverage (*LNMEDIA*) after the IRDATE. Panel A reports that mean and median changes in the number of articles for test firms are significantly greater than zero and significantly greater than the change for the control firms in all quarters after the IRDATE. Further, the quarterly increases are relatively constant over time, suggesting that there has been a sustained shift in media coverage. Panel B confirms these results in the regression approach, with a significant positive coefficient on *TEST* even after controlling for the positive effects of prior trends in coverage and concurrent increases in firm disclosure. This evidence is consistent with IR strategies having an immediate and sustained impact on press coverage that is driven by more than the media simply disseminating increased firm disclosure.

Table 6 examines the impact of new IR programs on ownership by institutional investors. Panel A shows that the test firms significantly increased both the number (*LNIH*) and percent ownership (*PIH*) of institutions in the firm, with the increase significantly different from the control firms in all quarters after quarter zero. Moreover, both *LNIH* and *PIH* increase

monotonically for the test firms throughout the year, suggesting the IR program continues to build investor interest. The regression results in Panel B confirm that the significant greater increase in the number of institutions for the test firms is robust to the controls and prior trend in institutional ownership.¹⁹

In Table 7, we examine changes in the composition of the firms' institutional investors around the initiation of IR. Our primary goal is to provide descriptive evidence of whether the IR activities target new types of investors or whether they simply increase investment by current or similar types of investors. We examine several attributes that have been previously found to create investment frictions for small and mid-cap funds. Because we need to compare the investor composition before and after IR initiation, these tests are performed only on the subset of firms that have institutional investors in both periods.

First, we test whether IR activities helps the firm overcome "local bias" in its investor composition. Much of the literature on visibility provides evidence that greater geographic distance between the firm and an investor decreases the likelihood of investment, particularly for smaller firms (see, e.g., Coval and Moskowitz (1999)). We compute the change in the weighted average of the geographic distance of the firm's investor base (*CDIST*) between the four quarters prior and four quarters after the *IRDATE*. We measure geographic distance by collecting the zip codes of the firm and of each institutional investor and translating them into latitudes and longitudes. Table 7 shows that the average geographic distance increases by a greater amount

¹⁹ Increased liquidity may also be a goal of some IR programs in order to make the firm a more viable candidate for institutional investors or to support managers with equity in the firm (Hong and Huang (2003)). Lacking bid-ask spread data for much of our sample, we examined whether IR activities had an impact on trading volume, which can serve to attract visibility for the firm (Gervais, Kaniel, and Mingelegrin (2001)). We find univariate evidence of a significant increase in share turnover for test companies in quarter 0, which is sustained over the next four quarters. However, this increase is not significant after controlling for other variables in the regression (especially the increase in firm disclosure). Given that the test firms had higher share turnover prior to the *IRDATE*, it is possible that increased trading activity was not the primary goal of IR for many of the firms in our sample.

for the test companies than the control companies after the initiation of IR. Thus, IR activities are effective in overcoming local bias to attract a more geographically diverse investor base.²⁰

Second, we examine whether the initiation of IR activities attracts investment from institutions that generally do not invest in small and mid-size firms. Prior literature shows that institutional investors follow investment “styles” that exhibit preferences for certain firm size or growth attributes (Abarbanell, Bushee, and Raedy (2003)). In Table 7, we report results for investor composition based on the market-cap preferences of institutional investors. We use the weighted-average size of the firms in the institution’s portfolio to group institutional investors into small, medium and large market-cap terciles. Then, we compute the change in the relative proportion of total institutional investor holdings by market-cap category (*CLRG*, *CMED*, and *CSML* for large, medium, and small, respectively). Table 7 shows a significant shift in investor composition for test firms towards institutions that generally invest in larger firms, suggesting that IR activities help the firm attract institutions that otherwise would not tend to follow the firm due to its size. In untabulated results, we also examine several other characteristics of institutional investors. We find that, post-IR initiation, test firms experience significant shifts in investor composition away from smaller institutions (in terms of both total equity portfolio and number of stocks held) and toward institutions that are more likely to face fiduciary restrictions (e.g., bank trusts or pension plans) and that follow “quasi-indexer” strategies. Combined, these results suggest that the IR activities help the test firms attract different types of investors than previously followed the firm.²¹

²⁰ In a robustness test, we also included a control for the firm’s distance from New York City, as many funds are based there. This control was not significant and had no effect on the main result.

²¹ In addition to providing insight into the types of investors attracted by IR activities, this evidence also indicates that our observed increases in following are not attributable to a correlated economic event that makes the firm a more viable investment in general, such as a new product or a R&D innovation. In that situation, we would expect to see an increase in interest from all investors.

Finally, we examine whether hiring an IR firm impacts market valuation. Our interviews suggested that changes in valuation are often a goal of IR, but that the IR strategy focuses on increasing visibility and investor following of the firm. Once these attributes occur, many interviewees believe that the market valuation will adjust accordingly. Thus, we examine changes in valuation only for the one year following the hiring of the IR firm. Note that, for the change in the book-to-price ratio, a *negative* change is expected; i.e., correction of an undervaluation leads to a lower BP ratio. Panel A of Table 8 documents that the test companies experience a significant decrease in book-to-price that is significantly greater than the control firms. Test companies also experience significant positive stock returns during the test period, but they are not significantly different than the control firm returns. In Panel B, the regression results indicate that, once the control variables are included, firms initiating IR programs experience significant improvements in valuation through both lower book-to-price ratios and higher stock returns.

