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# The Theory and Practice of Investor Relations: A Global Perspective

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**Abstract.** Using proprietary survey data of investor relations (IR) officers from 59 countries, we uncover new stylized facts on a wide variety of IR functions, such as the firm's interactions with brokers and investors, the formulation of its disclosure policies, and its global outreach efforts. We find that IR activities vary widely across firms, industries, and countries. They have become increasingly important, as reflected by the more frequent involvement of IR officers with senior executives on a day-to-day basis. We also find that large and complex firms receiving greater media attention engage more in IR activities. In addition, firms domiciled in countries with weaker legal protections for investors and poorer disclosure standards, those cross-listed in the stock markets that are outperforming, and those with high global media visibility invest in greater global outreach efforts with IR activities. Firms' IR efforts to investors worldwide are associated with higher Tobin's $q$ valuation ratios. We interpret our findings in the context of theories and existing evidence on the role of asymmetric information and governance problems in global markets.

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## 1. Introduction

Investor relations (IR) as a corporate activity has become more important in the past decade with senior corporate officers (chief executive officers [CEOs]/chief financial officers [CFOs]) spending more time engaging investors at home and abroad at broker-sponsored conferences, at road shows, in meetings with analysts, and in hosting conference calls.[1] In a classic Modigliani–Miller frictionless framework, neither financing nor ancillary activities such as IR should matter for firm valuation. If, however, there are frictions, especially driven by information asymmetries, then a commitment to IR could help by widening investor recognition, broadening the investor base, and ultimately lowering the cost of capital and enhancing corporate valuations (Merton 1987). On the other hand, many other well-established channels for reducing information frictions go beyond IR activities, such as voluntary disclosures (Verrecchia 1983) or mandated disclosures associated with a foreign cross-listing of shares (Lang et al. 2003). By this argument, IR could simply be a sideshow. A third possibility is that IR could be undertaken for the purpose of value-reducing "spin" (Solomon 2012, Cohen et al. 2017) or simply to stoke share liquidity for inside blockholders seeking an easier exit on terms unfavorable to minority shareholders (Hong and Huang 2005).

In this paper, we offer novel survey evidence on a wide variety of IR functions and study their determinants among hundreds of firms worldwide. We collaborated with the Bank of New York (BNY) Mellon survey team for the eighth edition of BNY Mellon's survey, the 2012 Global Trends in Investor Relations, which includes detailed questions about current and future IR activities, such as IR strategy, firm disclosure policies, interactions with the investment community, and the communication of corporate social responsibility goals. The proprietary survey targets 5,000 investor relations officers (IROs) from firms in 59 countries across a broad range of industries. What makes the survey unique is its global scope, spanning developed to emerging markets and across many sectors. This is particularly useful for our exploration of best practices and of the value of the IR function because, in increasingly globalized capital markets, the information frictions that IR may be seeking to remedy are more acute in countries with weaker disclosure rules and securities market regulations (e.g., Doidge et al. 2004, Hail and Leuz 2006).

Overall, 774 IROs responded to the 2012 survey. Most of the respondents (60%) are the most senior IR executives at their companies and have an average of 7.5 years of IR experience. The 2012 survey contains 66 mandatory and 5 optional questions. We focus on

the responses to two dozen of those questions from five subcategories that we believe are the most important IR activities based on the IR literature and on our many discussions with the BNY Mellon survey team. The five subcategories are as follows: global outreach ("Global"); interactions with brokers and other financial intermediaries ("Intermediaries"); direct engagement with investors ("Investors"); maintenance and updating of corporate disclosure policies ("Policies"); and reporting of nonfinancial metrics such as environmental, social, and governance outcomes ("ESG"). We explore each subcategory in depth with questions such as (1) how many brokers firms use to organize nondeal road shows; (2) how many one-on-one meetings the CEOs, CFOs, IROs, or operational heads undertake with investment professionals inside the firm's home market in a year; and (3) what is the number of road show days outside their home market. To reduce the dimensionality of the data, we create an additive IR index (which we call "Total") and various indices for each of the five subcategories based on the survey responses to quantify the breadth and scope of the IR activities of firms.

We uncover several new stylized facts about IR. First, IR has become even more important than previously understood, as reflected by the more frequent involvement of IROs with executive management on a day-to-day basis. They typically report directly to the CEOs/CFOs and give counsel to them weekly, sometimes daily or monthly. However, the emphasis on IR functions is different across industries and regions. For example, in western Europe, 43% of survey respondents actively engage with investors on ESG issues as a matter of routine. By contrast, 80% of respondents in North America respond that they do not include engaging investors on ESG matters as part of their IR strategy. Whereas respondents in developed markets, such as North America and western Europe, report that the majority of their top 50 investors are active managers, those in emerging markets report that a majority of their investors are passive. IROs from the healthcare and energy industries rank the highest in the level of total IR activity, whereas those from finance-related industries put forward the largest global outreach effort.

Large, complex firms with high levels of media attention are more likely to engage in IR activity. We find that the primary firm-level determinants of each subcategory of IR function differ. For example, fast-growing firms are more likely to engage with brokers and other financial intermediaries. Firms from well-governed countries are also more likely to have direct engagement with investors, and those that rely more on external financing are more likely to maintain and update corporate disclosure policies. In addition, we find that internationally cross-listed firms invest more in ESG-related communications. Finally, global outreach efforts are stronger for internationally cross-listed firms, firms secondarily cross-listed in outperforming host stock markets, and firms in countries with weaker investor protection laws and poorer disclosure standards. Firms with higher foreign visibility, such as those with higher percentages of foreign institutional ownership, those with greater global analyst coverage, and those involved in capital-raising activities abroad, are more likely to engage in global IR activity.

An important goal of the paper is to connect the theory on mandatory and voluntary corporate disclosure to the practice of IR using our new survey evidence. Theories on regulations mandating and enforcing corporate disclosure predict that a commitment by a firm to higher levels of disclosure should lower the information asymmetry component of its cost of capital (e.g., Diamond and Verrecchia 1991, Baiman and Verrecchia 1996), which, all else equal, increases firm valuation. A commitment to increased disclosure reduces the extent of information asymmetries arising either between the firm and its shareholders (current and prospective) or by means of reduced adverse selection among buyers and sellers of the firm's shares (Glosten and Milgrom 1985, Kyle 1985). Merton's (1987) investor recognition hypothesis predicts that greater firm visibility can broaden a firm's investor base and, in this way, lower its cost of capital and boost firm value.

But recent theory points to a potentially dark side to IR that can lead to lower corporate valuation. Hong and Huang (2005) offer an agency cost perspective on IR activity, suggesting that firms may undertake such investments to enhance the liquidity of the shares on behalf of the controlling blockholders in case they have to sell their stakes. Solomon (2012) finds a different dark side in that firms that hire IR consultancies experience greater media coverage of their positive press releases than their negative ones (what he calls "media spin") and that it increases returns around *news* announcements but lowers returns around *earnings* announcements. Cohen et al. (2017) find that firms choreograph earnings conference calls, which are typically managed by IROs, by disproportionately calling on bullish analysts. This strategy results in negative future earnings surprises, more future earnings restatements, higher accruals, more insider selling, and lower returns.

We hypothesize that a firm's commitment to IR activity and global outreach in particular may be another critical mechanism through which firms can credibly commit to higher disclosure standards. Prior empirical work on firms' disclosure choices in a complex, global environment finds that the regulations mandating and enforcing corporate disclosure can lower the cost of capital (Hail and Leuz 2006).

Doidge et al. (2004), Bailey et al. (2006), and Hail and Leuz (2009) further reveal, consistent with theory on international corporate governance, that positive valuation and lower cost-of-capital effects associated with more stringent disclosure and enforcement can be achieved by means of a secondary cross-listing in a target market with tougher standards than those at home. Alternative mechanisms through which firms can credibly commit to greater disclosure toward realizing higher valuations include choosing higher-quality auditors, more foreign analysts, or greater engagement with institutional investors domiciled in countries with tougher disclosure environments (Lang et al. 2003, Bradshaw et al. 2004).

We test whether IR efforts measured using our Total index and other indices we build for each of the five subcategories are associated with higher Tobin's $q$ valuations. After controlling for various firm characteristics and country- and industry-level fixed effects, we confirm a statistically and economically important relation between our Total index and Tobin's $q$. Specifically, a one-standard-deviation increase in the Total index is associated with a 16.3% increase in Tobin's $q$. When we decompose the Total index into its five subcategories, we find that it is the firm's IR efforts that are associated with global outreach (Global) that are most strongly associated with the increase in Tobin's $q$. Taken together, our results provide suggestive evidence that global outreach contributes to higher firm valuation, as predicted from theory and evidence in Lang et al. (2003), Doidge et al. (2004), and Hail and Leuz (2006, 2009). Of course, it is difficult to convincingly identify causal relationships with just cross-sectional survey data. Thus, we caution readers from overinterpreting that the relationship between Global and firm value is causal. More research beyond the scope of our study is necessary to identify such a causal link.

We also conduct an additional test to further our understanding of the voluntary disclosure choices of firms. What makes the 2012 survey we employ unique is its international coverage, which allows us to investigate whether firms in countries with more severe information asymmetry experience larger increases in Tobin's $q$ valuation ratios in conjunction with greater IR efforts. We find that Global is significant and positively related to Tobin's $q$ but only for firms that are *not* secondarily cross-listed in the United States and among those domiciled in countries with relatively weaker disclosure standards. This finding implies that IR can function as an effective substitute commitment device for mandated disclosure requirements for global investors.

Our study adds to a small but growing strand of literature on the actions and outcomes of IR. Researchers have measured IR effort using the Association for Investment Management and Research (AIMR) ratings of IR officers or IR magazine awards (Lang and Lundholm 1996, Brennan and Tamarowski 2000, Agarwal et al. 2016) or the number of conference calls, broker-hosted events, or investor presentations (Kimbrough and Louis 2011, Green et al. 2014, Kirk and Markov 2016). Others examine the hiring of a professional IR consultancy or an IR association membership (Bushee and Miller 2012, Solomon 2012, Kirk and Vincent 2014), the IR web page design quality or frequency of press releases (Chang et al. 2008, Boulland et al. 2017), and the number of corporate jet flights to certain financial center cities (Bushee et al. 2018). In these papers, the authors typically show that various proxies for IR activities have a significantly positive effect on institutional ownership, analyst following and forecasts, media coverage/visibility, and market value. The exception is Solomon (2012), who uncovers how IR firms "spin" relatively more positive news in order to generate short-term price gains.

Our paper contributes to the literature in two important ways. First, past studies employ only select externally observable proxies to capture the extent of IR activity.[2] We are the first to employ and critically examine a comprehensive survey of the current practice of *internal* IR functions. Our goal is to provide researchers with new stylized facts on many aspects of IR activities in order to stimulate new theories and more empirical analyses of their consequences. Second, to our knowledge, we are the first to examine the IR functions of firms from many countries. Others have examined the IR activities of publicly traded U.S. companies as a result of the difficulty in obtaining granular IR data for firms outside of the United States. Some are motivated to study only a subset of publicly listed firms in the U.S. For example, Bushee and Miller (2012) focus on the outcomes achieved by smaller, less visible firms in the United States when they hire an IR consultancy, as they are more likely to benefit from an IR program. Our broad-based survey data help focus attention on the global dimension of IR. Overall, we extend the literature by showing the importance of this broader dimension of IR.

## 2. Survey Design and Data

We first describe the survey instruments and design. We then discuss the survey delivery method, the response rates, and survey related issues. Sample characteristics on the respondents follow.

### 2.1. Survey Instruments and Design

The 2012 BNY Mellon's Global Trends in Investor Relations (eighth edition) survey in which we participated is an updated and expanded version of

earlier surveys. IROs are asked to evaluate their IR activity in the preceding year. The focus is on the internal functions of IROs, the external activities they engage in with individual and institutional investors, brokers, and other intermediaries, as well as on IR strategies and objectives. BNY Mellon's Global Investor Relations Advisory team created a draft of the initial 2012 survey. They then sought the advice of marketing research experts on the survey's design and execution. We participated in the survey design process and made changes to the format of several of the questions with the goal to build a more comprehensive examination of IR functions.[3]

The online survey is seven pages long and contains 66 mandatory questions and 5 optional questions. Most questions are multiple choice, and a few require numerical responses. The questions are grouped into various subcategories such as personnel and infrastructure, strategy, and IR development; interactions with the market and investment community; investor targeting; and exchange listing; among others. Although the questions are ordered within each subcategory, the respondents can go back to earlier questions to update their answers if needed. Furthermore, the ordering of the question options are randomized, so there is no apparent bias in selecting the first option, for example.

Aside from some empty cells (in the optional budget/salary section), there are no indicators of stoppages midway because partial responses on mandatory items were not accepted. All mandatory questions had to be completed for the respondents to be able to submit the survey, so we are less concerned with response rates differing depending on whether the questions are at the beginning or end of the survey. The average respondent took 30 minutes to complete the survey. The survey instrument is in Online Appendix Table H.

### 2.2. Delivery, Response Rate, and Potential Survey Biases

BNY Mellon and the Rivel Research Group, an IR consultancy, took several steps to ensure the survey response consistency and yield across countries. For North America, Rivel provided contacts for the most senior IR executives of S&P 1500 firms. Outside of North America, BNY Mellon contacted 20 national IR associations and obtained their contact list of IROs, which included about 3,500 firms.[4] The online survey was delivered using two mechanisms. On July 17, 2012, Rivel sent the first email blast to about 5,000 IROs. Four email reminders were sent: July 26, August 7, August 21, and September 5. The survey was closed on September 10, 2012. The initial responses from Japanese firms were low; Rivel notes that most IROs in Japan prefer to respond in Japanese rather than English. A Japanese translation was introduced August 1.

BNY Mellon worked with the 20 international IR associations to increase the response rate. These associations either mentioned that the survey was open in their newsletters or sent out an invitation to participate. During the open survey period, the regional managers at BNY Mellon around the world either phoned or emailed clients to ask them to participate. They also advertised the survey on LinkedIn®, which increased responses by about 100. To encourage participation, BNY Mellon offered participants an advanced copy of the results. The explanatory material for the survey states that the purpose of the survey is "identifying emerging investor relations trends, allowing you to benchmark your capital market activities against your global peers." The material also clearly states that "your company's specific response will be kept strictly confidential with all data used only on an aggregated basis." We received 817 completed surveys. After checking carefully and deleting duplicate responses from the same firm, the sample includes 774 unique firms. The response rate is 15%, which is comparable to other academic surveys on CFOs/CEOs of similar length and depth (Trahan and Gitman 1995, Graham and Harvey 2001, Graham et al. 2013).

There are two main types of selection problems with survey data. First, the sample of firms being surveyed may not be representative of the general population. We believe this type of selection problem is unlikely to be severe because BNY Mellon partnered with all IR associations around the world, and they constructed the most complete list of IR contacts for all public firms. One may also be concerned that BNY Mellon clients dominate the survey. In the appendix, we compare the list of ADRs sponsored by BNY Mellon with our respondents and find that BNY Mellon clients (those with ADRs) seem no more likely to have responded to the survey than other firms (those without ADRs).

