Too Far Away? The Effect of Remote Management on Corporate Disclosure

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Abstract

We examine how remote work arrangements of CEOs affect corporate voluntary disclosure. Using machine learning techniques, we identify remote CEOs based on 10-K filings and proxy statements. We find that firms with remote CEOs issue management earnings forecasts less frequently, and these forecasts tend to be less accurate. Also, the stock market reacts less strongly to forecasts made by remote CEOs compared to those made by onsite CEOs. Exploiting increases in direct flights from CEOs' primary residences to corporate headquarters as an exogenous improvement in travel ease, we find that shorter flight times significantly enhance both the frequency and accuracy of management forecasts. The effects of remote CEOs are more pronounced in firms with greater operational complexity, weaker teamwork cultures, or CEOs with a more internal focus. Furthermore, remote CEOs earn lower abnormal returns from insider trading, suggesting they are less informed. Overall, our findings indicate that remote work arrangements reduce both the quantity and quality of management forecasts due to diminished access to information in the absence of face-to-face interactions.

Keywords: Remote Work Arrangement; CEO; Voluntary Disclosure

1. Introduction

Working remotely has been a prominent trend in corporate America during the past few years, and the global COVID-19 pandemic has accelerated this trend.[1] The rapid growth of remote arrangements has raised public concern about its impact on the day-to-day management of firms. Prior papers have focused on the implications of top executives and employees' remote work arrangements for employee productivity and firm performance (Duchin and Sosyura 2025; Bloom, Liang, Roberts, and Ying 2015). Nevertheless, much less is known about how CEOs' physical absence from the workplace shapes corporate voluntary disclosures. This is a critical question because voluntary disclosure serves as a key channel for managers to convey firms' internal information on operations, strategies, and financial performance to the capital market, ultimately influencing capital allocation efficiency.

In this paper, we choose to use management earnings forecasts as our measure of corporate voluntary disclosures for three reasons. First, management earnings forecasts are the primary source of accounting-based voluntary disclosure that investors rely upon (Beyer, Cohen, Lys, Walther 2010). Second, sell-side analysts surveyed by Brown, Call, Clement, and Sharp (2015) indicated that management earnings guidance is more useful than other sources of information, such as firms' recent earnings performance and 10-K/Q filings, in forming their earnings forecasts and stock recommendations. Finally, management earnings forecasts are the most commonly used measure of corporate voluntary disclosure choices in prior studies (e.g., Shroff et al. 2013; Balakrishnan et al. 2014a; Gow et al. 2016; Schoenfeld 2017).

[1] In 1980s, 2.3% of the American workforce reported that they work from home at least one day a week. By 2023, 12.7% of full-time employees work from home, while 28.2% work a hybrid model. More detailed remote work statistics is available at: https://www.forbes.com/advisor/business/remote-work-statistics/.

Remote management can increase information frictions within organizations, thereby reducing the frequency and quality of management forecasts. Forecasting earnings is a collaborative process that involves not only CEOs but also other top executives who provide forward-looking insights (Ke, Li, Ling, Zhang 2019). For example, CEOs often rely on chief operating officers for production updates and on marketing VPs to assess market trends and demand. However, much of this information is qualitative, difficult to verify, and hard to credibly communicate within organizations (Stein 2002).

Unlike onsite CEOs, who can directly observe operations and interact with executives in real time, remote CEOs lack these advantages. They must rely on secondhand reports or virtual communication, making it harder to contextualize and synthesize soft information. Additionally, remote CEOs miss out on informal office conversations, spontaneous exchanges, and hallway discussions that often serve as early signals for operational challenges, competitive threats, or emerging opportunities. In contrast, onsite CEOs are naturally exposed to these insights, enabling them to process a richer set of information.