6.3. Additional Analyses

Our prior tests have individually examined the factors we predict to be impacted by IR. However, the interviews suggest that successful IR programs will jointly influence several of these factors over the longer-term, resulting in a reinforcing “circle of influence.” We provide descriptive evidence on interactions among impacts by examining whether increases in visibility with information intermediaries are related to concurrent increases in investor following and market valuation of the firm. We regress the proxies for changes in institutional investor following and market valuation on the test company indicator variable interacted with an increased visibility indicator variable, which equals one if the company experienced an increase in average analyst following or media coverage during the test period and zero otherwise (not

tabled). We find that increases in institutional ownership and improvements in valuation are significantly greater for test firms than for control firms when the test firm experiences increased visibility. Moreover, among test firms, those with increased visibility also experience greater increases in institutional ownership and improvements in valuation than those without increased visibility. This evidence suggests that successful IR programs jointly influence multiple components of the firm's visibility and investor following.

In the interviews, many respondents suggested that the goals of an IR strategy may depend on whether the company has certain visibility attributes (such as size and exchange listing), that would allow the company to attract analysts and/or large institutional investors. To provide further insight into this possibility, we compared the results of NASDAQ firms to the results for firms on the other OTC markets (OOTC): the OTCBB and Pink Sheets. Historically, firms listed on the OOTC markets have faced little or no listing requirements in terms of size, profitability, governance, and firm disclosure, which has contributed to a low-quality reputation for these markets and the firms listed in them (Bushee and Leuz (2005)). Consequently, firms on the OOTC markets potentially face more significant hurdles in attracting analysts and institutional investors than firms on the well-established NASDAQ market.

We estimated the main results by exchange listing (not tabled). In general, we find that NASDAQ firms experience significantly larger increases in analyst following and institutional ownership, whereas OOTC firms have significantly larger increases in firm disclosure and media coverage. Thus, OOTC firms, which likely face significant barriers to attracting analysts and institutional investors, appear to focus on increasing media visibility through improved disclosure. NASDAQ firms already have this base level of visibility and are better able to directly target analysts and institutional investors. The results for stock returns and change in

book-to-price suggest that both NASDAQ and OOTC firms experience significant improvements in valuation after hiring the IR firm. Overall, these results highlight the conditional nature of IR strategies in targeting the most achievable goal for the company.²²

7. Conclusions

This paper provides one of the first extensive investigations of the process and consequences of investor relations (IR) activities geared toward attracting increased following from investors and information intermediaries. Through interviews and surveys with IR professionals, we learn that (1) the IR process focuses on management access and company visibility as key drivers of the strategy's success, (2) the mix of visibility-creating factors (e.g. disclosure, media, analysts) used varies across company types, but attracting institutional investors is always a goal, (3) the importance of formal disclosure is highly dependent on whether a base level of information already exists to support the other IR activities.

Our empirical tests examine a sample of 210 small and mid cap companies that initiated an IR strategy. We use hiring of an IR firm to identify firms that have substantially increased their IR activities. In comparison to a matched sample, we find that the companies hiring IR firms are significantly different in valuation, prior visibility, and structural changes to the firm. We find no relation between initiating an IR strategy and either prior accounting or returns performance or future accounting performance. We incorporate this model as control variables when investigating the impact of initiating IR.

²² Our initial search of the Agency Roster uncovered 31 firms listed on the NYSE or AMEX that hired IR firms. We excluded these observations from the sample because they are not likely to face the same visibility problems as the NASDAQ and OOTC firms. We did a preliminary analysis of these firms using machine-readable data and found no significant univariate impacts of IR for these firms in the Tables 4 – 8 tests (however, if we pool them with our sample, the overall results still hold). Thus, these firms are likely hiring IR firms for reasons other than visibility or valuation concerns.

We examine the impact of the new IR program by investigating changes in firm disclosure and information intermediary following, as well as the impact on investors and market activity. We find increases in disclosure that indicate firms are ensuring there is a sufficient base level of information regarding the firm. We control for these increases when examining the other impacts of IR to ensure our results are not driven solely by the increased information in these disclosures. We find an immediate and sustained increase in media coverage. While an increase in analyst coverage is slightly less consistent, it still significantly increasing over the year. We find pervasive and growing increases in the number of institutional investors and the percentage of institutional ownership. This increase includes shift toward institutions that are more geographically distant and that tend to invest in larger companies, consistent with the IR activities helping to overcome local bias and to create visibility to a different type of investor. Finally, we find that market valuation has improved by the end of the first year of increased IR. Combined, these results suggest that increased IR has a significant impact on the firm's interactions with the markets and important information intermediaries.

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TABLE 1
Survey of IR Process

Instructions to respondents: Please rate the importance of each of the following in developing an effective investor relations strategy for small and mid-cap companies:

	Mean	Median						
Identifying potential investors	6.1	6						
Surveying the market perceptions of company	5.8	6						
Changing company name or branding strategy	4.2	4						
	Buy-side		Retail investors		Sell-side			
	Mean	Median	Mean	Median	Mean	Median		
Increasing general awareness of company by...	6.9	7	4.1	4	5.3	6		
Presentations by members of IR firm to...	2.5	1	1.6	1	2.0	1		
Arranging company meetings/presentations with...	7.0	7	4.4	4	6.0	6		
	Mean	Median						
Managing relations with financial press by...								
...increasing press' general awareness of company	6.0	6						
...increasing coverage of standard press releases	4.6	5						
...arranging press access to top management	5.6	6						
...positioning top management as business experts	5.2	5						
...arranging general articles on company and products	5.5	5						
	Earnings Announcements		Annual Report		General Press Releases		Company Web Site	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Reformat current disclosures without adding info in...	5.0	5.5	4.4	5	4.8	5	4.8	6
Increase quantity of information disclosed in...	5.4	5	4.7	4.5	5.2	5	5.1	4.5
Increase quality of information disclosed in...	6.6	7	5.7	6.5	6.2	7	5.6	5.5
Increase timeliness of disclosures in...	5.5	5.5	4.7	5	5.1	5	5.3	5.5

This table presents the results of a survey of 11 IR professionals who were sent an e-mail with a link to a web-based survey. They were asked to rate the importance of each item above on a seven-point scale. All professionals answered the survey. Mean and medians are presented in the table. We do not provide statistical tests as the purpose of this survey is merely to summarize the interviewees' views, not to test hypotheses.