The second type of selection problem is often called nonresponse bias and could well be a concern for our study. It is plausible that firms that exert more IR effort are those that benefit more and might be more likely to answer the surveys. If this is the case, then our results, especially our analysis on the value of IRs, would not be representative of the general population. In the appendix, we perform several tests to check the magnitude of this potential selection problem and find that the sample firms are similar to nonsample firms in the United States; however, they are somewhat larger than nonsample firms outside the United States. There is no clear pattern that sample firms tend to be in particular industries or countries.

There are other concerns with survey data. For example, respondents might lie. It is not clear as to what would motivate them to do so, given they are busy executives. And not filling out the survey would be much easier than falsifying answers. Another potential problem is that the respondents may not understand the questions or their intent. We think that the likelihood is low given that this is the eighth annual survey run by BNY Mellon and Rivel, and the questions have been recrafted many times. There is more discussion on the survey design in the appendix.

### 2.3. Summary Statistics

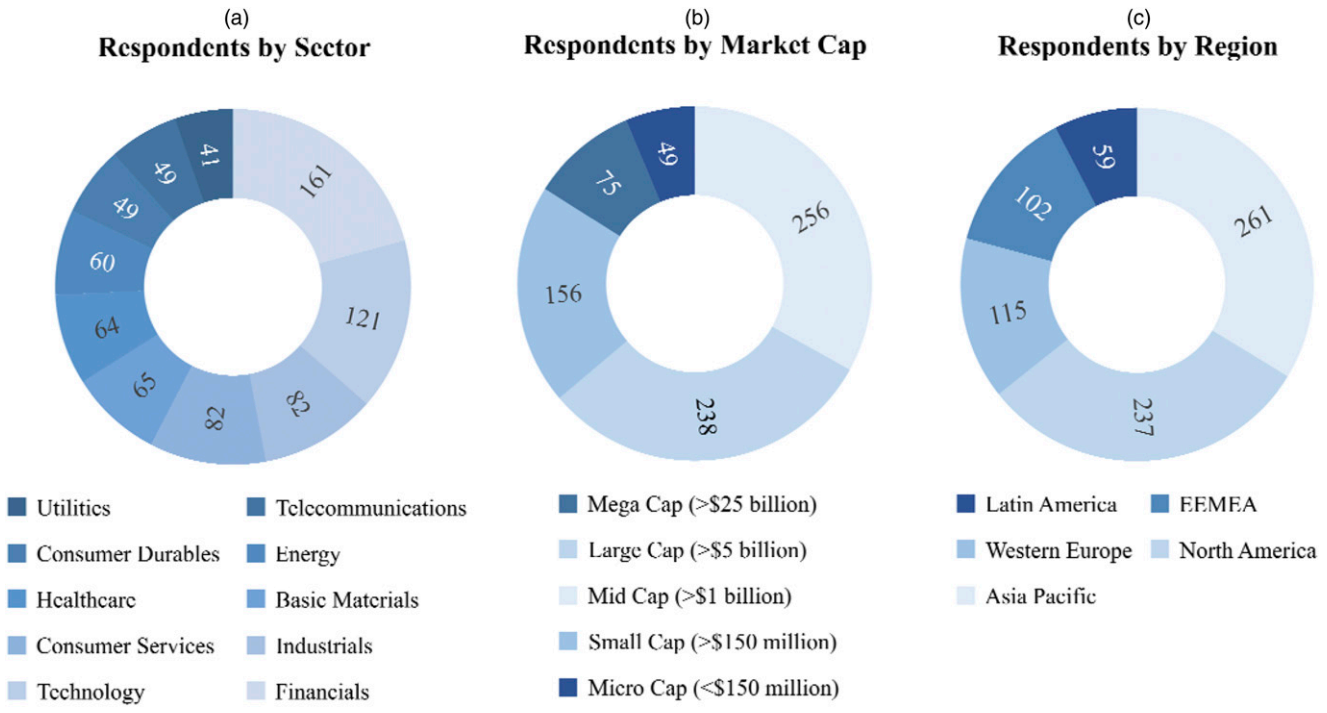
IROs who responded to the survey span a broad range of firms across industry sectors, market capitalization categories, and regions. Figure 1 (a)–(c) shows that the top sectors include financials (161) and technology (121). Firms with large market capitalization (>$5 billion) constitute 31% of the sample (238), and those with middle market capitalization (>$1 billion) comprise about 33% (256). The top regions represented are Asia Pacific (261), North America (237), and western Europe (115).

In 2012, a typical firm in our sample has 5% sales growth and higher capital expenditure needs than what can be satisfied by the internally generated cash flows. Among sample firms, 27% are what we classify as "complex," based on their self-perception as growth firms. As is typical of many global firms, our respondents have 27.3% closely held shares, are listed on at least two different stock markets, have 49.1% of all analysts following the stock with their broker addresses outside the home country of the firm, and have 12.4% foreign institutional ownership. For some, foreign institutional ownership reaches as high as 99.8%. There is large variation in the amount of equity issued globally; the largest global issues average 17% of the total assets. Data sources and definitions for sample firms are in Online Appendix Table A.[5]

## 3. What Do Investor Relations Officers Actually Do?

We next describe the IR function from the survey results. The focus is two dozen survey questions from five subcategories that we believe to be the most important IR activities based on the literature and on our discussions with BNY Mellon. From these 24 questions, we build our IR additive index ("Total"). The five subcategories are as follows: global outreach ("Global"), interactions with brokers and other financial intermediaries ("Intermediaries"), direct engagement with investors ("Investors"), maintenance

Q: 31 **Figure 1.** (Color online) BNY Mellon 2012 Survey Respondents by Region, Market Capitalization, and Industry Sector




Q: 32 *Notes.* Our sample is based on the respondents who replied to the 2012 BNY Mellon's Eighth Global Trends in Investor Relations Survey. The survey was distributed to nearly 4,993 individuals and includes online responses by investor relations officers from 774 firms in 59 countries. For additional details on the sector, market capitalizations, and regional classifications, consult the report "Global trends in investor relations: A Survey Analysis of IR Practices Worldwide—8th Edition" (Bank of New York Mellon Corporation, 2012). "Mega Cap" represents firms that spend over US$25 billion; "Large Cap," between US$5 billion and US$25 billion; "Mid Cap," between US$1 billion and US$5 billion; "Small Cap," between US$150 million and US$1 billion; and "Micro Cap," less than US$150 million. EEMEA, Eastern Europe, Middle East, and Africa.

and updating of corporate disclosure policies ("Policies"), and reporting of nonfinancial metrics ("ESG").

### 3.1. Global

For a typical firm, the investor base is mostly domestic, and its IR program, such as the staff employed, the conferences executives attend, and the exchange listings they pursue, is mostly domestically focused. However, in response to increasingly globalized capital markets, IR functions have also become more global in scope. The IROs in our sample are located in 59 countries, which brings out the global dimension of IR practice. Their responses confirm that IROs are trying to broaden their investor base by attracting investors from around the world.

We focus on five questions in this subcategory that measure a firm's efforts in reaching out to global investors (Figure 2). Overall, 76.2% of the firms participated in broker-sponsored conferences outside of their home market (Figure 2(a)). We also find that 77.9% of the firms' executives undertook one-on-one meetings with investment professionals abroad (Figure 2(b)). In reflecting the increasingly global nature of the IR function, firm representatives spend 11 days outside of their home market in 2011 (Figure 2(c)). Also, 63% of the IROs respond that they would like to increase the number of road show days outside of their home market (Figure 2(d)), and 62.7% of the firms met with at least one sovereign wealth fund (SWF) manager (Figure 2(e)).

### 3.2. Intermediaries

The questions in the Intermediaries subcategory measure a firm's efforts to engage analysts and brokers. Because effective disclosure and research coverage make up an important part of the IR function, it is important to study the interaction between the IRO and analysts/brokers. Research shows that brokers facilitate informative disclosures by hosting investor conferences (Green et al. 2014), and participating firms experience higher abnormal returns and turnover (Bushee et al. 2011).

Three questions in this subcategory measure a firm's efforts to engage analysts and brokers (see Figure 3). The first question is, "How many brokers did you use to organize non-deal roadshows in 2011?" The question requires a numerical answer, and the responses range from none to greater than 10. Figure 3(a) reveals that 55.8% of the responding firms use between 1 and 5 brokers and 20.8% between 6 and 10. The second question is, "How many broker-sponsored conferences per year does your company participate in inside and outside of your company's home market?" There is a wide range of responses from none to greater than 20, with 65% of the responding firms participating in 1–10 broker-sponsored conferences (Figure 3(b)). The third question is, "Which of the following criteria do you use to select a broker for a non-deal roadshow (Check all that apply)?" This is a multiple-choice question, and respondents can choose all that apply. Figure 3(c) indicates that most respondents choose "geographic presence" (67.1%) or "quality of research" (65.8%).

### 3.3. Investors

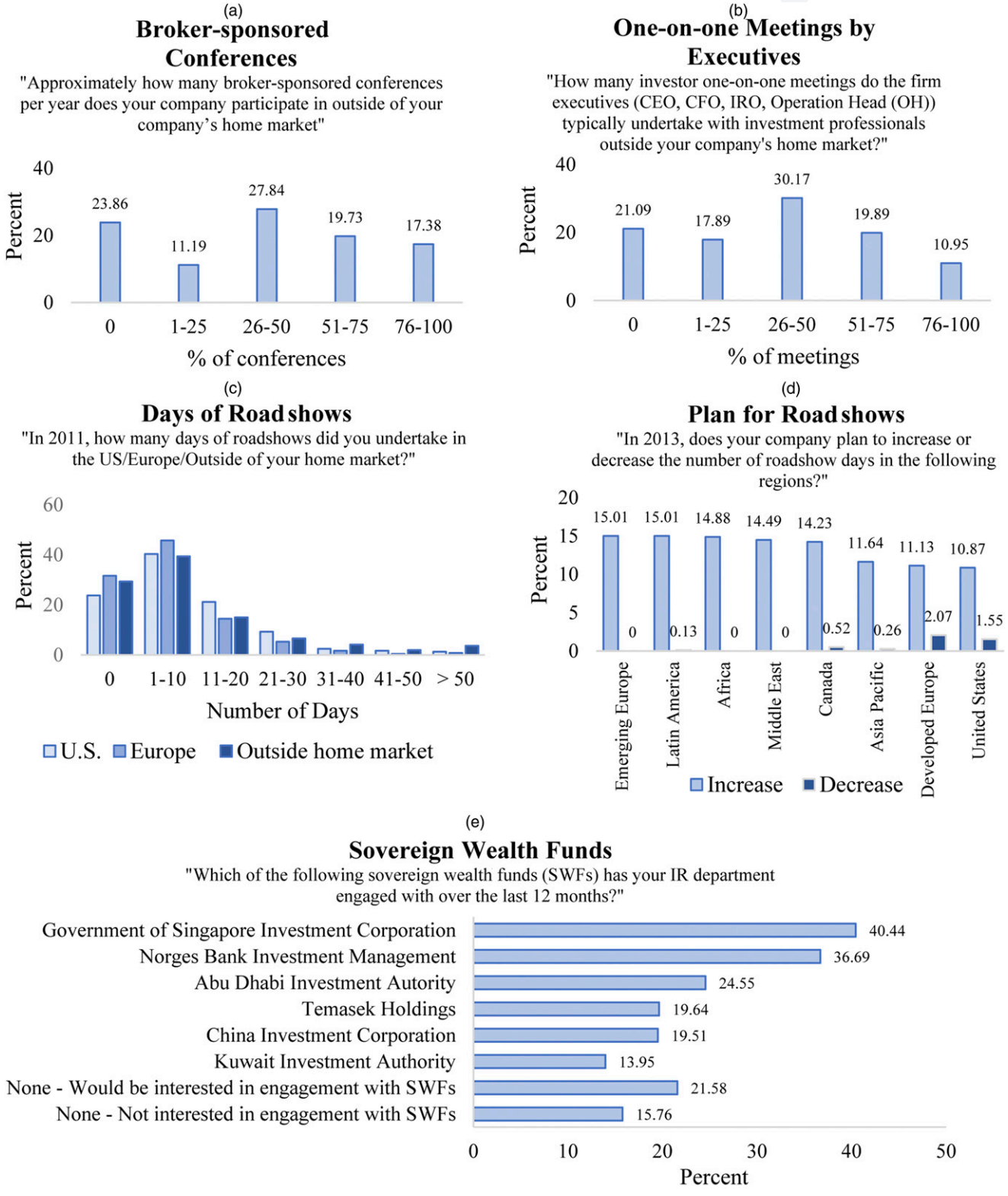
The questions in the Investors subcategory measure the firm's efforts to engage them. Private meetings with investors are important for disseminating firm information (Bushee et al. 2018). These private face-to-face meetings are often used to satisfy the information demand of investors, to induce investors to purchase more shares, and/or to facilitate future capital raising efforts (Bushee et al. 2018). Research shows the informativeness of private meetings appears to be limited to informed investors, such as hedge funds (Solomon and Soltes 2015).

We focus on five questions that measure a firm's efforts to engage investors (Figure 4). The first question is, "What percentage of your company's investor meetings were with hedge funds?" Figure 4(a) reveals that 47.2% of the responding firms allocated between 1% and 20% of the investor meetings to hedge funds; another 29.5% allocated between 20% and 40% of them. Hedge funds are often considered informed investors; we find that the higher the amount of time spent with hedge funds, the more effort that is exerted in IR by the sample firms. The next four questions ask, "How many investor one-on-one meetings do the CEOs (CFOs, IROs, and the operational heads) typically undertake with investment professionals inside the company's home market in a year?" Figure 4(b) shows that the most common responses fall in the range of 1–20 meetings, consistent across the board for executives and unit heads. IROs are the most actively involved in one-on-one meetings with investors. Half of the IROs meet with investors more than 50 times a year. Somewhat surprisingly, even CEOs, CFOs, and operational heads spend a lot of their time meeting with investors; 27.5% of the CEOs and 45.5% of the CFOs meet with investors at least 20 times in a year.

