General Managerial Skills and External Communication

by

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ABSTRACT

This paper examines whether CEOs with general managerial skills are better at achieving the goals of external communication. Using the General Ability Index developed by Custodio, Ferreira, and Matos (2013) to measure CEOs' general managerial skills, I find that firms with generalist CEOs are more likely to obtain the desired outcomes of communication, including the smaller difference between analyst forecasts and management guidance, less dispersion in analyst forecasts, higher analyst following, and higher institutional ownership, after controlling for CEO talent and the impact of Regulation FD. Moreover, I provide direct evidence that general managerial skills are more important to external communication under poor information environments. I also investigate the characteristics of analysts who follow firms with generalists, and my findings suggest the private interaction with analysts is an important communication channel for generalists. Finally, I find that generalists are able to attract dedicated investors and gain long-term capital for their firms. Overall, I provide evidence on the growing importance of general managerial skills in external communication. This paper offers new insights into why CEOs with general skills are paid at a premium over those with specific skills, as documented in previous studies.

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CHAPTER 1

INTRODUCTION

Today's CEOs face a volatile, increasingly complex business environment perhaps than ever before. Rather than simply formulate policies, CEOs are now expected to effectively communicate both internally and externally. CEO communication quality influences credibility and reputation of their companies because CEO is the link between the inside, the organization, and the outside, the stakeholders. Communication, therefore, becomes a major function of CEO. For example, Bandiera et al. (2011) follow 94 CEOs of top-600 Italian firms over a week and record the time devoted each day to different work activities. They find that CEOs spend 60% of their time in meetings and 25% on phone calls or at public events. Meanwhile, several extant research documents the increased importance of CEO general managerial skills (Custodio, Ferreira, and Matos 2014; Custodio, Ferreira, and Matos 2013; Cunat and Guadalupe 2009). Thus, it is interesting to investigate whether general managerial skills help CEOs to communicate better.

Prior literature suggests that managers have several motivations to communicate effectively with outside entities, especially with analysts and institutional investors. Chen et al. (2011) find dispersion in analyst forecasts increases after firms stop issuing management earnings forecasts and Diether et al. (2002) show dispersion in analyst forecasts leads to mispricing of shares. In order to reduce the mispricing, managers have an incentive to issue guidance to mitigate analyst forecast dispersion. Increasing analyst following is another motivation for managers to communicate effectively with analysts. Prior studies show that low analyst following is associated with higher cost of capital

(Botosan 1997). Diamond and Verrecchia (1991), among others, show firms can decrease their cost of capital by increasing disclosure and providing credible information. Prior research also suggests that institutional investors actively monitor the performance of the firms they invest in thereby generating benefits for the firms (Allen, Bernardo, and Welch 2000; Gillan and Starks 2000; Fernando, Gatchev, and Spindt 2007). For example, firms with a higher concentration of institutional owners profit from a lower cost of capital (McConnell and Servaes 1990) and increased liquidity (Boone and White 2014).

Taking together recent studies on general managerial skills and earlier literature on external communication, it is an interesting research topic to investigate whether general skills improve communication outside the organization. If general managerial skills foster external communication, firms with generalist CEOs are more likely to achieve the goals of communication with analysts and investors, such as low dispersion in analyst forecasts, high analyst following, or high institutional ownership. Using a panel of the CEOs of Standard and Poor's (S&P) 2,102 firms from 1993 to 2012, I examine whether general managerial skills are related to the desired outcomes of external communication. Although some prior studies provide evidence on the impact of individual managers on firm outcomes using manager fixed effects models (Bertrand and Schoar 2003; Bamber et al. 2010; Ge et al. 2011), Demerjian et al. (2012) point out that the quantifiable effect of manager fixed effects is limited to managers who switch firms.[1] Therefore, to measure CEOs' general managerial skills, I use the General Ability Index (*GAI*) developed by Custodio, Ferreira, and Matos (2013). This index includes five aspects of a CEO's professional career: past number of positions, firms, and industries in

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[1] See Session 5.8 for detailed discussion of the limitations in fixed effects regressions.

which a CEO worked; whether the CEO held an executive position at a different company; and whether the CEO worked for a conglomerate. *GAI* is the first factor of the principal components analysis of the proxies.

I use different measures to proxy for the outcomes of external communication with outside entities, especially with analysts and investors. Management earnings forecast is an important tool for firms to communicate earnings predictions to market participants. Prior studies show that one of management's incentives is to align market expectations with their private information (Kasznik and Lev 1995; Cotter et al. 2006). Managers are unlikely to obtain benefits from guiding when market participants do not follow the guidance provided (Feng and Koch 2010). Thus, the first measure I use is the difference between post-guidance analyst forecasts and management forecasts (*DIFF_AFMF*). I find that this measure is 10% lower for firms with generalists than firms with specialists. This is a first indication supporting the proposition that general managerial skills can improve external communication because generalist CEOs are better at convincing analysts to follow their guidance.

As mentioned previously, managers have motivations to reduce analyst forecast dispersion and increase analyst following thereby mitigating mispricing and decreasing cost of capital. Roulstone (2003) also finds that analyst following is associated with increased market liquidity. Therefore, if general skills help CEOs obtain the desired outcomes of communication, firms run by generalist CEOs may have significantly less forecast dispersion and higher analyst coverage than firms run by specialist CEOs. Consistent with the hypothesis, the results show for firms run by generalist CEOs, analyst dispersion is 8% lower and an increase of 4 in the number of analyst following. I also

find that analysts following firms with generalists tend to cover fewer firms, be less experienced, have more time covering and issue more forecasts for the firm. The findings are consistent with Soltes (2013), documenting that analysts with these characteristics are associated with more private interactions with management.[2]

Given the benefits of institutional shareholdings and the growing importance of developing relationships with investors, managers of publicly traded firms spend a significant amount of time and efforts meeting institutional investors (Solomon and Soltes 2013).[3] For example, investor office meetings (i.e. non-deal road show) give firm management the opportunity to visit institutional investors. If generalist CEOs are better at communicating with investors, their companies will have more institutional ownership than those with specialist CEOs. Supporting this hypothesis, the results show institutional ownership is 2.2% higher for firms run by generalists. Moreover, using Institutional Investor Classification developed by Bushee (1998), I find that generalists are better at attracting the "desirable" investors from managers' point of view, the dedicated investors, who are able to provide long-term capital for firms.[4]

Next, I offer insights on how general managerial skills improve external communication under different information environments. I expect the effect of general managerial skills on the outcomes of external communication is stronger in poor information environments than in rich information environments. When firms have significant information asymmetries, outside entities may more rely on the

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[2] See Session 5.5 for detailed discussion of the analyst characteristics related to private interactions with management.
[3] In 2010, Cross Border Group conducts a global survey on road show practices and finds that on average CEOs had meetings with investors on 17 days out of the year.
[4] See Session 5.6 for detailed discussion of the Bushee's institutional investor classification.

communication with management for complementing insufficient public information. Thus, CEOs have more opportunities to directly contact with analysts and investors, and the variation of communication outcomes between generalists and specialists will be more pronounced. Consistent with this prediction, the effect of general managerial skills on communication outcomes is stronger for firms with high information asymmetries, proxied by the probability of informed trade (PIN), bid-ask spreads, analyst following, and institutional ownership. These results provide evidence that general managerial skills are even more useful to external communication under poor information environments.

Furthermore, to address the concern that *GAI* captures a CEO's innate talent instead of accumulated skills, I run additional tests using proxies for CEO talent, including selectiveness of the CEO's college, job market conditions at the time of graduation from college, and *Managerial Ability Score* developed in Demejian et al. (2012). The findings are robust after I control these proxies of innate talent. Hence, it implies that generalists are better at external communication because they gain different expertise and insights in various career experiences.

This paper contributes to and complements extant research in several ways. First, this study contributes to the growing literature examining the increased importance of CEO general managerial skills under stronger competition (Custodio, Ferreira, and Matos 2013; Custodio, Ferreira, and Matos 2014; Hubbard and Palia 1995; Cunat and Guadalupe 2009). Also, as CEOs are inevitably involved in companies' public relations, they are expected to communicate effectively with stakeholders (Murphy and Zabojnik 2007; Ferreira and Sah 2012). My findings support the idea that general managerial skills

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are more and more critical when external communication becomes an important part of business strategy under increasing competition.

Second, this paper contributes to several recent papers investigating private interactions between investors/analysts and management in various contexts, such as private meetings and private phone calls (Soltes 2014; Solomon and Soltes 2013; Brown et al. 2014). Private interactions with management continue to occur regularly despite restrictions enforced by Reg FD (Soltes 2014). Thomson Reuters Survey of IR Best Practices (2009) suggests that 97% of CEOs of publicly traded firms meet privately with investors. Also, Brown et al. (2014) find that private communication with management is a more useful input to analysts' forecasts than other resources. During these one-on-one meetings, managers will talk to sell-side analysts, mutual fund managers, pension managers, or hedge fund managers. While those studies focus on how investors/analysts benefit from private interactions with firm management, it is possible that CEOs also benefit from direct contact with those stakeholders. For example, extant studies find that CEOs are compensated if they have greater connections to mutual fund managers (Butler and Gurun 2012). Thus, general managerial skills may play a role in building up the connections between CEOs and investors/analysts, thereby achieving the desired outcomes of external communication.

Third, this study complements upper echelons literature which finds that individual managerial characteristics play a fundamental role in corporate strategic choices (Hambrick and Mason 1984; Jensen and Zajac 2004; Carpenter et al. 2004; Hambrick 2007; Bamber et al. 2010). Specifically, Bamber et al. (2010) document that demographic characteristics of manager personal backgrounds affect financial disclosure

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styles: managers from finance and accounting and those with military experience favor more precise disclosure choices. I complement this literature by showing managers' lifetime work experience exerts unique and significant influence on external communication. My study is different from Bamber et al. (2010) in at least two aspects: (1) They focus on managers' personal demographic characteristics, including whether managers have accounting/finance or legal background, are born before or after World War II, have military experience, and have an M.B.A. degree. In contrast, I examine the accumulated expertise that managers obtain throughout their lifetime work experience. In the beginning, two managers may share the same personal demographic backgrounds. But as they held different positions at different firms and industries, each develops his own expertise and managerial ability. Therefore, accumulated managerial skills are more likely to play a significant role in external communication than former personal backgrounds. (2) Bamber et al. (2010) focus on traditional voluntary disclosure measures, such as forecast frequency, accuracy, precision, news, and bias. By constrast, I investigate whether general skills help managers achieve the goals of external communication by measuring the real effects of communication, including analyst following, dispersion in analyst forecasts, and institutional ownership.

The rest of the paper is organized as follows. Section 2 develops the hypothesis and research methodology is discussed in Section 3. Section 4 describes sample selection, data, and descriptive statistics and empirical results are presented in Section 5. Section 6 summarizes and concludes the paper.

CHAPTER 2

RELATED LITERATURE AND HYPOTHESIS DEVELOPMENT

2.1 Upper echelons theory

Hambrick and Mason's (1984) upper echelons theory suggests that there is a close association between corporate elites' strategy preferences and their observable managerial characteristics, such as age, formal education, functional areas, career experience, socioeconomic background, and financial position. This line of literature indicates that idiosyncratic differences in managers' experience are related to differences in personal cognitive bases and values, which in turn determine their strategic choices (Wiersema and Bantel 1992; Jensen and Zajac 2004; Carpenter et al. 2004). For example, Bamber et al. (2010) find that individual top managers exert economically significant individual-specific influence over five aspects of management forecasts: frequency, precision, news, bias, and accuracy. Thus, the theory states that different outcomes and performance levels in organizations, such as profitability, growth, and survival, are partially predicted by managerial background characteristics (Hambrick and Mason 1984).

Among these observable managerial characteristics proposed by the upper echelons theory, functional areas and career experience are directly related to managers' work experience, which in turn affects the accumulated managerial skills. Hambrick and Mason (1984) point out that although the chief executives are presumed to adopt a company-wide perspective, they carry an orientation developed from work experience in some primary functional areas. For example, Dearborn and Simon (1958) documented that a group of managers from different functional areas were presented with the same

case study and required to think the problem from a company-wide view. These managers, however, interpreted it mainly as the operations and goals of their own areas.

In addition to functional areas, career experience may also significantly affect the strategic choices taken by managers. Hambrick and Mason (1984) suggest managers develop their cognitive bases through the experience managers have had during their careers. If managers have spend their entire careers in one organization, they are assumed to have relatively limited perspective and restricted knowledge base when faced with an unprecedented problem, such as deregulation, increasing competition, or a technological shift. Managers' career experience, therefore, shapes the lenses through which they view and understand strategic opportunities and problems (p.200).

While Hambrick and Mason's (1984) upper echelons theory predicts that career experience may have significant influence on corporate strategic choices and performance levels, existing research mainly focuses on the effect of managers' demographic characteristics or their functional backgrounds (Smith and White 1987; Thomas et al. 1991; Bertrand and Schoar 2003; Jensen and Zajac 2004; Bamber et al. 2010). Thus, this study contributes beyond this line of literature by investigating how the lifetime career experience plays a role in external communication outcomes, and provides empirical evidence on the effect of managers' career experience, as predicted in upper echelons theory.

2.2 CEO lifetime work experience: general versus firm-specific managerial skills

CEOs accumulate managerial skills throughout their lifetime work experience. Becker (1962) classifies managerial capital into two categories: (1) general human

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capital, which is not specific to any organization and is transferable across firms or industries; (2) firm-specific human capital, which is useful only within an organization. Recent studies show the importance of general human capital is increasing over the past decades. Murphy and Zabojnik (2004, 2007) point out general managerial ability recently becomes more valuable than firm-specific skills. They find that increases in external CEO hiring and executive compensation are related to the growing demand for general skills. Custodio, Ferreira, and Matos (2013) also provide empirical evidence showing pay is higher for CEOs with general skills. In addition to executive compensation, recent studies investigate how general managerial ability is associated with the productivity of a firm's research activities. Custodio, Ferreira, and Matos (2014) show that firms with CEOs that gather general managerial skills during their lifetime work experience produce more innovation.

2.3 CEO ability versus CEO general managerial skill

It is important to distinguish between CEO *ability* and CEO *general managerial skill*. As mentioned above, *general managerial skill* refers to general human capital accumulated throughout managers' lifetime work experience. In contrast, the term CEO *ability*, or *talent*[5], usually refers to a measure of CEO performance in the economics, finance, or management literatures. For example, Fee and Hadlock (2003) use industry-adjusted stock returns as a proxy for managerial talent and find that top executives in firms with high returns are more likely to be hired away and receive higher wages at their new firm. Milbourn (2003) uses media coverage, CEO tenure, and appointment from

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[5] According to Merriam-Webster dictionary, the word "talent" means a special *ability* that allows someone to do something well.

outside of the firm as proxies for CEO ability. Rejgopal et al. (2006) use future return and future ROA to proxy for managerial talent. Similarly, Demejian et al. (2012) develop a measure of managerial ability based on managers' efficiency in transforming corporate resources to revenues. This line of literature uses different measures to proxy for CEO talent, and all these measures have been shown to be highly correlated with firm performance (Demejian et al. 2012; Demejian et al. 2013). On the other hand, higher *general managerial skill* may not be necessarily related to better firm performance. Custodio, Ferreira, and Matos (2013) find a statistically insignificant relation between the index of *general managerial skill* and accounting or stock market performance, such as net profit margin, ROE, stock return, and Tobin's q. Moreover, Babenko, Custodio, and Mariano (2014) show that specialists perform better than generalists in smaller and more focused conglomerates.

In summary, this study is intrinsically different from extant CEO talent literature, which usually examines whether more able managers are associated with better firm performance. Instead, this study shows whether the lifetime work experience affects CEO communication with outside entities, especially under different information environments.