TABLE 2
Sample Composition

Panel A: Sources of sample companies

Data source	N
PR Newswire's Agency Roster	100
Factiva search	80
IR firm's website	12
List provided by IR firm	18
	210

Panel B: Sample companies by year

Year IR firm hired	N	Pct.
1998	12	5.7%
1999	34	16.2%
2000	27	12.9%
2001	45	21.4%
2002	26	12.4%
2003	29	13.8%
2004	37	17.6%
	210	

Panel C: Sample companies by exchange listing

Exchange	N	Pct
NASDAQ	81	38.6%
OTC Bulletin Board	119	56.7%
Pink Sheets	10	4.8%
	210	

This table provides details on the composition of our sample of companies that hired IR firms. Panel A lists the source where each sample company was found. First, PR Newswire's Agency Roster is weekly summary of "account wins" by PR and IR firms during the prior week. From this roster, we select only those new accounts that explicitly state that the IR firm was hired for investor or media relations. Second, using the list of IR firms announcing clients on the Agency Roster and a list of IR firms obtained from the National Investor Relations Institute, we searched Factiva for any additional press releases announcing new clients that were not picked up by the Agency Roster. Third, we went to the websites of those IR firms to check whether they posted a client list with the dates each client signed with the IR firm. Finally, we contacted all of the IR firms on the NIRI list of firms to ask whether they had any additional clients not found in any of these other sources. Panel B presents the composition of the sample by year using the date when the IR firm was hired. Panel C presents the composition by exchange listing.

TABLE 3
Determinants of Initiating New IR Strategy

Panel A: Firm characteristics of test and control samples prior to IRDATE

Variable	Mean			Median			N
	Test	Control	P(Diff.)	Test	Control	P(Diff.)	
<i>PTA</i>	112.333	173.432	(0.208)	19.819	28.157	(0.118)	154
<i>PLTA</i>	2.671	3.109	(0.105)	2.987	3.338	(0.118)	154
<i>PPIH</i>	0.089	0.099	(0.559)	0.002	0.003	(0.724)	190
<i>PLNIH</i>	1.278	1.354	(0.602)	0.795	1.105	(0.668)	192
<i>PLNAL</i>	0.325	0.448	(0.056)	0.000	0.000	(0.027)	189
<i>PLNMEDIA</i>	1.360	1.438	(0.483)	1.330	1.337	(0.670)	199
<i>PLNDISC</i>	0.964	0.882	(0.356)	0.850	0.809	(0.233)	196
<i>PDAYS</i>	0.838	0.730	(0.001)	0.965	0.902	(0.005)	177
<i>PTRN</i>	6.162	6.147	(0.982)	3.689	2.865	(0.336)	177
<i>PBP</i>	0.652	0.449	(0.257)	0.403	0.481	(0.417)	144
<i>PRET</i>	0.462	0.172	(0.134)	-0.156	-0.245	(0.140)	175
<i>PCNI</i>	-0.030	-0.010	(0.889)	-0.004	0.000	(0.811)	126
<i>CNI</i>	-0.123	0.127	(0.107)	-0.001	0.004	(0.623)	135
<i>DMRG</i>	0.434	0.262	(0.000)	0.000	0.000	(0.000)	210
<i>DISS</i>	0.136	0.068	(0.018)	0.000	0.000	(0.018)	210
<i>PLEV</i>	0.299	0.234	(0.123)	0.200	0.082	(0.031)	154
<i>DEXC</i>	0.041	0.077	(0.106)	0.000	0.000	(0.106)	210
<i>DMGMTC</i>	0.258	0.186	(0.167)	0.000	0.000	(0.167)	210
<i>DAUDC</i>	0.118	0.086	(0.272)	0.000	0.000	(0.272)	210
<i>MAJCHG</i>	0.139	0.116	(0.257)	0.000	0.000	(0.649)	210

Panel A provides means and medians for firm characteristics prior to the companies initiating a new IR strategy (with the exception of *CNI*, which is measured following the initiation). The Test column refers to the sample of companies hiring the IR firm. The Control column refers to the control sample matched on exchange listing, industry, time listed, and prior institutional investor following. P(Diff) is the two-tailed *p*-value for tests of differences in the mean and median between samples. *PTA* (*PLTA*) is (log of) total assets, *PPIH* (*PLNIH*) is the average percent (log of one plus the number) of institutional owners over the four quarters prior to the *IRDATE*, *PLNAL* is the average log of one plus the number of analysts issuing earnings forecasts over the four quarters prior to the *IRDATE*, *PLNMEDIA* (*PLNDISC*) is the average log of one plus the number of articles in edited media (firm-initiated) sources over the four quarters prior to the *IRDATE*, *PDAYS* (*PTRN*) is the average percentage of days on which the firm is traded (share volume divided by shares outstanding, multiplied by 100) over the four quarters prior to the *IRDATE*, *PBP* is the book-value-to-price ratio, *PRET* is cumulative raw returns over the four quarters prior to the *IRDATE*, *PCNI* is change in annual net income prior to the *IRDATE*, *CNI* is the change in net income in the year following hiring the IR firm, *PLEV* is the debt-to-assets ratio. *DMRG* (*DISS*) is an indicator variable coded as one if the firm was involved in a merger (issued equity) during the prior year, otherwise zero. *DEXC*, *DMGMTC*, *DAUDC* are indicator variables coded as one if the firm changed exchanges, changed its CEO or CFO, or changed auditors during the prior year, respectively; otherwise zero. *MAJCHG* is the sum of *DEXC*, *DMGMTC*, and *DAUDC*, divided by three.