Limited in-person engagement between remote CEOs and their executive teams also weakens trust and mutual understanding. Trust is essential for encouraging open communication and candid discussions, especially when sharing sensitive or uncertain information. When a CEO works remotely, her subordinates may hesitate to disclose unfavorable developments, fearing misinterpretation. As a result, information silos become more pronounced, further exacerbating the challenges of soft information transmission.

Moreover, the lack of face-to-face communication creates additional challenges for remote CEOs in acquiring and interpreting information. Face-to-face communication plays a critical role in facilitating the exchange of nonverbal cues such as facial expressions, body language, tone of

voice, and speech patterns. These cues help mitigate misunderstandings, clarify uncertainties, and reduce biases in the transfer of soft information (Roghanizad and Bohns 2017). Without these interactions, remote CEOs are more prone to misinterpreting the information they receive, which can lead to less accurate forecasts.

Alternatively, there are several reasons why remote management might not lead to decreases in forecast frequency and/or quality. First, geographical distance may become less important in times of new remote communication technologies. According to Porter and Nohria (2018), 39% of CEO communication is performed via remote means, such as emails, telephone calls, and letters. These statistics suggest that a large proportion of the daily tasks of CEOs do not require physical presence. If CEOs can effectively communicate with and monitor subordinates through remote communication, management being geographically distant may not affect the quantity or quality of management forecasts. Second, remote management arrangements allow companies to recruit and retain capable CEOs who are unwilling to relocate. Since executives have local employment preferences (Bouwman 2012, Yonker 2017, Ma, Pan, and Stubben 2020), firms tend to limit their recruiting efforts to candidates within commuting distance of their offices or headquarters. Due to the advert of widespread remote work arrangements, companies can attain high-profile executives regardless of where they live. These higher-ability executives are more knowledgeable about their business (Demerjian et al. 2012, 2013) and can use this knowledge to inform investors better (Baik et al. 2011). Third, CEOs may not be concerned about maximizing management forecast accuracy due to the protections afforded them by safe harbor provisions.[2] Ultimately, it's an empirical question of whether or not remote CEOs affect management forecasts.

[2] The safe harbor provisions in the Private Securities Litigation Reform Act of 1995 protect managers from lawsuits that arise from issuing a forward-looking statement that is ex-post incorrect, as long as managers have issued the forecasts in good faith.

To address this question, we leverage machine learning techniques to hand-collect data from firms' proxy statements and annual reports, identifying remote CEOs based on disclosures of their remote work arrangements. We construct a panel data set that tracks their remote work arrangement over the period from 2001 to 2019.[3] We use the Lexis Nexis Public Record database to look for CEOs' primary residences. After merging with management forecast data and other control variables, our final sample consists of 44,555 firm-years with 55,058 annual management earnings forecasts and 744 unique remote CEOs.

We begin by estimating an ordinary least squares regression model using an entropy balanced sample to control for observable differences between firms with remote and non-remote CEOs.[4] Consistent with the notion that remote CEOs have less direct access to firm-specific information, we find that firms led by remote CEOs issue management forecasts less frequently and less accurately. In terms of economic significance, firms with remote CEOs issue 3.7% fewer earnings forecasts and experience a decline in forecast accuracy equivalent to 12% of the sample mean compared to firms with non-remote CEOs. Additionally, the market reactions to management forecasts issued by firms with remote CEOs are significantly weaker, suggesting that investors perceive these forecasts as less informative on average.

Determining the effects of CEOs' remote work arrangements is complicated by endogeneity issues. Unobservable factors that affect remote work arrangements could also affect disclosure choices. To address this issue, we include firm fixed effects in our regression models, mitigating the influence of time-invariant firm characteristics. To further overcome endogeneity

[3] Our sample period ends in 2019 because the Covid 19 pandemic started in year 2020. During the pandemic, even executives who do not have long-distance work arrangements are likely to work from home, which could lead to measurement errors.

