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# The activities of buy-side analysts and the determinants of their stock recommendations<sup>☆</sup>

Lawrence D. Brown<sup>a</sup>, Andrew C. Call<sup>b</sup>, Michael B. Clement<sup>c,\*</sup>, Nathan Y. Sharp<sup>d</sup><sup>a</sup> Temple University, United States<sup>b</sup> Arizona State University, United States<sup>c</sup> University of Texas at Austin, United States<sup>d</sup> Texas A&M University, United States

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## ABSTRACT

We survey 344 buy-side analysts from 181 investment firms and conduct 16 detailed follow-up interviews to gain insights into the activities of buy-side analysts, including the determinants of their compensation, the inputs to their stock recommendations, their beliefs about financial reporting quality, and the role of sell-side analysts in buy-side research. One important finding is that 10-K or 10-Q reports are more useful than quarterly conference calls and management earnings guidance for determining buy-side analysts' stock recommendations. Our results also suggest that sell-side analysts add value by providing buy-side analysts with in-depth industry knowledge and access to company management.

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## 1. Introduction

Buy-side analysts play an important role in equity markets because their research directly impacts the investing decisions of portfolio managers (Cheng et al., 2006; Frey and Herbst, 2014; Rebello and Wei, 2014). These analysts usually work

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\* Corresponding author.

E-mail addresses: [ldbrown@temple.edu](mailto:ldbrown@temple.edu) (L.D. Brown), [andycall@asu.edu](mailto:andycall@asu.edu) (A.C. Call), [michael.clement@mcombs.utexas.edu](mailto:michael.clement@mcombs.utexas.edu) (M.B. Clement), [nsharp@mays.tamu.edu](mailto:nsharp@mays.tamu.edu) (N.Y. Sharp).

for an investment firm (e.g., mutual fund, hedge fund, pension fund), and they perform their research activities exclusively for the firm that employs them. In contrast to sell-side analysts whose stock recommendations are distributed widely to their clients and who often receive coverage in the business press, buy-side analysts' stock recommendations are not available to anyone outside their own firm. Thus, although buy-side analysts are much closer than sell-side analysts to the ultimate investing decision, they are rarely the subject of academic research. The purpose of this study is to expand our understanding of the activities of buy-side analysts and their role in the capital markets.

We survey 344 buy-side equity analysts employed by 181 institutional investment firms and conduct 16 detailed follow-up interviews on a wide range of topics. We examine the factors that determine their compensation, their motivation to issue profitable stock recommendations, the inputs to their stock recommendations, the frequency and value of their interactions with company management, and their assessments of financial reporting quality. Further, because buy-side analysts are an important consumer of sell-side research, we examine the nature and frequency of their interactions with sell-side analysts and the attributes of sell-side analysts they find most important.

One important takeaway of our paper relates to the role of sell-side analysts in buy-side research. Specifically, although we find that buy-side analysts have strong financial incentives to produce profitable stock recommendations, fewer than 3% of them indicate sell-side stock recommendations are a very useful input for their own stock recommendations. Nevertheless, we find that sell-side analysts add value to buy-side analysts in other ways. For example, buy-side analysts typically follow more companies spread across more industries than do sell-side analysts, so they often rely on the sell side to quickly get up to speed on a particular industry. Further, buy-side analysts indicate that industry knowledge is the most useful input to their stock recommendations, which are the primary determinants of their compensation. Our findings help explain why institutional investors consistently rate industry knowledge so highly in Institutional Investor's (II) annual rankings of sell-side services.

Relatedly, buy-side analysts indicate that private communication with senior management is an important input into their stock recommendations, and that sell-side analysts play a pivotal role in facilitating access to management. Collectively, our findings suggest buy-side analysts rely on sell-side analysts for raw information (e.g., industry knowledge) and access to company management, which help inform their own stock recommendations; however, buy-side analysts do not look to sell-side analysts when translating this information into their own stock recommendations.

Despite prior research suggesting that sell-side analysts employed by large brokerages have more resources (Clement, 1999; Clement and Tse, 2003; Hong and Kubik, 2003), and that II All-Stars are superior sell-side analysts (Asquith et al., 2005; Leone and Wu, 2007; Stickel, 1992), fewer than 3% of the buy-side analysts say brokerage size and All-Star status are important attributes of sell-side analysts when deciding whether to use information they provide. In contrast, sell-side analysts' experience following a company and the frequency of their communication with senior management are the two most important determinants of buy-side analysts' decisions to use information sell-side analysts provide.

Concerns that financial reports lack timeliness and suffer from information overload have grown in recent years (White, 2013). Despite these concerns, nearly half (48%) of the buy-side analysts indicate that the recent 10-K or 10-Q report is very useful for determining their stock recommendations. These financial reports are more useful to them than quarterly conference calls, management earnings guidance, and recent earnings performance. Buy-side analysts also believe the most important attribute of high-quality earnings is that earnings are backed by operating cash flows. When we asked about "red flags" of management effort to intentionally misrepresent financial results, many "red flags" identified by prior research received strong support, including internal control weaknesses and weak corporate governance, suggesting buy-side analysts are concerned about the integrity of financial reports.

We make several contributions to the literature. Prior research documents that buy-side analysts play an important role in institutional investment decisions (Cheng et al., 2006; Crawford et al., 2014; Frey and Herbst, 2014; Rebello and Wei, 2014). However, the determinants of buy-side analysts' stock recommendations remain unclear, so our findings represent an important step forward for the literature. Further, institutional ownership has grown from around 5% of U.S. equities in 1945 to over 67% in 2010 (Blume and Keim, 2012); thus, buy-side analysts play an increasingly important role in equity markets. We also add to the literature's limited understanding of the working relationship between buy-side and sell-side analysts. Lastly, because buy-side analysts have strong incentives to identify attributes of high-quality earnings and "red flags" of misreporting, their views about the value of financial statements and the determinants of financial reporting quality bring important insights to the literature (Nelson and Skinner, 2013).

## 2. Subject pool, survey design and delivery, interviews, and cross-sectional analyses

### 2.1. Subject pool

We used Thomson One to identify our subject pool of buy-side equity analysts.<sup>1</sup> For each firm in the S&P 100 index as of September 10, 2012, we identified the 100 institutional investment firms with the largest percentage ownership as of March

<sup>1</sup> Thomson One provides specific job titles for all employees included in its database, including portfolio manager, economist, director of research, chief investment officer, trader, head trader, executive officer, and security analyst. For our data collection, we retained only those individuals whose current title was security analyst.

31, 2013. This included a total of 450 institutional investment firms, and we collected contact information for all buy-side equity analysts affiliated with these firms in Thomson One.<sup>2</sup> We restricted our sample to analysts located in the United States or Canada to mitigate any language-related difficulties for our survey participants. In total, our subject pool includes 4,865 buy-side analysts employed by 450 institutional investment firms that are the 100 largest shareholders of at least one of the S&P 100.

For each investment firm identified by our selection process, we captured all buy-side analysts listed in Thomson One, not just those covering companies in the S&P 100. The investment firms in our subject pool exhibit considerable variation in size.<sup>3</sup> Further, these investment firms do not invest only in large-cap stocks like the S&P 100.<sup>4</sup>

## 2.2. Survey design and delivery

We designed a survey to answer fundamental questions about the activities of buy-side analysts and the determinants of their stock recommendations. In doing so, we wanted to shed light on the interactions of buy-side analysts with other capital market participants who are more commonly the subject of academic research, namely sell-side analysts and company management. After compiling an initial list of questions, several buy-side analysts reviewed our survey and suggested additional questions they deemed relevant for a buy-side audience. After several iterations, we piloted our survey with buy-side analysts who helped us gain information about the reasonableness and presentation of our questions, the functionality of the online survey platform, and the time required to complete the survey. The collective feedback we received helped us reduce the possibility that we asked unimportant questions, failed to ask fundamental questions, or designed a survey requiring too much time to complete.

Our survey contained 15 questions, many with multiple parts, followed by demographic questions. To reduce the burden on analysts, we grouped the 15 questions into three broad categories that we presented sequentially.<sup>5</sup> The first category consists of four questions about buy-side analysts' interactions with and their assessment of sell-side analysts. The second category has seven questions about buy-side analysts' interactions with company management and their portfolio managers, the inputs to their stock recommendations, and the determinants of their compensation. The final category is comprised of four questions about buy-side analysts' views of financial reporting, including signs that financial results have been misrepresented and evidence of high-quality earnings. Within each category, we randomized the order in which we presented the questions. Except when the options had a natural sequence (e.g., Never, Once a year, Twice a year), we randomized the order in which we presented each question's options.<sup>6</sup> After asking the 15 survey questions, we asked the analysts to provide demographic information.

We used qualtrics.com to deliver the survey via email on September 17, 2013. We sent reminder emails to analysts who had not completed the survey on September 26 and October 9, and we closed the survey on October 15, four weeks after our original invitation.<sup>7</sup> To encourage participation, we told our subjects we would donate \$10,000 multiplied by the response rate to our survey, and that we would allocate the total donation among four charities from which we allowed the analysts to choose.