2.4 Communication and general managerial skills

Communication is the transmission of meaning from one person to another or to many people, whether verbally or non-verbally (Barrett 2006). Dewatripont and Tirole (2005) develop a theory of communication. They posit that one obstacle to effective communication is a sender fails to consider a receiver's knowledge, such as absorptive capacity. The sender should spend time, efforts, and other resources so as to

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communicate his knowledge effectively. Also, the sender needs to covey the relevant information, instead of redundant or irrelevant information, in order not to discourage the receiver's absorption. Conversely, the receiver has to understand the acquired information, decode the literal meaning, and make corresponding decisions. Communication involves two parties, one who transmits and one who receives the message. In other words, communication includes disclosure and absorption of information.

Corporate disclosure has always been an important research area in accounting and finance literature. Healy and Palepu (2001) review the current empirical disclosure studies, and analyze determinants and economic consequences of corporate disclosure. They point out three sources of disclosure: (1) required disclosure, including the financial statements, footnotes, management discussion and analysis, and other regulatory filings; (2) voluntary disclosure, such as management forecasts, conference calls, press releases, and other corporate reports; (3) other disclosures made by information intermediaries, including financial analysts, industry experts, and the financial press. Managers can communicate with investors and analysts through the first two channels.

Considering the fact that managers spend most of their day engaged in communication (Bandiera et al. 2011), it underscores how important strong communication skills can be for managers desiring to advance in their organization. Ferreira and Sah (2012) develop a model in which managers with general skills are likely to occupy the top of an organization as the complexity of the business environment increases and communication technologies improve. Their analysis shows that managers with broader expertise can understand better the information provided by subordinates

with different expertise. Thus, CEOs with general skills are more likely to oversee companies' numerous activities effectively, allowing them to communicate better in various situations. Moreover, as mentioned previously, communication includes disclosure and absorption of information. To communicate effectively, CEOs must take into account receivers' absorptive capacity and help receivers understand the message. Thus, it takes efforts and resources to convey relevant information to the audience. Generalist CEOs accumulate different expertise throughout their work experience in different positions and industries. It is possible that generalist CEOs are better at providing message according to audiences' absorptive capability, thus encouraging the information absorption.

Extant literature has documented various benefits of good communication with investors and analysts. Management voluntary disclosure has been shown to reduce information asymmetry among informed and uninformed investors, thereby enhancing stock liquidity and increasing institutional ownership (Diamond and Verrecchia 1991; Verrecchia 2001; Easley and O'Hara 2004). Furthermore, firms with more informative disclosures have higher analyst coverage and less dispersion in analyst forecasts (Baginski et al. 1993; Clement et al. 2003). Feng and Koch (2010) also document that managers are less likely to obtain benefits from issuing guidance when market participants do not follow their guidance. In other words, the extent to which post-guidance analyst forecasts deviate from management earnings guidance is associated with benefits of communication with analysts. Taken together, if general managerial skills improve communication outside the organization, firms with generalist CEOs are more

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likely to benefit from effective communication compared to firms with specialist CEOs. Accordingly, I make the following hypothesis:

H1: General managerial skills are associated with the degree to which CEOs obtain the desired outcomes of external communication.

Moreover, I expect the effect of general managerial skills on the outcomes of external communication is stronger in poor information environments than in rich information environments. When firms have weak public information environments and significant information asymmetries, outside entities may more rely on the communication with management for complementing insufficient public information. Analysts and institutional investors may want to gather firm-specific information directly from management. If that is the case, then CEOs have more opportunities to directly contact with analysts and investors. The variation of communication outcomes between generalists and specialists, therefore, will be more pronounced. In contrast, under rich information environments, outside entities are able to obtain information from other sources rather than from contacts with management. Fewer interactions between managers and outside entities may lead to a smaller effect of general managerial skills on communication outcomes. Thus, I make the following hypothesis:

H2: The effect of CEO general managerial skills on the outcomes of external communication is stronger under poor information environments than in rich information environments.

CHAPTER 3

RESEARCH DESIGN

3.1 Measuring general managerial skills

I apply the General Ability Index (*GAI*) developed by Custodio, Ferreira, and Matos (2013) to measure general managerial skills. This index measures a CEO's general human capital accumulated during his/her lifetime work experience in publicly traded firms prior to the current CEO position. Therefore, *GAI* captures the ability not specific to any organization but transferable across firms or industries. Custodio et al. (2013) include five proxies of general managerial skills. (1) Number of positions: the number of different positions that a CEO held during his career. Different positions are related to multiple organizational areas, including marketing, sales, human resources, and finance. (2) Number of firms: the number of firms where a CEO worked. (3) Number of industries: the number of industries at four-digit SIC where a CEO worked. (4) CEO experience dummy: a dummy variable that equals one if a CEO held a CEO position at another firm. A CEO position requires generic skill set to handle customers, media, or company stakeholders. (5) Conglomerate experience dummy: a dummy variable that equals one if a CEO worked for a multi-division firm.

To combine these variables into one–dimensional index of general managerial ability, Custodio et al. (2013) use principal component analysis to extract common components from these five proxies. This index is standardized to have zero mean and a standard deviation of one. Higher *GAI* means higher general managerial skills.

3.2 Measuring the effect of general managerial skills on outcomes of external communication

I examine four measures to proxy for the effects of better external communication. As discussed above, most prior studies rely on management earnings forecast as a proxy for voluntary disclosure. If general managerial skills improve external communication, generalist CEOs may be better at convincing analysts to follow their guidance. Therefore, the first measure I use is the difference between post-guidance analyst forecasts and management guidance. Following Feng and Koch (2010), I define $DIFF\_AFMF_{it,q}$ as the absolute value of the difference between management guidance for quarter q in year t and the analyst consensus forecast for that quarter as of ten days after the release of the management guidance, scaled by share price of firm i at the end of quarter $q-1$. Hypothesis 1 is tested using $DIFF\_AFMF_{it}$, an average of $DIFF\_AFMF_{it,q}$ over each quarter in year t. This variable is highly positively skewed (with skewness of 3.63) so I take a logarithmic transformation of $DIFF\_AFMF_{it}$ and conduct the analysis using log-transformed values.[6] I estimate the effect of general managerial skills on the difference between analyst forecasts and management guidance using a regression model of the following form:

$$Ln(DIFF\_AFMF_{it}) = \alpha_{it} + \beta\ GAI_{it} + \gamma X_{it} + \varepsilon_{it} \qquad\qquad (1)$$

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[6] To assure that the p-values for the t-tests are valid, linear regression requires that residuals be normally distributed (i.e. normality of residuals assumption). A common cause of non-normally distributed residuals is non-normally distributed predictor variables. To deal with skewed variables, prior studies usually take a logarithmic transformation and conduct the analysis using log-transformed values (Eisenbeis 1977; Introduction to SAS. UCLA: Statistical Consulting Group from http://www.ats.ucla.edu/stat/sas/notes2/).

where i indexes firm and t indexes time. Hypothesis 1 predicts a negative and significant coefficient on β as generalist CEOs are better at convincing analysts to follow their guidance.

Control variables are denoted by the vector X, which are identified in previous studies as potential determinants of the difference between analyst forecasts and management guidance. Following Feng and Koch (2010), I control for management forecast error, which is positively related to $DIFF\_AFMF_{it.}$ I include the number of analyst following as prior studies show analyst following and disclosure quality are correlated (Lang and Lundholm 1993). Several firm characteristics also have an influence on disclosure quality. Firms with poor performance (Chen et al. 2011; Miller 2002), low transparency and liquidity (Lang et al. 2012; Bhattacharya et al. 2013), small size (Kasznik and Lev 1995), and high proprietary costs (Bamber and Cheon 1998) are more likely to have lower disclosure quality. Therefore, I include the additional control variables *Sales, Leverage, Market-to-Book, ROA, Size, Cash, CAPEX, R&D,* and *Firm Age.*

The second measure of communication outcome is dispersion in analyst forecasts. I follow Feng and Koch (2010) and define $DISP_{it,q}$ as the standard deviation of analysts' forecasts for quarter q in year t, scaled by share price of firm i at the end of quarter q-1. Hypothesis 1 is tested using $DISP_{it}$, an average of $DISP_{it,q}$ over each quarter. $DISP_{it}$ is log-transformed to reduce potential problems resulting from its highly skewed distribution, with skewness equal to 3.61. To estimate the effect of general managerial skills on the dispersion in analyst forecasts, I use a regression model of the following form:

$$Ln(DISP_{it}) = \alpha_{it} + \beta \ GAI_{it} + \gamma X_{it} + \varepsilon_{it} \qquad\qquad (2)$$

where i indexes firm and t indexes time. Hypothesis 1 predicts a negative and significant coefficient on β as generalist CEOs are better at reducing analyst forecast dispersion, thereby decreasing mispricing of shares. Prior studies document that cross-sectional variation in dispersion is induced by firm-level characteristics such as uncertainty in the analysts' information environments and difference in opinion. Consistent with Liu and Natarajan (2012), Model 2 includes the number of analysts as proxies for difference in opinion. To capture the uncertainty in information environments, I include *Loss, R&D, Leverage*, *ROA*, *Cash, CAPEX, Market-to-Book,* and *Firm Age*.

One of the most important goals for managers is to reduce the cost of capital. If generalist CEOs are better at communicating, they are more likely to achieving this goal through external communication with entities outside the organization. Prior studies document that lower cost of capital are associated with more analyst following and higher institutional ownership, which thus are the third and fourth proxy for the desired outcomes of communication. To estimate the effect of general managerial skills on the number of analysts, I use a regression model of the following form:

$$ANALYST_{it} = \alpha_{it} + \beta \ GAI_{it} + \gamma X_{it} + \varepsilon_{it} \qquad\qquad (3)$$

where i indexes firm and t indexes time. I define analyst following ($ANALYST_{it}$) as the average number of analysts following firm i as of the beginning of the quarter for all quarters in year t. Hypothesis 1 predicts a positive and significant coefficient on β as generalist CEOs are better at increasing analyst following. Model 3 includes several control variables that prior research suggests are associated with analyst coverage. Diether et al. (2002) predict that turnover in the firm's shares are positively related to

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analyst coverage, so I include *Turnover* and *Change in Turnover* in the regression. Consistent with Liu and Natarajan (2012) and Lundholm et al. (2012), I include *BETA* and *Market-to-Book* to capture the fundamental risk of firms; *R&D, Leverage, ROA, Cash, CAPEX* and *Firm Age* capture the demand for analyst services.

To estimate the effect of general managerial skills on institutional ownership, I use a regression model of the following form:

$$IOR_{it} = \alpha_{it} + \beta\, GAI_{it} + \gamma X_{it} + \varepsilon_{it} \qquad\qquad (4)$$

where the dependent variable institutional ownership (IOR_{it}) is shares held by institutional investors as a fraction of shares outstanding in year t. Hypothesis 1 predicts a positive and significant coefficient on β as generalist CEOs are better at increasing institutional ownership. Graves and Waddock (1994) document that firm profitability, size, and leverage are determinants of institutional ownership; thus, *Sales* and *ROA* are included to proxy for profitability and expected to positively related to IOR_{it}. In addition, *Market-to-Book*, *R&D, Cash, CAPEX* and *Firm Age* are intended to capture the uncertainty in information environments (Liu and Natarajan 2012).

3.3 Measuring the effect of general managerial skills on outcomes of external communication in poor and rich information environments

To test Hypothesis 2, I use four measures to proxy for poor or rich information environments based on prior literature. Following Brown and Hillegeist (2007), I use the probability of informed trade (PIN) as a proxy for information environments. The PIN is a firm-specific estimate of the probability that a trade originates from a privately informed investor. Accordingly, it captures the extent of information asymmetry among

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investors in the secondary market. Brown and Hillegeist (2007) compute the PIN using the Venter and de Jong model (2004), extension of the EKO model (Easley, Kiefer, and O'Hara 1997), measured over the annual period beginning 8 months before the firm's fiscal year end and expressed as a percentage. I define firms are in poor (rich) information environments if their PINs are above (below) the yearly median. Hypothesis 2 predicts that the impact of general managerial skills on communication outcomes will be stronger in the high PIN group than in the low PIN group. In other words, firms run by generalists will have a smaller difference between analyst forecasts and management guidance, less analyst forecast dispersion, more analyst coverage and institutional ownership under poor information enviorments.

The second measure of information environments is bid-ask spreads. Following Lang et al. (2012), this variable is calculated as the median bid-ask spreads over the fiscal year, where the bid-ask spreads are calculated as (ASK−BID)/((ASK+BID)/2). I define firms are in poor (rich) information environments if their bid-ask spreads are above (below) the yearly median. Furthermore, consistent with Bhattacharya et al. (2013) and Bushee et al. (2010), I use analyst following and institutional ownership as other proxies for information environments. Firms are in poor (rich) information environments if their analyst following and institutional ownership are below (above) the yearly median. Hypothesis 2 predicts that the effect of general managerial skills on communication outcomes will be stronger in high bid-ask spread, low analyst following, or low institutional ownership group.

CHAPTER 4

DATA, SAMPLE CONSTRUCTION, AND DESCRIPTIVE STATISTICS

Using the *GAI* developed by Custodio, Ferreira, and Matos (2013), my sample

consists of a panel of CEO-firm-years in the 1993-2012 period of Standard and Poor's

(S&P) 2,102 firms drawn from the EXECUCOMP database. Custodio, Ferreira, and

Matos (2013) manually match the executives in EXECUCOMP who are identified as

CEOs in each year with the BoardEx database to obtain information for prior professional

experience. They then match firms in BoardEx to Compustat (US firms) and Datastream

(international firms) to obtain the standard industrial classification (SIC) of firms where

CEOs worked. They use information on all of CEOs' past positions, including those in

non-S&P firms, and create *GAI* to measure the generality of CEOs' human capital, with

financial firms and utilities excluded.

I use the First Call Company Issued Guidelines (CIG) file to measure quarterly

management earnings guidance, and I/B/E/S to measure analyst forecasts. I control for

firm characteristics using accounting data from Compustat, stock returns data from CRSP,

and institutional ownership data from the Thomson CDA/Spectrum 13F Holdings.

Variable definitions are provided in the Appendix A. The sample consists of 20,513

CEO-firm-year observations between 1993 and 2012. Table 1 Panel A presents the

summary statistics for communication ability measures, disclosure choices, CEO

characteristics, and firm characteristics. Variables are winsorized at 1% level in both tails.

Panel B shows 25% of firms are run by generalists, 32% of firms are run by specialists

and 43% of firms are run by generalists or specialists in different periods. Panel C shows

42% of CEOs are classified as generalists in the whole sample period, 44% of CEOs are

classified as specialists, and 14% of CEOs are classified as both generalists and specialists in different periods. I further investigate the 14% of CEOs, 546 CEOs, who are classified as both types in Panel D. Panel D1 presents the initial status of these 546 CEOs: 15% of them are initially classified as generalists and change to specialists later; 85% of them are initially classified as specialists and then change to generalists. Panel D2 shows the number of status change of these 546 CEOs: 85% of them change once, 10% of them change twice, and only 5% of them change more than twice.

Table 2 examines the determinants of generalist CEOs using a probit regression model. CEOs with general skills are more likely to be older, hired from outside the firm, have a shorter tenure, obtain a MBA degree, and also to be chair of the board. In terms of firm characteristics, firms run by generalists are more likely to be larger, have more sales and R&D, and are more diversified with higher cash holdings.

Table 3 Panel A compares the means of communication ability measures between generalist CEOs and specialist CEOs. A generalist CEO is defined as a top executive who has a *GAI* above the median in a given year. As shown in the table, compared to firms with specialist CEOs, those with generalists have a smaller difference between post-guidance analyst forecasts and management guidance, more analyst coverage, and higher institutional ownership. Hence, in terms of the outcomes of external communication, the univariate tests suggest firms run by generalist CEOs are better at achieving the goals of communication. Panel B compares the means of disclosure choices between generalist CEOs and specialist CEOs. The univariate tests suggest that generalists tend to provide accurate forecasts and have more interactions with analysts through conference calls.