[4] Entropy balanced matching re-weights each control observation so that the post-weighting distributional properties of firms with remote and nonremote CEOs are nearly identical, thereby ensuring covariate balance (Hainmueller 2012; McMullin and Schonberger 2020).

concerns, we exploit increases in the number of direct flights from executives' primary residences to corporate headquarters as a source of exogenous improvement in travel ease, as such increases can reduce travel time, complexity, and uncertainty. We expect an increase in direct flight availability to facilitate more frequent CEO visits to headquarters, thereby reducing the impact of remote work arrangements on voluntary disclosure quantity and quality. Consistent with this expectation, we find that the negative effects of remote CEOs on forecast frequency and accuracy are attenuated when the number of direct flights increases.

Next, we conjecture that remote CEOs being less informed about their companies serves as a key mechanism through which CEOs' remote work arrangements affect disclosure choices and quality. To test this conjecture, we first examine CEOs' trades of their own companies. Because rational managers with access to firms' information would use the information to trade for profits, we predict that remote CEOs—who are less informed—will earn lower trading profits. Our findings support this prediction, providing evidence that remote CEOs are indeed less informed about their firms.

We further investigate this information channel through a series of cross-sectional analyses. First, we posit that remote CEOs in firms with higher operational complexity face more significant informational disadvantages compared to their onsite counterparts, resulting in less accurate forecasts. We proxy complexity using the number of geographic segments. Second, we hypothesize that remote arrangements have a greater impact on internally oriented CEOs—who focus primarily on internal operations—than on externally oriented ones, as the absence of physical presence and face-to-face interactions is likely more disruptive to their roles. We identify internally focused CEOs based on lower participation in investor conferences. Finally, we expect firms with strong teamwork cultures to be less affected by remote CEOs, as these environments

facilitate the timely and effective flow of information from subordinates. We measure teamwork culture using earnings call transcripts, following Li et al. (2021). Our results are consistent with these expectations.

Lastly, we examine whether shirking behavior could serve as an alternative explanation for the observed effect of remote work arrangements on management forecasts. In particular, working remotely may allow CEOs to exert less effort and obscure their shirking behavior, potentially leading to a decrease in the frequency and accuracy of management forecasts. Since direct observation of CEOs' shirking behavior is not possible, we proxy for it by identifying remote CEOs whose primary residence is a beach home (located within 0.25 miles of the coast in a warm climate). The underlying assumption is that remote CEOs living near a beach may be more inclined to engage in leisure activities, thereby allocating less time to work responsibilities. However, our analysis finds no evidence that shirking behavior affects the frequency or accuracy of management forecasts. This suggests that the adverse impact of remote work arrangements on voluntary disclosure is more likely driven by information friction rather than reduced effort.

Our study makes several important contributions to the accounting and finance literature. First, we provide insights into the broader implications of remote work arrangements at all levels of the corporate hierarchy. While remote work offers significant benefits, such as cost savings on real estate and access to a broader talent pool, it also raises concerns about how the lack of face-to-face interactions affects information sharing and monitoring within organizations. Recently, Duchin and Sosyura (2025) provide evidence that firms with remote CEOs are associated with weaker operating performance, lower valuation, and a lower approval rate of the CEO's policies by firm insiders. Building on Duchin and Sosyura (2025), we show that CEOs' remote work arrangements also influence voluntary disclosures, offering a more comprehensive understanding

of the economic consequences of remote work. It is important to note that our findings do not imply that firms should eliminate remote work arrangements altogether. Rather, by identifying potential downsides, our study highlights the need for future research to explore corporate mechanisms that can mitigate these challenges and optimize remote work strategies.