We informed analysts that their responses would be held in strict confidence, that no individual response would be reported, and that the survey should take less than 15 minutes to complete.<sup>8</sup> We received a total of 344 responses for a response rate of 7.1%, with a completed survey from at least one analyst at 181 different investment firms (40% of the investment firms in our subject pool). Our response rate is similar to that of other finance and accounting surveys administered via email.<sup>9</sup>

## 2.3. Interviews

We asked analysts to provide their phone number if they were willing to be contacted for follow-up interviews. Fifty-seven analysts volunteered for an interview, and we conducted one-on-one phone interviews with 16 analysts in order to

<sup>2</sup> One caveat regarding our survey respondents is that the full scope of a buy-side analyst's job responsibilities can vary from firm to firm. For example, some buy-side analysts are also involved in making the actual investment decision, while others simply produce research to advise and support institutional investment choices. However, the common denominator across the buy-side analysts we surveyed is that they conduct research on companies that represent either current or prospective investments for their firms.

<sup>3</sup> The smallest (largest) investment firm in our sample managed equity assets of just \$370 million (\$1.1 trillion), with a median of \$6.96 billion. Thus, the investment firms in our subject pool reflect a wide range in equity assets under management.

<sup>4</sup> We compared the investment firms in our subject pool to those that represent the 100 largest institutional investors in 100 small-cap stocks from the Russell 2000 index. We found that 70% of the investment firms in our sample also had large investments in these small-cap stocks.

<sup>5</sup> We kept the sequence of the categories fixed in an effort to increase the response rate. Please see Section 4.2 for more detail.

<sup>6</sup> The survey questions with a natural sequence to their options are reported in Tables 7 and 9.

<sup>7</sup> We use the Kolmogorov-Smirnov test (untabulated) to compare the distribution of demographic characteristics between analysts who responded to the survey early (i.e., before we sent the first reminder email) versus late (i.e., after we sent the first reminder email). We cannot reject the null hypothesis of equal distributions for any demographic characteristic, suggesting both groups of analysts are similar.

<sup>8</sup> Excluding 25 analysts who took more than one hour to complete the survey, likely because of interruptions at work, the mean (median) time the analysts took to complete the survey was 13.4 (11.0) minutes.

<sup>9</sup> Dichev et al. (2013) report a response rate of 5.4%, Graham and Harvey (2001) report a response rate of 8.8%, and on the portion of their surveys delivered via email, Graham et al. (2005) and Brav et al. (2005) report response rates of 8.4% and 7.7%, respectively.

obtain additional insights beyond those contained within the responses to the survey.<sup>10</sup> Prior to conducting the interviews, we created a list of questions we knew we wanted to ask; others were follow-up questions based on the aggregated survey results. Due to time constraints, we did not ask each question on our list to every analyst; however, over the course of the interviews, multiple analysts addressed each question. We used a semi-structured interview protocol, wherein we asked open-ended questions and allowed the analysts to elaborate as they saw fit. We sought to interview a diverse set of analysts that reflected the demographic characteristics of our full sample; so we interviewed male and female analysts, analysts with varying levels of experience on both the buy side and sell side, analysts with different investment horizons, and those employed by institutions of various sizes.<sup>11,12</sup> Consistent with the recommendations of Malsch and Salterio (2016), we stopped interviewing additional analysts when we felt each successive interview was simply reinforcing the same ideas and themes other analysts had already shared.

#### 2.4. Cross-sectional analyses

We explore cross-sectional variation in survey responses based on analyst demographic information and other characteristics. While the existing literature on buy-side analysts is limited, there is a long literature about the effects of various attributes of sell-side analysts on sell-side research, including the number of industries and firms covered (Clement, 1999), gender (Fang and Huang, 2015; Kumar, 2010), experience (Mikhail et al., 2003), and employer size (Clement and Tse, 2005). We examine how these and other demographic characteristics affect the views and practices of buy-side analysts.

For each survey question, we regress analysts' responses (which usually range from 0 to 6) on 15 characteristics, as follows:

$$\begin{aligned} \text{Survey response} = & \beta_0 + \beta_1 HF + \beta_2 \text{Horizon} + \beta_3 N\_Ind + \beta_4 N\_Firms + \beta_5 \text{Age} \\ & + \beta_6 \text{Gender} + \beta_7 \text{Acct} + \beta_8 \text{MBA} + \beta_9 \text{CFA} + \beta_{10} \text{BS\_Exp} + \beta_{11} \text{SS\_Exp} + \beta_{12} \text{Tenure} \\ & + \beta_{13} \text{Size} + \beta_{14} \text{SS\_Contact} + \beta_{15} \text{CEO\_Contact} + \Sigma \text{Primary industry} + \epsilon \end{aligned} \quad (1)$$

where *Survey Response* is the analyst's response to the survey question being examined. We formally define the independent variables in the Appendix A.

We obtain values of the first 13 independent variables (*HF*, *Horizon*, *N\_Ind*, *N\_Firms*, *Age*, *Gender*, *Acct*, *MBA*, *CFA*, *BS\_Exp*, *SS\_Exp*, *Tenure*, and *Size*) from the demographic questions we posed in the survey (see Table 1). These characteristics represent analysts who work for hedge funds (*HF*), the analyst's investment horizon (*Horizon*), the number of industries (*N\_Ind*) and firms (*N\_Firms*) the analyst follows, the analyst's age (*Age*), gender (*Gender*), education (*Acct*, *MBA*), professional certification (*CFA*), and years of experience on the buy side (*BS\_Exp*) and sell side (*SS\_Exp*), tenure with employer (*Tenure*) and size of employer (*Size*). The final two variables (*SS\_Contact* and *CEO\_Contact*) are based on each analyst's response to the survey questions about the frequency of their private communication with sell-side analysts and CEOs/CFOs, respectively.

For brevity, we do not tabulate the results of our cross-sectional analyses. We also limit our discussion of cross-sectional findings in the following sections to those that are significant at the 5% level or better, briefly summarizing the findings we consider most interesting. Detailed results from all cross-sectional analyses are available in an online Appendix A.

### 3. Empirical results, interview responses, and cross-sectional findings

After presenting demographic characteristics of the survey respondents, we present survey results organized into four sections. These sections address (i) the incentives buy-side analysts face and the determinants of their stock recommendations; (ii) their interactions with sell-side analysts; (iii) their interactions with company management; and (iv) their assessments of financial reporting quality. Collectively, our findings facilitate a better understanding of the factors that influence buy-side analysts' research.

Most tables have four columns. Column 1 presents the average ratings in descending order. We also test whether the average rating for a given item exceeds the average rating of the other items listed below it in the table, and in Column 2, we report the rows corresponding to a significant difference at the 5% level, based on Bonferroni–Holm-adjusted *p*-values. Columns 3 and 4 report the percentage of respondents who rate each item near the top (5 or 6) and bottom (0 or 1) of the 7-point scale, respectively.<sup>13</sup>

<sup>10</sup> The demographics of the 57 analysts who volunteered to participate in a follow-up interview are similar to those who did not volunteer, with the exception that the analysts who volunteered are somewhat more (less) likely to cover the consumer discretionary (financial) industry and are more likely to have prior experience on the sell side.

<sup>11</sup> The 16 analysts we interviewed follow seven of the ten "primary" industries listed in Table 1; they have a median of 7–9 years of experience as buy-side analysts and 4–6 years at their current employer; their median investment horizon is 1–3 years; they follow a median of 26–50 companies; they work for employers with a median size of 11–25 buy-side analysts; 38% have previous experience as sell-side analysts; and two are female.

<sup>12</sup> With permission from the buy-side analysts, we made audio recordings of all 16 interviews (average length was 43 minutes and 32 seconds).

<sup>13</sup> We asked three survey questions that, for parsimony, we tabulate in an online Appendix A: (1) How often do you purposefully withhold information from your portfolio manager for the following reasons? (2) When you have private communication with sell-side analysts, how often are you trying to influence their opinion of a stock? (3) When forecasting a firm's earnings, how often do you exclude the following components of GAAP earnings from your forecast?