CHAPTER 5

RESULTS

5.1 General managerial skills and the outcomes of external communication

Table 4 presents the tests of whether general managerial skills affect the

difference between analyst forecasts and management guidance. The specification is an

ordinary least squares panel regression including year fixed effect, and the t-statistics are

adjusted for heteroskedasticity using clustered standard errors. Column 1 shows that the

coefficient on *GAI* is negative and significant. A one standard deviation increase in *GAI*

is related to a decrease of 4% in the difference between analyst forecasts and

management guidance. Column 2 shows the results with the alternative measure *GAI*

dummy, a value equal to one for CEO-year observations with an index above the yearly

median and zero otherwise. I find that *DIFF_AFMF* is 10% lower for generalists than

specialists. Therefore, consistent with H1, firms run by generalists are better at

convincing analysts to follow their guidance. Similar with prior studies, management

forecast error is positively associated with *DIFF_AFMF*, showing that less accurate

management guidance is related to different opinion between managers and analysts.

Also, consistent with literature, small firm size and high proprietary costs, measured by

Market-to-Book, are negatively associated with *DIFF_AFMF* (Kasznik and Lev 1995;

Bamber and Cheon 1998).

Table 5 reports the relation between dispersion in analyst forecasts and general

managerial skills. Column 1 shows a one standard deviation increase in *GAI* is related to

a decrease of 3.6% in analyst forecast dispersion. Using *GAI dummy* to classify, I find

DISP is 8% lower for generalist CEOs. Hence, the results support H1 that firms run by

generalist CEOs have significantly less forecast dispersion compared to firms run by specialist CEOs. In addition, Liu and Natarajan (2012) document that cross-sectional variation in dispersion is induced by firm-level characteristics such as uncertainty in the analysts' information environments. Similar with prior literature, I find that firms with losses and more leverage have higher dispersion. Also, the levels of cash holding and R&D are positively associated with forecast dispersion.

Then I examine the effect of *GAI* on analyst following. Table 6 column 1 shows a one standard deviation increase in *GAI* is related to an increase of 4 in the number of analyst following. Column 2 shows similar results that firms run by generalist CEOs have more analyst coverage than firms run by specialist CEOs. As expected, these results provide evidence that firms run by generalists are better at attracting analysts to follow their firms. Moreover, consistent with Diether et al. (2002), I find high turnover in the firm's shares are positively related to analyst coverage; *CAPEX* and *R&D*, which increases the demand for analyst services, are positively associated with analyst coverage (Lundholm et al. 2012).

Table 7 presents the regression of institutional ownership on general managerial skills. Column 1 reports that *GAI* is positively linked with institutional ownership and column 2 shows *IOR* is 2.2% higher for firms with generalist CEOs. Thus, this finding indicates generalist CEOs also have the abilities to attract more institutional investors. Consistent with prior studies, institutional investors tend to hold stocks of firms which are larger and more profitable. Overall, the results of Table 4 to 7 provide strong empirical evidence support Hypothesis 1 that general managerial skills play an important role in the outcomes of external communication.

5.2 General managerial skills and the outcomes of external communication in different information environments

To test Hypothesis 2, I use four measures to proxy for poor or rich information environments: PIN, bid-ask spreads, analyst following, and institutional ownership. Table 8 presents results for the sample split into high and low PIN group based on PIN above or below the yearly median. Consistent with the prediction, Panel A and C show a significant coefficient on *GAI dummy* only in firms with high PIN, a measure of high information asymmetry. Panel D indicates that generalist CEOs attract more investors in poor information environments than in rich ones.

Table 9 presents results for the sample split into high and low bid-ask spread group based on firms' spreads above or below the yearly median. Consistent with Table 8, Panel A to C show firms in high bid-ask spread groups have a significant coefficient on *GAI dummy*. Similarly, panel D indicates generalist CEO can attract more institutional ownership when their firms have higher bid-ask spreads. Therefore, these results demonstrate that general managerial skills are even more useful under poor information environments.

Table 10 reports results for high and low analyst following group. Panel A, B, and D indicate that in low analyst following environments, firms run by generalists have less difference between analyst forecasts and manager guidance, less dispersion in analyst forecasts, and more institutional investors. Likewise, Table 11 presents results for high and low institutional ownership group. Panel A to C all show that in low institutional ownership environments, firms with generalists have less difference between analyst forecasts and manager guidance, less dispersion in analyst forecasts, and more analyst

following. Overall, these findings are consistent with the prediction that general managerial skills have a stronger effect on external communication outcomes in poor information environments than in rich information environments.

5.3 General managerial skills versus talent

As discussed in Session 2, general managerial skills refer to general human capital accumulated throughout managers' lifetime work experience, while talent usually is a measure of CEO performance. To address the concern that *GAI* captures a CEO's innate talent instead of accumulated skills, I run additional tests using three proxies for CEO talent. The first measure is *Ivy League Dummy*, a variable that takes a value of one if the CEO attended an Ivy League school at any academic level. Custodio, Ferreira, and Matos (2013) point out managers who started their career under tougher labor market conditions should be more talented than other managers. Thus, the second proxy is *Recession Graduate Dummy*, a variable that takes a value of one if the CEO first academic degree was awarded in a National Bureau of Economic Research recession year. The third proxy is *Managerial Ability Score* developed in Demejian et al. (2012), a measure of managers' efficiency in transforming corporate resources to revenues. It is the residual from a regression of total firm efficiency that controls for firm features beyond CEO talent.

Table 12 reports results controlling for *Ivy League Dummy* and *Recession Graduate Dummy*. The signs and magnitudes are generally similar to the baseline regressions. Hence, my findings hold after control for innate talent. Likewise, Table 13 presents results controlling for *Managerial Ability Score*. The coefficients on *GAI dummy*

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are all significant in Panel A to D. Overall, these results show that *GAI* does not just capture talent but it measures CEOs' lifetime work experience. Generalists are better at external communication because they gain different expertise and insight in various career experiences.

5.4 General managerial skills and disclosure choices

I now consider how general skills affect voluntary disclosure choices. While the univariate tests show generalists tend to issue more accurate forecasts and hold more conference calls, the results may be driven by other firm factors rather than general skills. Table 14 presents regressions of disclosure choices on general skills. Following prior studies, I control for analyst following, litigation risk, and other firm characteristics that are related to management voluntary disclosure. Column 1 and 2 show an insignificant relation between forecast errors and general managerial skills. At first glance, the results might be somewhat surprising. However, since I find that generalists are able to achieve the desired outcomes of communication especially in poor information environments, where information asymmetry is high. It implies that generalists' communication skills may be more qualitative than quantitative and that generalist CEOs use some other means of communication rather than quarterly earnings forecasts. Consistent with this idea, I do not find generalist CEOs issue more quarterly management guidance or conference calls when compared with specialist CEOs. These results imply there is not much variation between generalist CEOs and specialist CEOs in terms of public interactions with analysts. The findings are consistent with Soltes (2014), which documents that publicly available events only capture a small amount of interactions between managers and

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analysts. In addition, column 7 and 8 show that firms with generalists issue less bad news guidance than specialists. This finding contradicts with the common belief that credible bad news disclosures from managers will gain more trust from analysts. Overall, the results indicate the traditional disclosure measures are insufficient to capture the communication ability of generalist CEOs.

5.5 What type of analysts follow firms run by generalists?

As shown in Table 6, there is a strong difference in the number of analysts between firms with generalists and with specialists. It is interesting to know what type of analysts follow firms run by generalists. Moreover, Soltes (2013) documents that analysts with certain characteristics are associated with more private interactions with management. He finds analysts covering fewer firms, spending more time in covering the firm, less experienced, and exerting more effort are likely to interact privately with managers (p.255). Also, as discussed in Session 5.3, publicly available events only capture a small amount of interactions between managers and analysts so public interactions with analysts cannot provide sufficient evidence for the communication ability of generalists. Therefore, to test the idea that private interaction is an important communication channel for generalists, I follow Soltes (2013) and examine these analyst characteristics: *Frequency of Forecasts* is the number of earning forecasts issued by an analyst in each year; *Number of Firms Covered* is the number of firms for which an analyst issues quarterly earnings forecasts in each year; *Years as Analyst* measures the length of time an analyst is included on the I/B/E/S database; *Years Covering Firm* measures the length of time for which an analyst has issued earning forecasts on a firm in

each year; *Broker Size* is the number of analysts employed in a brokerage house in each year.

Panel A of Table 15 shows the summary statistics of these analyst characteristics. Analysts who follow firms with generalists, on average, issue 10.26 forecasts per year, cover 16.6 firms per year, have 7.96 years of work experience and have followed the firms for 4.52 years. Panel B examines what type of analysts are more likely to cover firms run by generalists. As the number of forecasts an analyst made is used as a proxy for an analyst's effort (Mayew 2008), analysts following firms with generalists exert more effort than those following firms with specialists. Also, analysts following firms with generalists tend to cover fewer firms, be less experienced, have more time covering the firm, and work in a larger broker house. These results are consistent with what Soltes (2013) finds: (1) meeting privately with managers requires more effort on the part of the analyst; (2) analysts covering more firms will be less likely to meet privately with managers due to constraints on their time; (3) less experienced analysts seek to gain additional economics and institutional information through interactions with managers; (4) it takes time to develop a relationship with senior management team at a specific firm so analysts covering the firm for longer periods of time are more likely to interact privately; (5) analysts working at a larger and prestigious broker house have the ability to access significant investors for the firm, which attracts managers to speak with the analysts to obtain these relationships. Taken together, these findings provide evidence that generalist CEOs and analysts develop a mutual relationship through their private interactions.

5.6 What type of institutions hold the stocks of firms run by generalists?

As shown in Table 7, firms with generalists have higher institutional ownership than firms with specialists. Prior studies document that institutional investors are not a homogeneous group and differ greatly in terms of investment styles, trading frequency, competitive pressures, and legal restrictions, all affecting their sensitivity to the short-term performance of their portfolio companies (Potter 1992; Bushee 2001; Bushee 2004). Therefore, it is important to know what type of institutions hold the stocks of firms run by generalists. Also, are these investors desirable from managers' point of view so that managers seek to increase their institutional ownership?

Bushee (1998) classifies institutional investors into three categories based on their trading behavior: (1) Transient investors, which exhibit high portfolio turnover and own small stakes in portfolio companies. Transient investors tend to be short-term-focused investors whose interest in the firm's stock is based on the likelihood of short-term trading profits, thus increasing stock volatility of firms. (2) Dedicated investors, which provide stable ownership and take large positions in individual firms. Dedicated institutions have extremely low turnover, consistent with a relationship investing role and a commitment to provide long-term capital (Porter 1992; Dobrzynski 1993). (3) Quasi-indexers, which also trade infrequently but own small stakes. Quasi-indexers tend to have diversified holdings, consistent with a passive, buy-and-hold strategy of investing portfolio funds in a broad set of firms (Porter 1992). Moreover, Bushee (2004) finds that transient investors are attracted to companies with investor relations activities geared toward forward-looking information and news events, like management forecasts and conference calls, which constitute trading opportunities for such investors. In contrast,

quasi-indexers and dedicated institutions are largely insensitive to short-term performance and their presence is associated with lower stock price volatility. Bushee (2004) further points out that since quasi-indexers and dedicated investors are generally not looking to trade in the short term, management forecasts of quarterly earnings and other timely disclosures are relatively unimportant to them (p.29). In summary, firms usually seek to attract more dedicated investors to establish a investment commitment for long-term capital but are less likely to attract transient investors who would increase stock price volatility.

I obtain institutional ownership data from the Thomson CDA/Spectrum 13F Holdings and Institutional Investor Classification Data from Bushee's website.[7] For institutional investors who are not included in Bushee's classification, I classify them as "other" type. Panel A of Table 16 reports the summary statistics of institutional ownership for firms with generalists and specialists. For firms run by generalists, on average, quasi-indexers account for 42.9% of shareholdings, transient investors account for 17.5%, and dedicated investors account for 10.1%. Since my previous results show firms with generalists have higher institutional ownership, I expect that generalists are better at attracting dedicated investors rather than transient investors. Consistent with this prediction, Panel B indicates that dedicated investors are more likely to hold stocks of firms with generalists and transient investors are not likely to do so. Overall, these findings suggest the communication ability of generalists is useful to attract dedicated investors and gain long-term capital for their firms.

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[7] http://acct.wharton.upenn.edu/faculty/bushee/IIclass.html

5.7 Effect of Regulation FD

The SEC implemented Regulation Fair Disclosure (i.e., Reg FD) in October 2000, prohibiting firms privately disclosing material information to select groups of market participants without simultaneously disclosing the same information to the public. Despite this regulation, analysts and investors continue to covet private interactions with management (Soltes 2013; Brown et al. 2014; Solomon and Soltes 2013). Brown et al. (2014) find that information analysts obtain privately from management can become useful within the context of other information the analysts already possess. Similarly, Solomon and Soltes (2013) document that some investors are able to acquire information from private meetings with management, and this information is useful in improving their trading decisions. While these findings do not provide direct evidence of violations of Reg FD, they show that private conversations between management and outside entities are prevalent in the post-Reg FD environment. Therefore, generalists still can contact with analysts and investors through the off-line interactions to achieve the desired outcomes of communication after Reg FD.

As the effective date of Reg FD is in the fourth quarter of 2000, I define 1993 to 2000 as the pre-Reg FD period, and 2001 to 2013 as the post-Reg FD period. Table 17 shows before Reg FD, the difference between analyst forecasts and management guidance, analyst forecast dispersion, and institutional ownership are significantly different between generalists and specialists. After Reg FD, firms with generalists have a smaller difference between analyst forecasts and management guidance, more analyst coverage, and more institutional ownership than firms with specialists. These findings are

consistent with the prediction that generalists are able to achieve better communication outcomes even in the post-Reg FD environment.

5.8 Fixed effects regressions

While it has become very common to include fixed effects models in empirical studies, the decision of whether or not to employ fixed effects models depends on the goal of that research. Graham et al. (2012) point out one of the major caveats of the fixed effects model (p.165): fixed effects regressions measure only *within-individual* differences and discard *between-individual* differences. Hence, if independent variables vary greatly across individuals but have little variation over time for each individual, then fixed effects models wipe out the variation of interest. For example, Hermalin and Weisback (1991) do not apply the firm fixed effects approach when examining the effect of managerial ownership on firm value because the primary factor determining the results is between-firm variation.

Bearing in mind this caveat, I now examine CEO and firm fixed effects panel regressions. Custodio, Ferreira, and Matos (2013) mention that in the CEO fixed effects regression, the coefficient of the *GAI dummy* captures only the difference in the dependent variable for CEOs who change from specialists to generalists or vice versa (p.479). But in my sample, as shown in Table 1 Panel C, 86% of CEOs are classified as either generalists or specialists during the entire period. Moreover, for the remaining 14% of CEOs who switch between specialists and generalists, 85% of them change just once (Panel D2), indicating *GAI dummy* does not have much variation over time for the same CEO. Therefore, CEO fixed effects approach, which capture only *within-CEO variation*,

may not be suitable in my setting. Similarly, firm fixed effects models examine only the *within-firm variation* and absorb the *between-firm variation* (Graham et al. 2012, p.162). But in reality it is uncommon for a firm to replace its CEO so frequently that *GAI dummy* would have much variation over time for the same firm. Hence, I do not expect the results of fixed effects models must be consistent with the hypothesis. Table 18, 19, 20 and 21 report regressions of CEO and firm fixed effects models. After including CEO fixed effects, the difference between analyst forecasts and management guidance, analyst coverage, and institutional ownership are significantly different between generalists and specialists; after including firm fixed effects, the difference between analyst forecasts and management guidance remains significant.