Second, we extend the voluntary disclosure literature by examining a novel, non-pecuniary determinant of disclosure choices: CEOs' remote work arrangements. Prior voluntary disclosure literature has focused largely on examining whether external forces (e.g., Lang and Lundholm 1993; Ajinkya, Bhojraj, and Sengupta 2005; Wang 2007; Brochet, Faureal, and McVay, 2011), firm attributes (e.g., Bamber and Cheon 1998), managerial traits (e.g., Bamber et al. 2010, Baik, Farber, and Lee, 2011), and pecuniary incentives (e.g., Aboody and Kasznik 2000) affect voluntary disclosure choices. We extend this literature by highlighting how a unique non-pecuniary motive—CEOs' remote work arrangements—affects both the quantity and quality of management forecasts.

Third, a long line of literature examines the critical role of the internal information environment in corporate performance and policies (e.g., Feng, Li, and McVay, 2009, Gallemore and Labro 2015, and Chen, Martin, Roychowdhury, Wang, and Billett, 2018). Feng et al. (2009) examine the relation between internal control quality and the accuracy of management guidance. Gallemore and Labro (2015) find that firms' internal information environment affects their ability to avoid taxes. Chen et al. (2018) find that the information asymmetry between divisional managers and top executives affects the quality of voluntary disclosure. Our paper contributes to this literature by focusing on the causes of internal information quality and implying that the job arrangement of top executives is an important determinant of internal information quality, which affects external communication properties.

2. Background and Literature Review

2.1 Overview of Remote Work Arrangements

Remote work arrangements are becoming an increasingly common practice at all levels of the corporate hierarchy. In the United States, about 2.3% of the workforce reported working from home in 1980.[5] The advent of personal computers, the internet, email, cell phones, cloud computing, and videotelephony facilitated the widespread adoption of remote work arrangements since the 2000s. The global COVID-19 pandemic has accelerated this trend. As of 2023, 12.7% of full-time employees work from home, and 28.2% work a hybrid model.[6] The rapid growth of remote work has raised the question of whether physical absence from the workplace is an efficient work arrangement.

This is an important question that lacks systematic evidence or consensus. Remote work offers notable benefits to firms and their employees. Firms can reduce or eliminate real estate costs, hire and use talent globally while mitigating immigration issues, and improve employee productivity (Bloom et al. 2015). Workers gain geographic flexibility, avoid commuting, and experience improved work-life balance. However, concerns persist regarding how the lack of face-to-face interactions affects communication, knowledge sharing, monitoring, and data security within organizations. The informational friction resulting from CEOs' physical absence from the workplace can be particularly costly to organizations. Face-to-face interactions allow CEOs to more effectively access information and identify inefficiencies and misconduct among managers and employees at various levels. Also, remote work arrangements may allow these executives to

[5] U.S. Department of Transportation conducted decennial censuses available at: https://www.bts.gov/archive/publications/transportation_statistics_annual_report/2013/table3_2?utm_source=chatgpt.com.

[6] More detailed information on remote work statistics is available at https://www.forbes.com/advisor/business/remote-work-statistics/.

exert less effort and hide their shirking. Recently, Duchin and Sosyura (2025) provide the first evidence that firms with remote CEOs are associated with weaker operating performance, lower valuation, and a lower approval rate of the CEO's policies by firm insiders. By examining how remote work arrangements shape corporate voluntary disclosure choices, our study provides additional evidence on the economic implications of these working arrangements.

2.2 Relevant Literature on Management Forecasts

Prior literature has shown that CEOs play a critical role in their firms' voluntary disclosure practices. Aboody and Kasznik (2000) suggest that CEOs make opportunistic voluntary disclosure decisions that maximize their stock option compensation. Bamber, Jiang, and Wang (2010) show that top executives exert unique and economically significant influence on their firms' voluntary disclosures, incremental to known economic determinants of disclosure. Baik, Farber, and Lee (2011) document a positive relationship between CEO ability and the likelihood, frequency, and accuracy of management forecasts, as well as stronger market reactions to these disclosures. Brochet, Laurel, and McVay (2011) find that CEOs actively participate in firm-level policy decisions related to issuing management forecasts. Hribar and Yang (2015) document that overconfident CEOs are more likely to issue management forecasts, which tend to be more optimistically biased and specific. Brockman, Campbell, Lee, and Salas (2018) further find that internally promoted CEOs are more likely to issue management forecasts, and these forecasts tend to be more accurate.