**Table 1**  
Demographic characteristics of survey respondents ( $n=344$ ).

| <b>Employer</b>                              | <b>%</b> | <b>Gender</b>                                  | <b>%</b> |
|--|----------|--|----------|
| Hedge fund                                   | 17.94    | Female   | 11.24    |
| Mutual fund                                  | 59.41    | Male   | 88.76    |
| Defined-benefit pension fund                 | 7.06     |  |          |
| Insurance firm                               | 2.35     | <b>Education</b>                               |          |
| Retail brokerage firm                        | 0.00     | Bachelor's degree in accounting                | 8.82     |
| Endowment or foundation                      | 0.88     | Bachelor's degree in business                  | 13.24    |
| Other  | 12.35    | Bachelor's degree in economics                 | 21.76    |
|  |          | Bachelor's degree in finance                   | 21.47    |
|  |          | Other bachelor's degree                        |          |
| <b>Investment horizon</b>                    |          | MBA  | 26.47    |
| < 1 month                                    | 0.58     | Other master's degree                          | 57.65    |
| 1–6 months                                   | 3.80     | Ph.D.  | 12.65    |
| 7–12 months                                  | 14.04    |  | 1.76     |
| 1–3 years                                    | 54.09    | <b>Certifications</b>                          |          |
| 3+ years                                     | 27.49    | Chartered Financial Analyst                    | 56.47    |
|  |          | Certified Public Accountant                    |          |
| <b>Primary industry</b>                      |          | Chartered Accountant                           | 7.94     |
| Consumer Discretionary                       | 14.71    | Certified Management Accountant                | 0.29     |
| Consumer Staples                             | 6.61     |  | 0.29     |
| Energy                                       | 11.71    |  |          |
| Financials                                   | 18.32    | <b>Years as a buy-side analyst</b>             |          |
| Health Care                                  | 9.31     | < 1 year                                       | 1.77     |
| Industrials                                  | 17.72    | 1–3 years                                      | 23.30    |
| Information Technology                       | 14.11    | 4–6 years                                      | 22.12    |
| Materials                                    | 3.90     | 7–9 years                                      | 24.48    |
| Telecommunication Services                   | 1.80     | 10+ years                                      | 28.32    |
| Utilities                                    | 1.80     |  |          |
|  |          | <b>Prior experience as a sell-side analyst</b> |          |
| <b>Number of industries actively covered</b> |          | None   |          |
| 1  | 20.36    | < 1 year                                       | 70.24    |
| 2  | 27.25    | 1–3 years                                      | 3.27     |
| 3  | 15.27    | 4–6 years                                      | 10.12    |
| 4+   | 37.13    | 7–9 years                                      | 11.01    |
|  |          | 10+ years                                      | 2.68     |
|  |          |  | 2.68     |
| <b>Number of firms actively covered</b>      |          | <b>Years at current employer</b>               |          |
| 1–5  | 1.19     | < 1 year                                       |          |
| 6–10   | 2.69     | 1–3 years                                      |          |
| 11–25  | 24.18    | 4–6 years                                      | 4.40     |
| 26–50  | 37.91    | 7–9 years                                      | 32.55    |
| 51–99  | 18.81    | 10+ years                                      | 22.87    |
| 100+   | 15.22    |  | 23.75    |
|  |          | <b>Size of current employer</b>                | 16.42    |
| <b>Age</b>                                   |          | 1–5 buy-side analysts                          |          |
| < 30   | 15.84    | 6–10 buy-side analysts                         | 7.08     |
| 30–39  | 52.20    | 11–25 buy-side analysts                        | 19.17    |
| 40–49  | 23.75    | 26–50 buy-side analysts                        | 35.40    |
| 50–59  | 6.16     | 51–99 buy-side analysts                        | 17.70    |
| 60+  | 2.05     | 100+ buy-side analysts                         | 6.49     |
|  |          |  | 14.16    |

### 3.1. Demographics (Table 1)

The participating analysts have diverse backgrounds. Table 1 reveals that nearly 60% are employed by mutual funds, and 18% are employed by hedge funds. None of our survey respondents works for a retail brokerage firm, and very few work for endowments, foundations or insurance firms. More than 80% have an investment horizon of over one year, and 27% have an investment horizon of over three years.<sup>14</sup> The most commonly reported “primary” industries are financials (18%), industrials (18%), consumer discretionary (15%), information technology (14%) and energy (12%).

<sup>14</sup> Most sell-side firms make their stock recommendations and target-price forecasts for a 12-month horizon (Bradshaw et al., 2013).

**Table 2**

Survey responses to the question: how important are the following to your compensation?

| Responses   | Average rating | Significantly greater than | % of Respondents who answered |                        |
|---|----------------|----------------------------|-------------------------------|------------------------|
|   |                |                            | Very important (5 or 6)       | Not important (0 or 1) |
| (1) Your stock recommendations  | 5.24           | 2–6                        | 82.80                         | 2.92                   |
| (2) Your professional integrity   | 4.84           | 3–6                        | 67.44                         | 3.78                   |
| (3) Your accessibility and/or responsiveness to your portfolio manager  | 4.57           | 5–6                        | 61.92                         | 6.98                   |
| (4) Your industry knowledge   | 4.45           | 5–6                        | 58.31                         | 6.41                   |
| (5) Your earnings forecasts   | 2.52           | 6                          | 15.79                         | 32.75                  |
| (6) Your relationship with senior management of the companies you cover | 2.11           | –                          | 10.17                         | 41.28                  |
| Total possible N=344  |                |                            |                               |                        |

Column 1 reports the average rating, where higher values correspond to greater importance. Column 2 reports the results of *t*-tests of the null hypothesis that the average rating for a given item is the same as the average rating of the other items below it. We report the rows for which the average rating significantly exceeds the average rating of the corresponding items at the 5% level, and use Bonferroni–Holm-adjusted *p*-values to correct for multiple comparisons. Column 3 (4) presents the percentage of respondents indicating usefulness of 5 or 6 (0 or 1).

Nearly 80% of buy-side analysts cover more than one industry and over a third cover at least four industries. The median analyst covers between 26 and 50 firms, and 15% cover more than 100 firms. Most analysts are in their thirties, and an overwhelming majority (89%) are male. About 58% have an MBA degree and 56% have the CFA certification. More than half have at least seven years of experience as a buy-side analyst, and about 30% have experience as a sell-side analyst. The median length of service with their current employer is 4–6 years, and the median size of their employer is 11–25 buy-side analysts.

For comparative purposes, we highlight some of the main differences between the buy-side analysts we survey and the sell-side analysts [Brown et al. \(2015\)](#) surveyed. Buy-side analysts have a broader focus, whereas sell-side analysts are more specialized. For example, approximately 80% (50%) of buy-side (sell-side) analysts follow two or more industries, and approximately 72% (9%) follow more than 25 companies. Buy-side analysts are better trained in accounting and finance than sell-side analysts, and they are more likely to have an MBA degree (58% versus 45%) and/or a CFA certification (56% versus 35%).<sup>15</sup>

### 3.2. Incentives and determinants of stock recommendations

Buy-side analysts provide stock recommendations to their portfolio managers, and these stock recommendations are an important basis for institutional investment decisions ([Cheng et al., 2006](#); [Frey and Herbst, 2014](#); [Rebello and Wei, 2014](#)). Given the role of buy-side stock recommendations in institutions' resource allocation decisions, along with the economic significance of institutional holdings, we seek to better understand the incentives buy-side analysts face when issuing their stock recommendations, their motivation for making profitable stock recommendations, and the information they use when generating these recommendations.

#### 3.2.1. How important are the following to your compensation? (Table 2)

Buy-side analysts' stock recommendations are the single most important determinant of their compensation, suggesting their primary goal is to help their portfolio managers generate alpha. Nearly 83% of respondents say their stock recommendations are very important to their compensation, whereas only 3% say they are not important. This finding underscores a fundamental difference between buy-side and sell-side analysts: while 83% of buy-side analysts indicate their stock recommendations are a very important determinant of their compensation, only 35% of sell-side analysts say the same about their own stock recommendations ([Brown et al., 2015](#)). This finding highlights the notion that sell-side analysts have comparatively weak financial incentives to produce profitable stock recommendations.<sup>16</sup>

In our interviews, one analyst said, "Alpha is 90% or maybe 80% of [compensation]. The rest would be a relatively small portion. For example, operating as a cohesive team is important." Another analyst underscored the importance of stock recommendations by saying, "Alpha is it. That's it." Finally, a different analyst said, "I know it (alpha) well and track it daily."

Relationships with senior management of the companies they cover is the least important determinant of buy-side analysts' compensation. This result is in stark contrast to the importance of relationships with management to sell-side compensation ([Brown et al., 2015](#)). And in contrast to the importance of their stock recommendations, twice as many buy-

<sup>15</sup> We provide a correlation table for these demographic variables in an online [Appendix A](#).

<sup>16</sup> As an example of how to interpret the column labeled "Significantly Greater Than," the average rating for "your accessibility and/or responsiveness to your portfolio manager" is not significantly greater than the item reported in row 4, but is significantly greater than the items listed in rows 5 and 6.

**Table 3**

Survey responses to the question: how important are the following in motivating you to make profitable stock recommendations?

| Responses  | Average rating | Significantly greater than | % of Respondents who answered |                        |
|--|----------------|----------------------------|-------------------------------|------------------------|
|  |                |                            | Very important (5 or 6)       | Not important (0 or 1) |
| (1) Your compensation  | 4.73           | 2–5                        | 68.73                         | 7.96                   |
| (2) Your job security  | 4.15           | 3–5                        | 52.51                         | 12.39                  |
| (3) Your standing in internal ratings                              | 3.25           | 4–5                        | 37.57                         | 28.70                  |
| (4) Your job mobility  | 2.75           | –                          | 24.26                         | 31.07                  |
| (5) The size of your portfolio manager's investment in the company | 2.61           | –                          | 24.85                         | 36.39                  |
| Total possible $N=339$   |                |                            |                               |                        |

Column 1 reports the average rating, where higher values correspond to greater importance. Column 2 reports the results of  $t$ -tests of the null hypothesis that the average rating for a given item is the same as the average rating of the other items below it. We report the rows for which the average rating significantly exceeds the average rating of the corresponding items at the 5% level, and use Bonferroni–Holm-adjusted  $p$ -values to correct for multiple comparisons. Column 3 (4) presents the percentage of respondents indicating usefulness of 5 or 6 (0 or 1).

side analysts say their earnings forecasts are not important for their compensation as say they are very important for this purpose.

### 3.2.2. How important are the following in motivating you to make profitable stock recommendations? (Table 3)

Because their stock recommendations are such an important determinant of buy-side analysts' compensation (Table 2), it is not surprising that their most important motivation for making profitable stock recommendations is their compensation (69% say this is a very important motivation). Most respondents say job security is a very important motivator (53%), while only 24% say the same about job mobility.

Only 25% of respondents say the size of their portfolio manager's investment in the company is a very important motivation for issuing profitable stock recommendations. One analyst shed light on this issue: “If [your investment thesis] is liked and everyone thinks it's a good idea, it gets approved and then multiple portfolios and multiple portfolio managers get to buy it. So as an analyst, you're not motivated by [the size of a portfolio manager's investment] because you have no clue [about the size of the investment]. At the end of the day, we run really diversified portfolios, so there's not going to be a position that's going to be 15% or 20% in somebody's book. It just doesn't happen.”