### 3.4. Policies

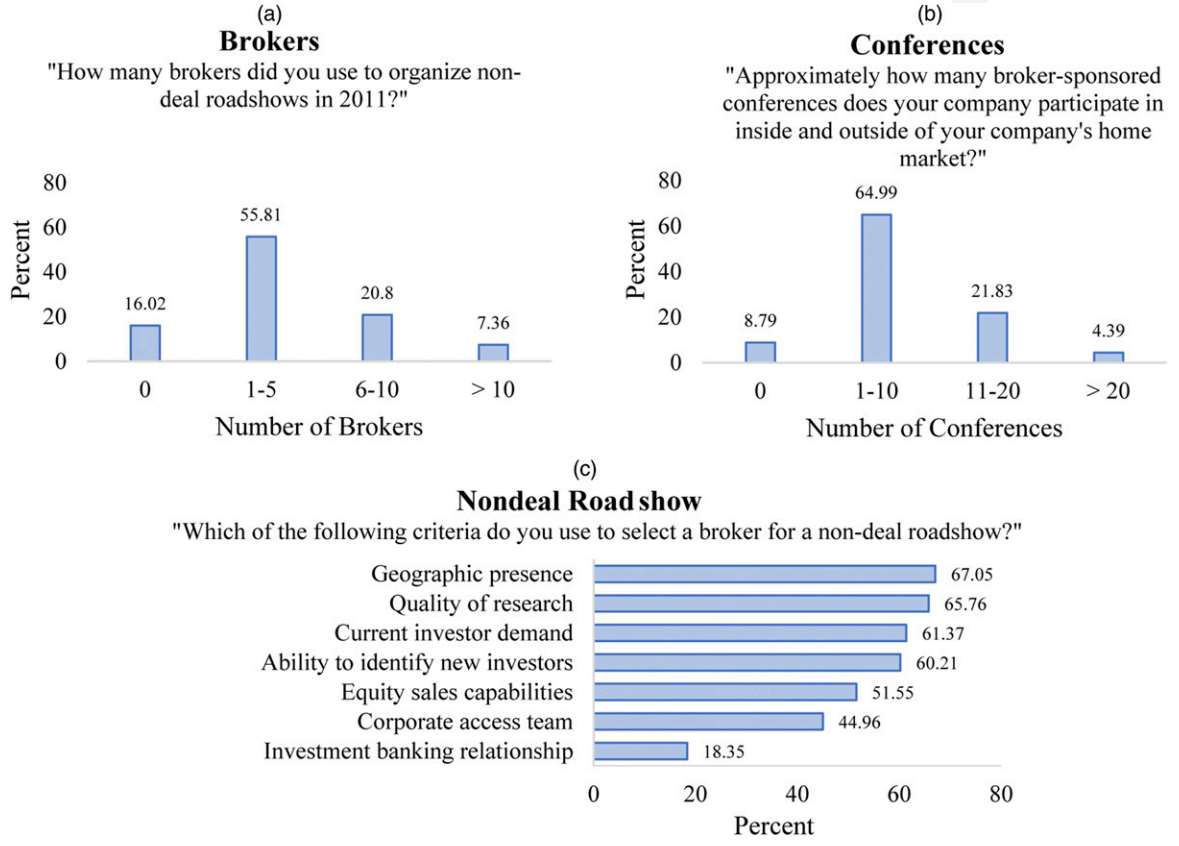
The questions in the fourth subcategory, Policies, measure a firm's efforts in communicating with current and prospective investors. Most firms issue some form of guidance as part of an IR program. They perceive that the benefits of issuing guidance lie in improved communication with financial markets, lower share price volatility, and higher valuations.[6] Another part of IR is to target new investors with a mix of investment horizons.[7] There are different

**Figure 2.** (Color online) BNY Mellon 2012 Survey: Global



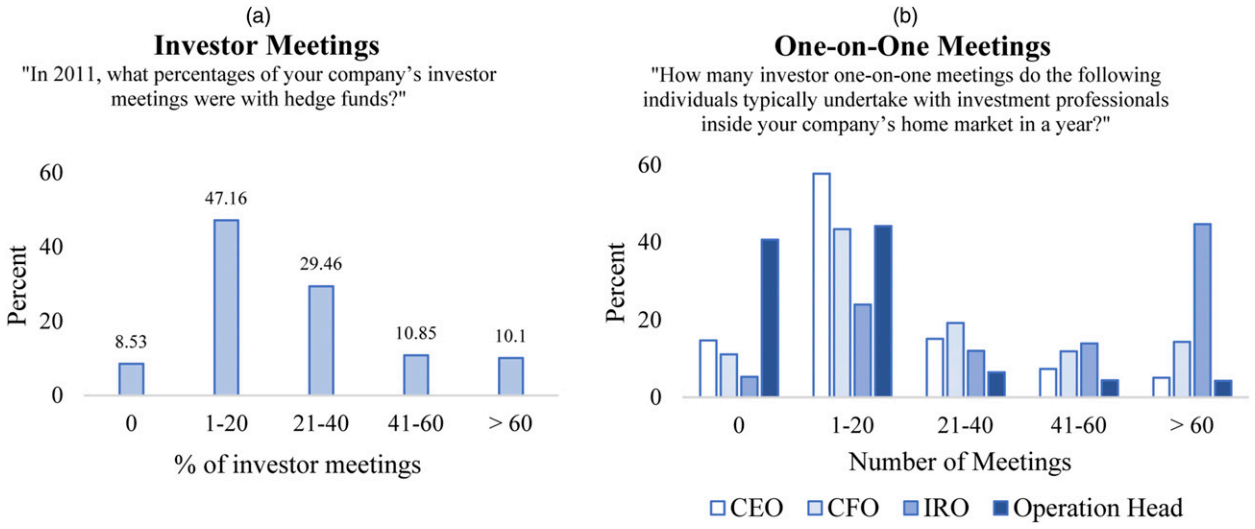

*Notes.* In these figures, we summarize the answers in the 2012 BNY Mellon's Eighth Global Trends in Investor Relations survey used to create the IR Global additive index. The questions include the following: Approximately how many broker-sponsored conferences per year does your company participate in outside of your company's home market (Q32)? How many investor one-on-one meetings do the firm executives (CEO, CFO, IRO, operation head (OH)) typically undertake with investment professionals outside your company's home market (Q39, aggregate count indicated)? In 2011, how many days of roadshows did you undertake in the United States/Europe/outside of your home market (Q43, aggregate count indicated)? In 2013, does your company plan to increase or decrease the number of road show days in the following regions (Q44)? Which of the following sovereign wealth funds (SWFs) has your IR department engaged with over the last 12 months (Q38, count indicated)?

**Figure 3.** (Color online) BNY Mellon 2012 Survey: Intermediaries




*Notes*. In these figures, we summarize the answers in the 2012 BNY Mellon's Eighth Global Trends in Investor Relations survey used to create the IR Intermediaries additive index. Three questions follow: How many brokers did you use to organize nondeal roadshows in 2011 (Q30)? Approximately how many broker-sponsored conferences per year does your company participate in inside and outside of your company's home market (Q32)? Which of the following criteria do you use to select a broker for a nondeal roadshow (Q34)?

**Figure 4.** (Color online) BNY Mellon 2012 Survey: Investors




*Notes*. In these figures, we summarize the answers in the 2012 BNY Mellon's Eighth Global Trends in Investor Relations survey used to create the IR Investors additive index. The questions were as follows: In 2011, what percentages of your company's investor meetings were with hedge funds (Q37)? How many investor one-on-one meetings do the following individuals typically undertake with investment professionals inside your company's home market in a year (Q39)?

modes of investor communications; among them, research shows analyst/investor days offer a superior ability to control messages (Kirk and Markov 2016).

We focus on six questions in this subcategory (Figure 5). The first two questions focus on policies that are related to issuing guidance. Firms most commonly issue guidance on revenue goals (53%) and earnings goals (49.2%) (Figure 5(a)), and they have at least one formal written policy for the firm's disclosure strategy (73.6%) (Figure 5(b)). The next four questions focus on the strategies regarding targeting potential investors, including what criteria the IR department use to target new equity investors, what sources firms utilize to receive information before meeting with investors, what are the most important means by which a firm receives an introduction to investment professionals, and how often do companies hold analyst/investor days? The sample firms exert considerable effort to gain new investors, as evidenced by the various criteria used (Figure 5(c)), by the sources of investor information employed (Figure 5(d)), and by the means used to approach potential investors (Figure 5(e)). More than 66% of the sample firms host investor/analyst days at least once a year (Figure 5(f)). The amount of effort firms report exerting to target potential investors is large and consistent with evidence that firms with smaller shareholder bases incur larger external financing costs (e.g., Bodnaruk and Östberg 2013).

### 3.5. ESG

The questions in the final subcategory, ESG, measure the firm's efforts in communicating its social responsibility program and in attracting investors focused on environmental, social, and governance matters. The September 2017 issue of *IR Update* magazine, published by the National Investor Relations Institute (NIRI), reports a majority of shareholder proposals focus on ESG issues.[8] Our survey evidence suggests that the top reasons for firms to reach out to socially responsible and ESG investors are actually part of a more general strategy to reach investors of all types (14.6%), especially long-term investors (13.8%).

Five questions in this subcategory measure a firm's ESG-related efforts (see Figure 6). The first question is, "Does your company reach out to socially responsible or ESG investors?" Only 26.5% answer in the affirmative (Figure 6(a)). Figure 6(b) shows that 82% of respondents indicate that part of their responsibilities include communicating with investors about corporate governance issues, although only 38% of the firms have a formal strategy to do so with key investors on a regular basis (Figure 6(c)). The fourth question is, "What do you believe would be the most effective means for improving ESG disclosure standards?" Figure 6(d) shows that the most popular choice is "investor-driven demand" (39.2%). Finally, Figure 6(e) indicates only one or two topics on governance are typically discussed, such as "the relationship between executive management and the board" (27.1%) and "board composition" (27%). These numbers are in line with Goldstein (2014), whose study was commissioned by the Investor Responsibility Research Center Institute, but with one salient difference: among the 133 U.S.-listed companies sampled, the general counsel or corporate secretary, and not IROs, were most likely to engage on governance issues.

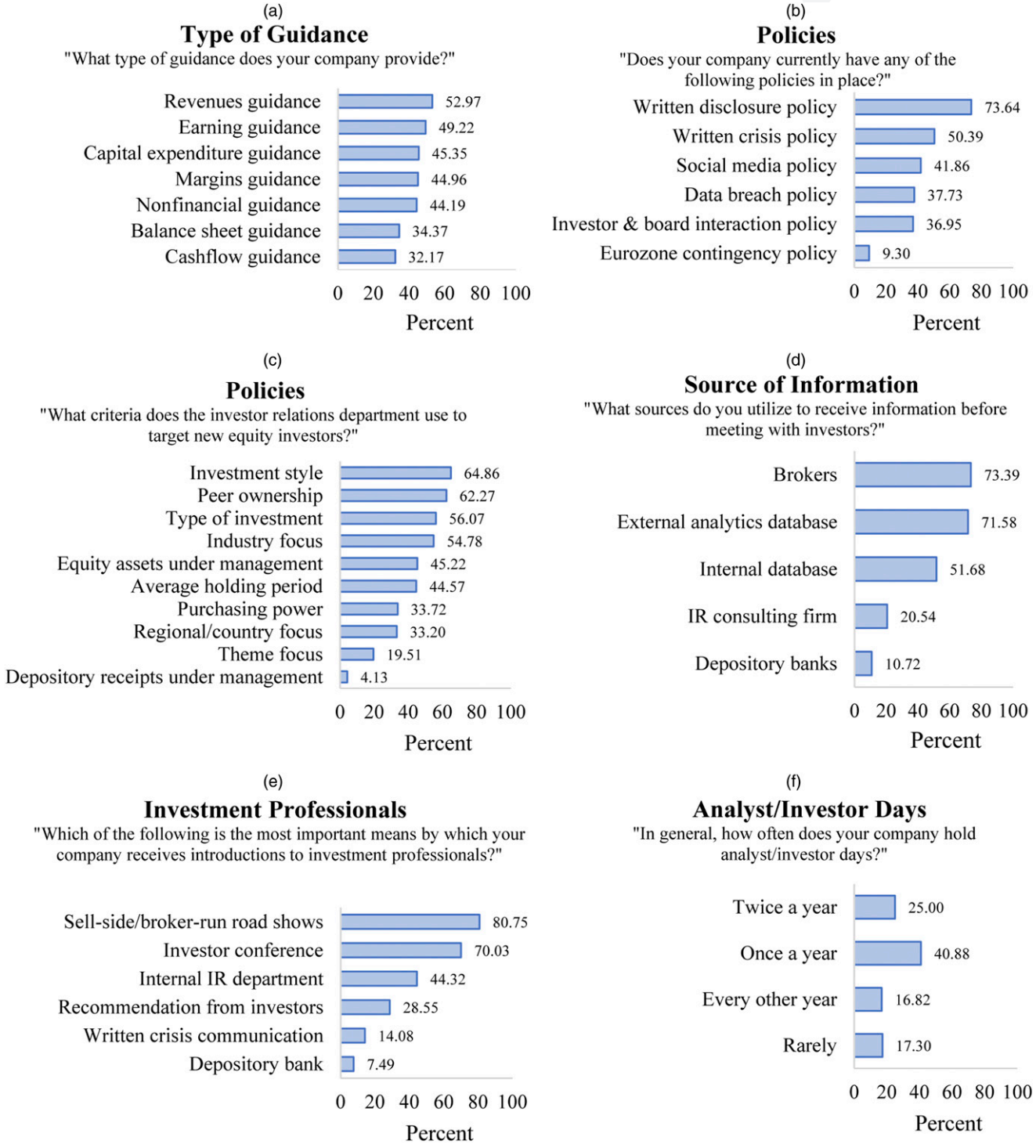
### 3.6. Constructing an Index of IR Activity (Total)

To reduce the dimensionality of the data, we create an additive IR index from the survey data (the Total index) to quantify the breadth of the IR activities of firms. The responses to the survey questions discussed above are coded numerically as 1 or 0. In most cases, we identify the median answer to one of the questions and enumerate the answer for a given firm as 1 if it is above the median and 0 otherwise. Consider a few examples. For questions that have numerical answers, such as that on how many brokers firms use to organize nondeal road shows, we assign 1 to a firm response that is above the median of 3 in 2011 and 0 to a firm whose IRO's response is below that median. For questions that do not have numerical answers but that inquire about one of several criteria used or policies in place, such as the criteria used to select a broker for a nondeal road show, we count the number of criteria selected and identify the median count as 4. We then assign 1 to the firm whose IRO reported more than four criteria and 0 otherwise. As more policies likely mean more effort and more frequent engagement, we give a higher number to the firms that do so. A final example involves questions that have "yes" or "no" answers, such as whether any part of an IRO's responsibilities include communicating with investors about corporate governance issues. We assign 1 to the firm whose IRO answers "yes" and 0 otherwise.

We then create additive indices by summing the coded responses within each subcategory and create the Total index. Additive indices are common in the literature (e.g., Gompers et al. 2003, Aggarwal et al. 2009). We standardize the scores of our additive indices as a percentage. If a firm satisfies all 24 attributes that we associate with greater IR effort, its Total index would be 100%.