TABLE 3 (Continued)
Determinants of Initiating New IR Strategy

Panel B: Conditional Logistic Regressions of the Decision to Initiate a New IR Strategy

Variable	Available Data	Multiple Imputation
<i>PLTA</i>	-0.240 (0.035)	-0.166 (0.030)
<i>PPIH</i>	1.669 (0.149)	1.652 (0.092)
<i>PLNAL</i>	-0.526 (0.136)	-0.649 (0.027)
<i>PLNMEDIA</i>	0.006 (0.973)	-0.049 (0.696)
<i>PDAYS</i>	3.021 (0.001)	1.571 (0.001)
<i>PBP</i>	0.253 (0.043)	0.207 (0.004)
<i>PRET</i>	0.097 (0.335)	0.054 (0.335)
<i>PCNI</i>	-0.133 (0.403)	-0.132 (0.694)
<i>CNI</i>	-0.183 (0.175)	-0.028 (0.159)
<i>DMRG</i>	0.688 (0.023)	0.937 (0.000)
<i>DISS</i>	0.423 (0.377)	0.719 (0.047)
<i>PLEV</i>	0.951 (0.056)	0.386 (0.161)
<i>MAJCHG</i>	1.532 (0.020)	1.018 (0.029)
<i>Pseudo-R²</i>	0.108	0.097
<i>N</i>	248	420

Panel B provides a conditional logistic regression analysis comparing the test and control samples. The first row for each variable provides the coefficient; the second row provides the two-tailed *p*-value. See Panel A for variable definitions. The “Available Data” column only contains observations for which all variables had nonmissing values. The “Multiple Imputation” column uses a multiple imputation procedure to impute five sets of plausible values for missing observations (Rubin (1987)). The N of 248 (420) represents 124 (210) test firms and 124 (210) matched control firms.

TABLE 4
Changes in Firm-Initiated Disclosure after the Hiring of the IR Firm

Panel A: Mean and Median Changes in Log of Number of Firm Disclosures (LNDISC) and Log of Word Count (LWCDISC)

QTR	Mean Change in LNDISC			Median Change in LNDISC			Mean Change in LWCDISC			Median Change in LWCDISC			N
	Test	Control	Diff.	Test	Control	Diff.	Test	Control	Diff.	Test	Control	Diff.	
0	0.278***	-0.064	†††	0.099***	0.000	†††	0.575***	-0.049	†††	0.066***	0.000	†††	183
1	0.198***	-0.020	†††	0.029***	0.000	†††	0.510***	-0.249	†††	0.101***	0.000	†††	179
2	0.183***	-0.028	††	0.000***	0.000	††	0.528**	-0.093	††	0.169***	0.000	††	174
3	0.250***	0.080	††	0.246***	0.000	††	0.760***	0.291	†	0.200***	0.041*		173
4	0.199***	0.127*		0.027***	0.000**		0.766***	0.133	††	0.290***	0.000	††	174
Avg.	0.204***	0.039	††	0.094***	0.000	††	0.654***	0.065	††	0.220***	0.000	†††	174

Panel B: Regression of Changes in Average Disclosure on Test Sample Indicator and Control Variables

Variable	Change in Avg. LNDISC	Change in Avg. LWCDISC
<i>INTERCEPT</i>	0.331***	1.111***
<i>TEST</i>	0.113*	0.465**
<i>PCHG</i>	0.051	0.042
<i>PLTA</i>	-0.009	0.032
<i>PPIH</i>	0.705**	1.406
<i>PLNAL</i>	-0.115	-0.334
<i>PLNMEDIA</i>	-0.196***	-0.590***
<i>PDAYS</i>	-0.030	-0.412
<i>PBP</i>	0.009	0.015
<i>PRET</i>	0.005	0.076
<i>PCNI</i>	-0.040	-0.149
<i>CNI</i>	-0.012	-0.121
<i>DMRG</i>	0.034	0.017
<i>DISS</i>	0.040	-0.081
<i>PLEV</i>	-0.012	-0.025
<i>MAJCHG</i>	0.117	0.500
<i>Adj. R²</i>	0.101	0.098

*, **, *** Significantly different from zero at the 0.10, 0.05, and 0.01 level, respectively, using a one-tailed test for predicted changes; two-tailed otherwise.

†, ††, ††† Test sample significantly greater than control sample at the 0.10, 0.05, and 0.01 level, respectively, using a one-tailed test.

TABLE 4 (Continued)
Changes in Firm-Initiated Disclosure after the Hiring of the IR Firm

The table reports changes in firm-initiated disclosure after the test firm hired the IR firm. *LNDISC* (*LWCDISC*) is the log of one plus the number of articles (mean word count) in press release wires during a calendar quarter. Panel A provides mean and median changes in the variables. The Test column refers to the sample of companies hiring the IR firm. The Control column refers to the control sample matched on exchange listing, industry, time listed, and prior institutional investor following. *N* is the number of observations. For each change, we require that the test company and its matched control company both have nonmissing data. Quarter 0 is the calendar quarter in which the IR firm was hired (see Figure 1). All changes are relative to the average value in quarters -1 to -4. The “Avg.” row is the change between the average of the variable in quarters +1 to +4 and the average in quarters -1 to -4; this change is used as the dependent variable in the regressions. Panel B provides regressions of the change in the average variable on an indicator variable (*TEST*) that equals 1 for companies hiring IR firms and 0 for control firms, the change in the dependent variable over the prior year (*PCHG*) and a set of control variable defined in Table 3. The regressions use multiple imputation to generate a set of plausible values for missing values of control variables.