### 3.2.3. How useful are the following for determining your stock recommendations? (Table 4)

Buy-side analysts indicate their industry knowledge is the most useful determinant of their stock recommendations. When asked to explain industry knowledge as an input to their stock recommendations, one analyst said, “Industry knowledge just means if you're invested in the supermarket industry, you know about all the players...you know about the supply chain, you know about how the model is distributed, how the warehouses generally affect the distribution of goods and services, what the margins are in the industry, what labor is, how those things leverage...just knowing it across a broad spectrum of companies.” Another analyst said, “It's basically how the companies compete, what they do to differentiate themselves.”

Primary research is the second most useful input to buy-side stock recommendations. We asked analysts for insights about the process of conducting primary research. One analyst explained, “It's visiting the company. The channel checks are really important. In my space...I spend time talking to physicians, I send out surveys...I can spend tens or hundreds of thousands of dollars on primary research if it's for a big enough position.” Another analyst described primary research this way: “Last week, I was in Houston doing a facility tour for one of our companies...They took us around one of the facilities they had recently acquired and it was very useful to hear the guys in this facility talking about the sorts of real and demonstrable change that had taken place in the roughly six months since the facility had been acquired. There was a real focus on lean manufacturing techniques.”

Despite concerns that financial reports lack timeliness and increasingly suffer from information overload (White, 2013), nearly half (48%) of our surveyed buy-side analysts state that the recent 10-K or 10-Q filing is a very useful determinant of their stock recommendations. Indeed, analysts indicate the recent 10-K or 10-Q is more useful than quarterly conference calls, management earnings guidance, and recent earnings performance. Regarding the value of the 10-K report, one analyst stated, “It's essential. I go through the numbers and really scrutinize the company to get comfortable with the quality of earnings...I'll sit down with the most recent 10-K and the prior year's 10-K and put them side by side and look for material changes and just try to understand where there are points of inconsistency or elements that aren't clear. That allows me to understand better where I need to drill down for an understanding.” Another analyst said, “The most useful parts are management discussion and analysis and the accounting estimates and disclosures that they're forced to give out and detail their assumptions that go into the different accounting methods.”

**Table 4**

Survey responses to the question: how useful are the following for determining your stock recommendations?

| Responses  | Average rating | Significantly greater than | % of Respondents who answered |                     |
|--|----------------|----------------------------|-------------------------------|---------------------|
|  |                |                            | Very useful (5 or 6)          | Not useful (0 or 1) |
| (1) Your industry knowledge  | 5.04           | 2–11                       | 72.06                         | 0.59                |
| (2) Primary research (e.g., company or plant visits, channel checks) | 4.66           | 3–11                       | 63.74                         | 4.39                |
| (3) Your earnings forecasts  | 4.39           | 6–11                       | 54.84                         | 6.16                |
| (4) Recent 10-K or 10-Q  | 4.23           | 6–11                       | 47.95                         | 4.68                |
| (5) Private communication with senior management                     | 4.18           | 7–11                       | 47.94                         | 7.94                |
| (6) Quarterly conference calls                                       | 3.93           | 7–11                       | 34.32                         | 4.44                |
| (7) Management earnings guidance                                     | 3.52           | 9–11                       | 20.82                         | 8.50                |
| (8) Recent earnings performance                                      | 3.39           | 9–11                       | 23.24                         | 12.06               |
| (9) Information provided by sell-side analysts                       | 2.99           | 10–11                      | 8.77                          | 14.33               |
| (10) Information provided by expert networks                         | 2.41           | 11                         | 17.89                         | 40.47               |
| (11) Past stock price and/or volume patterns                         | 1.98           | –                          | 10.26                         | 47.21               |
| Total possible N=342   |                |                            |                               |                     |

Column 1 reports the average rating, where higher values correspond to greater usefulness. Column 2 reports the results of *t*-tests of the null hypothesis that the average rating for a given item is the same as the average rating of the other items below it. We report the rows for which the average rating significantly exceeds the average rating of the corresponding items at the 5% level, and use Bonferroni–Holm-adjusted *p*-values to correct for multiple comparisons. Column 3 (4) presents the percentage of respondents indicating usefulness of 5 or 6 (0 or 1).

**Table 5**

Survey responses to the question: how often do you use the following valuation models to support your stock recommendation?

| Responses   | Average rating | Significantly greater than | % of Respondents who answered |                            |
|---|----------------|----------------------------|-------------------------------|----------------------------|
|   |                |                            | Very frequently (5 or 6)      | Very infrequently (0 or 1) |
| (1) Intrinsic value model (e.g., cash flow model, dividend discount model, residual income model) | 4.34           | 2–6                        | 58.60                         | 11.95                      |
| (2) A proprietary model   | 3.97           | 3–6                        | 55.72                         | 18.77                      |
| (3) Price/earnings (P/E) or price/earnings growth (PEG) model                                     | 3.43           | 4–6                        | 37.43                         | 20.76                      |
| (4) A model based on earnings momentum or earnings surprises                                      | 1.44           | 6                          | 9.36                          | 62.87                      |
| (5) Economic value added (EVA) model  | 1.42           | 6                          | 7.92                          | 63.64                      |
| (6) A model based on stock price or volume patterns   | 0.83           | –                          | 3.79                          | 80.76                      |
| Total possible N = 343  |                |                            |                               |                            |

Column 1 reports the average rating, where higher values correspond to a greater frequency. Column 2 reports the results of *t*-tests of the null hypothesis that the average rating for a given item is the same as the average rating of the other items below it. We report the rows for which the average rating significantly exceeds the average rating of the corresponding items at the 5% level, and use Bonferroni–Holm-adjusted *p*-values to correct for multiple comparisons. Column 3 (4) presents the percentage of respondents indicating usefulness of 5 or 6 (0 or 1).

Buy-side analysts indicate that information provided by sell-side analysts is not among the most useful inputs to their stock recommendations. However, this result should not be interpreted to mean that sell-side analysts do not play an important role in shaping buy-side research because, as we discuss below (see [Section 3.3.1](#)), buy-side analysts report that sell-side analysts are a very important source of industry knowledge and management access, both of which are important inputs to buy-side analysts' stock recommendations.<sup>17</sup>

Although male analysts tend to reap higher benefits from social connections with corporate boards ([Fang and Huang, 2015](#)), our cross-sectional evidence reveals that female analysts are more likely to indicate that private communication with senior management is a useful source of information. Further, experienced analysts find management earnings guidance to be less useful than do less-experienced analysts.

### 3.2.4. How often do you use the following valuation models to support your stock recommendation? (Table 5)

Buy-side analysts use relatively sophisticated valuation models. Intrinsic value models and proprietary models received the highest ratings (the majority say they use these models very frequently). Fewer than 38% of buy-side analysts indicate that they very frequently use a price-earnings (P/E) or price-earnings-growth (PEG) model, whereas more than 60% of sell-

<sup>17</sup> In fact, some prior research suggests sell-side analysts' recommendations are superior to buy-side recommendations ([Groysberg et al., 2008, 2013](#)).



**Table 6**

Survey responses to the question: how useful to you are the following services provided by sell-side analysts?

| Responses   | Average rating | Significantly greater than | % of Respondents who answered |                     |
|---|----------------|----------------------------|-------------------------------|---------------------|
|   |                |                            | Very useful (5 or 6)          | Not useful (0 or 1) |
| (1) Industry knowledge                                    | 5.04           | 2–8                        | 72.51                         | 0.88                |
| (2) Management access                                     | 4.70           | 3–8                        | 66.67                         | 5.26                |
| (3) Calls and visits you initiate with sell-side analysts | 3.91           | 5–8                        | 12.28                         | 7.60                |
| (4) Written reports                                       | 3.76           | 5–8                        | 26.82                         | 3.50                |
| (5) Knowledge of other investors' opinions or holdings    | 3.43           | 6–8                        | 11.70                         | 16.37               |
| (6) Calls and visits sell-side analysts initiate with you | 2.71           | 8                          | 11.50                         | 22.42               |
| (7) Earnings forecasts                                    | 2.67           | 8                          | 11.44                         | 23.46               |
| (8) Stock recommendations                                 | 1.76           | –                          | 2.35                          | 46.63               |
| Total possible N = 343                                    |                |                            |                               |                     |

Column 1 reports the average rating, where higher values correspond to greater usefulness. Column 2 reports the results of *t*-tests of the null hypothesis that the average rating for a given item is the same as the average rating of the other items below it. We report the rows for which the average rating significantly exceeds the average rating of the corresponding items at the 5% level, and use Bonferroni–Holm-adjusted *p*-values to correct for multiple comparisons. Column 3 (4) presents the percentage of respondents indicating usefulness of 5 or 6 (0 or 1).

side analysts very frequently rely on these relatively simplistic models (Brown et al., 2015). These differences may help explain why buy-side analysts place very little value on sell-side stock recommendations.

When we asked analysts to provide additional insights on proprietary models, one said, “When people say that they’re using a proprietary model, it’s some variation of a cash-flow or a DDM or some sort of earnings or cash flow model that they want to make it sound like there’s a lot more to it than just forecasting cash flows...The part that becomes proprietary is in coming up with your discount rates, and various firms will use all sorts of different ways to come up with a discount rate for a company...How we come up with the discount rates for each is a trade secret.” Another analyst summed it up by saying, “It’s like a fraternity handshake. Everybody has their own proprietary handshake, but in the end, probably 80% of them are the same.”