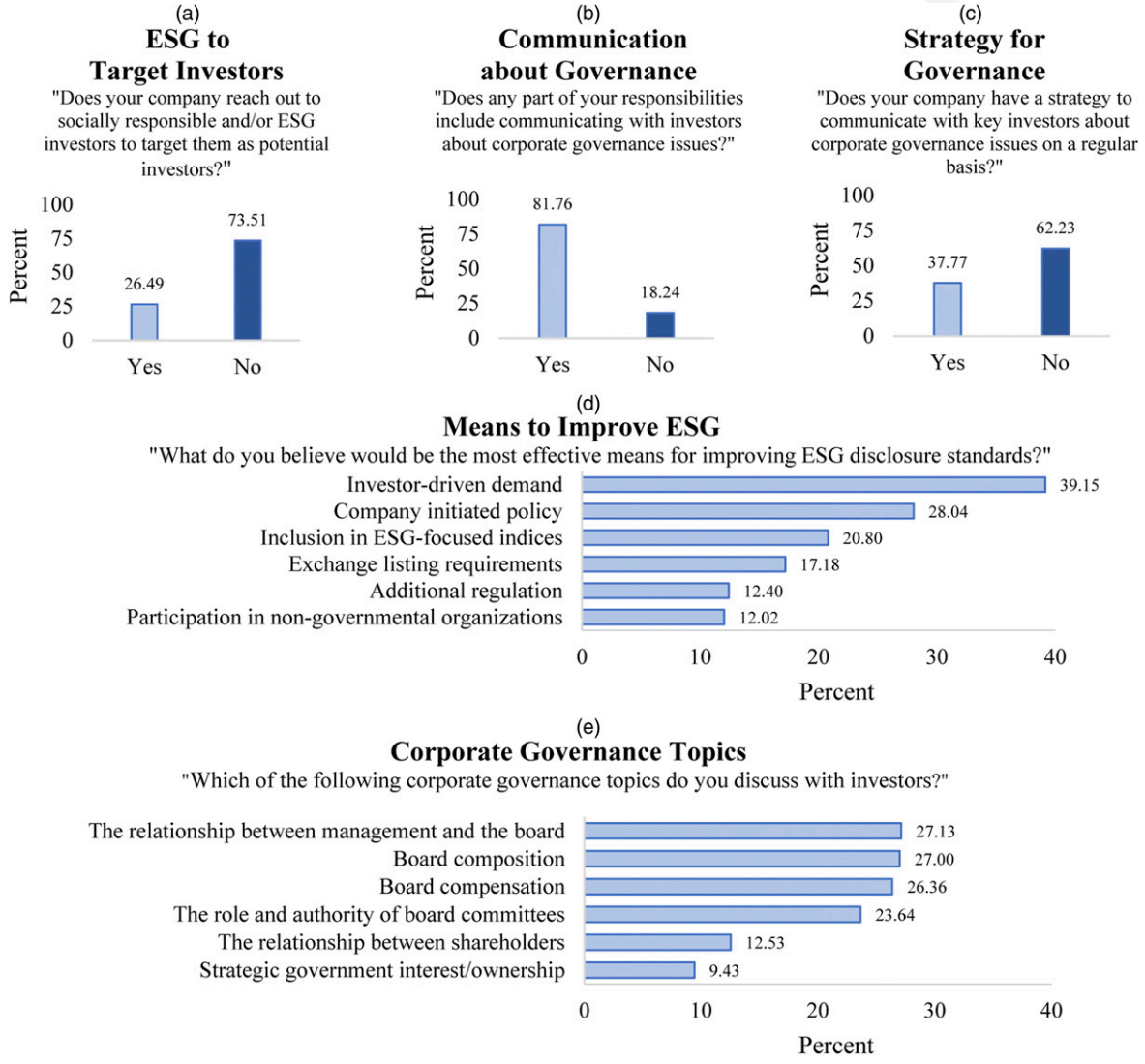
In panel A of Table 1, we summarize these indices for each subcategory and by country. Ireland (0.74), Bahrain (0.70), Luxembourg (0.70), and Norway (0.67) are some of the top countries for a firm's Total index, but each of these countries only has two or fewer respondents. The 76 respondents from Japan

**Figure 5.** (Color online) BNY Mellon 2012 Survey: Policies




*Notes*. In these figures, we summarize the answers in the 2012 BNY Mellon's Eighth Global Trends in Investor Relations survey used to create the IR Policies additive index. The questions include the following: What types of guidance does your company provide (Q17, count indicated)? Does your company currently have any of the following policies in place (Q18)? What criteria does the investor relations department use to target new equity investors (Q46)? What sources do you utilize to receive information before meeting with investors (Q47)? Which of the following is the most important means by which your company receives introductions to investment professionals (Q48)? In general, how often does your company hold analyst/investor days (a group event for investors and analysts conducted by a company that includes management presentations, discussions on strategy, Q&A, product demos, etc.) (Q50)?

**Figure 6.** (Color online) BNY Mellon 2012 Survey: ESG




*Notes*. In these figures, we summarize the answers in the 2012 BNY Mellon's Eighth Global Trends in Investor Relations survey used to create the IR ESG additive index. They include the following: Does your company reach out to socially responsible and/or ESG investors to target them as potential investors (Q58)? Does any part of your responsibilities include communicating with investors about corporate governance issues (Q61)? Does your company have a strategy to communicate with key investors about corporate governance issues on a regular basis (Q62)? What do you believe would be the most effective means for improving ESG disclosure standards (Q60)? Which of the following corporate governance topics do you discuss with investors (Q63)?

(0.33) average at the bottom of the range of the Total index by country. The United States is average (0.49). In Online Appendix Table A, we report that the mean across the 774 sample firms is 0.49, the median is 0.48, and the standard deviation is 0.19. The variation across countries is even larger when we consider the specific aspects of IR. For example, firms from Kenya, Greece, and New Zealand spend little effort in engaging with brokers and analysts (the Intermediaries index score averages 0), whereas those from Austria, Germany, Israel, and Norway have an average score of 0.7 and more on the Intermediaries index. Note that the top (bottom) countries for in the Total index are also those that have the highest (lowest) Global index. For example, Australia's 17 respondents score 0.60 on the Total index and 0.67 on the Global index, whereas Japan's 76 respondents score low on the Global index (0.21). Information on the number of respondents in each country is in column (1) of Table 1. Although the United States has the largest number of respondents in our sample (223), respondents from other countries, including Japan, India, Brazil, and Taiwan, together constitute more than two-thirds of the sample. In panel B, we summarize the IR indices for each subcategory and by industry. Energy and healthcare are the top two industries for the Total index (0.57 and

**Table 1.** Investor Relation Indices by Country and Industry

Panel A. Investor relation indices by country

| | | | Subcategory | | | | |
|---|---|---|---|---|---|---|---|
| | | | *Global* | *Intermediaries* | *Investors* | *Policies* | *ESG* |
| Country | *N* (1) | *Total* (2) | (3) | (4) | (5) | (6) | (7) |
| North and Latin America | | | | | | | |
| Argentina | 9 | 0.41 | 0.41 | 0.26 | 0.38 | 0.47 | 0.33 |
| Brazil | 44 | 0.57 | 0.65 | 0.49 | 0.54 | 0.55 | 0.37 |
| Canada | 8 | 0.46 | 0.46 | 0.42 | 0.45 | 0.33 | 0.44 |
| Chile | 2 | 0.46 | 0.75 | 0.33 | 0.20 | 0.40 | 0.33 |
| Colombia | 4 | 0.55 | 0.62 | 0.42 | 0.30 | 0.60 | 0.54 |
| Mexico | 6 | 0.38 | 0.61 | 0.39 | 0.23 | 0.23 | 0.28 |
| United States | 223 | 0.49 | 0.43 | 0.47 | 0.59 | 0.38 | 0.41 |
| Asia Pacific | | | | | | | |
| Australia | 17 | 0.60 | 0.67 | 0.51 | 0.59 | 0.51 | 0.48 |
| China | 32 | 0.48 | 0.47 | 0.42 | 0.41 | 0.41 | 0.47 |
| Hong Kong | 12 | 0.48 | 0.44 | 0.61 | 0.38 | 0.45 | 0.40 |
| India | 44 | 0.47 | 0.40 | 0.43 | 0.41 | 0.55 | 0.37 |
| Indonesia | 4 | 0.36 | 0.42 | 0.17 | 0.25 | 0.40 | 0.33 |
| Japan | 76 | 0.33 | 0.21 | 0.24 | 0.28 | 0.33 | 0.43 |
| Korea | 5 | 0.39 | 0.53 | 0.27 | 0.36 | 0.36 | 0.23 |
| Malaysia | 4 | 0.52 | 0.54 | 0.33 | 0.45 | 0.55 | 0.46 |
| New Zealand | 1 | 0.39 | 0.33 | 0.00 | 1.00 | 0.00 | 0.33 |
| Philippines | 3 | 0.42 | 0.22 | 0.33 | 0.33 | 0.47 | 0.56 |
| Singapore | 20 | 0.47 | 0.38 | 0.47 | 0.48 | 0.43 | 0.43 |
| Taiwan | 37 | 0.47 | 0.52 | 0.46 | 0.41 | 0.39 | 0.40 |
| Thailand | 6 | 0.61 | 0.58 | 0.61 | 0.63 | 0.57 | 0.44 |
| Eastern Europe, Middle East, and Africa | | | | | | | |
| Bahrain | 2 | 0.70 | 0.83 | 0.33 | 0.50 | 0.70 | 0.67 |
| Egypt | 9 | 0.52 | 0.74 | 0.37 | 0.29 | 0.49 | 0.43 |
| Israel | 4 | 0.47 | 0.50 | 0.67 | 0.40 | 0.25 | 0.42 |
| Jordan | 3 | 0.33 | 0.56 | 0.11 | 0.27 | 0.20 | 0.28 |
| Kazakhstan | 4 | 0.37 | 0.50 | 0.00 | 0.20 | 0.35 | 0.46 |
| Kenya | 1 | 0.52 | 0.67 | 0.00 | 0.40 | 0.60 | 0.50 |
| Kuwait | 3 | 0.41 | 0.44 | 0.11 | 0.07 | 0.60 | 0.50 |
| Lebanon | 2 | 0.33 | 0.42 | 0.17 | 0.00 | 0.30 | 0.50 |
| Nigeria | 1 | 0.26 | 0.00 | 0.00 | 0.00 | 0.80 | 0.33 |
| Oman | 1 | 0.52 | 0.50 | 0.33 | 0.00 | 0.60 | 0.83 |
| Palestine | 1 | 0.65 | 0.83 | 0.00 | 0.40 | 0.80 | 0.67 |
| Qatar | 2 | 0.09 | 0.08 | 0.17 | 0.00 | 0.10 | 0.08 |
| Romania | 1 | 0.43 | 0.50 | 0.33 | 0.00 | 0.40 | 0.67 |
| Russia | 15 | 0.51 | 0.68 | 0.31 | 0.43 | 0.52 | 0.32 |
| Saudi Arabia | 5 | 0.59 | 0.73 | 0.47 | 0.48 | 0.52 | 0.47 |
| South Africa | 11 | 0.58 | 0.65 | 0.33 | 0.55 | 0.55 | 0.52 |
| Turkey | 20 | 0.51 | 0.60 | 0.42 | 0.43 | 0.44 | 0.43 |
| Ukraine | 9 | 0.43 | 0.43 | 0.41 | 0.33 | 0.38 | 0.41 |
| United Arab Emirates | 8 | 0.47 | 0.63 | 0.29 | 0.48 | 0.30 | 0.38 |
| Western Europe | | | | | | | |
| Austria | 1 | 0.57 | 0.83 | 0.67 | 0.20 | 0.40 | 0.50 |
| Belgium | 2 | 0.41 | 0.83 | 0.50 | 0.20 | 0.20 | 0.17 |
| Czech Republic | 2 | 0.43 | 0.75 | 0.17 | 0.30 | 0.30 | 0.33 |
| Denmark | 6 | 0.50 | 0.72 | 0.50 | 0.37 | 0.37 | 0.33 |
| Finland | 5 | 0.37 | 0.53 | 0.47 | 0.16 | 0.28 | 0.30 |
| France | 13 | 0.56 | 0.78 | 0.56 | 0.38 | 0.48 | 0.36 |
| Germany | 18 | 0.65 | 0.81 | 0.74 | 0.52 | 0.48 | 0.48 |
| Greece | 1 | 0.26 | 0.67 | 0.00 | 0.20 | 0.20 | 0.00 |
| Ireland | 2 | 0.74 | 0.92 | 0.83 | 0.40 | 0.60 | 0.67 |
| Italy | 2 | 0.52 | 0.58 | 0.50 | 0.30 | 0.50 | 0.50 |
| Luxembourg | 1 | 0.70 | 0.83 | 0.33 | 0.60 | 0.60 | 0.67 |
| Netherlands | 6 | 0.59 | 0.75 | 0.61 | 0.17 | 0.60 | 0.56 |
| Norway | 2 | 0.67 | 0.75 | 0.83 | 0.70 | 0.40 | 0.50 |
| Poland | 3 | 0.61 | 0.78 | 0.67 | 0.60 | 0.33 | 0.44 |

**Table 1.** (Continued)

Panel A. Investor relation indices by country

| | | | Subcategory | | | | |
|---|---|---|---|---|---|---|---|
| | | | *Global* | *Intermediaries* | *Investors* | *Policies* | *ESG* |
| Country | *N* (1) | *Total* (2) | (3) | (4) | (5) | (6) | (7) |
| Portugal | 3 | 0.38 | 0.56 | 0.44 | 0.40 | 0.20 | 0.17 |
| Spain | 9 | 0.54 | 0.76 | 0.48 | 0.53 | 0.38 | 0.31 |
| Sweden | 6 | 0.62 | 0.81 | 0.67 | 0.53 | 0.53 | 0.33 |
| Switzerland | 14 | 0.59 | 0.69 | 0.55 | 0.46 | 0.59 | 0.43 |
| United Kingdom | 19 | 0.63 | 0.67 | 0.68 | 0.75 | 0.45 | 0.41 |

Panel B. Investor relation indices by sector

| | | | Subcategory | | | | |
|---|---|---|---|---|---|---|---|
| | | | *Global* | *Intermediaries* | *Investors* | *Policies* | *ESG* |
| Industry | *N* (1) | *Total* (2) | (3) | (4) | (5) | (6) | (7) |
| Basic materials | 65 | 0.52 | 0.56 | 0.53 | 0.48 | 0.41 | 0.43 |
| Consumer services | 82 | 0.47 | 0.48 | 0.41 | 0.43 | 0.43 | 0.41 |
| Consumer durables | 49 | 0.50 | 0.53 | 0.40 | 0.48 | 0.44 | 0.41 |
| Energy | 60 | 0.57 | 0.61 | 0.50 | 0.55 | 0.51 | 0.44 |
| Financials | 161 | 0.50 | 0.54 | 0.44 | 0.48 | 0.44 | 0.41 |
| Healthcare | 64 | 0.53 | 0.48 | 0.59 | 0.50 | 0.47 | 0.47 |
| Industrials | 82 | 0.43 | 0.42 | 0.37 | 0.40 | 0.42 | 0.37 |
| Technology | 121 | 0.43 | 0.42 | 0.38 | 0.48 | 0.34 | 0.37 |
| Telecom | 49 | 0.47 | 0.54 | 0.41 | 0.36 | 0.39 | 0.41 |
| Utilities | 41 | 0.50 | 0.53 | 0.45 | 0.48 | 0.43 | 0.39 |

*Notes.* This table presents the means of the IR additive indices by country and industry. Our sample is based on the firms that have responded to the BNY Mellon's Eighth Global Trends in Investor Relations survey in 2012. The Total index measures the firm's overall IR outreach that incorporates the following subcategories. Global measures the firm's global IR outreach. Intermediaries measures the firm's efforts to engage brokers. Investors measures the firm's efforts in engaging investors. Policies measures the firm's efforts in establishing policies that provide guidance and in obtaining information about new investors. ESG measures the firm's efforts in communicating its social responsibility program and attracting investors focused on environmental, social, and governance matters. Details of the questions that constitute each subcategory are provided in Figures 2–6.

0.50, respectively), both of which also have the highest Investors, Policies, and ESG index scores. Interestingly, in terms of the Global index, other industries such as basic materials, financials, and telecom have higher scores than healthcare and industrials.

## 4. Determinants of IR Activities

In this section, we discuss the practice of IR over time and across individual firms. Theory and existing evidence offer some guidance on which firm, industry, and country attributes are associated with the intensity of IR activities. Similar to governance and disclosure, IR activities are likely to be positively related to growth opportunities, the need for external financing, and the quality of protections of investor rights. They are expected to be negatively related to ownership concentration (Durnev and Kim 2005, Francis et al. 2005). We explore how IR activity, especially globally focused IR activity, may be driven by the desire to increase a firm's visibility among potential investors located outside a home market.