TABLE 5
Changes in Analyst Following and Media Coverage after the Hiring of the IR Firm

Panel A: Mean and Median Changes in Log of Number of Analysts (LNAL) and Log of Number of Media Articles (LNMEDIA)

QTR	Mean Change in <i>LNAL</i>			Median Change in <i>LNAL</i>			N	Mean Change in <i>LNMEDIA</i>			Median Change in <i>LNMEDIA</i>			N
	Test	Control	Diff.	Test	Control	Diff.		Test	Control	Diff.	Test	Control	Diff.	
0	0.015	-0.023	†	0.000	0.000	††	178	0.284***	-0.048	†††	0.198***	0.000	†††	185
1	0.023	-0.039	††	0.000	0.000	††	171	0.253***	0.046	††	0.232***	0.000	†††	184
2	0.051**	-0.023	††	0.000**	0.000	†††	167	0.243***	-0.005	††	0.189***	0.000	†††	181
3	0.058**	-0.039	††	0.000**	0.000	††	166	0.264***	0.009	††	0.094***	0.000	††	183
4	0.035	-0.050	††	0.000	0.000	†	164	0.266***	0.079	††	0.198***	0.000	††	181
Avg.	0.042**	-0.038	††	0.000**	0.000	††	164	0.263***	0.023	†††	0.207***	0.000	†††	181

Panel B: Regression of Changes in Average Analyst Following and Media Coverage on Test Sample Indicator and Control Variables

Variable	Change in Avg. <i>LNAL</i>	Change in Avg. <i>LNMEDIA</i>
<i>INTERCEPT</i>	0.009	0.048
<i>TEST</i>	0.087***	0.139**
<i>PCHG</i>	0.470***	0.067**
<i>PLTA</i>	0.029***	0.016
<i>PPIH</i>	-0.104	-0.123
<i>PLNAL</i>		-0.116*
<i>PLNMEDIA</i>	-0.013	
<i>PDAYS</i>	-0.124**	0.030
<i>PBP</i>	-0.017*	-0.049**
<i>PRET</i>	0.016**	0.033**
<i>PCNI</i>	0.022*	0.001
<i>CNI</i>	0.017*	-0.014
<i>DMRG</i>	0.016	-0.222***
<i>DISS</i>	0.072*	-0.030
<i>PLEV</i>	-0.014	-0.102
<i>MAJCHG</i>	-0.125**	0.073
<i>CLNDISC</i>	0.036*	0.737***
<i>Adj. R²</i>	0.284	0.498

*, **, *** Significantly different from zero at the 0.10, 0.05, and 0.01 level, respectively, using a one-tailed test for predicted changes; two-tailed otherwise.
†, ††, ††† Test sample significantly greater than control sample at the 0.10, 0.05, and 0.01 level, respectively, using a one-tailed test.

TABLE 5 (Continued)
Changes in Analyst Following after the Hiring of the IR Firm

The table reports changes in analyst following and media coverage after the test firm hired the IR firm. *LNAL* is the log of one plus the number of unique analysts issuing earnings forecasts during a calendar quarter. *LNMEDIA* is the log of one plus the number of articles in edited sources (“All Sources Not Press Release Wires” on Factiva) during a calendar quarter. Panel A provides mean and median changes in the variables. The Test column refers to the sample of companies hiring the IR firm. The Control column refers to the control sample matched on exchange listing, industry, time listed, and prior institutional investor following. *N* is the number of observations. For each change, we require that the test company and its matched control company both have nonmissing data. Quarter 0 is the calendar quarter in which the IR firm was hired (see Figure 1). All changes are relative to the average value in quarters -1 to -4. The “Avg.” row is the change between the average of the variable in quarters +1 to +4 and the average in quarters -1 to -4; this change is used as the dependent variable in the regressions. Panel B provides regressions of the change in the average variable on an indicator variable (*TEST*) that equals 1 for companies hiring IR firms and 0 for control firms, the change in the dependent variable over the prior year (*PCHG*), the change in average level of disclosure after the IRDATE (*CLNDISC*) (which is the dependent variable in Table 4) and a set of control variable defined in Table 3. The regressions use multiple imputation to generate a set of plausible values for missing values of control variables.

TABLE 6
Changes in Institutional Investor Ownership after the Hiring of the IR Firm

Panel A: Mean and Median Changes in Log of Number of Institutional Investors (LNIH) and Percent of Institutional Ownership (PIH)

QTR	Mean Change in LNIH			Median Change in LNIH			Mean Change in PIH			Median Change in PIH			N
	Test	Control	Diff.	Test	Control	Diff.	Test	Control	Diff.	Test	Control	Diff.	
0	0.051**	0.013		0.000**	0.000		0.007**	0.003		0.000	0.000		178
1	0.092***	-0.005	††	0.000***	0.000	†	0.009***	0.001	†	0.000	0.000	†	172
2	0.105***	-0.046	†††	0.000**	0.000	††	0.016***	0.003	††	0.000	0.000		167
3	0.145***	-0.021	†††	0.000***	0.000	†††	0.018***	0.004	††	0.000	0.000		166
4	0.153***	0.016	††	0.000***	0.000	†††	0.024***	0.008	††	0.000**	0.000		165
Avg.	0.109***	-0.025	†††	0.000***	0.000	†††	0.015***	0.003	††	0.000*	0.000	†	165