### 3.3. Interaction with sell-side analysts

A long line of academic research in accounting and finance examines the role of sell-side analysts in analyzing, interpreting, and disseminating information to capital market participants. This research typically focuses on the impact of sell-side research on investors, managers, and sell-side analysts themselves (Beyer et al., 2010; Healy and Palepu, 2001). Although buy-side analysts are among the primary consumers of sell-side research, little is known about the frequency and nature of their interactions with sell-side analysts.

#### 3.3.1. How useful to you are the following services provided by sell-side analysts? (Table 6)

Although II routinely asks a similar question of buy-side analysts and their portfolio managers, we asked this question to the analysts we surveyed for several reasons. First, we hoped to enhance our study’s external validity by showing that our respondents are representative of the buy-side professionals who participate in the II survey. Second, we wanted to ask about some services sell-side analysts provide that are not typically included in the II survey.<sup>18</sup> Third, II provides only the rank ordering of the usefulness of the various services sell-side analysts provide. Our survey question allows for more granularity because we can observe the “distance” between various items in the survey.

Consistent with the II survey results, industry knowledge is the highest-rated service sell-side analysts provide, access to management rates very highly, and sell-side analysts’ earnings forecasts and stock recommendations are not considered very useful. In fact, less than 3% of buy-side analysts indicate that sell-side stock recommendations are a very useful input to their own stock recommendations.

In our interviews, many analysts stated sell-side analysts’ industry knowledge is especially valuable when initiating coverage of a firm or an industry. One said, “These guys have been covering the space for 10 years or maybe longer, and they have 10 years of data all compiled nicely in an Excel spreadsheet. So it’s not worth my time to go try to track down this industry data...So there is a role they play in terms of getting us up to speed quickly.” Another analyst said sell-side analysts typically “have a really good understanding of what has historically driven the industry, [the] structural changes happening now, how long will those last, that kind of stuff...That’s the kind of industry knowledge most of us would utilize.” One analyst emphasized, however, that relying on the sell-side’s industry knowledge can only take a buy-side analyst so far. He said, “I think they’re pretty good at helping you ramp up quickly, but at the end of the day it takes time and it’s a constantly moving target, so it’s a learning-forever kind of thing.”

<sup>18</sup> For example, the II survey published in October 2012 referenced just five sell-side services: accessibility and responsiveness, earnings estimates, industry knowledge, management access, and stock recommendations.

**Table 7**

Survey responses to the question: how often do you have private communication with sell-side analysts in the primary industry you cover?

|     | Responses               | % of Respondents Who Answered |
|-----|-------------------------|-------------------------------|
| (1) | Never                   | 3.79                          |
| (2) | 1–3 times a year        | 7.00                          |
| (3) | 4–6 times a year        | 9.91                          |
| (4) | 7–11 times a year       | 11.08                         |
| (5) | 12–23 times a year      | 13.12                         |
| (6) | 24 or more times a year | 55.10                         |
|     | Total N = 343           |                               |

Analysts also described the valuable role of sell-side analysts in arranging contact with senior management. One said sell-side analysts arrange “the lion’s share” of his contact with senior management; another estimated the sell side arranges 75% of his contact with senior management, but no more than 25% of his contact with investor relations personnel. Another added, “There’s only one of me and there’s a lot of companies. So it’s hard to build a relationship where I’m so close that I could just call [management] on the phone...I’ll use the sell-side who’s going to have a much better relationship to say, ‘Hey, can we have a one-hour call with your CFO?’ And they can set that up no problem.”

Some buy-side analysts explained that conflicts of interest reduce the value of sell-side stock recommendations (Michaely and Womack, 1999). One analyst said, “When they have their investment banking units targeting some of these same companies for services, as much as there’s supposed to be a wall, I’m not sure it fully exists...I think there are higher-ups that may skew who they can really put a sell on.” Consistent with the observation that buy-side analysts have “skin in the game,” another analyst commented, “I am far more incentivized as a buy-side analyst to be right on a stock recommendation, because I will make or break my career based on my stock recommendations, whereas my sell-side counterpart is...more focused on making sure he gets the management access so that he can host a meeting for 25 investors so that he can get broker votes and Institutional Investor rankings.” One analyst added, “I disregard buy, sell, and hold ratings. They’re useless. I completely ignore them...The only reason that has any value at all is it could create an opportunity. It could move the stock. If it’s something that we like, and some knucklehead in New York that’s never been out of his office in six months decides he wants to downgrade it to a hold, I could potentially be in there buying it because of that.” Finally, one analyst added, “Having known others who’ve worked on the sell side, you kind of know what goes into their recommendations. You realize it’s less about making money and a lot about politics.”

These findings and the associated interview feedback underscore a major theme of this study. Specifically, we find that the primary determinant of buy-side analysts’ compensation is their stock recommendations (Table 2), that their industry knowledge is the most important determinant of their stock recommendations (Table 4), and that sell-side analysts are an important source of their industry knowledge. Further, private communication with senior management is a useful input to buy-side analysts’ stock recommendations (Table 4), and sell-side analysts play an important role in facilitating buy-side analysts’ access to management. Collectively, our findings suggest buy-side analysts rely on sell-side analysts for raw inputs (e.g., industry knowledge, insights from management) into their own models, but they do not look to sell-side analysts for help in translating those inputs into a final stock recommendation.

Knowledge about other investors’ opinions or holdings is another sell-side service some buy-side analysts value. On this issue, one analyst said, “Even if I don’t agree with my sell-side counterparts, I still need to figure out what they’re thinking because they are the only portal into what my other [buy-side] peers are thinking...I want to find out what they’re hearing, what’s the drumbeat, what’s the chatter on the Street?” Similarly, another analyst said, “The buy side is this whole poker game of, ‘I don’t want to show my cards, but I want to see your cards.’ The only people that can actually see everyone’s cards is the sell side. When we ask them questions, they can figure out what we’re thinking.”

Our cross-sectional evidence reveals that analysts working for large investment firms are less likely to consider sell-side analysts a useful source of management access, and that sell-side analysts’ stock recommendations are more useful to buy-side analysts with short investment horizons, perhaps because sell-side analysts’ forecast revisions and stock recommendations are associated with short-term price movements (Elton et al., 1982; Womack, 1996). In contrast, sell-side analysts’ stock recommendations are less useful to buy-side analysts with long investment horizons, likely because sell-side analysts generally have a relatively short-term focus. The fact that many buy-side analysts have a longer investment horizon than do sell-side analysts, combined with sell-side analysts’ conflicts of interest (Dugar and Nathan, 1995; Michaely and Womack, 1999) may explain why buy-side analysts do not rely on sell-side analysts for summary assessments of the firms they cover (e.g., earnings forecasts, stock recommendations), and instead seek specific pieces of information (e.g., industry knowledge, information gleaned from company management) from the sell side when formulating their own stock recommendations.

### 3.3.2. How often do you have private communication with sell-side analysts in the primary industry you cover? (Table 7)

Buy-side analysts communicate frequently with the sell side, with more than 96% having private communication with sell-side analysts at least once a year. Indeed, the majority (55%) have such contact at least 24 times a year. When asked why they communicate with sell-side analysts, one buy-side analyst said, “Basically it’s a couple of things. One, if I need a meeting with a management team they follow closely...But typically it’s data, very industry-specific data, because they will

**Table 8**

Survey responses to the question: how important are the following attributes of a sell-side analyst in your decision to use information he or she provides?

| Responses  | Average rating | Significantly greater than | % of Respondents who answered |                        |
|--|----------------|----------------------------|-------------------------------|------------------------|
|  |                |                            | Very important (5 or 6)       | Not important (0 or 1) |
| (1) The analyst has considerable experience following companies you cover              | 5.04           | 2–5                        | 74.85                         | 0.88                   |
| (2) The analyst speaks often with senior management of the companies he or she follows | 4.64           | 3–5                        | 62.97                         | 3.79                   |
| (3) The analyst works for an independent research firm                                 | 2.02           | 4–5                        | 7.89                          | 42.98                  |
| (4) The analyst works for a large brokerage house                                      | 1.45           | 5                          | 2.63                          | 57.89                  |
| (5) The analyst is a member of Institutional Investor's All-American Research Team     | 1.18           | –                          | 2.62                          | 68.22                  |
| Total possible N=343   |                |                            |                               |                        |

Column 1 reports the average rating, where higher values correspond to greater importance. Column 2 reports the results of *t*-tests of the null hypothesis that the average rating for a given item is the same as the average rating of the other items below it. We report the rows for which the average rating significantly exceeds the average rating of the corresponding items at the 5% level, and use Bonferroni–Holm-adjusted *p*-values to correct for multiple comparisons. Column 3 (4) presents the percentage of respondents indicating usefulness of 5 or 6 (0 or 1).

typically have much more access to data sources that are extremely expensive and just wouldn't make sense for us to buy on our own. So we'll contact them to see if they have data from one of those sources." Another analyst told us, "We always try to do a call with an analyst who likes the [company] and has a buy on it; and we also do a call with an analyst who is bearish on the company and has an under-perform or a sell on that company. So we get both sides, and then we can make up our own mind in terms of what we think is good or bad about the company and whether or not to buy it."

Regarding the value of communication with sell-side analysts, one analyst said, "I think of them as an extension of my own team. There are 240 names in my benchmark globally, and there's absolutely no chance that we could ever, in one year, go and visit every single company. The sell-side will cover 10 names, or 12 names, or 9 names, and they will have multiple visits with the company throughout the year." Another analyst said, "In one call, I can get what's happened over the last five years...A sell-side analyst can provide you with some history about an industry, about a company, and it's helpful to look at the rearview mirror in deciding what that industry will look like going forward."