### 4.1. Time Trends

To examine the time trend of IR activity, we requested the questions and answers from two previous surveys (2010 and 2011) from BNY Mellon's Global IR Advisory team. We do not have access to the full survey details, and their survey questions do differ from year to year, but we are fortunate that earlier years' respondents, who may not be those who participated in 2012, did answer a number of similar IR questions. This allows us to compare specific IR activities across time. Overall, we find that IR is becoming more important as reflected by the frequency of interactions between IROs and top management on a day-to-day basis. For example, in 2012, 89% of the IROs answer that they conduct analyses of investor demands and report to the boards of directors, compared with only

69% in 2010 and 67% in 2011. Moreover, 57.1% of IROs report their involvement at board meetings in 2012, up from 46.9% in 2010 and 52.3% in 2011.

We also examine which IR activities have changed over time. The dynamics of engaging with brokers appears to have changed. For example, in 2012, firms are using fewer brokers to organize nondeal road shows; the average is 4.7 in 2012, down from 5.3 in 2010. Firms are also more strategic about participating in broker-sponsored conferences. The average firm participated in 4.1 conferences in 2012, down from 5.9 in 2010. Although firms continue to value broker services, the main criterion for selecting brokers has shifted from "insight or quality of research" (63% in 2012, down from 69.7% in 2011) to a "geographic presence or investor access" (85.8% in 2012, up from 71% 2010).

We also find that firms are increasingly engaging with long-term investors. For example, in 2012, 23.8% of an average firm's investor meetings were with hedge funds, up from 21.9% in 2011. CEOs undertook more one-on-one meetings with investors in 2012 (27% of all the meetings) than they did in 2011 (15.3%). Moreover, 29.3% of the IROs plan to increase the number of one-on-one meetings with investors. In 2012, 54% of the CEOs devoted time to the current institutional investors, up from 42% in 2010. In addition, we find that firms in North America and western Europe are more focused on current institutional investors with the largest proportion of active managers among their top investors. More firms are providing some form of guidance to investors: 91% in 2012, up from 82% in 2010. The largest rate of increase is in the category of nonfinancial metrics, in part responding to an increased investor focus on ESG; 56% of IROs report an investor focus on ESG in 2012, up from 35% in 2010. Furthermore, in 2012, 74% of firms have a written disclosure strategy, compared with 62% in 2010. By 2012, 50% of firms report having a corporate crisis policy, in contrast to only 31.2% in 2010.

The global nature of IR practices appears to have intensified across the board: 33% of IROs report expanding shareholder base internationally as a top goal, which is in contrast to only 17% in 2010. And 47% of IROs engage with at least one SWF in 2010, whereas in 2012, 62% target SWFs as potential investors. In 2012, 77.9% of the firms' executives undertook one-on-one meetings with investment professionals abroad, up from 60.4% in 2010. Finally, 63% of the IROs answered that they would like to increase the number of road show days outside of their home market, reflecting the increasingly global nature of the IR function.

Despite the increased focus on ESG matters, 59% of the firms do not engage with investors on such topics. According to the 2012 survey, the lack of engagement with ESG investors is primarily driven by the lack of investor demand. However, there is a different emphasis on ESG across regions. In western Europe, 43% of IROs are routinely engaging with investors on ESG matters. By contrast, 80% of firms in North America do not include engaging investors on ESG matters as part of their IR strategy. However, this discrepancy is shrinking. In NIRI's September 2017 *IR Update*, a large majority of shareholder proposals in the United States contain governance-related issues: 40% of the IROs in the United States said that sustainability issues are either permanently or temporarily on their top management's agenda. The rise of institutional ownership, combined with the fact that almost every large asset manager is a signatory to the United Nations-supported initiative Principles for Responsible Investment, has encouraged more shareholder activists to open a dialogue with firms on governance-related issues.

### 4.2. Firm, Industry, and Country Characteristics Associated with IR Activity

We next investigate the firm, industry, and country attributes that are likely associated with the intensity of IR activities. Many IROs indicate that an important goal of IR is to broaden institutional ownership, both domestic and foreign, to increase analyst research coverage and to diversify their shareholder base. Therefore, one might expect that firms with a greater demand for external financing will engage in more IR activity (see Francis et al. 2005). Another important goal of the IR function is more effective disclosure and increased visibility. Researchers propose that firms with high investments in research and development (R&D), higher sales growth, and greater complexity would engage in more in IR endeavors (Bushee and Miller 2012). Conversely, firms with more concentrated ownership, with a higher fraction of closely held shares, might engage in fewer IR-related activities. We also consider firm size and leverage as additional firm characteristics (Lang and Lundholm 1996). If the cost of IR is fixed, but its benefits can be amortized over all of a firm's capital-raising activities, then one might expect larger firms to engage in more IRs, all else equal. Thus, we estimate the following regressions:

$$y_i = \alpha + \beta_1' \mathbf{x}_{1i} + C_i + I_i + \varepsilon_i, \quad (1)$$

$$y_i = \alpha + \beta_1' \mathbf{x}_{1i} + \delta' z_{ci} + \varepsilon_i, \quad (2)$$

where $y_i$ is firm $i$'s IR (the Total index and its subcategories); $\mathbf{x}_{1i}$ is a set of firm-related attributes for firm $i$ (e.g., size, leverage, market-to-book); $C_i$ and $I_i$ are country and industry fixed effects, respectively; and $\mathbf{z}_{ci}$ is a set of country-specific attributes for firm $i$ (e.g., the recent stock market returns of

the market in which a firm's shares are cross-listed, if any; the quality of the disclosure environment at home). We use robust standard errors that are double-clustered at both the sector and country levels.

Columns (1)–(6) in Table 2 present the regression results for Equation (1). Controlling for time-invariant country and industry attributes, we find firm size, the number of cross-listings, and firm complexity are most closely correlated with the Total index. A one-standard-deviation increase in the log of total assets (1.67) is associated with a 6.7-percentage-point increase in the Total index, which is about one-third of the overall standard deviation (0.19). Yet a one standard deviation in the number of cross-listings (1.38 more listings) is only associated with a 1.9-percentage-point increase in the Total index. Our results suggest firms that are large and complex because of their operations or from their foreign presence engage in higher IR activity. Consistent with this conjecture, we find all five subcategory IR indices are closely associated with firm size.

The determinants of each subcategory of IR differ in important ways. For example, firms secondarily cross-listed on overseas exchanges are associated with higher Global and ESG indices; a one-standard-deviation increase in the number of cross-listings (1.38 more listings) is associated with 2.76- and 4.28-percentage-point increases in the Global and ESG indices, respectively. Fast-growing firms in terms of sales growth are more likely to engage with brokers and other intermediaries (a 3.98-percentage-point increase in the Intermediaries index for a one–standard-deviation increase in sales growth). Those that rely more on external financing are more likely to maintain corporate disclosure policies: a 3.28-percentage-point increase in the Policies index arises for a one-standard-deviation increase in external finance needs of about 5%.

There is no significant correlation between the fraction of closely held shares and the Total index or any of its five IR subcategories. There are two potential opposing effects between closely held shares and IR activities. On the one hand, firms with higher concentrated ownership (or more closely held shares) are less likely to invest in IR. On the other hand, these firms, especially from poorly governed countries, would benefit more from IR activities when they try to raise capital globally.

To help interpret these findings on the various IR activities, we conduct another regression but use a single IR function in Equation (1) for each subcategory of IR (see results in Table C in the online appendix). Consider that fast-growing firms in terms of sales growth are indeed more likely to attend broker-sponsored conferences: a one-standard-deviation increase in sales growth of 10% per year is associated with an 8% increase in the number of conferences attended. Firm size also plays a significant role in determining how many broker-sponsored conferences a firm participates in: a one-standard-deviation increase in the log of total assets (1.67) is associated with a 32% increase in the number of broker-sponsored conferences attended. Interestingly, closely held shares are now significantly negatively related to a few of the specific IR functions that we study. For example, a one-standard-deviation increase in the percentage of closely held shares (20%) is associated with a 12% decrease in the number of one-on-one meetings the CEOs undertake with investment professionals. Finally, firms secondarily cross-listed on foreign exchanges are indeed more likely to reach out to socially responsible and/or ESG investors. For a one-standard-deviation increase in the number of cross-listings (1.38), there is a 6-percentage-point increase in the likelihood of targeting these investors, which is economically significant considering that only 26% of the sample firms target such investors (Figure 6(a)).

We next turn to regressions of the Total index and its five subcategories on country characteristics. In increasingly globalized capital markets, the very information frictions that IR may be seeking to remedy are especially acute in countries with weaker disclosure rules and poorer securities market regulations (e.g., Doidge et al. 2004, Bailey et al. 2006, Hail and Leuz 2006). We include the following to proxy for disclosure rules and securities regulations at the country level: overall stringency of the rule of law ("Rule of Law" from the World Bank's World Governance Indicators), whether the respondents are domiciled in a country with a relatively higher or lower quality of accounting standards (using the "Disclosure" index from La Porta et al. 2006), and a measure of the strength of regulations that preclude self-dealing among corporate insiders (anti-self-dealing index, or "ASDI," from Djankov et al. 2008).

We also include a measure of foreign market performance. Firms may strategically engage in more IR efforts in a foreign market when it is outperforming others. According to this market-timing hypothesis, "waves" of cross-listings tend to target well-performing markets (Sarkissian and Schill 2016). We include a variable for the 2011 cumulative one-year stock market index returns of the target market for the cross-listed securities. In the case of multiple target market listings, we construct a value-weighted average of foreign equity market returns using each market's capitalization at the end of 2010 as weights.

Columns (7)–(12) of Table 2 present the regression results for Equation (2). Using the legal protection of minority shareholders as our proxy for country-level information frictions, we find consistent evidence that firms domiciled in countries with worse information problems engage more actively in global IR activities. Specifically, we find that the Global index increases by

Q: 33

**Table 2.** Determinants of IR Activities

| Dependent variable: | *Total* | *Global* | *Intermediaries* | *Investors* | *Policies* | *ESG* | *Total* | *Global* | *Intermediaries* | *Investors* | *Policies* | *ESG* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *IR Indices* | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| *Sales Growth* | 0.081 | 0.178 | 0.398*** | −0.063 | −0.062 | 0.017 | 0.149* | 0.196* | 0.349*** | 0.042 | −0.031 | 0.153 |
| | (1.03) | (1.58) | (3.08) | (−0.47) | (−0.62) | (0.13) | (1.87) | (1.74) | (2.63) | (0.31) | (−0.34) | (1.27) |
| *External Finance* | 0.368** | −0.237 | 0.520 | 0.199 | 0.656*** | 0.431 | 0.263 | −0.484* | 0.334 | 0.025 | 0.720*** | 0.495* |
| | (2.08) | (−0.96) | (1.60) | (0.70) | (2.90) | (1.49) | (1.50) | (−1.88) | (1.05) | (0.09) | (3.61) | (1.79) |
| log(*Total Assets*) | 0.040*** | 0.050*** | 0.071*** | 0.023** | 0.022** | 0.019* | 0.036*** | 0.036*** | 0.066*** | 0.020* | 0.020** | 0.021** |
| | (5.57) | (5.12) | (6.62) | (2.02) | (2.51) | (1.71) | (5.61) | (3.83) | (6.87) | (1.78) | (2.51) | (2.07) |
| *Closely-held shares* | −0.041 | −0.039 | −0.089 | −0.087 | −0.035 | 0.021 | −0.041 | 0.015 | −0.088 | −0.167*** | −0.008 | 0.049 |
| | (−0.99) | (−0.65) | (−1.17) | (−1.37) | (−0.61) | (0.31) | (−1.04) | (0.27) | (−1.27) | (−3.03) | (−0.19) | (0.81) |
| *Leverage* | 0.002 | −0.000 | −0.005 | 0.014* | −0.001 | −0.003 | 0.000 | −0.001 | −0.002 | 0.011 | −0.002 | −0.004 |
| | (0.36) | (−0.07) | (−0.53) | (1.84) | (−0.22) | (−0.44) | (0.10) | (−0.15) | (-0.20) | (1.50) | (−0.49) | (−0.60) |
| *Cross-listings* | 0.014** | 0.020** | 0.003 | −0.006 | 0.015* | 0.031** | 0.021*** | 0.045*** | 0.021* | −0.012 | 0.010 | 0.028*** |
| | (2.03) | (2.16) | (0.25) | (−0.71) | (1.66) | (2.57) | (3.62) | (4.69) | (1.90) | (−1.12) | (1.36) | (2.71) |
| *Firm Complexity* | 0.035** | 0.066*** | 0.026 | 0.020 | 0.026 | 0.003 | 0.048*** | 0.084*** | 0.039 | 0.032 | 0.022 | 0.022 |
| | (2.28) | (2.83) | (0.89) | (0.80) | (1.17) | (0.12) | (3.11) | (3.20) | (1.31) | (1.34) | (1.03) | (0.88) |
| *R&D/Total Assets* | −0.365 | −0.358 | −0.593 | −0.243 | −0.471 | −0.148 | −0.444 | −0.675 | −0.541 | −0.522 | −0.199 | −0.119 |
| | (−1.35) | (−1.01) | (−1.28) | (−0.62) | (−1.57) | (−0.38) | (−1.54) | (−1.63) | (−1.23) | (−1.49) | (−0.70) | (−0.34) |
| *Cross-listed Returns* | | | | | | | 0.031 | 0.104*** | 0.031 | −0.040 | −0.033 | 0.077** |
| | | | | | | | (1.22) | (2.81) | (0.70) | (−0.88) | (−1.09) | (2.05) |
| *High Rule of Law* | | | | | | | 0.007 | −0.081** | 0.043 | 0.114*** | −0.027 | −0.006 |
| | | | | | | | (0.36) | (−2.55) | (1.19) | (3.41) | (−1.33) | (−0.20) |
| *N* | 640 | 562 | 641 | 641 | 640 | 640 | 627 | 553 | 628 | 628 | 627 | 627 |
| Country FE | Yes | Yes | Yes | Yes | Yes | Yes | No | No | No | No | No | No |
| Sector FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted $R^2$ | 0.281 | 0.339 | 0.218 | 0.169 | 0.067 | 0.053 | 0.189 | 0.192 | 0.153 | 0.108 | 0.045 | 0.045 |

*Notes.* This table reports the results of ordinary least squares regressions of IR indices on firm and country characteristics. *Total* measures the firm's overall IR outreach that incorporates the following subcategories: *Global* measures the firm's global IR outreach. *Intermediaries* measures the firm's efforts to engage brokers. *Investors* measures the firm's efforts in engaging investors. *Policies* measures the firm's efforts in establishing policies that provide guidance and in obtaining information about new investors. *ESG* measures the firm's efforts in communicating its social responsibility program and attracting investors focused on environmental, social, and governance matters. See Online Appendix Table A for the definitions and summary statistics of control variables. Details of each subcategory IR index are provided in Figures 2–6. The associated *t*-statistics are in parentheses. FE, fixed effects.

***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, using robust standard errors that are double-clustered at both the sector and country levels.