Panel B: Regression of Changes in Average Institutional Ownership on Test Sample Indicator and Control Variables

Variable	Change in Avg. LNIH	Change in Avg. PIH
<i>INTERCEPT</i>	0.016	0.001
<i>TEST</i>	0.133***	0.013**
<i>PCHG</i>	0.345***	0.389***
<i>PLTA</i>	0.019	0.003*
<i>PPIH</i>	-0.219	
<i>PLNIH</i>		0.004
<i>PLNAL</i>	0.055	0.005
<i>PLNMEDIA</i>	-0.007	-0.003
<i>PDAYS</i>	-0.049	-0.007
<i>PBP</i>	-0.031*	-0.005**
<i>PRET</i>	0.048***	0.003**
<i>PCNI</i>	0.024	0.003
<i>CNI</i>	0.013	0.000
<i>DMRG</i>	-0.071*	0.000
<i>DISS</i>	-0.071	0.024***
<i>PLEV</i>	-0.045	-0.012*
<i>MAJCHG</i>	-0.043	-0.008
<i>CLNDISC</i>	0.050*	0.002
<i>Adj. R²</i>	0.138	0.105

*, **, *** Significantly different from zero at the 0.10, 0.05, and 0.01 level, respectively, using a one-tailed test for predicted changes; two-tailed otherwise.
†, ††, ††† Test sample significantly greater than control sample at the 0.10, 0.05, and 0.01 level, respectively, using a one-tailed test.

TABLE 6 (Continued)
Changes in Institutional Investor Ownership after the Hiring of the IR Firm

The table reports changes in institutional investor ownership after the test firm hired the IR firm. *LNIIH* is the log of one plus the number of institutional owners and *PIH* is the percentage of institutional ownership at the end of the calendar quarter. Panel A provides mean and median changes in the variables. The Test column refers to the sample of companies hiring the IR firm. The Control column refers to the control sample matched on exchange listing, industry, time listed, and prior institutional investor following. *N* is the number of observations. For each change, we require that the test company and its matched control company both have nonmissing data. Quarter 0 is the calendar quarter in which the IR firm was hired (see Figure 1). All changes are relative to the average value in quarters -1 to -4. The “Avg.” row is the change between the average of the variable in quarters +1 to +4 and the average in quarters -1 to -4; this change is used as the dependent variable in the regressions. Panel B provides regressions of the change in the average variable on an indicator variable (*TEST*) that equals 1 for companies hiring IR firms and 0 for control firms, the change in the dependent variable over the prior year (*PCHG*), the change in average level of disclosure after the IRDATE (*CLNDISC*) (which is the dependent variable in Table 4) and a set of control variable defined in Table 3. The regressions use multiple imputation to generate a set of plausible values for missing values of control variables.

TABLE 7

Changes in Institutional Investor Composition around the Hiring of the IR Firm

Panel A: Mean and Median Changes in Investor Composition by Geographic Distance (CDIST) and Market-Cap Style (CLRG, CMED, CSML)

Partition	Mean Change			Median Change			N
	Test	Control	Diff.	Test	Control	Diff.	
<i>CDIST</i>	0.156***	0.045	†	0.000	0.000		117
<i>CLRG</i>	0.085***	-0.027	†††	0.012***	0.005	†	133
<i>CMED</i>	-0.043	0.013		-0.005	-0.008		131
<i>CSML</i>	0.048*	0.036		0.033**	0.026*		114

Panel B: Regression of Changes in Changes in Investor Composition on Test Sample Indicator and Control Variables

Variable	<i>CDIST</i>	<i>CLRG</i>	<i>CMED</i>	<i>CSML</i>
<i>INTERCEPT</i>	0.066*	0.235**	0.056	0.180*
<i>TEST</i>	0.057**	0.072**	-0.069	0.007
<i>PCPIH</i>	0.026	-0.032	0.184	-0.027
<i>PLTA</i>	0.006	-0.026**	0.008	-0.007
<i>PPIH</i>	-0.153*	0.093	-0.126	0.027
<i>PLNAL</i>	0.033	0.011	0.052	-0.041
<i>PLNMEDIA</i>	-0.005	-0.013	-0.006	0.039*
<i>PDAYS</i>	-0.087*	-0.184*	-0.080	-0.217**
<i>PBP</i>	0.004	0.004	-0.023	0.033*
<i>PRET</i>	-0.007	0.009	0.034**	-0.006
<i>PCNI</i>	-0.003	-0.044	-0.030	0.010
<i>CNI</i>	-0.003	-0.044**	-0.008	0.015
<i>DMRG</i>	-0.021	0.032	-0.055	0.006
<i>DISS</i>	0.024	0.029	-0.038	-0.025
<i>PLEV</i>	-0.048*	0.071	0.110	-0.084
<i>MAJCHG</i>	-0.025	-0.046	0.336***	-0.010
<i>CLNDISC</i>	0.006	0.007	-0.007	0.011
<i>Adj. R²</i>	0.051	0.112	0.098	0.035

*, **, *** Significantly different from zero at the 0.10, 0.05, and 0.01 level, respectively, using a one-tailed test for predicted changes; two-tailed otherwise.

†, ††, ††† Test sample significantly greater than control sample at the 0.10, 0.05, and 0.01 level, respectively, using a one-tailed test.