Buy-side analysts believe sell-side analysts have a deeper understanding of most companies. One analyst said, "The clear advantage of the sell-side is that they carry a different workload—their scope is very narrow in terms of the number of companies. Therefore, they know those companies much more deeply." Another described the sell-side as "a foot wide and a mile deep," and the buy-side as "a foot deep and a mile wide."

### 3.3.3. How important are the following attributes of a sell-side analyst in your decision to use information he or she provides? (Table 8)

The two most important attributes of sell-side analysts in buy-side analysts' decisions to use the information they provide are their experience in following companies of interest and the frequency with which the sell-side analyst speaks with senior management of the company in question. In contrast, while prior studies emphasize II's annual All-America Research Team rankings (e.g., Asquith et al., 2005; Leone and Wu, 2007; Rees et al., 2015; Stickel, 1992), less than 3% of buy-side analysts say II All-Star status is a very important consideration. Further, less than 3% of respondents indicate that whether the sell-side analyst works for a large brokerage house is very important.

One analyst indicated that his decision to use information provided by sell-side analysts is affected by how far the sell-side analyst is from the consensus, consistent with bold forecasts reflecting more private information (Clement and Tse, 2005). One analyst said, "For me, when there's an analyst that goes way out of bounds on an earnings estimate, it takes guts to do that for them. So that's a sign to me that's somebody I should be paying attention to. It's the same way with the recommendation. If everybody loves the company and somebody comes out 'sell,' to me that is very interesting." Regarding analysts who step outside the consensus, another analyst said, "That, to me, shows some bravery. The difficulty with the sell-side model is you don't want to lose management access, you don't want to piss off management, and you don't want to piss off clients. So you have to stay very tightly clustered around management numbers so you can straddle clients on both sides."

When we asked why the buy-side places so little importance on a sell-side analyst being ranked as an II All-Star, one analyst responded, "Through interactions with particular analysts, I know who's good and who's bad...so I'm thinking about my personal experience, not what II says." Another analyst said, "We don't care about II. The only people who care about it are the sell-side analysts, because for some reason their firms think if they have an II-ranked analyst, they should get paid more and get a bigger bonus. But it doesn't matter to me...either you had the right call or you didn't, either you knew what you were talking about or you didn't." Another analyst said, "It's a complete waste of my time. It has become so onerous that it takes multiple hours to enter all the information that II wants, and at the end of the day, I couldn't care less who's ranked

**Table 9**

Survey responses to the question: how often do you have private communication with a CEO or CFO in the primary industry you cover?

|     | Responses               | % of respondents who answered |
|-----|-------------------------|-------------------------------|
| (1) | Never                   | 5.26                          |
| (2) | 1–3 times a year        | 15.79                         |
| (3) | 4–6 times a year        | 11.11                         |
| (4) | 7–11 times a year       | 12.87                         |
| (5) | 12–23 times a year      | 18.13                         |
| (6) | 24 or more times a year | 36.84                         |
|     | Total N=342             |                               |

#1 or not. It's all a popularity contest. It absolutely adds no value to me.”<sup>19</sup> Other analysts suggested the buy side even avoids II-ranked analysts: “Once you're at that #1 or #2 II rank, everyone's getting your stuff for the most part, so that's in the market as soon as they do it...I like to use some of the analysts who aren't followed as closely.”

When we asked why the size of the sell-side analyst's brokerage house is unimportant, one analyst said, “We invest globally. So if we're investing in Indonesia or Thailand, I would much rather hear from a local broker than a bulge firm who's been flown in there and might or might not be a local person. I often find that the brokerage security firms with the local, unpronounceable names seem to have a little more insight than the bulge-bracket firms that are in the same markets.” Another analyst said, “You've got to remember that a lot of these analysts that are working at smaller firms might have spent 10 years at Bear Stearns and now they're working at a smaller firm.”

### 3.4. Interaction with company management

Tables 6 and 8 show that buy-side analysts rely on sell-side analysts as a source of information from company management. What is unclear is the extent to which buy-side analysts have their own interactions with company management and the relative usefulness of various settings for this type of communication. We asked two survey questions that address these issues.

#### 3.4.1. How often do you have private communication with a CEO or CFO in the primary industry you cover? (Table 9)

Buy-side analysts have considerable contact with top management of firms in their primary industry of coverage. The majority of our survey respondents (55%) have private communication with a CEO or CFO in the primary industry they cover at least 12 times a year, and over a third (37%) have it at least 24 times a year. One analyst reiterated the importance of sell-side analysts in facilitating contact with management: “97% of firms are likely to struggle to get a meeting with that management team; therefore, they're much more likely to be able to get access to that management team, if they want to, by interacting with that sell-side analyst who's going to host a meeting for 25 investors. You want to be one of the 25 investors that pays enough commissions to that [sell-side] firm that they let you attend that meeting.”

Some buy-side analysts consider talking to management to be less important. One described the risks of getting too close to management, saying, “there are some buy-siders that don't even want to touch management, because they just feel like that's going to bias them. If I become friends with this guy, I don't want it to bias my objective outlook on the fundamentals of the company.” Another analyst added, “If there were a checklist that you went through on every single recommendation and it had 10 boxes that you had to tick, speaking to management might be #9 or #10.”

#### 3.4.2. How valuable are the following settings for your private communication with senior management? (Table 10)

When asked about the value of six different settings for private communication with senior management, buy-side analysts said the two most valuable settings are company or plant visits and informal settings.<sup>20</sup> While there is considerable variation in the number of respondents who state a particular setting is very valuable, no more than 8% of analysts say any of these settings is not valuable. Our cross-sectional evidence reveals that buy-side analysts with a long investment horizon are more likely to consider company or plant visits to be valuable, consistent with their focus on identifying companies engaged in long-term value-generating activities.

When asked about the nature of buy-side analysts' private communication with management, one analyst said, “Management is going to be more open in discussing things when they know everything they say won't necessarily be published. If they're talking to a sell-side analyst, it's going to be published...So they're willing to say things that are maybe more controversial in terms of opinions about competitors or things like that to a buy-sider than they might say to a sell-sider.” Another analyst shared similar sentiments: “I feel that management teams would love to bypass the sell side...If they knew they had a direct path towards the buy-side analyst or the portfolio manager, I think they'd opt for that. Every single time they talk to a sell-side analyst, stuff gets published the next day. It's like talking to a member of the press.”

<sup>19</sup> Emery and Li (2009) also conclude that the II rankings are a popularity contest.

<sup>20</sup> Some company investor day events take place in conjunction with a company or plant visit, so some analysts may not have fully distinguished between these two items. However, the order in which these two options were presented did not affect analysts' answers.

**Table 10**

Survey responses to the question: how valuable are the following settings for your private communication with senior management?

| Responses  | Average rating | Significantly greater than | % of respondents who answered |                       |
|--|----------------|----------------------------|-------------------------------|-----------------------|
|  |                |                            | Very valuable (5 or 6)        | Not valuable (0 or 1) |
| (1) Company or plant visits                            | 4.65           | 3–6                        | 63.27                         | 5.25                  |
| (2) Informal settings (e.g., telephone calls, lunches) | 4.60           | 3–6                        | 59.18                         | 2.92                  |
| (3) Road shows   | 4.04           | 5–6                        | 42.69                         | 7.60                  |
| (4) Conferences sponsored by sell-side analysts        | 3.97           | 6                          | 36.55                         | 4.97                  |
| (5) Company investor day events                        | 3.81           | –                          | 35.67                         | 7.89                  |
| (6) Industry conferences                               | 3.78           | –                          | 31.20                         | 6.12                  |
| Total possible $N=343$                                 |                |                            |                               |                       |

Column 1 reports the average rating, where higher values correspond to greater value. Column 2 reports the results of  $t$ -tests of the null hypothesis that the average rating for a given item is the same as the average rating of the other items below it. We report the rows for which the average rating significantly exceeds the average rating of the corresponding items at the 5% level, and use Bonferroni–Holm-adjusted  $p$ -values to correct for multiple comparisons. Column 3 (4) presents the percentage of respondents indicating usefulness of 5 or 6 (0 or 1).

We also asked how buy-side analysts feel about their participation in public earnings conference calls. One analyst said, “[In] my first job as a [buy-side] analyst, my boss said: ‘The fastest way you can get fired here is asking a question on an earnings call.’” Another analyst said, “No buy-side person is ever going to ask a question that the answer is not going to be what they want to hear in a public forum...So you would never ask a question unless you were giving them a softball question.” Underscoring the difference in the incentives faced by buy-side and sell-side analysts, one analyst explained, “Sell-side analysts ask the questions [so] if you Google them, it comes up with them in the transcript, and they want to have their name out there as much as possible. They want to be associated as being an authority on the company, so even if they have the most lame questions—and sometimes you have to wonder why are they even bothering to ask the question—they have to have their name in there.”

Similar to what sell-side analysts indicate about the value of private “call-backs” following public earnings calls (Brown et al., 2015), one buy-side analyst said, “If we want to talk to management, we will wait until the [public] call is over and we will have a private conversation with them.” One analyst indicated private phone calls are much more valuable than other venues for communication with management: “A [private] call to me would be way better than a round of golf or a dinner. If it’s a dinner that the company is hosting, then it’s the company’s agenda, and it’s more or less a canned presentation. Plus, it’s going to be shared by other people. On a [private] call, it becomes my meeting. I can control the agenda. I can control the questions that are asked. I can ask what I want to. Their time is important, my time is important...let’s just do an hour call and knock off my top-10 questions.”