8% when firms are from low Rule of Law countries.[9] Not all IR indices are negatively related to country-level quality of governance measures. For example, firms from well-governed countries are *more* likely to directly engage investors (the Investor index). This inconsistency is difficult to explain. One possibility is that investors' expectations on the executives' availability to meet individually are higher for firms domiciled in well-governed countries. Firms from better-governed countries tend to engage more with their investors. We find positive evidence that firms that are cross-listed in outperforming target markets also engage in more IR activity. This coefficient is significantly positive but only for the Global and ESG indices. A one-standard-deviation increase in the cross-listed market returns measure (0.07, or 7% per year) is associated with a 0.7-percentage-point increase in the Global index, which is a modest improvement economically.[10]

### 4.3. Global Visibility

Because IR activity may increase a firm's visibility to potential investors (Bushee and Miller 2012, Solomon 2012), the firm's presence in the marketplace might impact IR efforts. One way to measure a firm's overall visibility is to count the number of the previous year's (2011) news articles as a proxy for the firm's media coverage. We obtain these data as a (log) count of new articles from Factiva for each firm during 2010 across more than 1,000 news sources from nearly 200 countries. High levels of media coverage may reflect a firm's corporate activities, which might complement or substitute for IR communications with investors. One important advantage of our survey data is that we can investigate how firms communicate with potential investors located *outside* the firm's home market.

We construct several other measures for global visibility. First, we include the average geographic distance to foreign institutional investors from FactSet Ownership (also known as the "LionShares" data), in which distance is weighted by the investors' proportional holdings as of the end of 2011. Research has shown that greater geographic distance between firms and investors decreases the likelihood of investment (e.g., Coval and Moskowitz 1999). Second, we include foreign sales scaled by total assets as a proxy for the firm's presence in the global product market. It may well be that the global product market plays an even bigger role in disseminating firm-specific information in the global marketplace. Finally, we include three direct measures of global visibility in equity markets: foreign institutional ownership from FactSet, global equity issuances obtained from the Thomson Reuters Securities Data Company (SDC), and the number of global analysts following the firm (from the Institutional Brokers' Estimate Service, or IBES). We estimate the following regressions:

$$y_i = \alpha + \beta_1' \mathbf{x}_{1i} + \beta_2' \mathbf{x}_{2i} + \delta' \mathbf{z}_{ci} + \varepsilon_i, \quad (3)$$

where $y_i$ is firm $i$'s IR index (the Total index and its five subcategories), $\mathbf{x}_{1i}$ is a set of firm attributes for firm $i$ (such as size, leverage, market-to-book, among others), $\mathbf{x}_{2i}$ is a set of explicit firm visibility measures for firm $i$ (such as media attention, global analyst coverage, among others), and $\mathbf{z}_{ci}$ is a set of country-specific attributes for firm $i$ identical to Equation (2). We omit reporting $\mathbf{x}_{1i}$ and $\mathbf{z}_{ci}$ for brevity.

Columns (1)–(6) in Table 3 present the regression results for Equation (3) for the Total index and each IR subcategory, with media exposure as a proxy for visibility. We find that, except for the Policies index, all IR functions are positively associated with more media attention. The findings for the Intermediaries and Investors indices in columns (1) and (2) are not as statistically reliable as they are for the others. The implied results are economically significant, especially for the Global subcategory; a one-standard-deviation increase in media exposure (1.69) is associated with a 7-percentage-point increase, which is 14% of its mean.

Columns (7) and (8) in Table 3 present the regression results of Equation (3) for the Total index and the Global index, respectively. Here, we use the weighted average geographic distance to foreign institutional investors as a proxy for global visibility. We find that firms engage in more overall IR activities when they are further away from foreign institutional investors (significant at the 5% level). This is consistent with the viewpoint that the greater is the weighted average distance, the higher is the cost of travel, and the higher IR effort a firm needs to expend (budget, staff) to achieve a given outcome. There is surprisingly little evidence that the geographic distance to foreign institutional investors impacts the Global index, as seen in column (7). We next use foreign sales as a proxy for global visibility in the product market. We find in columns (9) and (10) that a firm's presence in the global product market has a weak impact (significant only at the 10% level for the Global index).

Finally, in columns (11) and (12) in Table 3, we present the regression results of Equation (3) with three measures of global visibility in equity markets: the level of foreign institutional ownership, the fraction of global equity issuances relative to total assets, and the fraction global analysts following relative to the total count. We find that a firm's foreign institutional ownership is significantly associated in the Global index, suggesting that firms that have greater global visibility engage in more global IR activities. The economic magnitudes can be large. The coefficient of 0.443 on the foreign institutional ownership in

Q: 34 **Table 3.** Determinants of IR Activities Related to Global Visibility

| Dependent variable: | *Total* | *Global* | *Intermediaries* | *Investors* | *Policies* | *ESG* | *Total* | *Global* | *Total* | *Global* | *Total* | *Global* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *IR Indices* | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| *Net Media Exposure* | 0.029*** | 0.045*** | 0.031* | 0.022* | 0.009 | 0.031** | | | | | | |
| | (3.52) | (3.40) | (1.89) | (1.70) | (0.96) | (2.23) | | | | | | |
| *Distance to Institutional Investors* | | | | | | | 0.021** | 0.006 | | | | |
| | | | | | | | (2.23) | (0.33) | | | | |
| *Foreign Sales/Total Assets* ($\times 10^3$) | | | | | | | | | 0.059 | 0.420* | | |
| | | | | | | | | | (0.40) | (1.86) | | |
| *Foreign Institutional Ownership* | | | | | | | | | | | 0.240*** | 0.443*** |
| | | | | | | | | | | | (3.72) | (3.40) |
| *# of Global Analysts/Total # of Analysts* | | | | | | | | | | | 0.057 | 0.118* |
| | | | | | | | | | | | (1.49) | (1.84) |
| *Global Equity Issuance/ Total Assets* | | | | | | | | | | | 0.686* | 0.910* |
| | | | | | | | | | | | (1.70) | (1.73) |
| *N* | 625 | 625 | 625 | 625 | 625 | 625 | 596 | 596 | 628 | 628 | 550 | 550 |
| Country FE | No | No | No | No | No | No | No | No | No | No | No | No |
| Sector FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Country controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted $R^2$ | 0.215 | 0.234 | 0.163 | 0.113 | 0.043 | 0.053 | 0.199 | 0.205 | 0.188 | 0.209 | 0.205 | 0.248 |

*Notes.* This table reports the results of ordinary least squares regressions of IR indices on firm visibility measures and other controls. Firm and country characteristics in Table 2 are added as control variables and omitted from reporting. *Total* measures the firm's overall IR outreach that incorporates the following subcategories. *Global* measures the firm's global IR outreach. *Intermediaries* measures the firm's efforts to engage brokers. *Investors* measures the firm's efforts in engaging investors. *Policies* measures the firm's efforts in establishing policies that provide guidance and in obtaining information about new investors. *ESG* measures the firm's efforts in communicating its social responsibility program and attracting investors focused on environmental, social, and governance matters. See Online Appendix Table A for definitions and summary statistics of control variables. Details of each subcategory IR index are provided in Figures 2–6. The associated *t*-statistics are in parentheses. FE, fixed effects.

***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, using robust standard errors that are double-clustered at both the sector and country levels.

column (12) implies that a one-standard-deviation increase in foreign institutional ownership (13%) is associated with a 5.8-percentage-point increase in the Global index, which is an 11.5% increase relative to the sample median of 50%. Surprisingly, global analyst coverage and global equity issuance are only marginally significant at 10%. The findings are slightly weaker for the Total index in column (11).

## 5. Is Greater IR Activity Associated with Higher Firm Valuation?

According to theories on mandated and voluntary corporate disclosures, a commitment by a firm to a higher level of disclosure should lower the information asymmetry component of its cost of capital (e.g., Diamond and Verrecchia 1991, Baiman and Verrecchia 1996). A commitment to increased disclosure reduces the extent of information asymmetries arising either between the firm and its shareholders (current and prospective) or by means of reduced adverse selection among buyers and sellers of the firm's shares (Glosten and Milgrom 1985, Kyle 1985). Merton's (1987) investor recognition hypothesis predicts that greater firm visibility can broaden a firm's investor base and in this way lower its cost of capital and boost firm value. We hypothesize that a firm's commitment to IR activity and global outreach in particular may be another critical mechanism through which firms can credibly commit to higher disclosure standards, and we examine whether they are associated with higher firm valuations.

### 5.1. Preliminary Results

To investigate the relation between IR activity and firm valuation, we need a measure of valuation. We follow the literature in using Tobin's $q$, defined as the book value of total assets plus the market value of equity minus the book value of equity scaled by the book value of assets. We obtain these data for 2012 from the Thomson Reuters' Worldscope database. In our regressions using Tobin's $q$ as the dependent variable, we control for firm characteristics that have been shown to determine firm valuation in an international setting (e.g., Durnev and Kim 2005, Aggarwal et al. 2009). They include the three-year annualized average sales growth, the fraction of closely held shares among all shares outstanding, the number of cross-listings, book leverage, the book value of total assets, a measure of dependence on external financing, R&D expenses, and firm complexity. Both sales growth

and the measure of dependence on external finance are ex ante proxies for a firm's growth opportunities measured as of 2011. The book value of total assets (in logs) is used to proxy for firm size. The percentage of closely held shares is used to control for insider ownership, which is included to measure the private benefits of control by dominant shareholders. R&D expenses and firm complexity are also included.

We also include a number of firm-, industry-, and country-level characteristics that might impact firm visibility among foreign investors, such as media coverage, geographic distance to foreign institutional investors, foreign sales, foreign institutional ownership, global equity issuances, global analysts following, and foreign target market returns for a firm's cross-listed shares, if any. Recall that these are featured as determinants in Table 3. Finally, Tobin's $q$ might differ across firms as a result of potentially unobservable country or industry sources of heterogeneity, so we include country and industry fixed effects in the regression.[11] Our main specification is

$$Tobin's\, q_i = \alpha + \beta_1' \mathbf{x}_{1i} + \beta_2' \mathbf{x}_{2i} + C_i + I_i + \varepsilon_i. \qquad (4)$$

All variables are defined as above. Robust $t$-statistics with standard errors double-clustered at both the sector and country levels are reported in parentheses in Table 4. The table reports the regression results for the relation between IR activity and Tobin's $q$. In column (1), a firm's Total index is positively related to Tobin's $q$, controlling for firm characteristics, as well as industry and country fixed effects. The coefficient of 0.859 is reliably different from 0 both statistically and economically. A one-standard-deviation increase in the Total index (0.19) is associated with an increase in Tobin's $q$ of 0.16, which is an 11% increase relative to the sample average of 1.51, an increase that constitutes 14% of its standard deviation (1.12). The economic magnitude is comparable to prior evidence on the valuation of corporate governance. For example, Durnev and Kim (2005) show that a one-standard-deviation increase in a firm's comprehensive governance scores results in a 9% increase in Tobin's $q$. Aggarwal et al. (2009) find that decreasing a firm's governance score by the governance gap between a non-U.S. firm and a matching U.S. firm would reduce Tobin's $q$ by 6.2%.

Because capital markets have become increasingly globalized, IR functions that focus on interactions with investors and brokers have also become more internationally oriented. When we combine the Global with Total indices as regressors, we find in column (2) of Table 4 that a firm's Global index is significantly positively related to Tobin's $q$. The coefficient of 0.389 implies that a one-standard-deviation increase in the Global index (0.29) is associated with an increase in Tobin's $q$ of 0.11, which is an 8% increase relative to the sample average of 1.50, an increase that constitutes 10% of its standard deviation (1.12). Interestingly, the Total index loses its significance. To see whether the Global index could simply be proxying for other IR functions, we include the Global subcategory together with each of the other subcategories of IR indices on Intermediaries, Investors, Policies, and ESG, respectively. The results in columns (3)–(6) show that, again, the Global subcategory remains both statistically and economically significant, whereas most of the other subcategories of the IR indices do not. The only exception is the IR index on the ESG subcategory, which remains positive and significant for Tobin's $q$. This result on ESG is consistent with a large literature on how voluntary disclosures are associated with higher firm value (Verrecchia 1983, Diamond and Verrecchia 1991). To the extent that ESG-related disclosures affirm a firm's commitment to higher corporate governance standards, we confirm a reliable link between governance and firm value (La Porta et al. 2002, Durnev and Kim 2005, Aggarwal et al. 2009).

To facilitate potential economic interpretations of the IR activities that are correlated with Tobin's $q$, we present regression for Equation (4) using a single IR function for each subcategory of IR index in Table F in the online appendix. Most of the specific IR functions for each subcategory are not significantly related to Tobin's $q$, similar to the above findings when we include the IR index in the regression. However, it appears that the Global index as proxied by the fraction of one-on-one meetings the firm executives undertake with investment professionals outside the firm's home market remains weakly significant. The coefficient of 0.268 in that particular model implies that a 25% increase in the fraction of one-on-one meetings abroad (Figure 6(b) indicates that the median firm has 25%–50% of one-on-one meetings abroad) is associated with an increase in Tobin's $q$ of 0.07, which is a 4.5% increase relative to the sample average of 1.50, an increase that constitutes 6% of its standard deviation (1.12). As expected, the economic magnitude is smaller than that of the Total index or the Global index, because this single metric only captures one specific IR function, rather than the Total index, which is all-encompassing.

Most control variables are of the expected sign and several are significant in Table 4. Firms with higher growth opportunities (measured by the trailing three-year arithmetic average of sales growth) are valued higher, as are firms that are smaller and have relatively less reliance on external financing. There is no effect on firm value if a firm is more closely held, is more levered, or has more cross-listings abroad.