TABLE 7 (Continued)
Changes in Institutional Investor Composition around the Hiring of the IR Firm

The table reports changes in institutional investor composition after the test firm hired the IR firm. *CDIST* is the change in the weighted-average geographic distance between the firm and the institutional investors holding its stock. Geographic distance is computed using latitudes and longitudes based on the zip codes of the firm's headquarters and the location of the institutional investors. *CLRG*, *CMED*, and *CSML* is the change in the relative proportion of total institutional investor holdings by institutions that prefer to hold small, medium, and large market-cap firms, respectively. We use the weighted-average size of the firms in the institution's portfolio to group institutional investors into the small, medium and large market-cap terciles. Each of these variables is the change between the average of the variable in quarters +1 to +4 and the average in quarters -1 to -4 (see Figure 1). To compute the changes, we require that the firm has nonzero holdings by institutional investors before and after the *IRDATE*. Panel A provides mean and median changes in the variables. The Test column refers to the sample of companies hiring the IR firm. The Control column refers to the control sample matched on exchange listing, industry, time listed, and prior institutional investor following. *N* is the number of observations. For each change, we require that the test company and its matched control company both have nonmissing data. Panel B provides regressions of the changes in investor composition on an indicator variable (*TEST*) that equals 1 for companies hiring IR firms and 0 for control firms, the change in the percentage of institutional ownership over the prior year (*PCPIH*), the change in average level of disclosure after the *IRDATE* (*CLNDISC*) (which is the dependent variable in Table 4) and a set of control variable defined in Table 3. The regressions use multiple imputation to generate a set of plausible values for missing values of control variables.

TABLE 8
Changes in the Market Valuation after Hiring of the IR Firm

Panel A: Mean and Median Changes in Book-to-Price Ratio (CBP) and Stock Returns (RET) after Quarter Zero

Mean CBP			Median CBP			Mean RET			Median RET			N
Test	Control	Diff.	Test	Control	Diff.	Test	Control	Diff.	Test	Control	Diff.	
-0.393***	0.003	†††	-0.044**	-0.022	†	0.257***	0.127*		0.018	-0.063		120

Panel B: Regressions of Changes in Book-to-Price Ratio and Stock Returns on Test Sample Indicator and Control Variables

Variable	CBP	RET
<i>INTERCEPT</i>	0.059	0.436*
<i>TEST</i>	-0.334**	0.230**
<i>PCHG</i>	-0.217***	-0.113***
<i>PLTA</i>	-0.003	0.043
<i>PPIH</i>	-0.060	0.321
<i>PLNAL</i>	0.089	-0.246*
<i>PLNMEDIA</i>	0.090	0.170**
<i>PDAYS</i>	-0.220	-0.773**
<i>PBP</i>		0.104**
<i>PRET</i>	-0.055	
<i>PCNI</i>	-0.199**	0.057
<i>CNI</i>	0.056	0.159***
<i>DMRG</i>	0.149	-0.216*
<i>DISS</i>	-0.069	-0.103
<i>PLEV</i>	-0.276	-0.213
<i>MAJCHG</i>	0.189	0.021
<i>CLNDISC</i>	-0.139	0.092
<i>Adj. R²</i>	0.086	0.081

*, **, *** Significantly different from zero at the 0.10, 0.05, and 0.01 level, respectively, using a one-tailed test for predicted changes; two-tailed otherwise.
†, ††, ††† Test sample significantly greater than control sample at the 0.10, 0.05, and 0.01 level, respectively, using a one-tailed test.

TABLE 8 (Continued)
Changes in the Market Valuation after Hiring of the IR Firm

The table reports changes in the market valuation after the test firm hired the IR firm. The change in book-to-price ratio, *CBP*, is computed as the difference between the book-to-price ratio at the last fiscal year end prior to the *IRDATE* and the first fiscal year end occurring more than one year after the *IRDATE*. We examine one year after to ensure that the IR actions have had sufficient time to have an impact. We predict *decreases* in *CBP* for the test sample and a greater *decrease* in the test sample vs. the control sample. Stock returns (*RET*) are computed as the buy-and-hold return starting on the first day of quarter one and ending on the last day of quarter four. Panel A provides mean and median changes in the variables. The Test column refers to the sample of companies hiring the IR firm. The Control column refers to the control sample matched on exchange listing, industry, time listed, and prior institutional investor following. *N* is the number of observations. We require that the test company and its matched control company both have nonmissing data and we exclude any observations with a negative BP ratio at either point. Panel B provides regressions of *CBP* and *RET* on an indicator variable (*TEST*) that equals 1 for companies hiring IR firms and 0 for control firms, the change in the dependent variable over the prior year (*PCHG*), the change in average level of disclosure after the *IRDATE* (*CLNDISC*) (which is the dependent variable in Table 4) and a set of control variable defined in Table 3. The regressions use multiple imputation to generate a set of plausible values for missing values of control variables.