5.9 Effect of product market competition

Prior studies document that general managerial skills become more important in increased product market competition due to industry deregulation or foreign competition (Cunat and Guadalupe 2009). Accordingly, I expect that the effect of general managerial skills on communication outcomes will be pronounced under stronger market competition. Table 22 presents results for the sample split into high and low *Industry Sale Herfindahl* group based on the index above or below the yearly median. Consistent with the prediction, Panel A and C show a significant coefficient on *GAI dummy* only in firms with high Herfindahl index. Also, Panel D indicates that generalist CEOs attract more investors under stronger market competition.

CHAPTER 6

CONCLUSION

This paper examines whether CEOs with general managerial skills are better at achieving the goals of external communication. I apply the General Ability Index developed by Custodio, Ferreira, and Matos (2013) to measure CEOs' general managerial skills. Using a panel of the CEOs of Standard and Poor's (S&P) 2,102 firms from 1993 to 2012, I find that firms with generalist CEOs are more likely to obtain the desired outcomes of communication, including a smaller difference between analyst forecasts and management guidance, less dispersion in analyst forecasts, higher analyst following, and higher institutional ownership, even after controlling for CEO talent and the impact of Reg FD. Moreover, I show that the effect of general managerial skills on communication outcomes is stronger for firms with high information asymmetries. These results provide direct evidence that general managerial skills are more useful to external communication in poor information environments. I also investigate the characteristics of analysts who follow firms with generalists, and my findings are consistent with the recent studies examining the private interactions between firm management and analysts. Finally, I find that generalists are able to attract dedicated investors and gain long-term capital for their firms.

Overall, I provide evidence of the growing importance of general managerial skills in external communication. The skills gathered through work experience have significant explanatory power for CEO communication outcomes. This paper offers new insights into why CEOs with general skills are paid at a premium over those with specific skills, as documented in previous studies.

REFERENCES

Abadie, A., Imbens, G., 2011. Bias-corrected matching estimators for average treatment effects. Journal of Business and Economic Statistics 29, 1‒11.

Allen F, Bernardo AE., Welch I., 2000. A theory of dividends based on tax clienteles. Journal of Finance 55: 2499‒2536.

Babenko, I., Custodio, C., and Mariano, B., 2014. Why Do Specialist Managers Run Diversified Firms? Working Paper.

Baginski, S. P., Conrad, E. J., and Hassell, J. M., 1993. The effects of management forecast precision on equity pricing and on the assessment of earnings uncertainty. The Accounting Review, 913-927.

Bailey, W., Li, H., Mao, C. X., and Zhong, R., 2003. Regulation Fair Disclosure and earnings information: Market, analyst, and corporate responses. Journal of Finance, 58(6), 2487-2514.

Ball, R., Kothari, S. P., and Watts, R. L., 1993. Economic determinants of the relation between earnings changes and stock returns. The Accounting Review, 622-638.

Bamber, L. S., Jiang, J., and Wang, I. Y., 2010. What's my style? The influence of top managers on voluntary corporate financial disclosure. The Accounting Review, 85(4), 1131-1162.

Bamber, L., and Y. Cheon., 1998. Discretionary management forecast disclosures: Antecedents and outcomes associated with forecast venue and forecast specificity choices. Journal of Accounting Research 36: 167-190.

Bandiera, O., Guiso, L., Prat, A., and Sadun, R., 2011. What do CEOs do?. Working Paper. European University Institute.

Barrett, D., 2006. Leadership communication. New York, NY.: McGraw-Hill.

Becker, G., 1962. Investment in human capital: a theoretical analysis, Journal of Political Economy 70, 9-49.

Bertrand, M., and A. Schoar., 2003. Managing with style: The effect of managers on firm policies. The Quarterly Journal of Economics 1169-1208.

Bhattacharya, N., Desai, H., and Venkataraman, K., 2013. Does Earnings Quality Affect Information Asymmetry? Evidence from Trading Costs. Contemporary Accounting Research, 30(2), 482-516.

Boone, A. L., and White, J. T., 2014. The effect of institutional ownership on firm transparency and information production. Working paper.

Botosan, C. A.,1997. Disclosure level and the cost of equity capital. The Accounting Review, 77, 323-349.

Brown, L. D., Call, A. C., Clement, M. B., and Sharp, N. Y., 2014. Inside the "Black Box" of Sell Side Financial Analysts. Journal of Accounting Research.

Brown, S., and Hillegeist, S. A., 2007. How disclosure quality affects the level of information asymmetry. Review of Accounting Studies, 12(2-3), 443-477.

Bushee, B., 1998. The influence of institutional investors on myopic RandD investment behavior. The Accounting Review, 73: 305-33.

Bushee, B., 2001. Do Institutional Investors Prefer Near-Term Earnings over Long-Run Value?. Contemporary Accounting Research, 18(2), 207-246.

Bushee, B., 2004. Identifying and attracting the "right" investors: Evidence on the behavior of institutional investors. Journal of Applied Corporate Finance, 16(4), 28-35.

Bushee, B., Matsumoto, D. A., and Miller, G. S., 2004. Managerial and investor responses to disclosure regulation: The case of Reg FD and conference calls. The Accounting Review, 79(3), 617-643.

Bushee, B., Core, J. E., Guay, W., and Hamm, S. J., 2010. The role of the business press as an information intermediary. Journal of Accounting Research, 48(1), 1-19.

Butler, A. W., and Gurun, U. G., 2012. Educational networks, mutual fund voting patterns, and CEO compensation. Review of Financial Studies.

Carpenter, M. A., Geletkanycz, M. A., and Sanders, W. G., 2004. Upper echelons research revisited: Antecedents, elements, and consequences of top management team composition. Journal of Management, 30(6), 749-778.

Chen, S., Matsumoto, D., and Rajgopal, S., 2011. Is silence golden? An empirical analysis of firms that stop giving quarterly earnings guidance in the post Regulation-FD period. Journal of Accounting and Economics, 51, 134-150.

Chordia, R., Goyal, A., Sadka, G., Sadka, R., Shivakumar, L., 2009. Liquidity and the PEAD, Financial Analyst Journal, Vol65, No. 4

Clement, M., Frankel, R., and Miller, J., 2003. Confirming management earnings forecasts, earnings uncertainty, and stock returns. Journal of Accounting Research, 41(4), 653-679.

Coller, M., and Yohn, T. L., 1997. Management forecasts and information asymmetry: An examination of bid-ask spreads. Journal of Accounting Research, 181-191.

Cotter, J., Tuna, I., and Wysocki, P., 2006. Expectations management and beatable targets: How do analysts react to public earnings guidance? Contemporary Accounting Research 23, 593-628.

Cross Borders, Global Survey on Road show Practices, 2010.

Cunat, V., and Guadalupe, M., 2009. Executive compensation and competition in the banking and financial sectors. Journal of Banking and Finance 33, 495-504.

Custodio, C., Ferreira, M.A., and Matos, P., 2013. Generalists versus Specialists: Lifetime Work Experience and CEO Pay. Journal of Financial Economics 108(2), 471-492.

Custodio, C., Ferreira, M.A., and Matos, P., 2014. Do General Managerial Skills Spur Innovation? Working paper.

Dearborn, D. C., and Simon, H. A., 1958. Selective perception: A note on the departmental identifications of executives. Sociometry, 140-144.

Demerjian, P. R., Lev, B., Lewis, M. F., and McVay, S. E., 2012. Managerial ability and earnings quality. The Accounting Review, 88(2), 463-498.

Dewatripont, M., and Tirole, J., 2005. Modes of communication. Journal of Political Economy, 113(6), 1217-1238.

Diamond, D. W., 1985. Optimal release of information by firms. Journal of Finance, 40, 1071-1094.

Diamond, D. W., and Verrecchia, R. E., 1991. Disclosure, liquidity, and the cost of capital. The Journal of Finance, 46(4), 1325-1359.

Diether, K. B., Malloy, C. J., and Scherbina. A., 2002. Differences of opinion and the cross section of stock returns. Journal of Finance 57 (December), 2113-2141.

Diether, K., Malloy, C., and Scherbina, A., 2002. Differences of opinion and the cross-section of stock returns. Journal of Finance, 57, 2113-2141.

Dobrzynski, J. 1993. Relationship investing: A new shareholder is emerging — patient and involved. Business Week 3309 (March 15), 68-75.

Easley, D., Hvidkjaer, S., and O'hara, M., 2002. Is information risk a determinant of asset returns?. Journal of Finance, 57(5), 2185-2221.

Easley, D., Hvidkjaer, S., and O'Hara, M., 2004. Factoring information into returns. Working paper. Cornell University.

Easley, D., Kiefer, N. M., and O'Hara, M., 1997. One day in the life of a very common stock. Review of Financial Studies, 10, 805-835.

Eisenbeis, R. A., 1977. Pitfalls in the application of discriminant analysis in business, finance, and economics. Journal of Finance, 32(3), 875-900.

Engelberg, J., Gao, P., and Parsons, C. A., 2013. The Price of a CEO's Rolodex. Review of Financial Studies, 26(1), 79-114.

Fee, C., C. Hadlock., 2003. Raids, rewards, and reputations in the market for managerial talent. Review of Financial Study. 16(4) 1315-1357.

Feng, M., and Koch, A. S., 2010. Once bitten, twice shy: The relation between outcomes of earnings guidance and management guidance strategy. The Accounting Review, 85(6), 1951-1984.

Fernando, C., Gatchev, V., Spindt, P., 2007. Institutional ownership and share prices: theory and evidence. Working paper. University of Oklahoma.

Ferreira, D., and Sah, R. K., 2012. Who gets to the top? Generalists versus specialists in managerial organizations. The RAND journal of economics, 43(4), 577-601.

Francis, J., Lanford, R., Olsson, P., and Schipper, K., 2007. Information Uncertainty and PEAD, Journal of Business Finance and Accounting, 34(3) and (4), April/May

Garfinkel, J., and Sokobin, 2006. Volume, Opinion Divergence and Returns: A study of PEAD, Journal of Accounting Research, Vol. 44, No. 1

Ge, W., D. Matsumoto and J. Zhang., 2011. Do CFOs have style? An empirical investigation of the effect of individual CFOs on accounting practices. Contemporary Accounting Research 28 (4), 1141-1179

Gillan, S., and Starks, L., 2000. Corporate governance proposals and shareholder activism: the role of institutional investors. Journal of Financial Economics 57, 275-305.

Gintschel, A., and Markov, S., 2004. The effectiveness of Regulation FD. Journal of Accounting and Economics, 37(3), 293-314.

Glushkov, D., 2009. Overview of IBES on WRDS: Research and Data Issues, WRDS E-Learning Session.

Graham, J. R., Li, S., and Qiu, J., 2012. Managerial attributes and executive compensation. Review of Financial Studies, 25(1), 144-186.

Graves, S. B., and Waddock, S. A., 1994. Institutional owners and corporate social performance. Academy of Management Journal, 37(4), 1034-1046.

Hambrick, D. C., 2007. Upper echelons theory: An update. Academy of management review, 32(2), 334-343.

Hambrick, D. C., and Mason, P. A., 1984. Upper echelons: The organization as a reflection of its top managers. Academy of management review, 9(2), 193-206.

Healy, P. M., and Palepu, K. G., 2001. Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. Journal of Accounting and Economics, 31(1), 405-440.

Hermalin, B., and Weisbach, M., 1991. The Effects of Board Composition and Direct Incentives on Firm Performance. Financial Management 20,101-12.

Hubbard, R.G., and Palia, D., 1995. Executive pay and performance: evidence from the US banking industry. Journal of Financial Economics 39, 105-130.

Jensen, M., and Zajac, E. J., 2004. Corporate elites and corporate strategy: How demographic preferences and structural position shape the scope of the firm. Strategic Management Journal, 25(6), 507-524.

Kasznik, R., 1999. On the association between voluntary disclosure and earnings management. Journal of Accounting Research 37, 57-81.

Kasznik, R., and Lev, B., 1995. To warn or not to warn: Management disclosures in the face of an earnings surprise. Accounting Review 70, 113-134.

Kross, W. J., and Suk, I., 2012. Does Regulation FD work? Evidence from analysts' reliance on public disclosure. Journal of Accounting and Economics, 53(1), 225-248.

Lang, M., and Lundholm, R., 1993. Cross-sectional determinants of analyst ratings of corporate disclosures. Journal of Accounting Research, 246-271.

Lang, M., Lins, K. V., and Maffett, M., 2012. Transparency, liquidity, and valuation: International evidence on when transparency matters most. Journal of Accounting Research, 50(3), 729-774.

Lawrence, A., 2013. Individual investors and financial disclosure. Journal of Accounting and Economics, 56(1), 130-147.

Lehavy, R., Li, F., and Merkley, K., 2011. The effect of annual report readability on analyst following and the properties of their earnings forecasts. The Accounting Review, 86(3), 1087-1115.

Li, F., 2008. Annual report readability, current earnings, and earnings persistence. Journal of Accounting and economics, 45(2), 221-247.

Liu, X. G., and Natarajan, R., 2012. The Effect of Financial Analysts' Strategic Behavior on Analysts' Forecast Dispersion. The Accounting Review, 87(6), 2123-2149.

Livnat, J., and Mendenhall, R. R., 2006. Comparing the post－earnings announcement drift for surprises calculated from analyst and time series forecasts. Journal of Accounting Research, 44(1), 177-205.

Loughran, T., and McDonald, B., 2014. Measuring readability in financial disclosures. Journal of Finance, 69(4), 1643-1671.

Lundholm, R., Rogo, R., and Zhang, J. L., 2012. Restoring the Tower of Babel: An analysis of text and numbers in management communications of US and cross-listed firms. Working paper. University of British Columbia.

Mayew, W. J., 2008. Evidence of management discrimination among analysts during earnings conference calls. Journal of Accounting Research, 46(3), 627-659.

McConnell JJ, Servaes H., 1990. Additional evidence on equity ownership and corporate value. Journal of Financial Economics 27: 595－612

Milbourn, T., 2003. CEO reputation and stock-based compensation. Journal of Financial Econom. 68(2) 233-262.

Miller, G., 2002. Earnings performance and discretionary disclosure. Journal of Accounting Research 40, 173-204.

Murphy, K. J., and Zabojnik, J., 2004. CEO pay and appointments: a market- based explanation for recent trends. American Economic Review Papers and Proceedings 94, 192-196.

Murphy, K. J., and Zabojnik, J., 2007. Managerial capital and the market for CEOs. Working paper. University of Southern California.

Payne, J. L., and Thomas, W. B., 2003. The implications of using stock-split adjusted I/B/E/S data in empirical research. The Accounting Review, 78(4), 1049-1067.

Potter, G., 1992. Accounting earnings announcements, institutional investor concentration, and common stock returns. Journal of Accounting Research, 146-155.

Rajgopal, S., Shevlin, T., and Zamora, V., 2006. CEOs' outside employment opportunities and the lack of relative performance evaluation in compensation contracts. Journal of Finance 61(4), 1813-1844

Roulstone, D. T., 2003. Analyst Following and Market Liquidity. Contemporary Accounting Research, 20, 552-578.

Sadka, R., 2006. Momentum and PEAD anomalies: The role of liquidity risk, Journal of Financial Economics, Vol. 80

Smith, M., and White, M., 1987. Strategy, CEO specialization, and succession. Administrative Science Quarterly 32 (2), 263-280.

Solomon, D. H., and Soltes, E. F., 2013. What are we meeting for? The consequences of private meetings with investors. Working paper. University of Southern California.

Soltes, E., 2014. Private Interaction Between Firm Management and Sell Side Analysts. Journal of Accounting Research, 52(1), 245-272.