### 3.5. Financial reporting issues

Buy-side investors are among the primary users of financial statements. We document in Table 4 that the 10-K and 10-Q are important inputs to buy-side analysts’ recommendations, providing new evidence on the relevance of financial reports. In this section, we further explore various financial reporting issues, such as analysts’ concern about various red flags of misreporting and their assessment of what constitutes high-quality earnings. Because the institutions that employ buy-side analysts have “skin in the game” and directly profit from buy-side analysts’ research, these analysts are uniquely positioned to provide informative views on these financial reporting topics (Nelson and Skinner, 2013).

#### 3.5.1. To what extent do you believe the following are a “red flag” of management effort to intentionally misrepresent financial results? (Table 11)

When we asked buy-side analysts about “red flags” of intentional financial misrepresentation, the item with the highest rating was a material internal control weakness. Over 60% of our respondents say material internal control weaknesses are definitely a “red flag” of management intent to misrepresent financial results. Weak corporate governance and a large gap between earnings and operating cash flows also received relatively high ratings. At the other extreme, less than 10% strongly believe the following are “red flags”: company consistently meets or beats earnings targets, company is preparing to issue debt or equity, and management wealth is closely tied to stock price.

Analysts with a long investment horizon are more likely to consider weak corporate governance to be a “red flag,” and analysts with an accounting background are more likely to believe recent restatements of financial results are a “red flag.” Analysts with previous experience on the sell side, however, are less likely to believe a recent restatement is a “red flag” of management effort to intentionally misrepresent financial results.

**Table 11**

Survey responses to the question: to what extent do you believe the following are a “red flag” of management effort to intentionally misrepresent financial results?

| Responses   | Average rating | Significantly greater than | % of respondents who answered |                         |
|---|----------------|----------------------------|-------------------------------|-------------------------|
|   |                |                            | Strongly believe (5 or 6)     | Do not believe (0 or 1) |
| (1) Company has a material internal control weakness      | 4.61           | 2–12                       | 61.31                         | 2.08                    |
| (2) Company has weak corporate governance                 | 4.29           | 4–12                       | 51.95                         | 4.20                    |
| (3) Large gap between earnings and operating cash flows   | 4.15           | 5–12                       | 43.45                         | 5.36                    |
| (4) Large or frequent one-time or special items           | 4.04           | 5–12                       | 40.00                         | 5.07                    |
| (5) Company recently restated financial statements        | 3.80           | 8–12                       | 30.72                         | 5.12                    |
| (6) Recent auditor turnover                               | 3.73           | 8–12                       | 31.74                         | 8.38                    |
| (7) Deviations from industry or peer norms                | 3.63           | 8–12                       | 27.68                         | 8.63                    |
| (8) Company consistently reports smooth earnings          | 3.29           | 10–12                      | 19.76                         | 12.57                   |
| (9) Recent management turnover                            | 3.19           | 10–12                      | 16.92                         | 15.11                   |
| (10) Company consistently meets or beats earnings targets | 2.59           | 11–12                      | 8.41                          | 23.42                   |
| (11) Management wealth is closely tied to stock price     | 2.27           | –                          | 5.45                          | 33.64                   |
| (12) Company is preparing to issue debt or equity         | 2.25           | –                          | 6.04                          | 34.74                   |
| Total possible N=336                                      |                |                            |                               |                         |

Column 1 reports the average rating, where higher values correspond to stronger beliefs. Column 2 reports the results of *t*-tests of the null hypothesis that the average rating for a given item is the same as the average rating of the other items below it. We report the rows for which the average rating significantly exceeds the average rating of the corresponding items at the 5% level, and use Bonferroni–Holm-adjusted *p*-values to correct for multiple comparisons. Column 3 (4) presents the percentage of respondents indicating usefulness of 5 or 6 (0 or 1).

### 3.5.2. How likely are you to take the following actions if you believe management is intentionally misrepresenting financial results? (Table 12)

The three highest-rated actions buy-side analysts would take if they believe management is intentionally misrepresenting the financial results are conducting additional primary research, advising their portfolio manager to sell the stock, and seeking additional information from company management. More than two-thirds of surveyed analysts say they are very likely to take these actions, and 44% say they would seek additional information from sell-side analysts. However, even if buy-side analysts believe management is intentionally misrepresenting financial results, they rarely communicate their concerns to the company’s board of directors, its auditor, or a regulator, suggesting buy-side analysts are not a likely source of information about financial impropriety (Dyck et al., 2010).

When asked about communicating concerns about financial misrepresentation to the portfolio manager, one analyst replied, “My compensation depends on me delivering winners. I can’t have him buy a company that turns into an accounting fraud disaster and sees its market cap clipped by 80%. I’d get zapped.” Another analyst stated, “If it’s something that clearly denotes deterioration in the transparency and governance that we would expect from a high-quality company, it might necessitate either a significant reduction [in the position] or exiting the company.” Finally, one analyst said concerns about financial misrepresentation “could mean we won’t buy the stock because we don’t know what the numbers really are.” These anecdotes contrast with sell-side analysts who say they are not particularly concerned with the risk of financial misrepresentation (Brown et al., 2015), which likely reflects the stronger financial incentives buy-side analysts have to “get it right.”

### 3.5.3. How important are the following to your assessment of whether a company’s “quality” of reported earnings is high? (Table 13)

Buy-side analysts are uniquely positioned to provide insights on the issue of earnings quality because they are consumers of accounting information who have a significant economic interest in correctly identifying attributes of high-quality earnings (Nelson and Skinner, 2013).

They believe the single most important determinant of earnings quality is that earnings are backed by operating cash flows. Similar to the views of CFOs (Dichev et al., 2013), more than 60% believe earnings reflecting economic reality and earnings being sustainable and repeatable are very important attributes of high earnings quality.

Analysts with a long investment horizon have views about earnings quality that are consistent with their long-term focus. Specifically, they are more likely to consider earnings backed by operating cash flows, earnings reflecting economic reality, company managers with high integrity or moral character, and strong corporate governance to signal higher earnings quality. Analysts employed by hedge funds are more likely to believe the following are important characteristics of earnings quality: earnings reflect consistent reporting choices over time, earnings predict future cash flows and future earnings, and the company is audited by a Big 4 accounting firm. Lastly, analysts who communicate frequently with CEOs and CFOs of the companies they follow are more likely to believe earnings quality is a function of the integrity or moral character of the company’s managers.

**Table 12**

Survey responses to the question: how likely are you to take the following actions if you believe management is intentionally misrepresenting financial results?

| Responses  | Average rating | Significantly greater than | % of respondents who answered |                        |
|--|----------------|----------------------------|-------------------------------|------------------------|
|  |                |                            | Very likely (5 or 6)          | Very unlikely (0 or 1) |
| (1) Conduct additional primary research  | 4.98           | 4–8                        | 72.97                         | 3.90                   |
| (2) Advise your portfolio manager to sell the stock  | 4.92           | 4–8                        | 69.28                         | 3.92                   |
| (3) Seek additional information from company management                                    | 4.85           | 4–8                        | 70.00                         | 4.85                   |
| (4) Seek additional information from sell-side analysts                                    | 3.94           | 5–8                        | 44.41                         | 13.29                  |
| (5) Communicate your concerns to your portfolio manager without advising to sell the stock | 3.24           | 6–8                        | 36.06                         | 26.36                  |
| (6) Communicate your concerns to the company's board of directors                          | 1.50           | 8                          | 6.04                          | 61.63                  |
| (7) Communicate your concerns to a regulator   | 1.39           | 8                          | 5.78                          | 65.05                  |
| (8) Communicate your concerns to the company's auditor                                     | 1.12           | –                          | 3.63                          | 72.21                  |
| Total possible N=333   |                |                            |                               |                        |

Column 1 reports the average rating, where higher values correspond to a greater likelihood. Column 2 reports the results of *t*-tests of the null hypothesis that the average rating for a given item is the same as the average rating of the other items below it. We report the rows for which the average rating significantly exceeds the average rating of the corresponding items at the 5% level, and use Bonferroni–Holm-adjusted *p*-values to correct for multiple comparisons. Column 3 (4) presents the percentage of respondents indicating usefulness of 5 or 6 (0 or 1).

Analysts said evaluating earnings quality is an important part of their jobs. One said, “I think about earnings quality constantly. They're audited, but so what?” Another analyst said, “We look for earnings manipulation. Do we trust these numbers? Are they an adequate representation of economic reality?” Another replied, “What I look for is in the areas where there is management discretion on how they do the different accounting, is it conservative or aggressive? It's harder to tell if it's ‘right’ or ‘wrong’ from the outside, but you can get a sense for if it is conservative or aggressive.” Finally, one analyst said, “For us, there's a significant emphasis on earnings quality. That is everything from understanding corporate governance... board structure, who sits on what committees, how many non-independent directors there are, these sorts of things.” Overall, buy-side analysts' concerns about financial misrepresentation and financial reporting quality are consistent with their economic incentives to avoid making a recommendation to invest in a firm with fraudulent financial statements.

## 4. Limitations

### 4.1. Internal validity of survey responses

One concern when evaluating survey data is the internal validity of responses. If respondents are distracted or otherwise not engaged in the survey, their responses are less reliable. One common way to assess internal validity is to examine whether individual participants responded similarly to common questions asked in different places in the survey.