**Table 4.** Firm Value and IR Activities

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Sales Growth* | 2.097*** | 1.912** | 1.931** | 1.893** | 1.923** | 1.904** | 1.815*** | 1.792*** | 1.784*** | 1.813*** | 1.800*** |
| | (3.14) | (2.55) | (2.46) | (2.57) | (2.56) | (2.55) | (3.45) | (3.22) | (3.45) | (3.44) | (3.43) |
| *External Finance* | –3.824*** | –4.331*** | –4.137*** | –4.174*** | –4.347*** | –4.327*** | –4.238*** | –4.149*** | –4.127*** | –4.262*** | –4.208*** |
| | (–4.05) | (–3.81) | (–3.69) | (–3.77) | (–3.74) | (–3.90) | (–3.67) | (–3.68) | (–3.62) | (–3.56) | (–3.64) |
| log(*Total Assets*) | –0.105*** | –0.117*** | –0.108** | –0.110** | –0.115** | –0.112** | –0.185*** | –0.185*** | –0.183*** | –0.187*** | –0.179*** |
| | (–2.89) | (–2.63) | (–2.52) | (–2.49) | (–2.56) | (–2.56) | (–3.39) | (–3.48) | (-3.34) | (–3.39) | (–3.31) |
| *Closely-held shares* | –0.029 | –0.023 | –0.043 | –0.047 | –0.034 | –0.057 | 0.106 | 0.103 | 0.093 | 0.103 | 0.087 |
| | (–0.12) | (–0.09) | (–0.17) | (–0.19) | (–0.14) | (–0.23) | (0.44) | (0.42) | (0.38) | (0.42) | (0.36) |
| *Leverage* | –0.015 | –0.018 | –0.018 | –0.016 | –0.017 | –0.016 | –0.012 | –0.011 | –0.010 | –0.011 | –0.010 |
| | (–0.70) | (–0.74) | (–0.75) | (–0.66) | (–0.71) | (–0.69) | (–0.52) | (–0.48) | (–0.44) | (–0.50) | (–0.45) |
| *Cross-listings* | 0.021 | 0.017 | 0.018 | 0.018 | 0.017 | 0.009 | –0.017 | –0.018 | –0.020 | –0.018 | –0.021 |
| | (0.71) | (0.48) | (0.50) | (0.50) | (0.48) | (0.23) | (–0.50) | (-0.52) | (–0.56) | (–0.51) | (–0.59) |
| *Firm Complexity* | 0.222* | 0.189 | 0.188 | 0.191* | 0.186 | 0.197* | 0.207* | 0.206 | 0.205 | 0.204 | 0.209* |
| | (1.95) | (1.63) | (1.64) | (1.67) | (1.60) | (1.72) | (1.65) | (1.64) | (1.65) | (1.63) | (1.68) |
| *R&D/Total Assets* | 3.414** | 3.250* | 3.135* | 3.166* | 3.252* | 3.173* | 1.547 | 1.491 | 1.449 | 1.529 | 1.507 |
| | (2.11) | (1.76) | (1.70) | (1.72) | (1.74) | (1.76) | (0.95) | (0.90) | (0.89) | (0.93) | (0.92) |
| *Total* | 0.859*** | 0.399 | | | | | 0.253 | | | | |
| | (3.12) | (1.35) | | | | | (0.91) | | | | |
| *Global* | | 0.389** | 0.592*** | 0.556*** | 0.515** | 0.491** | 0.387* | 0.472** | 0.489** | 0.465** | 0.458** |
| | | (2.10) | (2.92) | (2.63) | (2.48) | (2.42) | (1.96) | (2.13) | (2.19) | (2.15) | (2.15) |
| *Intermediaries* | | | –0.078 | | | | | 0.038 | | | |
| | | | (–0.44) | | | | | (0.23) | | | |
| *Investors* | | | | –0.083 | | | | | –0.057 | | |
| | | | | (–0.59) | | | | | (–0.41) | | |
| *Policies* | | | | | 0.205 | | | | | 0.141 | |
| | | | | | (1.14) | | | | | (0.95) | |
| *ESG* | | | | | | 0.358** | | | | | 0.170 |
| | | | | | | (2.20) | | | | | (1.37) |
| *N* | 640 | 562 | 562 | 562 | 562 | 562 | 482 | 482 | 482 | 482 | 482 |
| Country FE | Yes | Yes | Yes | Yes | Yes | Yes | No | No | No | No | No |
| Sector FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted $R^2$ | 0.247 | 0.223 | 0.221 | 0.221 | 0.222 | 0.229 | 0.329 | 0.328 | 0.328 | 0.329 | 0.330 |

*Notes.* This table reports the results of ordinary least squares regressions of firm value on IR indices and other firm characteristics. Firm valuation is proxied by Tobin's *q*. Country characteristics in Table 2 and firm global visibility variables in Table 3 are included in columns (7)–(11) and omitted from reporting. *Total* measures the firm's overall IR outreach that incorporates the following subcategories. *Global* measures the firm's global IR outreach. *Intermediaries* measures the firm's efforts to engage brokers. *Investors* measures the firm's efforts in engaging investors. *Policies* measures the firm's efforts in establishing policies that provide guidance and in obtaining information about new investors. *ESG* measures the firm's efforts in communicating its social responsibility program and attracting investors focused on environmental, social, and governance matters. See Online Appendix Table A for definitions and summary statistics of control variables. Details of each subcategory IR index are provided in Figures 2–6. The associated *t*-statistics are in parentheses. FE, fixed effects.

***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, using robust standard errors that are double-clustered at both the sector and country levels.

We add additional firm-level and country-level characteristics (in place of country fixed effects) that can impact the perception of a firm's attractiveness to foreign investors (from Table 3) to see whether the Global index remains statistically and economically important to Tobin's $q$. Our sample size drops by 20% as a result of including these additional controls, but the Global index remains both statistically and economically significant in columns (7)–(11).

### 5.2. Cross-Country Differences in the Valuation of IR Activity

In this subsection, we explore how the link between the Global index and Tobin's $q$ may differ depending on the characteristics of the firms and the countries in which they are domiciled. In the section above, we find that firms that engage in higher global IR activity have higher Tobin's $q$ valuation ratios. However, there are many reasons why this relationship should be stronger for some firms than others and for firms from certain countries over others. We test whether the link between the Global index and Tobin's $q$ differs depending on whether a firm is secondarily cross-listed on a major U.S. stock exchange. Doidge et al. (2004, 2009) and Hail and Leuz (2009) offer evidence in favor of the so-called bonding hypothesis, an agency-based explanation for how a U.S. cross-listing can improve a firm's transparency and governance.[12] On the one hand, a U.S. cross-listing could be a substitute for the higher global IR activity among such firms. On the other hand, the two effects may be complementary, such that intense levels of IR engagement can facilitate stronger "bonding" to the U.S. market institutions as shown in other research.

We present the results of two specifications involving only non-U.S. firms in columns (1) and (2) of Table 5: column (1) shows the results for firms with a U.S. cross-listing on major U.S. exchanges, and

**Table 5.** Cross-Country, Cross-Firm Differences Linking Global Investor Relations Activities to Firm Value

| | Non-U.S. sample | | Full sample | | | | | |
|---|---|---|---|---|---|---|---|---|
| Dependent variable: *Tobin's q* | *U.S. cross-listed firms only* (1) | *Not U.S. cross-listed firms only* (2) | *High Rule of Law countries* (3) | *Low Rule of Law countries* (4) | *High disclosure countries* (5) | *Low disclosure countries* (6) | *High ASDI countries* (7) | *Low ASDI countries* (8) |
| *Global* | 0.545 | 0.759* | 0.446 | 0.539*** | 0.129 | 1.027*** | 0.322 | 0.600** |
| | (0.57) | (1.87) | (1.25) | (2.91) | (0.45) | (2.68) | (0.94) | (2.07) |
| *Average Sales Growth* | −4.003** | 1.746** | 2.659*** | 0.159 | 2.854*** | 1.144 | 2.884*** | 0.351 |
| | (−2.26) | (1.99) | (2.97) | (0.23) | (2.79) | (1.37) | (3.14) | (0.48) |
| *External Finance* | −10.373*** | −2.333 | −5.092*** | −2.982** | −5.163*** | −2.813 | −5.444*** | −2.857* |
| | (-3.21) | (−1.35) | (−2.95) | (−2.02) | (−3.09) | (−1.35) | (−3.08) | (−1.76) |
| log(*Total Assets*) | −0.422*** | −0.241* | −0.326*** | −0.143** | −0.329*** | −0.166 | −0.287*** | −0.192*** |
| | (−3.23) | (−1.72) | (−3.45) | (−2.35) | (−3.28) | (−1.63) | (−3.25) | (−2.69) |
| *Closely-held shares* | 0.642 | −0.069 | −0.151 | 0.152 | 0.030 | 0.437 | 0.385 | 0.557 |
| | (0.90) | (−0.11) | (−0.37) | (0.59) | (0.05) | (1.22) | (0.60) | (1.66) |
| *Leverage* | −0.119 | −0.001 | −0.023 | −0.026 | −0.015 | −0.049 | −0.018 | −0.033 |
| | (−1.04) | (−0.02) | (−0.89) | (−1.19) | (−0.49) | (−1.49) | (−0.65) | (−1.03) |
| *Cross-listings* | 0.287 | −0.248 | −0.060 | 0.025 | −0.073 | 0.032 | −0.063 | −0.013 |
| | (1.57) | (−1.64) | (−1.22) | (0.70) | (−1.49) | (0.51) | (−1.30) | (−0.26) |
| *Firm Complexity* | −0.743* | 0.055 | 0.259 | −0.071 | 0.358* | −0.090 | 0.177 | 0.107 |
| | (-1.82) | (0.24) | (1.31) | (-0.53) | (1.81) | (-0.46) | (0.89) | (0.64) |
| *R&D/Total Assets* | −23.809*** | −1.824 | 1.036 | −2.523 | −0.271 | 0.300 | 2.697** | −0.468 |
| | (-4.26) | (−0.41) | (0.45) | (−1.20) | (−0.13) | (0.10) | (2.07) | (−0.17) |
| *N* | 56 | 125 | 202 | 108 | 179 | 131 | 185 | 125 |
| Country FE | No | No | No | No | No | No | No | No |
| Sector FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted $R^2$ | 0.645 | 0.209 | 0.308 | 0.403 | 0.371 | 0.268 | 0.322 | 0.361 |

*Notes.* This table reports the results of ordinary least squares regressions of firm value as the dependent variable on global IR indices and other firm characteristics for various subsamples. Country characteristics in Table 2 and firm global visibility variables in Table 3 are included in all columns and omitted from reporting. Firm value is proxied by Tobin's $q$. *Global* measures the firm's global IR outreach. In columns (1) and (2), we use only non-U.S. firms and split the sample into those with cross-listings on a major U.S. exchange and those that do not have a cross-listing. In columns (3)–(8), we use the full sample from Table 4 but split the primary sample on three different country indexes based on the median score: the Rule of Law index ("Rule of Law") from the World Bank's World Governance Indicators for 2011 based on laws related to contract enforcement and property rights, the disclosure index ("Disclosure") from La Porta et al. (2006), and the anti-self-dealing index ("ASDI") from Djankov et al. (2008). See Online Appendix Table A for the definitions and summary statistics of control variables. Details of Global IR indices are in Figure 6. The associated $t$-statistics are in parentheses. FE, fixed effects.

***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, using robust standard errors that are clustered at both the sector and country levels.

column (2) presents the results for those without (which may include purely domestically listed firms and those with secondary cross-listings in other target markets than the U.S.). The coefficient for the Global index is positive and reliably different from 0 for firms that are *not* cross-listed in the United States. In fact, we find no evidence that cross-listed firms reveal a valuation boost associated with engaging in more global IR activity. This implies economically an even larger Tobin's $q$ valuation premium for firms without a cross-listing given that their average Tobin's $q$ valuation ratios are lower than for firms with a U.S. listing. In column (2), we find that a one-standard-deviation increase in the Global index (0.29) is associated with an increase in Tobin's $q$ of 0.22 percentage points, which is a 14.7% increase relative to its base value (1.50). The economic magnitude is about half as large as the cross-listing premium that Doidge et al. (2004, 2009) find is associated with a major exchange listing in the United States. Interestingly, the results in column (1) show that the importance of dependence on external finance is concentrated in firms with U.S. cross-listings, another finding that is consistent with the bonding hypothesis. Of course, in this analysis, we ignore the propensity among foreign firms to pursue a U.S. cross-listing in the first place. These findings imply that global IR can be a complementary force.

In columns (3)–(8) of Table 5, we use the full sample of firms in Table 4 but split the full sample on three different country indices based on the median score: (1) the Rule of Law index ("Rule of Law") from the World Bank's World Governance Indicators for 2011 based on laws related to contract enforcement and property rights, (2) the disclosure index ("Disclosure") from La Porta et al. (2006), and (3) the anti-self-dealing index ("ASDI") from Djankov et al. (2008), which measures the strength of regulations that preclude self-dealing among corporate insiders. La Porta et al. (2002, 2006) show that better-quality legal institutions and securities regulations are associated with the greater development of equity markets, a lower cost of capital, and higher valuations. How global IR outreach serves as a mechanism to increase firm valuation could thus depend on the quality of the legal and institutional environment of the home country. We find that the statistical and economic association of the Global index with higher Tobin's $q$ is concentrated among the firms headquartered in countries with weaker rules of law, less stringent disclosure standards, and fewer anti-self-dealing protections (low ASDI). In particular, the magnitudes of the coefficients for the Global index range from 0.539 to 1.027, which imply larger Tobin's $q$ valuation premiums than for the full sample of respondents.

### 5.3. The Cost of IR Efforts

Two important questions arise from our analysis. First, why do some firms not maximally invest in IRs? After all, most respondents believe that IR strategies might be easy to implement, unlike other corporate financial policy changes that might be more costly. Second, why do shareholders of cross-listed firms (or those from countries with higher governance standards) accept spending more on IR activities when there seems to be so little benefit to firm value?

To answer the first question, we examine standard measures on the costs of IR activities, such as their budgets or the number of staff members. These are reported at the end of the survey instrument. We find that the average firm has at least two staff members working in IRs, it allocates 15% of its IR budget for external IR engagement, and it pays its IRO a base salary of $125,000–$175,000 with additional bonus incentives. These measures seem too small relative to firm size and especially relative to the associated benefit to firm valuation in Tables 4 and 5. According to NIRI's 2016 report on U.S. IR best practices and compensation, the median mid- to mega-capitalization U.S. firm spends up to $2.5 million annually on IR activities, whereas mega-cap firms often spend more than $5 million.[13] IR budgets include annual report costs, market listing fees, salaries, and benefits. These costs exceed those in the respondent answers, so these budget statistics seem small given the magnitude of the valuation increases associated with higher IR effort in Tables 4 and 5.

We also interviewed select IROs and the BNY Mellon Global IR Advisory staff. They confirm that their IR costs are only a small portion of the total costs of engaging in IR activities, which additionally include costs of regulatory compliance, the indirect cost of executive time, and costs to other reporting and disclosure functions. The 2016 NIRI report emphasizes the indirect costs of senior corporate officer time invested in engaging with investors; in traveling to and conducting road shows; in meetings with analysts, shareholders, and investors; and in hosting conference calls, which might be burdensome to many firms, especially those that are small and young. Some costs may not even appear on the firm's books as depositary banks often support firms in their IR activities in exchange for exclusive depositary sponsorship for their listed ADR programs.

As we mention in the introduction, there is also a potential dark side to IR that we have not yet discussed. Hong and Huang (2005) offer a model to rationalize how investment in IR may be closely associated with increased stock market liquidity for the firm's shares because ownership and management will spend considerable resources on IR activities to enhance the liquidity of their own shares rather than

to improve firm value. They argue that firms with severe agency problems are more likely to motivate IROs to "talk up the liquidity" in their shares. It is the presence of large, dominating controlling shareholders pursuing their private interests at the expense of public shareholders that encourages a firm to invest in IR efforts, to stoke greater liquidity in the share trading, and thus to facilitate an easier potential exit from their holdings on favorable terms. We evaluate the link between the Total and Global indexes and several proxies for stock illiquidity, such as average turnover, bid-ask spreads (Corwin and Schultz 2012), and Amihud's (2002) market-impact measure, which we compute using Thomson Reuters' Datastream data for 2012. We provide the results Table E in the online appendix. Overall, there may be a dark side to IR, but our evidence is only suggestive.

We offer several explanations to answer the second question of why shareholders of cross-listed firms accept spending more on IR activities when there seems to be little valuation benefit. First, there are multiple reasons for IR efforts, including improving market value, increasing analyst coverage, growing institutional ownership, and boosting media coverage. Bushee and Miller (2012) that show small-capitalization firms in the United States hire an external IR consultant to help design a strategy for management communication. The focus of the strategy is to find the right way to "tell the story" to the target audience. Although many of the IR programs seek to increase firm valuation, some cross-listed firms are already valued higher than their peers from the same home countries (e.g., Doidge et al. 2004, 2007). It is likely that cross-listed firms engage in IR activities for reasons other than improving market value.