Thomas, A., Litschert, R., and Ramaswamy, K., 1991. The performance impact of strategy-manager coalignment: An empirical examination. Strategic Management Journal 12 (7), 509-522.

Thomson Reuters, 2009. IR Best Practices Executive Summary.

Venter, J.H., and de Jongh, D., 2006. Extending the ekop model to estimate the probability of informed trading. Studies in Economics and Econometrics 30, 25-39

Verrecchia, R., 1983. Discretionary disclosure. Journal of Accounting and Economics 5, 179-194.

Verrecchia, R., 2001. Essays on disclosure. Journal of Accounting and Economics 32, 97-180.

Wiersema, M. F., and Bantel, K. A., 1992. Top management team demography and corporate strategic change. Academy of Management Journal, 35(1), 91-121.

APPENDIX A

VARIABLE DEFINITIONS

Communication ability measures	
DIFF_AFMF	Average of the absolute difference between management quarterly forecasts and analyst consensus forecasts after management forecasts in year t, scaled by stock price at the beginning of the quarter (First Call; I/B/E/S).
DISP	Average of analyst forecast dispersion at the beginning of each quarter in year t, scaled by stock price at the beginning of the quarter (I/B/E/S).
ANALYST	Average of the number of analyst following the firm at the beginning of each quarter in year t (I/B/E/S).
IOR	Shares held by institutional investors as a fraction of shares outstanding (Thomson CDA/Spectrum 13F Holdings).
CEO Characteristics	
General Ability Index	First factor of applying principal components analysis to five proxies of general managerial ability: past Number of Positions, Number of Firms, Number of Industries, CEO Experience Dummy, and Conglomerate Experience Dummy (BoardEx).
General Ability Index Dummy	Dummy variable that takes a value of one if the CEO's general ability index is above the yearly median, and zero otherwise (BoardEx).
CEO Tenure	Number of years as CEO in the current position (BoardEx).
CEO Age	Age of CEO in years (BoardEx).
External Hire Dummy	Dummy variable that takes a value of one if CEO was hired from outside the firm, and zero otherwise (BoardEx).
MBA Dummy	Dummy variable that takes a value of one if CEO has a MBA degree, and zero otherwise (BoardEx).
CEO-Chair Dummy	Dummy variable that takes a value of one if CEO is also chair of the board, and zero otherwise (BoardEx).
Ivy League Dummy	Dummy variable that takes a value of one if CEO attended an Ivy League school (Brown University, Columbia University, Cornell University, Dartmouth College, Harvard University, Princeton University, University of Pennsylvania, and Yale University) at any academic level and zero otherwise (BoardEx).
Recession Graduate Dummy	Dummy variable that takes a value of one if the CEO graduated (first academic degree) in a National Bureau of Economics Research recession year and zero otherwise (BoardEx).
Managerial Ability Score	The score is developed by Demerjian et al. (2011), the residual from the second stage estimation of firm efficiency, controlling for various firm specific factors (https://community.bus.emory.edu/personal/PDEMERJ/Pages/Download-Data.aspx).

Industry Sales Herfindahl	Herfindahl index calculated as the sum of squared market shares of firms' sales (Compustat SALE) at the two-digit SIC industry level.
Firm Characteristics	
Sales	Sales in thousands of dollars (Compustat SALE).
Leverage	Total debt, defined as debt in current liabilities plus long-term debt, divided by total assets (Compustat (DLC + DLTT) / AT).
Market to Book	Assets plus market value of equity minus book value of equity divided by assets (Compustat (AT + CSHO*PRCC_F - CEQ) / AT)).
ROA	Earnings before interest and taxes divided by total assets (Compustat EBIT / AT).
Size	Log value of total assets (Compustat AT).
Diversification Dummy	Dummy variable that takes a value of one if a firm has more than one business segment, and zero otherwise (Compustat).
Stock Return	Annual stock return (Compustat (PRCC_F(t) / AJEX(t) + DVPSX_F(t) / AJEX(t)) / (PRCC_F(t-1) / AJEX_F(t-1))).
Loss	Percentage of quarters with losses (Compustat).
Litigation	Dummy variable that takes a value of one if a firm is in the biotechnology, computer, electronics, or retailing sector, and zero otherwise (Compustat).
Cash	Cash and short-term investments divided by total assets (Compustat CHE / AT).
CAPEX	Capital expenditures divided by total assets (CAPX / AT).
Firm Age	Number of years since a firm listed its shares (CRSP).
R&D	Research and development expenses divided by total assets (Compustat XRD / AT).
Beta	The slope of CAPM model (CRSP).
Turnover	The average share turnover in a stock and is defined as shares traded divided by shares outstanding (CRSP).
Change in Turnover	Turnover in year t minus Turnover in year t-1 (CRSP).
PIN	The probability of informed trade (http://scholar.rhsmith.umd.edu/sbrown/pin-data) .
Bid-ask Spreads	The median bid-ask spreads over the fiscal year, where the bid-ask spreads are calculated as (ASK−BID)/((ASK+BID)/2 (CRSP).
Disclosure variables	
Management Forecast Error	Average of the absolute management forecast errors in year t, scaled by stock price at the beginning of the quarter (First Call).
Number of Quarterly Guidance	Number of earnings forecasts for one to four quarters in year t (First Call).
Number of Quarterly Conference Call	Number of earnings conference calls in year t (http://webuser.bus.umich.edu/feng/).

Badnews Guidance Frequency	Number of management bad earnings forecasts divided by the total number of management earnings forecasts in year t. Bad earnings forecasts are management forecasts below the prior analysts' prior consensus forecast (I/B/E/S).

Table 1 Summary statistics

Panel A presents the median, mean, standard deviation, minimum, and maximum for each variable. Panel B reports firms run by generalists, specialists, or both in sample period. Panel C presents CEOs classified as generalists, specialists, or both in sample period. Panel D reports the initial status and status change for those CEOs classified as both in sample period. The sample consists of EXECUCOMP firms for which CEO profile data are available from BoardEx in the 1993-2012 period. Financial and utility firms are omitted. All variables are winsorized at the 1st and 99th percentile values.

Panel A: Summary statistics

	Median	Mean	Standard Deviation	Min	Max
Communication ability measures					
DIFF_AFMF	-6.067	-6.152	1.307	-10.442	-2.790
DISP	-6.753	-6.765	1.095	-9.142	-3.844
ANALYST	53.000	64.739	46.308	8.000	218.000
IOR	0.705	0.690	0.149	0.238	1.045
Disclosure choices					
Management Forecast Error	-6.171	-6.215	1.147	-8.685	-2.864
Number of Quarterly Guidance	3.000	2.884	1.074	1.000	4.000
Number of Quarterly Conference Call	2.000	1.775	0.811	1.000	5.000
CEO characteristics					
General Ability Index	0.200	0.255	0.947	-1.519	2.658
CEO Tenure	5.000	6.217	4.373	1.000	23.000
CEO Age	55.500	55.326	6.306	40.000	72.000
External Hire Dummy	0.000	0.304	0.462	0.000	1.000
MBA Dummy	0.000	0.348	0.478	0.000	1.000
CEO-Chair Dummy	1.000	0.681	0.468	0.000	1.000
Ivy League Dummy	0.000	0.232	0.424	0.000	1.000
Recession Graduate Dummy	0.000	0.384	0.488	0.000	1.000
Managerial Ability Score	-0.003	0.000	0.113	-0.306	0.320
Firm characteristics					
Sales	8.044	8.017	1.191	5.069	12.457
Leverage	0.242	0.241	0.126	0.000	0.569
Market to Book	1.721	2.027	1.030	0.916	7.678
ROA	0.098	0.100	0.070	-0.157	0.361
Size	8.017	8.029	1.144	5.119	11.127
Cash	0.076	0.106	0.108	0.001	0.537
CAPEX	0.034	0.045	0.035	0.006	0.199
Firm Age	31.000	30.167	21.528	2.000	79.000
R&D	0.009	0.025	0.039	0.000	0.271

Beta	3.000	3.428	1.708	1.000	7.000
Turnover	1.282	1.457	0.929	0.364	8.176
Change in Turnover	0.024	-0.074	1.210	-13.353	1.532
Loss	0.000	0.121	0.250	0.000	1.000
Litigation	0.000	0.297	0.459	0.000	1.000

Panel B: Firms

	Number of firms	Percentage	Number of firm-years	Percentage
Firms run by generalists	528	25%	3,926	19%
Firms run by specialists	671	32%	4,795	23%
Firms run by generalists and specialists	903	43%	11,792	57%
Total	2,102	100%	20,513	100%

Panel C: CEOs

	Number of CEOs	Percentage
CEOs classified as generalists only	1,629	42%
CEOs classified as specialists only	1,700	44%
CEOs classified as both generalists and specialists	546	14%
Total	3,875	100%

Panel D1: CEO classified as both generalists and specialists: initial status

Initial status	Number of CEOs	Percentage
Generalists	84	15%
Specialists	462	85%
Total	546	100%

Panel D2: CEO classified as both generalists and specialists: status change

Number of status change	Number of CEOs	Percentage
1	463	85%
2	56	10%
3	11	2%
4	9	2%
5	7	1%
Total	546	100%

Table 2 The determinants of generalist CEOs

This table examines the determinants of generalist CEOs using a probit regression model. GAI dummy is a variable equal to one if a CEO has a General Ability Index above the median in a given year. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

	GAI Dummy
CEO Tenure	-0.032***
	[-18.608]
CEO Age	0.032***
	[18.634]
External Hire Dummy	0.378***
	[16.115]
MBA Dummy	0.377***
	[15.575]
CEO-Chair Dummy	0.311***
	[12.784]
Size	0.051**
	[2.190]
Sales	0.140***
	[5.943]
Leverage	0.050
	[0.612]
Market to Book	-0.020*
	[-1.650]
ROA	-0.611***
	[-3.868]
Diversification Dummy	0.163***
	[6.504]
Stock Return	0.021
	[0.857]
Cash	0.215**
	[2.290]
CAPEX	-1.150***
	[-4.090]
Firm Age	-0.003***
	[-3.926]
R&D	2.082***
	[6.977]
Intercept	-3.607***
	[-13.593]
N	14,745
Pseudo R^2	0.117

Table 3 Univariate tests

Panel A presents the means of communication ability measures and Panel B presents the means of disclosure choices for the sample of generalist CEOs (those with General Ability Index above the yearly median) and specialist CEOs (those with General Ability Index above the yearly median), the associated difference, and its t-statistic. Variable definitions are provided in the Appendix A.

Panel A

Communication ability measures	Generalists	Specialists	Difference	t-statistic
DIFF_AFMF	-5.886	-5.701	-0.184	-3.39
DISP	-6.573	-6.485	-0.065	-1.87
ANALYST	64.267	55.086	9.267	11.98
IOR	0.677	0.653	0.026	8.48

Panel B

Disclosure choices	Generalists	Specialists	Difference	t-statistic
Management Forecast Error	-6.361	-6.310	-0.129	-3.6
Number of Quarterly Guidance	3.041	3.073	-0.043	-1.15
Number of Quarterly Conference Call	2.657	2.647	0.065	2.04

Table 4 General managerial skills and the difference between analyst forecasts and management forecasts

This table presents the tests of whether general managerial skills affect the difference between analyst forecasts and management guidance. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

	(1)	(2)
	OLS	OLS
	DIFF_AFMF	*DIFF_AFMF*
GAI	-0.042*	
	[-1.666]	
GAI Dummy		-0.101*
		[-1.907]
Management Forecast Error	0.543***	0.543***
	[24.134]	[24.038]
Analyst	0.003***	0.003***
	[4.012]	[3.948]
Sales	0.120**	0.119**
	[2.385]	[2.364]
Leverage	0.296	0.290
	[1.553]	[1.512]
Market to Book	-0.112***	-0.112***
	[-4.539]	[-4.579]
ROA	-1.425***	-1.451***
	[-3.750]	[-3.853]
Size	-0.232***	-0.232***
	[-4.079]	[-4.090]
Cash	0.176	0.161
	[0.825]	[0.757]
Capex	-0.445	-0.385
	[-0.783]	[-0.678]
Firm Age	0.002	0.002
	[1.539]	[1.564]
R&D	0.059	0.101
	[0.113]	[0.192]
Intercept	-1.067***	-1.011***
	[-3.466]	[-3.297]
N	2,405	2,405
R^2	0.394	0.397

Table 5 General managerial skills and dispersion in analyst forecasts

This table presents the tests of whether general managerial skills affect dispersion in analyst forecasts. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

	(1)	(2)
	OLS	OLS
	DISP	*DISP*
GAI	-0.036*	
	[-1.768]	
GAI Dummy		-0.080*
		[-1.848]
Analyst	-0.002***	-0.002***
	[-3.275]	[-3.326]
Leverage	0.236*	0.233*
	[1.675]	[1.656]
Market to Book	-0.374***	-0.374***
	[-16.332]	[-16.335]
ROA	-1.019***	-1.006***
	[-2.778]	[-2.750]
Cash	0.928***	0.923***
	[4.699]	[4.687]
Capex	0.969*	0.974*
	[1.946]	[1.959]
Firm Age	1.131**	1.154**
	[2.004]	[2.031]
R&D	0.002*	0.002*
	[1.724]	[1.719]
Loss	1.810***	1.811***
	[19.600]	[19.622]
Intercept	-6.621***	-6.584***
	[-13.808]	[-13.891]
N	5,030	5,030
R^2	0.464	0.464

Table 6 General managerial skills and the number of analyst following

This table presents the tests of whether general managerial skills affect the number of analyst following. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

	(1)	(2)
	OLS	OLS
	ANALYST	*ANALYST*
GAI	3.827***	
	[3.575]	
GAI Dummy		4.053**
		[2.171]
Beta	0.002	0.011
	[0.006]	[0.033]
Turnover	9.478***	9.571***
	[7.119]	[7.145]
Change in Turnover	-3.631***	-3.673***
	[-3.475]	[-3.515]
Leverage	11.818*	12.502*
	[1.714]	[1.819]
Market to Book	7.114***	7.179***
	[6.302]	[6.231]
ROA	9.513	8.520
	[0.562]	[0.498]
Cash	6.582	6.403
	[0.493]	[0.474]
Capex	151.956***	149.657***
	[5.492]	[5.411]
R&D	204.335***	208.106***
	[4.539]	[4.595]
Firm Age	0.210***	0.225***
	[3.616]	[3.924]
Intercept	35.428***	31.965***
	[5.984]	[5.529]
N	7,938	7,938
R^2	0.312	0.307

Table 7 General managerial skills and institutional ownership

This table presents the tests of whether general managerial skills affect institutional ownership. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

	(1)	(2)
	OLS	OLS
	IOR	*IOR*
GAI	0.012***	
	[3.677]	
GAI Dummy		0.022***
		[3.760]
Sales	-0.010	-0.010
	[-1.436]	[-1.477]
Leverage	0.050**	0.050**
	[2.043]	[2.066]
Market to Book	-0.007***	-0.007**
	[-2.584]	[-2.566]
ROA	0.436***	0.435***
	[10.671]	[10.640]
Size	0.027***	0.028***
	[4.208]	[4.275]
Cash	0.031	0.032
	[1.267]	[1.305]
Capex	0.120**	0.118**
	[2.039]	[2.004]
R&D	0.021	0.018
	[0.269]	[0.230]
Firm Age	-0.001***	-0.001***
	[-5.783]	[-5.750]
Intercept	0.364***	0.350***
	[13.823]	[13.336]
N	18,720	18,720
R^2	0.276	0.276

Table 8 Different information environments measured by PIN

This table presents the tests of general managerial skills and the outcomes of external communication in different information environments, measured by PIN. High and low PIN groups consist of firms whose PINs are above or below the yearly median. In Panel A, the dependent variable is difference between analyst forecasts and manager forecasts. In Panel B, the dependent variable is dispersion in analyst forecasts.