FIGURE 1
Timeline using an IRDATE of November 2002 as an Example

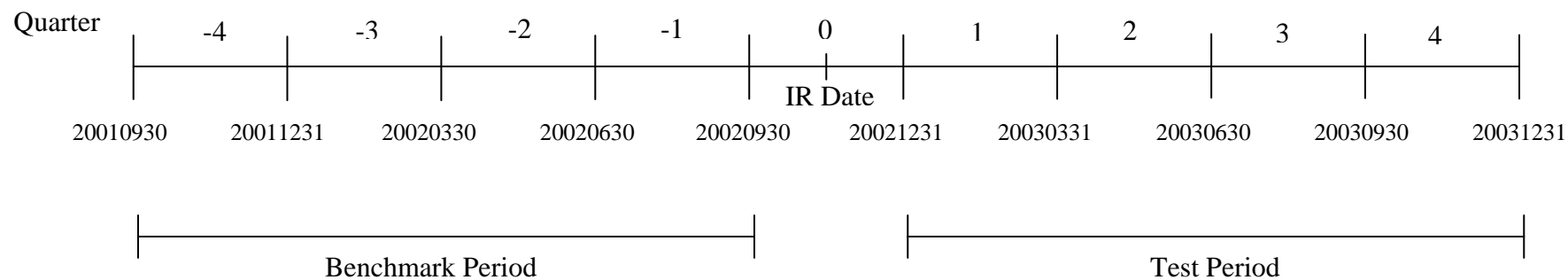
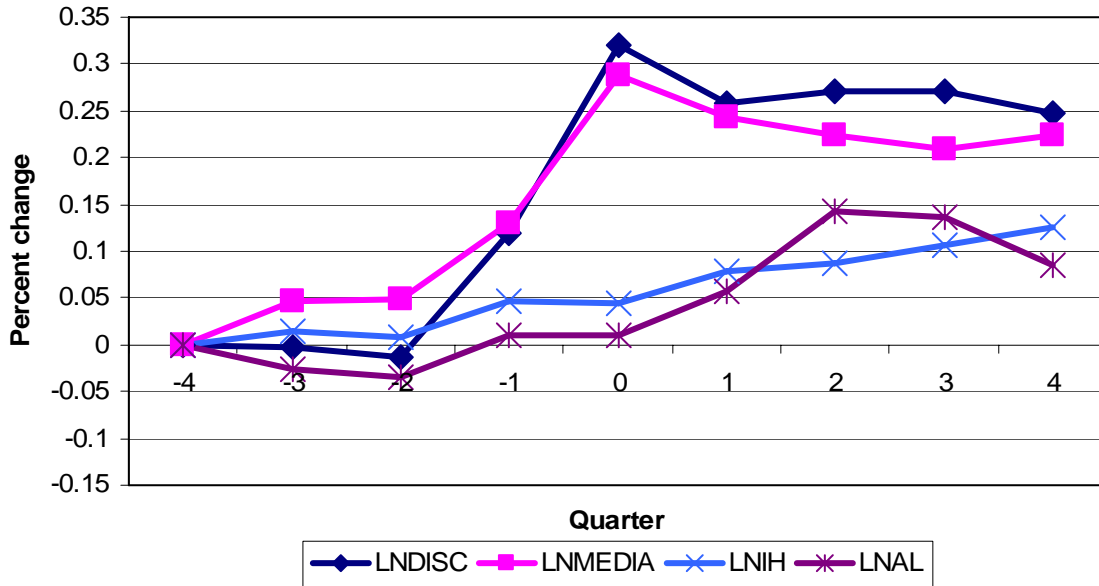
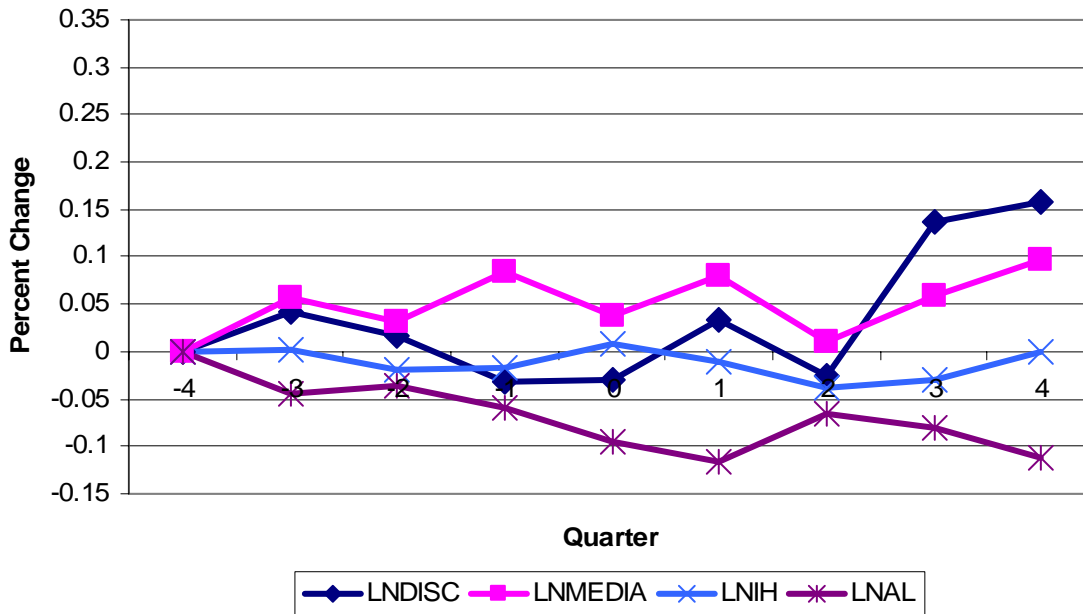


FIGURE 2
Changes in Key Variables

Panel A: Cumulative percent change in key variable for test firms



Panel B: Cumulative percent change in key variable for control firms



This figure provides a graphical representation of mean changes in key variables. All changes are cumulative percentage changes from quarter -4. Quarter 0 is the calendar quarter in which the test firm hired the IR firm. Panel A presents the test sample of companies hiring the IR firm. Panel B presents the control sample matched on exchange listing, industry, time listed, and prior institutional investor following. *LNIH* is the log of one plus the number of institutional owners, *LNAL* is the log of one plus the number of analysts issuing earnings forecasts, *LNMEDIA* is the log of one plus the number of articles mentioning the company in edited media sources, *LNDISC* is