Second, the focus of IR programs for well-governed firms may differ significantly from those of less well-governed firms. Although we find that on average global IR outreach efforts increase Tobin's $q$, there is considerable cross-sectional variation among firms in their focus on IR, as well as the subcategories of IR activities. For example, fast-growing firms are more likely to engage with brokers and other financial intermediaries. Firms from well-governed countries are more likely to pursue direct engagement with investors. Those that rely more on external financing are more likely to maintain and update corporate disclosure policies. Cross-listed firms targeting markets in Europe or Asia may care more about nonfinancial metrics, such as ESG reporting. Given these large cross-sectional differences in the focus of IR functions, it is not surprising that the valuation of IR also differs across firms.

## 6. Conclusion

In this study, we use proprietary data from the 2012 BNY Mellon's Global Trends in Investor Relations (eighth edition) survey to examine the stylized facts for a wide variety of IR functions. The IRO responses we evaluate from this survey are both confirming and surprising. It is confirming that the main IR functions described by IROs include engaging with investors, analysts, and brokers and targeting potential investors. This accords well with previous research. We also find that an increasingly important IR function is to communicate the firm's governance and social responsibility program to investors. Most interesting to us is the large fraction of the firms in the sample that engage in global IR activity. Traditionally, a firm's investor base is domestic; thus, its IR program is essentially domestically oriented. However, in globalizing capital markets, information frictions that IROs may be seeking to remedy can be more acute, especially in countries with weaker disclosure rules and securities regulations (e.g., Doidge et al. 2004, Hail and Leuz 2006). The survey responses make clear that IROs seek to broaden their firm's investor base by attracting investors from around the world.

One surprising finding is that the survey responses reveal so much variation in the scope of IR activity across firms, industries, and countries. There are many examples. First, large and complex firms, which receive more media attention, are more likely to exert greater IR effort. Second, different types of firms focus on different IR functions. Third, fast-growing firms are more likely to engage with brokers and other financial intermediaries. Fourth, firms from well-governed countries are more likely to pursue direct engagement with investors. Fifth, firms that rely more on external financing are more likely to maintain and update corporate disclosure policies. Sixth, internationally cross-listed firms focus more on ESG reporting and global outreach. Seventh, firms domiciled in countries with poorer disclosure standards and/or high foreign visibility are more likely to engage in global IR efforts.

We also find novel evidence that greater global IR activity is associated with higher Tobin's $q$ valuations across firms. Valuations are even higher for firms *not* cross-listed in the United States and among those domiciled in countries with weaker disclosure standards. IROs who participate in the survey work for larger, faster-growing firms, so it is quite possible valuation increases associated with global IR activity may be even higher for smaller firms facing information environments that are poorer in quality compared with those we study. Smaller firms are more likely to be resource constrained and thus would likely invest less in IR activities.

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## Appendix. Nonresponse Bias and Other Issues Related to Our Survey Data

Although survey data allow us to have a broad overview of the IR activities of the firms, they are not without problems. As Graham and Harvey (2001) point out, surveys measure beliefs and not necessarily actions. Another common problem with survey data is sample selection. There are two main types of selection problems. First, the sample of firms being surveyed may not be representative of the general population. Second, the respondents may be different from those that do not respond to the survey and therefore may not be representative of the population of firms.

The first type of selection problem is unlikely because BNY Mellon partnered with all IR associations around the world and built the most complete list of IR contacts for all public firms. One might also be concerned that BNY Mellon clients dominate the survey. We obtained the list of all American Depositary Receipts (ADRs) sponsored by BNY Mellon up until December 31, 2012. Our assumption is that these companies with sponsored ADR programs would be a fair proxy for their client list. Of 2,021 client firms, only 210 firms (or 10%) responded to the survey. The large majority of the respondents appear not to be BNY Mellon clients at any point before the survey was conducted. Thus, we conjecture that BNY Mellon clients seem no more likely to have responded to the survey than other firms. The second type of selection problem is often called nonresponse bias and could well be a concern for our study because it is plausible that firms that exert more IR effort are those that benefit more and might be more likely to answer the surveys. If this is the case, then our results, especially subsequent analysis on the value of IRs, would not be representative of the general population.

We perform several tests to check the magnitude of this potential selection problem. One test, suggested by Moore and Reichert (1983), is used to investigate nonresponse bias by comparing the characteristics of responding firms to those of the population at large. If they match well, the sample can be thought of as reasonably representative of the population at large. This is a challenging test given that we do not know which 4,993 of the more than 35,000 public firms globally were targeted by the survey. We report the results of a comparison on key firm attributes for the BNY Mellon survey respondents relative to a benchmark population of publicly listed firms using the Worldscope universe. In panels A and B of Table B in the online appendix, we report raw, global industry-adjusted and home country-adjusted statistics for return on assets (ROA), return on equity (ROE), book-to-market (B/M) ratio, cash flow-to-price (C/P), and trailing one-year sales growth (panel A) and distributional statistics on market capitalization, total assets, and total sales (panel B). As expected, we find that the sample firms are larger than most of the rest of the public equity universe, with a large fraction falling in the top quartile by any measure of size. The sample firms are faster-growing and more profitable than industry or country peers, but relative valuations are negligibly different.

To better capture the potential differences between the survey respondents and nonrespondents, we next exploit the fact that all S&P 1500 firms in the U.S. were invited to participate in the survey. In panel C of Table B in the online appendix, we compare several firm attributes for the U.S. firms that responded to the survey with benchmark firms that were S&P 1500 firms in 2012 but did not respond to the survey. Mean, median values for four accounting measures—total assets, total debt, market-to-book ratio, and book leverage—reveal no statistical or economical differences between the two groups. Q: 22

Finally, we hand-collect data on members of all IR associations outside the United States that were known to have partnered with BNY Mellon in conducting the survey. We compare the firm attributes of our survey respondents to those of the members that did not respond to the survey. Of 20 IR societies that partnered with BNY Mellon, only 12 provide a list of their members on their websites. We tallied up a list of 724 of their member firms, and of those, 583 were found on S&P Capital IQ as of 2011. In panel D of Table B in the online appendix, we report mean and median values for four accounting measures: total assets, total debt, market-to-book ratio, and book leverage. Interestingly, outside of the United States, sample firms are larger than nonsample firms, consistent with the comparison between respondents and the Worldscope universe. But we find no evidence that the sample firms have different leverage or market-to-book valuation ratios than those of the nonsample firms.

Figure A in the online appendix provides a graphical summary of the excess weights in terms of the representation of the sample and nonsample firms among the U.S. and non-U.S. firms by sector, market capitalization category, and region (for non-U.S. firms only). There appears to be overrepresentation in the healthcare, materials, and

telecommunications industries and underrepresentation in the consumer discretionary, energy, industrials, and utilities industries. Non-U.S. firms are overrepresented among financials. As noted above, there is about 20% overrepresentation in the large-cap category ($5 billion to $25 billion), which is balanced by underrepresentation in the small cap and microcap categories (under $1 billion). No clear pattern is detectable by region, at least among non-U.S. sample firms.

Taken together, we find that sample firms are similar to nonsample firms in the United States, but they are slightly larger than nonsample firms outside the United States. There is no clear pattern that sample firms tend to be in particular industries or countries. As we find in Figure 1 that larger firms and firms in utilities industries and from countries with poor governance are more likely to engage in IR activities, there is no a priori reason to believe that sample firms are more likely to engage in IR activities or benefit more from them as a result of industry/country/size clustering.

There are still other concerns about survey data. The concern of deliberately misleading answers or misunderstood questions are discussed in the paper. Survey fatigue across years is another concern. The survey began in 2004 as an annual endeavor; since 2013, it has been conducted biannually. In general, BNY Mellon tries to reach out to all public companies that are part of any IR association around the globe. For example, in 2012, 5,000 companies were contacted. We do not know the firms that received the questionnaires but assume that because they maintain their memberships in the IR associations that there would be a great overlap of firms being contacted from year to year. However, the response rate varies each round, about 16% in 2012, and the responding firms only overlap about 20%–30% from year to year based on the surveys from 2010, 2011, and 2012. Although the lack of time-series data on the same firms makes it hard to study changes within firms, we are less concerned about any potential cognitive bias caused by surveying the same firms. In addition, the survey questions differ from year to year with only some overlap in the core IR functions. The survey is designed to identify emerging IR trends; thus questions sometimes need to be altered. It also helps to mitigate potential response biases.

## Endnotes

[1] NIRI (http://www.niri.org) defines IR to be a strategic management responsibility that integrates a wide range of activity, including managing disclosure strategies, attracting analyst and media coverage, and targeting desired investors,

[2] An exception is a recent paper by Brown et al. (2019), who survey 610 IROs at publicly traded U.S. companies. However, the focus of their survey is on the IROs' interactions with analysts and investors.

[3] The authors have been granted concurrence of exemption from their respective universities' Institutional Review Boards for human participants, copies of which are available upon request.

[4] The list of associations includes Australasian Investor Relations Association; Asociación Española para las Relaciones con Inversores; Cercle Investor Relations Austria; Deutscher Investor Relations Verband; Forum Investor Relations; Finnish Investor Relations Society; Instituto Brasileiro de Relações com Investidores; Investor Relations Society, India; IR Club, Germany; Malaysian Investor Relations Association; Middle East Investor Relations Society; Nederlandse Vereniging voor Investor Relations; Nomura IR Consulting; Russian IR Magazine; Seoul IR; Swiss Society of Investor Relations: IR Club; Takara Printing; the Investor Relations Society, United Kingdom; the Investor Relations Professionals Association (Singapore); and the Turkish Investor Relations Association.

[5] We winsorize all the variables at the 1% level to remove any extreme outliers, which can often be present in international databases that contain a large number of firms and securities. Almost all statistical inferences in our study remain without winsorizing. We report findings with winsorized values to facilitate economic interpretation.

[6] McKinsey & Company's Strategy & Corporate Finance group's report entitled "The misguided practice of earnings guidance" outlines how the potential benefits associated with earnings and other types of guidance may not be realized. Q: 23

[7] See Elizabeth Judd's editorial in *IR Magazine* entitled "Targeting investors: A disciplined approach" (October 1, 2005). Q: 24

[8] See the September 2017 *IR Update* article entitled "Shareholder ESG proposals on the rise.". Q: 25

[9] The result is robust to tests with the two additional country-level measures mentioned above, which are reported in Online Appendix Table D.

[10] One might be concerned that various aspects of IR activity are likely correlated. We perform principal component analysis (PCA) using maximum likelihood estimation procedures to identify commonalities among the responses to IR activity questions without relying on potentially arbitrary choices. Our results are robust to the PCA analysis. See Online Appendix Table E for details.

[11] Ideally, one could also control for industry effects at home with an interaction between country and industry fixed effects. However, our survey sample only includes 774 observations, so including an interaction between country and industry fixed effects would overfit the sample. Instead, we include an interaction between region and industry fixed effects, and our results are similar to those in Table 4. The results are available upon request.

[12] The original bonding hypothesis was proposed by Coffee (1999) and Stulz (1999). Although there is much evidence in support of bonding, many studies challenge it; see Karolyi (2012) for a survey of the proponents and opponents of the bonding hypothesis.

[13] See the NIRI Analytics report entitled "NIRI IR profession, budget and staffing study—2016" (November 30, 2016). It includes profiles of corporate IR professionals, IRO reporting lines, IR budget sizes by market capitalization, IR staff sizes with and without administrative personnel, and average numbers of position titles per IR department. Q: 26

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NUMBER 1 OF 2

# AUTHOR QUERIES

DATE 6/17/2019

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ARTICLE 20193405

QUERIES FOR AUTHOR Karolyi, Kim, and Liao

**THIS QUERY FORM MUST BE RETURNED WITH ALL PROOFS FOR CORRECTIONS**

Q: 1_Please provide all funding information, if applicable, including the names of the institutions as well as any grant numbers associated with the funding, or confirm that no funding was received.

Q: 2_Please confirm that the article title, author names, affiliations, and email addresses are set correctly. If applicable, please provide author ORCID numbers.

Q: 3_Please confirm added Introduction section, and confirm remaining sections have been renumbered appropriately.

Q: 4_Please verify that all displayed equations and in-text math notations are set correctly.

Q: 5_Please confirm/correct edits to the sentence beginning "Investor relations (IR) as a corporate. . .."

Q: 6_Please confirm/correct edits to the sentence beginning "We collaborated with the Bank. . .."

Q: 7_Per style, variables are set in italics. Please confirm/correct the use of roman versus italics for index names and variables related to indices throughout the text and tables.

Q: 8_Reworded "maintaining and updating corporate" to "maintenance and updating of corporate" for parallelism in a list; OK? Confirm/correct instances where this change was made throughout.

Q: 9_Note that "road shows" is two words per *Merriam-Webster*'s; however, in text quoted from the survey material, "roadshows" has been retained as a single word. Please confirm/correct here and throughout.

Q: 10_Add "to our knowledge"?

Q: 11_Please confirm the accuracy of quotations taken from the survey material.

Q: 12_Reworded "domestic-focused" to "domestically focused" OK?

Q: 13_So that the panels of Figure 2 can be called out in order, the clause "and 62.7%...(Figure 2(e))" has been moved to the end of the paragraph; OK?

Q: 14_Reworded "effective disclosure and research coverage are" to "effect disclosure and research coverage make up" OK?

Q: 15_Please confirm/correct edits to the sentence beginning "The September 2017 issue. . .."

Q: 16_Add "increase" after "Yet a one standard deviation"?

Q: 17_Reworded "with the strength" to "a measure of the strength" OK? If not, please recast the original sentence for greater clarity.

Q: 18_Reworded "their" to "the investors"; OK?

Q: 19_Reworded "sector and country are" to "the sector and country levels are" OK?

Q: 20_Section 4.3 was missing in the original paper; Section 4.4 has been changed to Section 5.3 to be consistent with the current section numbering. Please confirm/correct.

Q: 21_Please confirm/correct edits to the sentence beginning "The authors thank. . .." Also, please note that acknowledgments are written in third-person narrative, per journal style.

Q: 22_Reword "Mean, median values" to "Mean and median values"?

Q: 23_Please add the appropriate report reference to the reference list or provide a URL and URL access date for the report cited in Endnote 6.

Q: 24_Please add the appropriate journal article reference to the reference list or provide a URL and URL access date for the editorial cited in Endnote 7.

Q: 25_Please add the appropriate journal article reference to the reference list or provide a URL and URL access date for the article cited in Endnote 8.

Q: 26_Please add the appropriate report reference to the reference list or provide a URL and URL access date for the report cited in Endnote 13.

Q: 27_Please update Cohen et al. 2017.

Q: 28_Ferreira and Matos 2008 is not cited in the text. Please add an in-text citation or delete the reference.

Q: 29_Please update Goldstein 2014, if possible.

Q: 30_Karolyi and Wu 2018 is not cited in the text. Please add an in-text citation or delete the reference.

Q: 31_Please check that all tables and figures, including their titles and notes (which may contain edits) are set correctly.

Q: 32_Please confirm edits to Figure 1 footnotes, particularly to the "Cap" definitions. Please add the report cited in the Figure 1 footnotes to the reference list or provide the URL and URL access date for the report online.

Q: 33_In Table 2, consider adding straddle rules over columns (1)–(6) and (7)–(12) to explain how they differ.

Q: 34_In Table 3, consider adding straddle rules over columns (1)–(6), (7) and (8), (9) and (10), and (11) and (12) to explain how they differ.