Panel A	High PIN	Low PIN	Panel B	High PIN	Low PIN
	DIFF_AFMF	DIFF_AFMF		DISP	DISP
GAI Dummy	-0.207***	-0.003	GAI Dummy	-0.087	-0.068
	[-2.815]	[-0.037]		[-1.589]	[-1.278]
Management Forecast Error	0.477***	0.595***	Analyst	-0.002**	-0.001
	[15.405]	[20.520]		[-2.187]	[-1.488]
Analyst	0.002*	0.003***	Loss	1.768***	1.731***
	[1.947]	[3.070]		[15.133]	[13.700]
Sales	0.128*	0.095	Leverage	0.383**	0.161
	[1.895]	[1.414]		[2.197]	[0.868]
Leverage	0.185	0.372	Market to Book	-0.337***	-0.378***
	[0.678]	[1.458]		[-9.227]	[-14.983]
Market to Book	-0.080*	-0.121***	ROA	-2.010***	-0.434
	[-1.879]	[-4.309]		[-3.726]	[-1.000]
ROA	-2.450***	-0.977**	Cash	0.929***	0.898***
	[-3.917]	[-2.127]		[4.518]	[3.290]
Size	-0.242***	-0.217***	Capex	1.344**	0.962
	[-3.149]	[-2.660]		[2.124]	[1.528]
Cash	-0.309	0.358	R&D	0.772	1.714**
	[-0.994]	[1.334]		[1.130]	[2.341]
Capex	-0.488	-0.281	Firm Age	0.005***	0.002
	[-0.597]	[-0.380]		[3.253]	[1.535]
Firm Age	0.002	0.002	Intercept	-6.593***	-6.761***
	[1.134]	[1.128]		[-13.358]	[-17.813]
R&D	-0.256	-0.007	N	2,194	2,836
	[-0.297]	[-0.011]	R^2	0.464	0.449
Intercept	-1.200***	-1.579**			
	[-3.130]	[-2.315]			
N	1,194	1,211			
R^2	0.334	0.452			

Table 8 Different information environments measured by PIN

In Panel C, the dependent variable is dispersion in analyst following. In Panel D, the dependent variable is institutional ownership. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel C	High PIN ANALYST	Low PIN ANALYST	Panel D	High PIN IOR	Low PIN IOR
GAI Dummy	3.177**	2.958	GAI Dummy	0.029***	0.014**
	[1.987]	[1.232]		[3.923]	[2.135]
Beta	-0.111	0.390	Sales	-0.006	-0.008
	[-0.337]	[0.916]		[-0.733]	[-1.123]
Turnover	11.039***	6.602***	Leverage	0.031	0.067**
	[7.948]	[5.024]		[1.054]	[2.396]
Change in Turnover	-3.662***	-2.963**	Market to Book	-0.004	-0.013***
	[-3.510]	[-2.250]		[-0.984]	[-4.683]
Leverage	14.659**	6.685	ROA	0.483***	0.296***
	[2.439]	[0.733]		[9.651]	[6.230]
Market to Book	5.860***	7.580***	Size	0.040***	-0.005
	[3.954]	[5.876]		[5.112]	[-0.670]
ROA	17.378	-53.384***	Cash	0.020	0.020
	[1.103]	[-2.604]		[0.678]	[0.767]
Cash	-10.622	32.731**	Capex	0.136**	0.044
	[-0.940]	[2.055]		[2.028]	[0.682]
Capex	94.582***	205.154***	R&D	0.061	-0.017
	[4.380]	[5.659]		[0.635]	[-0.202]
R&D	126.209***	224.666***	Firm Age	-0.001***	-0.001***
	[3.124]	[4.369]		[-4.639]	[-4.093]
Firm Age	0.185***	0.092	Intercept	0.224***	0.621***
	[3.504]	[1.369]		[7.267]	[17.924]
Intercept	11.041	18.076***	N	10,159	8,573
	[1.494]	[2.788]	R^2	0.275	0.282
N	3,798	4,140			
R^2	0.392	0.247			

Table 9 Different information environments measured by bid-ask spreads

This table presents the tests of general managerial skills and the outcomes of external communication in different information environments, measured by bid-ask spreads. High and low bid-ask spread groups consist of firms whose bid-ask spreads are above or below the yearly median. In Panel A, the dependent variable is difference between analyst forecasts and manager forecasts. In Panel B, the dependent variable is dispersion in analyst forecasts. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel A	High Bid-ask Spread DIFF_AFMF	Low Bid-ask Spread DIFF_AFMF	Panel B	High Bid-ask Spread DISP	Low Bid-ask Spread DISP
GAI Dummy	-0.204**	-0.017	GAI Dummy	-0.117**	-0.058
	[-2.583]	[-0.250]		[-2.241]	[-0.989]
Management Forecast Error	0.447***	0.613***	Analyst	-0.002***	-0.000
	[14.275]	[20.257]		[-2.865]	[-0.692]
Analyst	0.004***	0.002**	Loss	1.690***	1.662***
	[3.811]	[2.102]		[15.707]	[11.537]
Sales	0.150**	0.085	Leverage	0.279	0.148
	[2.099]	[1.319]		[1.608]	[0.767]
Leverage	0.297	0.274	Market to Book	-0.296***	-0.371***
	[1.072]	[1.060]		[-7.679]	[-13.855]
Market to Book	-0.140**	-0.108***	ROA	-1.969***	-0.567
	[-2.445]	[-4.026]		[-4.179]	[-1.176]
ROA	-2.840***	-0.675	Cash	0.751***	1.029***
	[-4.606]	[-1.497]		[3.723]	[3.563]
Size	-0.306***	-0.183**	Capex	0.803	1.546**
	[-3.875]	[-2.312]		[1.317]	[2.351]
Cash	-0.207	0.347	R&D	0.666	1.837**
	[-0.547]	[1.394]		[1.149]	[2.287]
Capex	-1.155	-0.017	Firm Age	0.003**	0.003*
	[-1.214]	[-0.026]		[2.280]	[1.897]
Firm Age	0.002	0.002	Intercept	-5.821***	-7.266***
	[0.875]	[0.967]		[-61.057]	[-11.346]
R&D	-0.616	0.426	N	2,309	2,721
	[-0.634]	[0.721]	R^2	0.459	0.413
Intercept	-1.059***	-1.035***			
	[-3.380]	[-2.728]			
N	1,116	1,289			
R^2	0.348	0.457			

Table 9 Different information environments measured by bid-ask spreads

In Panel C, the dependent variable is dispersion in analyst following. In Panel D, the dependent variable is institutional ownership. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel C

	High Bid-ask Spread ANALYST	Low Bid-ask Spread ANALYST
GAI Dummy	3.274**	2.375
	[1.980]	[1.013]
Beta	-1.588***	-0.004
	[-4.940]	[-0.009]
Turnover	12.660***	6.216***
	[10.682]	[3.885]
Change in Turnover	-5.320***	-2.403***
	[-7.683]	[-2.733]
Leverage	13.459**	-3.144
	[2.022]	[-0.344]
Market to Book	6.079***	6.326***
	[4.008]	[4.561]
ROA	-11.110	-63.430***
	[-0.612]	[-2.759]
Cash	1.027	27.852*
	[0.083]	[1.675]
Capex	105.822***	194.106***
	[4.998]	[4.846]
R&D	150.578***	205.888***
	[3.339]	[3.706]
Firm Age	0.070	0.145**
	[1.286]	[2.166]
Intercept	3.663	28.266***
	[0.631]	[4.045]
N	3,789	4,149
R^2	0.329	0.300

Panel D

	High Bid-ask Spread IOR	Low Bid-ask Spread IOR
GAI Dummy	0.031***	0.013**
	[3.840]	[1.982]
Sales	-0.003	-0.008
	[-0.324]	[-1.112]
Leverage	-0.005	0.100***
	[-0.168]	[3.610]
Market to Book	-0.008	-0.008***
	[-1.619]	[-2.885]
ROA	0.486***	0.161***
	[9.769]	[3.507]
Size	0.049***	-0.017**
	[5.813]	[-2.312]
Cash	0.037	0.008
	[1.110]	[0.329]
Capex	0.187***	-0.018
	[2.704]	[-0.258]
R&D	0.060	-0.057
	[0.566]	[-0.724]
Firm Age	-0.001***	-0.001***
	[-3.129]	[-3.332]
Intercept	0.133***	0.748***
	[4.074]	[25.802]
N	9,507	9,225
R^2	0.308	0.331

Table 10 Different information environments measured by analyst following

This table presents the tests of general managerial skills and the outcomes of external communication in different information environments, measured by analyst following. High and low analyst following groups consist of firms whose analyst following is above or below the yearly median. In Panel A, the dependent variable is difference between analyst forecasts and manager forecasts. In Panel B, the dependent variable is dispersion in analyst forecasts. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel A	High Analyst Following	Low Analyst Following	Panel B	High Analyst Following	Low Analyst Following
	DIFF_AFMF	*DIFF_AFMF*		*DISP*	*DISP*
GAI Dummy	-0.047	-0.157**	GAI Dummy	-0.020	-0.157***
	[-0.661]	[-2.075]		[-0.348]	[-2.949]
Management Forecast Error	0.596***	0.472***	Analyst	-0.001**	-0.008***
	[22.105]	[13.843]		[-2.081]	[-4.400]
Analyst	0.002**	0.008***	Loss	1.744***	1.804***
	[2.162]	[2.981]		[14.132]	[14.359]
Sales	0.097	0.150*	Leverage	0.209	0.340*
	[1.584]	[1.909]		[1.216]	[1.727]
Leverage	0.183	0.435	Market to Book	-0.396***	-0.308***
	[0.699]	[1.581]		[-15.412]	[-7.134]
Market to Book	-0.125***	-0.092*	ROA	-0.512	-2.284***
	[-4.894]	[-1.932]		[-1.195]	[-3.701]
ROA	-1.010***	-2.271***	Cash	0.964***	0.789***
	[-2.704]	[-3.057]		[3.633]	[3.449]
Size	-0.198***	-0.311***	Capex	0.937	1.251*
	[-2.752]	[-3.521]		[1.537]	[1.756]
Cash	0.431*	-0.398	R&D	1.813**	-0.153
	[1.689]	[-1.121]		[2.479]	[-0.205]
Capex	-0.451	-0.572	Firm Age	0.003*	0.001
	[-0.655]	[-0.643]		[1.861]	[0.740]
Firm Age	0.003	0.002	Intercept	-5.939***	-7.394***
	[1.382]	[0.909]		[-54.177]	[-13.713]
R&D	0.462	-0.901	*N*	2,896	2,134
	[0.739]	[-1.006]	R^2	0.474	0.454
Intercept	-0.519*	-1.272**			
	[-1.743]	[-2.315]			
N	1,262	1,143			
R^2	0.467	0.324			

Table 10 Different information environments measured by analyst following

In Panel C, the dependent variable is institutional ownership. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel C

	High Analyst Following IOR	Low Analyst Following IOR
GAI Dummy	0.018**	0.031***
	[2.504]	[3.497]
Size	0.019***	0.067***
	[2.702]	[5.839]
Sales	-0.005	-0.026**
	[-0.624]	[-2.236]
Leverage	0.079***	-0.040
	[2.822]	[-1.088]
Market to Book	-0.005	-0.011**
	[-1.497]	[-2.267]
ROA	0.449***	0.397***
	[9.731]	[5.414]
Cash	0.037	0.051
	[1.316]	[1.406]
Capex	0.168**	0.112
	[2.567]	[1.072]
R&D	0.040	0.028
	[0.462]	[0.213]
Firm Age	-0.001***	-0.001***
	[-5.637]	[-3.396]
Intercept	0.353***	0.234***
	[11.206]	[5.702]
N	12,517	6,215
R^2	0.279	0.296

Table 11 Different information environments measured by institutional ownership

This table presents the tests of general managerial skills and the outcomes of external communication in different information environments, measured by institutional ownership. High and low institutional ownership groups consist of firms whose institutional ownership is above or below the yearly median. In Panel A, the dependent variable is difference between analyst forecasts and manager forecasts. In Panel B, the dependent variable is dispersion in analyst forecasts. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel A	High IOR	Low IOR	Panel B	High IOR	Low IOR
	DIFF_AFMF	*DIFF_AFMF*		*DISP*	*DISP*
GAI Dummy	0.007	-0.197***	GAI Dummy	-0.034	-0.134**
	[0.092]	[-2.958]		[-0.698]	[-2.026]
Management Forecast E	0.554***	0.539***	Analyst	-0.001	-0.003***
	[17.423]	[18.212]		[-1.343]	[-3.689]
Analyst	0.003***	0.003***	Loss	1.823***	1.801***
	[3.013]	[2.779]		[16.656]	[12.656]
Sales	0.151**	0.086	Leverage	0.243	0.234
	[2.025]	[1.274]		[1.492]	[1.060]
Leverage	0.195	0.389	Market to Book	-0.392***	-0.354***
	[0.692]	[1.555]		[-13.380]	[-10.956]
Market to Book	-0.098**	-0.121***	ROA	-0.543	-1.328**
	[-2.141]	[-4.166]		[-1.193]	[-2.432]
ROA	-1.499*	-1.362***	Cash	1.010***	0.756**
	[-1.877]	[-3.339]		[5.492]	[1.994]
Size	-0.274***	-0.183**	Capex	0.714	1.394*
	[-3.206]	[-2.487]		[1.311]	[1.837]
Cash	0.347	0.068	R&D	1.073	1.312*
	[1.034]	[0.268]		[1.533]	[1.768]
Capex	-0.645	-0.307	Firm Age	0.003*	0.002
	[-0.828]	[-0.398]		[1.744]	[1.050]
Firm Age	-0.000	0.003*	Intercept	-6.307***	-6.544***
	[-0.018]	[1.768]		[-30.170]	[-13.610]
R&D	0.380	0.040	*N*	3,064	1,966
	[0.477]	[0.062]	R^2	0.433	0.510
Intercept	-0.815**	-1.127***			
	[-2.035]	[-3.137]			
N	1,100	1,305			
R^2	0.371	0.422			

Table 11 Different information environments measured by institutional ownership

In Panel C, the dependent variable is analyst following. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel C

	High IOR	Low IOR
	ANALYST	*ANALYST*
GAI Dummy	1.706	6.585***
	[0.770]	[2.630]
Beta	1.395***	-1.212***
	[3.208]	[-2.683]
Turnover	9.908***	10.375***
	[6.890]	[6.578]
Change in Turnover	-6.370***	-2.013***
	[-6.997]	[-2.827]
Leverage	-0.952	28.594***
	[-0.112]	[3.297]
Market to Book	7.070***	6.593***
	[4.735]	[4.587]
ROA	-7.641	26.343
	[-0.356]	[1.163]
Cash	12.056	8.813
	[0.758]	[0.517]
Capex	155.316***	139.395***
	[4.301]	[4.562]
R&D	122.404**	286.165***
	[2.356]	[5.025]
Firm Age	0.122*	0.327***
	[1.840]	[4.572]
Intercept	-4.434	10.787
	[-0.780]	[1.256]
N	4,395	3,543
R^2	0.279	0.368

Table 12 General managerial skills and talent measured by Ivy League Dummy and Recession Graduate Dummy