While prior studies have demonstrated that CEOs' characteristics have significant impacts on management forecasts, little is known about how CEOs' remote work arrangements —a unique non-pecuniary motive—affect voluntary disclosures. Our study aims to fill this gap.

Another stream of research examines how a firm's internal information environment affects the quality of its external disclosure. Feng et al. (2009) find that firms with ineffective internal controls issue less accurate management forecasts. Godigbe et al. (2022) show that firms with higher geographic diversity issue management forecasts that are more pessimistic, less precise, and less accurate. Similarly, Chen et al. (2018) find that the internal information asymmetry between divisional managers and top corporate managers is negatively associated with the accuracy, bias, specificity, and frequency of management forecasts. Collectively, these studies suggest that a firm with a better internal information environment has higher external disclosure quality. Our study extends this literature by examining how CEOs' remote work affect internal information quality and, ultimately, voluntary disclosure quality.

3. Data and Descriptive Statistics

3.1 Sample and Variable Construction

Our sample contains publicly traded firms in the United States with available data on CEOs from Execucomp, BoardEx, Institutional Shareholder Services (ISS), or directEDGAR between 2000 and 2019. We focus on CEOs as they are likely to possess the information that is most relevant to generating earnings forecasts. We combine CEO data with management earnings forecast information from I/B/E/S guidance, analyst coverage data from I/B/E/S, financial data from Compustat, stock-related data from CRSP, and institutional ownership data from the Refinitiv 13F database.

We include annual earnings forecasts issued during the fiscal year.[7] Following the prior literature (e.g., Rogers and Stocken 2005), we include both point and range forecasts, and for range

[7] We exclude pre-announcements—management forecasts that are made after the corresponding fiscal year end—as they may have different information content than other management forecasts.

forecasts, we use the midpoint value as the forecasted number. We follow prior research to measure the properties of management earnings forecasts. Forecast frequency, *FreqMF*, is the natural logarithm of one plus the number of management earnings forecasts issued during a given year. Forecast accuracy, *Accuracy*, is the absolute value of the difference between actual earnings per share (EPS) and management forecasted EPS scaled by the stock price at the beginning of the fiscal year, multiplied by −1.

To guard against the possibility that disclosure quantity and quality are attributable to firm-level characteristics, we also control for a set of firm characteristics associated with that affect management earnings guidance (Waymire 1985; Lang and Lundholm 1996; Bushee and Noe 2000). We include firm size (*Size*) and analyst coverage (Coverage) to control for a firm's public visibility and the quality of the firm's information environment (Waymire 1985; Lang and Lundholm 1996). We include return on assets (*ROA*), annual sales volume (*Sale*), and an indicator variable of operating loss (*Loss*), to control for firm performance, as prior research shows that disclosure choice is driven by fundamental performance. We also include financial leverage (*Lev*) to control the financial risk and institutional ownership (*IOR*) to control the demand for disclosure. We further control for a set of executive attributes that may influence disclosure choices (Bamber et al. 2010). We include an indicator variable for the first year the CEO assumes the position (*FirstYear*), CEO age (*Age*), and the year length of tenure (*Tenure*). Appendix A defines all variables. As presented in Table 1, after requiring a non-missing value for control variables, our final sample consists of 44,555 firm-years (53,092 management forecasts) with 11,367 unique CEOs.

3.2 Identification of Remote CEOs

We identify CEOs with remote work arrangements by examining Definitive Proxy Statements (Form DEF 14A) and Annual Reports (Form 10-K). Form DEF 14A is a mandatory filing submitted to the Securities and Exchange Commission (SEC) when publicly traded firms seek shareholder approval on corporate matters during annual or special shareholder meetings. These proxy statements disclose employment arrangements with executives, including details on compensation, personal benefits, and other work-related provisions.[8] Similarly, Form 10-Ks disclose significant work arrangements of top executives.