We assess the internal validity of buy-side analysts' survey responses in the following way. First, for each responding analyst we calculate the average of all responses to the questions reported in Table 6 (“How useful to you are the following services provided by sell-side analysts?”). Next, we compare this average to the rating the analyst assigned to “Information provided by sell-side analysts” in the survey question reported in Table 4 (“How useful are the following for determining your stock recommendation?”). If a buy-side analyst indicates that the services sell-side analysts provide are useful (Table 6), the same analyst should also be more likely to indicate that information provided by sell-side analysts is useful for determining his/her stock recommendations (Table 4), and vice versa.

The formal way to assess the internal consistency of responses is to measure Cronbach's alpha. Cronbach's alpha ranges from 0 and 1, with values above 0.70 generally considered to suggest the answers are internally consistent (Nunnally, 1978). Cronbach's alpha for the comparison between these two values (the average of the eight responses in Table 6 and the response in Table 4) is 0.715, consistent with our participants providing reliable responses.

### 4.2. Randomization of survey questions within groups

As mentioned in Section 2.2, we placed our survey questions into three broad groups and presented them in a fixed sequence in an effort to help the participants proceed seamlessly through and ultimately complete the survey. However, because the group of questions about buy-side analysts' interactions with sell-side analysts always preceded the other questions in the survey, and because sell-side analysts help facilitate buy-side analysts' interactions with company management, responding analysts may have biased their subsequent responses about the role of sell-side analysts in facilitating buy-side analysts' interactions with company management. In spite of this concern, we believed the costs (in terms of response rate) of randomizing the ordering of these groups of questions exceeded the benefits of fully randomizing the

**Table 13**

Survey responses to the question: how important are the following to your assessment of whether a company's "quality" of reported earnings is high?

| Responses  | Average rating | Significantly greater than | % of respondents who answered |                        |
|--|----------------|----------------------------|-------------------------------|------------------------|
|  |                |                            | Very important (5 or 6)       | Not important (0 or 1) |
| (1) Earnings are backed by operating cash flows              | 5.13           | 2–12                       | 78.21                         | 1.19                   |
| (2) Earnings reflect economic reality                        | 4.76           | 4–12                       | 65.58                         | 1.78                   |
| (3) Earnings are sustainable and repeatable                  | 4.66           | 6–12                       | 62.83                         | 5.01                   |
| (4) Company managers have high integrity or moral character  | 4.55           | 6–12                       | 59.94                         | 3.86                   |
| (5) Earnings reflect consistent reporting choices over time  | 4.52           | 6–12                       | 58.51                         | 3.28                   |
| (6) Company has strong corporate governance                  | 4.30           | 9–12                       | 50.15                         | 4.15                   |
| (7) Earnings are free from one-time or special items         | 4.17           | 9–12                       | 47.48                         | 6.53                   |
| (8) Earnings can predict future cash flows                   | 4.16           | 9–12                       | 50.00                         | 7.74                   |
| (9) Earnings are not highly dependent on long-term estimates | 3.48           | 11–12                      | 27.68                         | 13.10                  |
| (10) Earnings can predict future earnings                    | 3.38           | 11–12                      | 29.04                         | 16.77                  |
| (11) Company is audited by a Big 4 auditor                   | 3.05           | 12                         | 18.45                         | 20.54                  |
| (12) Earnings are less volatile than operating cash flows    | 2.64           | –                          | 13.73                         | 24.78                  |
| Total possible N=339   |                |                            |                               |                        |

Column 1 reports the average rating, where higher values correspond to greater importance. Column 2 reports the results of *t*-tests of the null hypothesis that the average rating for a given item is the same as the average rating of the other items below it. We report the rows for which the average rating significantly exceeds the average rating of the corresponding items at the 5% level, and use Bonferroni–Holm-adjusted *p*-values to correct for multiple comparisons. Column 3 (4) presents the percentage of respondents indicating usefulness of 5 or 6 (0 or 1).

ordering of these groups of questions. Within each category, we randomized the order in which we presented the questions, and we randomized the order of the items within each question.

#### 4.3. Inherent shortcomings of a survey

While surveys allow researchers to ask direct questions on issues that are hard to explore with archival data, they have inherent limitations. For example, we asked about the valuation models buy-side analysts use to support their stock recommendations. Although analysts said they make heavy use of relatively sophisticated intrinsic value models, their responses may be driven by a desire to paint themselves in a positive light. Further, analysts who use intrinsic value models may ultimately rely on relatively simplistic versions of an intrinsic value model, suggesting that some survey findings, particularly those subject to social desirability bias, should be interpreted with caution.

In addition, although our response rate of 7.1% is on par with that of other accounting and finance surveys, more than 90% of the analysts we invited to take the survey declined our invitation. This limitation raises natural questions about the extent to which the participating analysts are representative of buy-side analysts in general. Nevertheless, the rank ordering of the results reported in Table 6 ("How useful to you are the following services provided by sell-side analysts?") is very similar to what Institutional Investor reports from its surveys of buy-side analysts, suggesting the results of our study have external validity.

## 5. Conclusion

Buy-side analysts play an important role in the capital markets by performing research and providing stock recommendations for their portfolio managers (Cheng et al., 2006; Frey and Herbst, 2014; Rebello and Wei, 2014), placing them much closer to the ultimate investment decision than sell-side analysts and giving them "skin in the game." However, due to the private nature of their stock recommendations, academic research about buy-side analysts has been limited, especially compared with the long literature on sell-side analysts. Our study is the first large-scale study of buy-side analysts employed at a large number of investment firms. We survey 344 buy-side analysts employed by 181 institutional investment firms, and conduct 16 detailed follow-up interviews, to provide new insights on buy-side research.

We examine buy-side analysts' financial incentives, the determinants of their stock recommendations, their interactions with sell-side analysts and company management, and their assessments of financial reporting quality. We find that even though their own stock recommendations are the most important factor in their compensation, very few buy-side analysts feel sell-side stock recommendations are useful to them, perhaps due to sell-side analysts' conflicts of interest and differences from buy-side analysts in their investment horizons. Instead, industry knowledge and management access are the most useful services sell-side analysts provide to the buy side, suggesting that buy-side analysts rely on sell-side analysts for



raw inputs into their valuation models, but do not look to sell-side analysts for help in translating those inputs into a stock recommendation.

We find that while the majority of buy-side analysts have private communication with sell-side analysts 24 or more times a year, they give very little consideration to II All-Star status or brokerage size when deciding to use the information they provide. Sell-side analysts' experience and the frequency of their communication with senior management are the most important factors in buy-side analysts' decisions to use the information sell-side analysts provide.

Nearly half of the buy-side analysts we survey indicate that the recent 10-K or 10-Q report is very useful for determining their stock recommendations, even more useful than quarterly conference calls, management earnings guidance, and recent earnings performance. Buy-side analysts believe the most important attribute of high-quality earnings is that earnings are backed by operating cash flows, and a majority believe internal control weaknesses and weak corporate governance are “red flags” of management effort to intentionally misrepresent financial results. Although buy-side analysts scrutinize the integrity of financial reports and share their concerns with their portfolio managers, they rarely communicate these concerns to directors, regulators, or company auditors.

Our study is subject to several limitations. First, although we carefully designed our survey instrument and received feedback from pilot participants, we cannot be certain that analysts interpreted each question the way we intended. Second, while our response rate compares favorably with other recent surveys (e.g., Dichev et al., 2013), over 90% of the analysts we invited to participate in the survey did not respond. Third, we cannot rule out the possibility that some survey participants intentionally or unintentionally biased their responses to portray themselves or their profession in a positive light. In spite of these limitations, we believe our findings are relevant to buy-side analysts, sell-side analysts, and company managers, and that our study provides avenues for future research.

## Appendix A

### *Definitions of independent variables for cross-sectional analyses*

*HF*=indicator variable equal to 1 if the analyst indicated that his/her employer is a hedge fund, and 0 otherwise.

*Horizon*=indicator variable equal to 1 if the analyst's typical investment horizon is more than one year, and 0 otherwise.

*N\_Ind*=indicator variable equal to 1 if the analyst actively covers 2+ industries, and 0 otherwise.

*N\_Firms*=indicator variable equal to 1 if the analyst follows 26 or more firms, and 0 otherwise.

*Age*=indicator variable equal to 1 if the analyst is at least 40 years old, and 0 otherwise.

*Gender*=indicator variable equal to 1 if the analyst is male, and equal to 0 if the analyst is female.

*Acct*=indicator variable equal to 1 if the analyst has an accounting degree, and 0 otherwise.

*MBA*=indicator variable equal to 1 if the analyst has an MBA, and 0 otherwise.

*CFA*=indicator variable equal to 1 if the analyst is a CFA, and 0 otherwise.

*BS\_Exp*=indicator variable equal to 1 if the analyst has 7+ years of experience as a buy-side analyst, and 0 otherwise.

*SS\_Exp*=indicator variable equal to 1 if the analyst previously worked as a sell-side analyst, and 0 otherwise.

*Tenure*=indicator variable equal to 1 if the analyst has worked with his or her current employer for at least 4 years, and 0 otherwise.

*Size*=indicator variable equal to 1 if the analyst works for an employer with 51+ buy-side analysts, and 0 otherwise.

*SS\_Contact*=indicator variable equal to 1 if the analyst has private communication with sell-side analysts 24+ times a year, and 0 otherwise.

*CEO\_Contact*=indicator variable equal to 1 if the analyst has private communication with a CEO or CFO in the primary industry the analyst covers 12+ times a year, and 0 otherwise.

*Primary Industry*=industry fixed effects based on the primary industry the analyst covers.

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