This table presents the tests of general managerial skills and the outcomes of external communication controlling for Ivy League Dummy and Recession Graduate Dummy. In Panel A, the dependent variable is difference between analyst and manager forecasts. In Panel B, the dependent variable is dispersion in analyst forecasts. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel A	OLS	OLS	Panel B	OLS	OLS
	DIFF_AFMF	*DIFF_AFMF*		*DISP*	*DISP*
GAI	-0.043*		GAI	-0.033	
	[-1.743]			[-1.603]	
GAI Dummy		-0.106**	GAI Dummy		-0.075*
		[-2.029]			[-1.720]
Management Forecast Error	0.542***	0.542***	Analyst	-0.002***	-0.002***
	[23.983]	[23.991]		[-3.336]	[-3.292]
Analyst	0.003***	0.003***	Loss	1.811***	1.810***
	[3.922]	[4.044]		[19.581]	[19.560]
Sales	0.125**	0.126**	Leverage	0.235*	0.237*
	[2.452]	[2.456]		[1.678]	[1.694]
Leverage	0.289	0.302	Market to Book	-0.371***	-0.372***
	[1.500]	[1.571]		[-16.147]	[-16.142]
Market to Book	-0.114***	-0.115***	ROA	-1.015***	-1.027***
	[-4.648]	[-4.674]		[-2.761]	[-2.788]
ROA	-1.420***	-1.425***	Cash	0.919***	0.924***
	[-3.729]	[-3.748]		[4.657]	[4.670]
Size	-0.235***	-0.238***	Capex	0.943*	0.939*
	[-4.115]	[-4.141]		[1.897]	[1.888]
Cash	0.181	0.181	Firm Age	1.158**	1.136**
	[0.855]	[0.849]		[2.035]	[2.008]
Capex	-0.398	-0.427	R&D	0.002*	0.002*
	[-0.701]	[-0.750]		[1.814]	[1.815]
Firm Age	0.002	0.002	Ivy League Dummy	-0.057	-0.056
	[1.383]	[1.433]		[-1.029]	[-1.008]
R&D	0.095	0.075	Recession Graduate Dummy	-0.009	-0.011
	[0.182]	[0.145]		[-0.201]	[-0.241]
Ivy League Dummy	0.061	0.060	Intercept	-6.580***	-6.614***
	[0.920]	[0.898]		[-13.874]	[-13.786]
Recession Graduate Dummy	-0.035	-0.038	*N*	5,030	5,030
	[-0.633]	[-0.694]	R^2	0.465	0.464
Intercept	-1.042***	-1.077***			
	[-3.313]	[-3.408]			
N	2,405	2,405			
R^2	0.395	0.395			

Table 12 General managerial skills and talent measured by Ivy League Dummy and Recession Graduate Dummy

In Panel C, the dependent variable is dispersion in analyst following. In Panel D, the dependent variable is institutional ownership. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel C			Panel D		
	OLS	OLS		OLS	OLS
	ANALYST	*ANALYST*		*IOR*	*IOR*
GAI	3.786***		GAI	0.011***	
	[3.607]			[3.574]	
GAI Dummy		3.917**	GAI Dummy		0.022***
		[2.133]			[3.658]
Beta	-0.004	-0.012	Sales	-0.010	-0.009
	[-0.011]	[-0.035]		[-1.454]	[-1.416]
Turnover	9.592***	9.499***	Leverage	0.050**	0.050**
	[7.196]	[7.164]		[2.079]	[2.056]
Change in Turnover	-3.686***	-3.643***	Market to Book	-0.007***	-0.007***
	[-3.541]	[-3.499]		[-2.580]	[-2.593]
Leverage	12.298*	11.625*	ROA	0.438***	0.439***
	[1.792]	[1.688]		[10.740]	[10.769]
Market to Book	7.163***	7.104***	Size	0.027***	0.027***
	[6.217]	[6.292]		[4.220]	[4.157]
ROA	8.932	9.977	Cash	0.031	0.030
	[0.523]	[0.592]		[1.296]	[1.259]
Cash	6.491	6.665	Capex	0.117**	0.119**
	[0.482]	[0.500]		[1.997]	[2.029]
Capex	149.444***	151.565***	R&D	0.015	0.018
	[5.410]	[5.484]		[0.190]	[0.227]
R&D	208.142***	204.818***	Firm Age	-0.001***	-0.001***
	[4.626]	[4.580]		[-5.742]	[-5.771]
Firm Age	0.221***	0.207***	Ivy League Dummy	0.001	0.000
	[3.781]	[3.507]		[0.082]	[0.027]
Ivy League Dummy	0.900	0.395	Recession Graduate Dummy	0.013**	0.013**
	[0.354]	[0.157]		[1.970]	[2.001]
Recession Graduate Dummy	3.150	3.137	Intercept	0.348***	0.362***
	[1.552]	[1.563]		[13.261]	[13.718]
Intercept	31.152***	-5.823	*N*	18,732	18,720
	[5.351]	[-1.320]	R^2	0.276	0.276
N	7,938	7,938			
R^2	0.308	0.313			

Table 13 General managerial skills and talent measured by Managerial Ability Score developed in Demejian et al. (2012)

This table presents the tests of general managerial skills and the outcomes of external communication controlling for Managerial Ability Score developed in Demejian et al. (2012). In Panel A, the dependent variable is difference between analyst and manager forecasts. In Panel B, the dependent variable is dispersion in analyst forecasts. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel A	OLS	OLS
	DIFF_AFMF	*DIFF_AFMF*
GAI	-0.039	
	[-1.547]	
GAI Dummy		-0.110**
		[-2.107]
Management Forecast Error	0.545***	0.545***
	[24.034]	[24.092]
Analyst	0.003***	0.003***
	[3.939]	[4.028]
Sales	0.123**	0.128**
	[2.451]	[2.553]
Leverage	0.313*	0.326*
	[1.657]	[1.734]
Market to Book	-0.112***	-0.113***
	[-4.516]	[-4.550]
ROA	-1.627***	-1.665***
	[-4.221]	[-4.305]
Size	-0.230***	-0.236***
	[-4.011]	[-4.112]
Cash	0.222	0.218
	[1.079]	[1.052]
Capex	-0.309	-0.339
	[-0.547]	[-0.599]
Firm Age	0.002	0.003
	[1.622]	[1.645]
R&D	0.086	0.080
	[0.165]	[0.155]
Managerial Ability Score	0.235	0.145
	[1.087]	[1.396]
Intercept	-1.027***	-1.148***
	[-3.376]	[-3.644]
N	2,404	2,404
R^2	0.401	0.401

Panel B	OLS	OLS
	DISP	*DISP*
GAI	-0.033	
	[-1.596]	
GAI Dummy		-0.082*
		[-1.916]
Analyst	-0.002***	-0.002***
	[-3.246]	[-3.221]
Loss	1.821***	1.822***
	[19.746]	[19.732]
Leverage	0.232*	0.232*
	[1.652]	[1.647]
Market to Book	-0.378***	-0.379***
	[-16.502]	[-16.496]
ROA	-1.134***	-1.141***
	[-3.065]	[-3.076]
Cash	0.956***	0.962***
	[4.906]	[4.922]
Capex	1.048**	1.051**
	[2.102]	[2.108]
R&D	1.138**	1.111**
	[2.020]	[1.986]
Firm Age	0.003**	0.003*
	[1.978]	[1.958]
Managerial Ability Score	0.321*	0.318*
	[1.776]	[1.755]
Intercept	-6.569***	-6.604***
	[-13.579]	[-13.470]
N	5,018	5,018
R^2	0.471	0.470

Table 13 General managerial skills and talent measured by Managerial Ability Score developed in Demejian et al. (2012)

In Panel C, the dependent variable is analyst following. In Panel D, the dependent variable is institutional ownership. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel C	OLS	OLS	Panel D	OLS	OLS
	ANALYST	*ANALYST*		*IOR*	*IOR*
GAI	3.845***		GAI	0.012***	
	[3.658]			[3.585]	
GAI Dummy		3.994**	GAI Dummy		0.022***
		[2.149]			[3.677]
Beta	-0.085	-0.098	Sales	-0.011	-0.010
	[-0.259]	[-0.300]		[-1.606]	[-1.559]
Turnover	9.493***	9.391***	Leverage	0.046*	0.046*
	[7.221]	[7.191]		[1.906]	[1.880]
Change in Turnover	-3.486***	-3.438***	Market to Book	-0.007**	-0.007**
	[-3.539]	[-3.498]		[-2.450]	[-2.451]
Leverage	11.342*	10.677	ROA	0.409***	0.410***
	[1.652]	[1.551]		[9.414]	[9.434]
Market to Book	7.352***	7.300***	Size	0.030***	0.029***
	[6.347]	[6.439]		[4.631]	[4.549]
ROA	7.376	7.985	Cash	0.027	0.026
	[0.404]	[0.442]		[1.108]	[1.064]
Cash	5.370	5.492	Capex	0.100*	0.101*
	[0.406]	[0.421]		[1.666]	[1.694]
Capex	151.636***	153.866***	R&D	0.008	0.011
	[5.587]	[5.659]		[0.098]	[0.133]
R&D	207.408***	203.313***	Firm Age	-0.001***	-0.001***
	[4.578]	[4.514]		[-5.761]	[-5.796]
Firm Age	0.219***	0.203***	Managerial Ability Score	0.053**	0.054**
	[3.871]	[3.548]		[2.077]	[2.101]
Managerial Ability Score	-0.242	0.701	Intercept	0.349***	0.364***
	[-0.024]	[0.071]		[13.075]	[13.545]
Intercept	-6.870	-4.047	*N*	17,992	17,983
	[-1.602]	[-0.926]	R^2	0.278	0.278
N	7,621	7,621			
R^2	0.302	0.307			

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Table 14 General managerial skills and disclosure choices

This table presents regressions of disclosure choices on general skills. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

	(1)	(2)	(3)	(4)
	OLS	OLS	OLS	OLS
	Management Forecast Error	Management Forecast Error	Number of Quarterly Guidance	Number of Quarterly Guidance
GAI	0.001		-0.037	
	[0.025]		[-1.564]	
GAI Dummy		-0.031		-0.038
		[-0.619]		[-0.854]
Litigation	-0.059	-0.059	0.033	0.034
	[-1.008]	[-1.011]	[0.609]	[0.632]
Analyst	-0.002***	-0.002***	0.001**	0.001*
	[-2.868]	[-2.875]	[1.972]	[1.962]
Sales	0.323***	0.322***	0.028	0.031
	[5.434]	[5.411]	[0.600]	[0.642]
Leverage	0.530***	0.531***	-0.325*	-0.326*
	[2.809]	[2.812]	[-1.835]	[-1.842]
Market to Book	-0.124***	-0.123***	-0.032	-0.032
	[-4.479]	[-4.463]	[-1.581]	[-1.609]
ROA	-1.459***	-1.463***	1.197***	1.219***
	[-3.728]	[-3.740]	[3.903]	[3.979]
Size	-0.388***	-0.384***	0.038	0.032
	[-6.197]	[-6.164]	[0.725]	[0.605]
Cash	0.915***	0.913***	0.161	0.157
	[4.744]	[4.731]	[0.894]	[0.872]
Capex	0.211	0.195	0.825*	0.850*
	[0.330]	[0.305]	[1.689]	[1.734]
Firm Age	-0.003	-0.003	-0.001	-0.001
	[-1.534]	[-1.539]	[-0.627]	[-0.626]
R&D	0.968	1.001*	0.146	0.123
	[1.626]	[1.690]	[0.280]	[0.237]
Intercept	-4.656***	-4.667***	0.441***	0.478***
	[-7.365]	[-7.379]	[3.105]	[3.437]
N	4,761	4,761	4,344	4,344
R^2	0.108	0.108	0.315	0.315

Table 14 General managerial skills and disclosure choices

This table presents regressions of disclosure choices on general skills. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

	(5)	(6)	(7)	(8)
	OLS	OLS	OLS	OLS
	Number of Quarterly Conference Call	Number of Quarterly Conference Call	Badnews Guidance Frequency	Badnews Guidance Frequency
GAI	0.006		-0.008*	
	[0.214]		[-1.672]	
GAI Dummy		-0.037		-0.017**
		[-0.715]		[-1.969]
Litigation	-0.022	-0.022	-0.029***	-0.029***
	[-0.354]	[-0.352]	[-2.722]	[-2.696]
Analyst	0.000	0.000	-0.000	-0.000
	[0.373]	[0.381]	[-0.748]	[-0.772]
Sales	0.012	0.010	-0.008	-0.008
	[0.215]	[0.181]	[-0.818]	[-0.817]
Leverage	-0.608***	-0.606***	-0.023	-0.024
	[-2.755]	[-2.751]	[-0.642]	[-0.652]
Market to Book	-0.001	0.001	-0.009*	-0.009*
	[-0.017]	[0.037]	[-1.735]	[-1.733]
ROA	-0.222	-0.247	-0.287***	-0.285***
	[-0.479]	[-0.534]	[-4.087]	[-4.057]
Size	0.094	0.100	-0.001	-0.002
	[1.465]	[1.535]	[-0.133]	[-0.146]
Cash	0.339	0.337	-0.035	-0.036
	[1.646]	[1.635]	[-0.810]	[-0.847]
Capex	0.269	0.243	0.258**	0.258**
	[0.404]	[0.362]	[2.272]	[2.272]
Firm Age	0.002	0.002	0.000	0.000
	[1.440]	[1.416]	[0.948]	[0.937]
R&D	0.597	0.639	-0.120	-0.116
	[0.823]	[0.880]	[-1.024]	[-0.983]
Intercept	2.543***	2.532***	0.853***	0.862***
	[11.789]	[11.872]	[4.771]	[4.868]
N	1,872	1,872	5,036	5,036
R^2	0.247	0.247	0.060	0.060

Table 15 Analyst characteristics

This table reports the characteristics of analysts who follow the firms run by generalists. Panel A shows the summary statistics of analyst characteristics. Panel B examines what type of analysts are more likely to cover firms run by generalists. Variable definitions are provided in the Appendix A. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel A

Generalists	Mean	Standard Deviation
Frequency of Forecasts	10.26	7.91
Number of Firms Covered	16.6	8.8
Years as Analyst	7.96	5.34
Years Covering Firm	4.52	3.89
Broker Size	63.63	49.07
Specialists	Mean	Standard Deviation
Frequency of Forecasts	10.02	7.71
Number of Firms Covered	16.83	9.1
Years as Analyst	7.84	5.36
Years Covering Current Firm	4.2	3.6
Broker Size	59.63	48.02

Panel B

	GAI Dummy
Frequency of Forecasts	0.001***
	[3.374]
Number of Firms Covered	-0.002***
	[-7.708]
Years as Analyst	-0.005***
	[-8.615]
Years Covering Firm	0.019***
	[22.111]
Broker Size	0.001***
	[19.720]
Intercept	0.011
	[1.631]
Pseudo R ^{2}	0.0029
N	263,089

Table 16 Institutional investor characteristics

This table reports the characteristics of institutional investors who hold the stocks of firms run by generalists. Panel A shows the summary statistics of the characteristics classified in Bushee (1998). Panel B examines what type of investors are more likely to cover firms run by generalists using a probit model. Variable definitions are provided in the Appendix A. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel A

Generalists	Mean	Standard Deviation
Transient	0.175	0.119
Quasi-indexers	0.429	0.197
Dedicated	0.101	0.096
Other	0.023	0.030
Specialists	Mean	Standard Deviation
Transient	0.174	0.121
Quasi-indexers	0.412	0.209
Dedicated	0.101	0.095
Other	0.022	0.288

Panel B

	GAI Dummy
Transient	-0.014
	[-1.059]
Quasi-indexers	-0.015
	[-1.155]
Dedicated	0.030**
	[2.164]
Intercept	-0.019**
	[-2.090]
Pseudo R^2	0.0001
N	70,627

Table 17 Effect of Regulation FD

This table presents the tests of general managerial skills and the outcomes of external communication before and after the Reg FD. In Panel A, the dependent variable is difference between analyst forecasts and manager forecasts. In Panel B, the dependent variable is dispersion in analyst forecasts. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel A

	Pre Reg FD	Post Reg FD
	DIFF_AFMF	*DIFF_AFMF*
GAI Dummy	-0.153**	-0.120*
	[-1.966]	[-1.759]
Management Forecast Error	0.535***	0.561***
	[16.605]	[20.526]
Analyst	0.002**	0.001
	[2.280]	[1.505]
Sales	-0.042	-0.065**
	[-1.134]	[-2.012]
Leverage	0.325	-0.139
	[1.141]	[-0.656]
Market to Book	-0.142***	-0.091**
	[-4.636]	[-2.519]
ROA	-0.133	-1.880***
	[-0.247]	[-3.914]
Cash	0.009	0.218
	[0.026]	[0.821]
Capex	-0.460	0.295
	[-0.674]	[0.345]
Firm Age	-0.001	0.002
	[-0.464]	[1.256]
R&D	0.826	-0.897
	[1.069]	[-1.264]
Intercept	-1.591***	-2.391***
	[-4.013]	[-5.830]
N	993	1,412
R^2	0.368	0.405

Panel B

	Pre Reg FD	Post Reg FD
	DISP	*DISP*
GAI Dummy	-0.154*	-0.065
	[-1.903]	[-1.419]
Analyst	-0.002	-0.002***
	[-1.414]	[-3.470]
Leverage	1.953***	1.779***
	[9.280]	[18.040]
Market to Book	0.552**	0.148
	[2.028]	[1.001]
ROA	-0.381***	-0.364***
	[-10.835]	[-12.457]
Cash	-0.650	-1.135***
	[-0.936]	[-2.789]
Capex	0.785*	0.925***
	[1.770]	[4.815]
Firm Age	0.344	1.289**
	[0.384]	[2.399]
R&D	1.243	1.213*
	[1.228]	[1.906]
Loss	0.005***	0.001
	[2.661]	[0.948]
Intercept	-6.668***	-5.317***
	[-13.268]	[-55.050]
N	1,116	3,914
R^2	0.430	0.477

Table 17 Effect of Regulation FD

In Panel C, the dependent variable is dispersion in analyst following. In Panel D, the dependent variable is institutional ownership. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel C	Pre Reg FD	Post Reg FD	Panel D	Pre Reg FD	Post Reg FD
	ANALYST	*ANALYST*		*IOR*	*IOR*
GAI Dummy	2.435	4.453*	GAI Dummy	0.032***	0.013*
	[1.429]	[1.843]		[3.993]	[1.898]
Beta	-2.207***	1.300***	Sales	-0.016**	-0.007
	[-7.005]	[2.853]		[-1.971]	[-0.919]
Turnover	14.085***	9.667***	Leverage	0.036	0.068**
	[7.182]	[6.834]		[1.154]	[2.401]
Change in Turnover	-4.001***	-3.758***	Market to Book	-0.003	-0.013***
	[-3.601]	[-2.778]		[-1.018]	[-2.922]
Leverage	17.431***	5.322	ROA	0.449***	0.456***
	[2.680]	[0.587]		[8.792]	[8.485]
Market to Book	10.048***	5.391***	Size	0.040***	0.022***
	[8.681]	[2.795]		[4.622]	[2.895]
ROA	-61.800***	32.639	Cash	-0.007	0.057**
	[-3.578]	[1.557]		[-0.211]	[2.002]
Cash	-28.682**	12.603	Capex	0.077	0.173**
	[-2.337]	[0.794]		[1.074]	[2.397]
Capex	113.151***	175.502***	R&D	0.107	-0.026
	[5.360]	[4.496]		[1.244]	[-0.259]
R&D	88.405**	261.431***	Firm Age	-0.000*	-0.002***
	[2.418]	[4.510]		[-1.814]	[-7.229]
Firm Age	0.263***	0.206***	Intercept	0.284***	0.669***
	[5.241]	[2.949]		[9.318]	[21.264]
Intercept	7.717*	27.547***	*N*	7,038	11,694
	[1.731]	[4.432]	R^2	0.118	0.160
N	2,889	5,049			
R^2	0.345	0.268			

Table 18 Fixed effects regressions

This table presents the tests of general managerial skills and the outcomes of external communication using fixed effects regressions. In Panel A, the dependent variable is difference between analyst and manager forecasts. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel A

	(1)	(2)	(3)	(4)
	CEO effect	Firm effect	CEO effect	Firm effect
	DIFF_AFMF	*DIFF_AFMF*	*DIFF_AFMF*	*DIFF_AFMF*
General Ability Index	-0.531***	-0.086*		
	[-2.906]	[-1.782]		
General Ability Index Dummy			-0.746***	-0.341***
			[-3.491]	[-3.279]
Management Forecast Error	0.343***	0.393***	0.340***	0.390***
	[9.275]	[11.975]	[9.184]	[11.973]
Analyst	0.002	0.003**	0.002	0.003**
	[1.208]	[2.499]	[1.137]	[2.360]
Sales	0.244	0.202	0.225	0.194
	[0.771]	[0.794]	[0.719]	[0.769]
Leverage	0.978*	0.774*	1.044**	0.787*
	[1.898]	[1.941]	[2.012]	[1.960]
Market to Book	-0.130***	-0.128***	-0.122***	-0.124***
	[-3.235]	[-3.425]	[-3.066]	[-3.305]
ROA	-2.842***	-2.388***	-2.845***	-2.387***
	[-3.407]	[-3.359]	[-3.439]	[-3.420]
Size	-0.809***	-0.767***	-0.748***	-0.742***
	[-3.149]	[-3.475]	[-2.933]	[-3.378]
Cash	-0.621	-0.426	-0.575	-0.424
	[-1.312]	[-1.043]	[-1.223]	[-1.041]
Capex	-0.711	-0.890	-0.771	-0.826
	[-0.523]	[-0.801]	[-0.566]	[-0.741]
Firm Age	0.003	-0.001	0.006	0.000
	[0.198]	[-0.107]	[0.360]	[0.020]
R&D	-1.314	-2.217	-1.155	-2.517
	[-0.654]	[-1.168]	[-0.574]	[-1.322]
Intercept	1.731	1.995*	1.694	1.941*
	[1.193]	[1.875]	[1.146]	[1.821]
N	2,416	2,416	2,416	2,416
R^2	0.769	0.706	0.771	0.709

Table 18 Fixed effects regressions

In Panel B, the dependent variable is dispersion in analyst forecasts. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel B

	(1)	(2)	(3)	(4)
	CEO effect	Firm effect	CEO effect	Firm effect
	DISP	*DISP*	*DISP*	*DISP*
General Ability Index	0.022	0.026		
	[0.436]	[1.320]		
General Ability Index Dummy			0.059	0.027
			[0.938]	[0.727]
Analyst	0.002***	0.003***	0.002***	0.003***
	[3.074]	[6.064]	[3.057]	[6.039]
Leverage	1.006***	1.037***	1.007***	1.039***
	[12.529]	[14.425]	[12.542]	[14.443]
Market to Book	0.707***	0.647***	0.705***	0.646***
	[3.867]	[4.273]	[3.849]	[4.264]
ROA	-0.206***	-0.219***	-0.206***	-0.219***
	[-9.644]	[-12.383]	[-9.688]	[-12.427]
Cash	-1.896***	-1.980***	-1.892***	-1.992***
	[-5.584]	[-6.445]	[-5.574]	[-6.490]
Capex	-0.114	-0.047	-0.112	-0.044
	[-0.663]	[-0.309]	[-0.654]	[-0.291]
Firm Age	-0.724	-0.828*	-0.716	-0.813*
	[-1.325]	[-1.703]	[-1.307]	[-1.673]
R&D	3.380***	3.414***	3.384***	3.401***
	[3.657]	[4.504]	[3.667]	[4.466]
Loss	-0.001	0.003	-0.001	0.003
	[-0.178]	[0.570]	[-0.170]	[0.525]
Intercept	-7.784***	-7.691***	-7.807***	-7.701***
	[-16.665]	[-20.989]	[-16.606]	[-20.937]
N	5,030	5,030	5,030	5,030
R^2	0.840	0.800	0.840	0.800

Table 18 Fixed effects regressions

In Panel C, the dependent variable is dispersion in analyst following. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel C

	(1)	(2)	(3)	(4)
	CEO effect	Firm effect	CEO effect	Firm effect
	ANALYST	*ANALYST*	*ANALYST*	*ANALYST*
General Ability Index	3.679***	0.421		
	[3.044]	[0.973]		
General Ability Index Dummy			6.817***	1.037
			[5.065]	[1.340]
Beta	0.208	0.252*	0.199	0.253*
	[1.400]	[1.785]	[1.337]	[1.795]
Turnover	7.733***	4.341***	7.643***	4.351***
	[11.993]	[8.607]	[11.913]	[8.631]
Change in Turnover	-3.977***	-1.897***	-3.837***	-1.897***
	[-7.368]	[-3.789]	[-7.057]	[-3.786]
Leverage	-2.660	-4.175	-3.237	-4.241
	[-0.657]	[-1.243]	[-0.804]	[-1.262]
Market to Book	-0.979	-0.256	-0.953	-0.273
	[-1.528]	[-0.453]	[-1.490]	[-0.483]
ROA	24.173***	35.909***	23.440***	36.013***
	[3.006]	[5.167]	[2.899]	[5.177]
Cash	7.297	-4.692	7.406	-4.689
	[1.291]	[-0.915]	[1.296]	[-0.913]
Capex	-3.263	24.663**	-4.978	24.510**
	[-0.246]	[2.044]	[-0.377]	[2.031]
R&D	81.532**	16.569	81.490**	16.820
	[2.473]	[0.595]	[2.467]	[0.604]
Firm Age	1.325***	-0.139*	1.324***	-0.138*
	[7.454]	[-1.755]	[7.695]	[-1.760]
Intercept	2.539	86.126***	-0.339	85.495***
	[0.434]	[19.892]	[-0.061]	[19.747]
N	7,938	7,938	7,938	7,938
R^2	0.839	0.789	0.839	0.789

Table 18 Fixed effects regressions

In Panel D, the dependent variable is institutional ownership. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel D

	(1)	(2)	(3)	(4)
	CEO effect	Firm effect	CEO effect	Firm effect
	IOR	*IOR*	*IOR*	*IOR*
General Ability Index	0.026***	0.003		
	[6.228]	[1.489]		
General Ability Index Dummy			0.012**	-0.001
			[2.314]	[-0.503]
Sales	0.003	-0.004	0.004	-0.004
	[0.386]	[-0.734]	[0.584]	[-0.743]
Leverage	-0.087***	-0.038***	-0.089***	-0.038***
	[-5.824]	[-2.901]	[-5.884]	[-2.938]
Market to Book	0.011***	0.010***	0.011***	0.010***
	[6.821]	[7.373]	[6.893]	[7.341]
ROA	0.133***	0.191***	0.122***	0.189***
	[5.429]	[8.584]	[5.000]	[8.539]
Size	0.073***	0.069***	0.076***	0.069***
	[11.648]	[12.164]	[12.104]	[12.200]
Cash	0.054***	0.071***	0.058***	0.071***
	[3.439]	[4.971]	[3.661]	[4.974]
Capex	-0.061	-0.038	-0.076*	-0.040
	[-1.542]	[-1.006]	[-1.911]	[-1.054]
R&D	-0.024	0.017	-0.024	0.015
	[-0.347]	[0.264]	[-0.353]	[0.243]
Firm Age	0.005***	0.011***	0.005***	0.011***
	[9.992]	[21.779]	[9.957]	[21.815]
Constant	0.007	-0.077***	-0.029	-0.077***
	[0.285]	[-3.704]	[-1.136]	[-3.679]
Observations	18,720	18,720	18,732	18,732
R-squared	0.791	0.726	0.790	0.726

Table 19 Effect of product market competition

This table presents results for the sample split into high and low Industry Sale Herfindahl group based on the index above or below the yearly median. In Panel A, the dependent variable is difference between analyst forecasts and manager forecasts. In Panel B, the dependent variable is dispersion in analyst forecasts. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel A	High Herfindahl	Low Herfindahl	Panel B	High Herfindahl	Low Herfindahl
	DIFF_AFMF	*DIFF_AFMF*		*DISP*	*DISP*
GAI Dummy	-0.186**	-0.043	GAI Dummy	-0.036	-0.104*
	[-2.253]	[-0.622]		[-0.569]	[-1.831]
Management Forecast Error	0.566***	0.524***	Analyst	-0.002***	-0.001**
	[15.693]	[18.511]		[-2.875]	[-2.078]
Analyst	0.004***	0.002***	Loss	2.336***	1.460***
	[2.694]	[2.896]		[15.520]	[13.504]
Sales	0.043	0.215***	Leverage	0.674***	-0.063
	[0.586]	[3.102]		[3.154]	[-0.370]
Leverage	0.214	0.380	Market to Book	-0.428***	-0.357***
	[0.669]	[1.531]		[-10.180]	[-13.181]
Market to Book	-0.120***	-0.107***	ROA	-0.428	-1.523***
	[-2.797]	[-3.601]		[-0.759]	[-3.352]
ROA	-1.011	-1.765***	Cash	1.899***	0.637***
	[-1.340]	[-3.859]		[6.661]	[2.686]
Size	-0.194**	-0.298***	Capex	0.014	2.807***
	[-2.126]	[-4.029]		[0.022]	[3.589]
Cash	0.093	0.334	R&D	-0.393	2.025***
	[0.218]	[1.343]		[-0.238]	[3.106]
Capex	-1.587**	1.132	Firm Age	0.002	0.001
	[-2.035]	[1.370]		[1.261]	[0.722]
Firm Age	0.004*	0.001	Intercept	-5.879***	-7.000***
	[1.729]	[0.569]		[-28.215]	[-10.794]
R&D	1.003	-0.326	*N*	2,130	2,900
	[0.738]	[-0.554]	R^2	0.483	0.481
Intercept	-0.359	-1.393***			
	[-0.969]	[-3.778]			
N	1,007	1,398			
R^2	0.403	0.401			

Table 19 Effect of product market competition

In Panel C, the dependent variable is dispersion in analyst following. In Panel D, the dependent variable is institutional ownership. Variable definitions are provided in the Appendix A. Robust t-statistics adjusted for firm-level clustering are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively.

Panel C	High Herfindahl	Low Herfindahl	Panel D	High Herfindahl	Low Herfindahl
	ANALYST	*ANALYST*		*IOR*	*IOR*
GAI Dummy	5.932***	2.689	GAI Dummy	0.030***	0.016**
	[2.795]	[1.000]		[3.758]	[2.025]
Beta	-0.256	0.270	Sales	-0.001	-0.026***
	[-0.561]	[0.631]		[-0.112]	[-3.005]
Turnover	8.338***	12.569***	Leverage	0.028	0.070**
	[5.262]	[5.670]		[0.767]	[2.255]
Change in Turnover	-3.656***	-3.491**	Market to Book	-0.008	-0.009***
	[-4.248]	[-2.426]		[-1.451]	[-2.796]
Leverage	11.369	3.567	ROA	0.456***	0.467***
	[1.286]	[0.353]		[6.839]	[9.080]
Market to Book	6.470***	7.879***	Size	0.016	0.046***
	[4.020]	[4.652]		[1.522]	[5.700]
ROA	36.760**	-3.469	Cash	0.027	0.022
	[2.351]	[-0.114]		[0.622]	[0.787]
Cash	-27.462*	6.246	Capex	0.151*	0.015
	[-1.756]	[0.340]		[1.819]	[0.208]
Capex	151.661***	126.082***	R&D	-0.037	0.104
	[5.160]	[2.987]		[-0.263]	[1.139]
R&D	-122.862**	242.690***	Firm Age	-0.001***	-0.001***
	[-1.973]	[4.718]		[-3.585]	[-4.753]
Firm Age	0.216***	0.254***	Intercept	0.360***	0.348***
	[3.459]	[2.940]		[9.187]	[10.503]
Intercept	-1.679	31.969***	*N*	8,279	10,453
	[-0.325]	[4.279]	R^2	0.310	0.257
N	3,970	3,968			
R^2	0.312	0.345			