To identify remote work arrangements, we first extract employment agreements that explicitly acknowledge remote work. We search for keywords related to remote work, such as travel arrangements between CEOs' residences and corporate headquarters, company-funded remote offices, and other accommodations provided by the firm. Appendix A presents examples of such disclosures from CEOs' employment agreements.

Next, we leverage large language models (LLMs) to verify whether these disclosures indicate that a CEO was working remotely during a given fiscal year. Specifically, we design a prompt asking the LLMs to interpret the extracted disclosure and determine whether the CEO was working remotely (see Appendix for an example). We use two independently developed models—Orca (Microsoft) and Mistral (Mistral AI)—to process over 40,000 disclosures efficiently. Using two LLMs allows us to cross-verify, ensuring greater accuracy. Finally, we conduct manual verification to confirm the remote work classifications identified by the models.

Following Duchin and Sosyura (2025), we further investigate the primary residence of verified remote-working CEOs. To ensure accuracy, we search for their home addresses in the

[8] Since 2006, firms must report all compensation and personal benefits exceeding $10,000 per year ($50,000 before 2006) and provide detailed breakdowns of these expenses, often accompanied by narrative disclosures.

LexisNexis Public Records Database, matching names and birth years from BoardEx. To verify the authenticity of these records, we cross-check property values using Zillow.com. We require that a CEO's remote work arrangement lasts at least 12 months for inclusion in our analysis.

During our sample period, we identify 744 distinct CEOs who have had a remote work arrangement at some point during their tenure. As shown in Figure 1, CEOs' primary residences are widely distributed across the United States. More than 40 are located in California, while Illinois, New York, New Jersey, Ohio, and Texas also serve as home to many remote CEOs. Table 2 presents the industry distribution of firms with remote CEOs, classified according to Fama-French 12-industry codes. Consistent with Duchin and Sosyura (2025), we find that remote work arrangements are more common in high-tech, health care, and finance sectors, where remote work is more feasible, as well as in retail industries, which often have a geographically dispersed footprint. It is important to note that our sample includes more CEOs than the one used in Duchin and Sosyura (2025), as their study does not cover CEOs covered by ISS or directEDGAR. Additionally, unlike Duchin and Sosyura (2025), we employ two large language models (LLMs) to enhance the accuracy of identifying CEOs' work arrangements, which results in a smaller number of remote CEOs in our sample.

3.3 Descriptive Statistics

Table 3 Panel A presents the descriptive statistics for our sample. Over the sample period, our sample has 44,555 firm-year observations, containing 11,367 distinct CEOs. Among them, 3.6% of the sample firm-years have a remote CEO. On average, a typical firm issues 0.46 earnings forecasts annually. The average forecast accuracy is -0.025, and about 12% of forecasts are point forecasts. In our sample, on average, a firm has a ROA of 0.001, a leverage ratio of 0.247, 6.4

analysts following the firm, and 55.63% shares held by institutions. Among the CEOs in our sample, the average age is 56 years old, and the average tenure is 3.11 years.

Table 3 Panel B compares the control variables used in our analysis between firms with and without remote CEOs. We find that these two groups are significantly different in several firm characteristics. For example, firms with remote CEOs tend to be larger, less profitable, and less risky, and they have more complex operations and more institutional ownership compared with other firms in our sample. To alleviate the concern that differences in these firm characteristics between treatment and control groups may bias the estimated treatment effects, we employ an entropy balancing method to re-weight control observations, ensuring that the mean and variance of firm characteristics are similar across treatment and control samples. In addition, the entropy balancing approach can also reduce the bias arising from nonlinear relationships between the dependent variable and observable characteristics (Hainmueller 2012; McMullin and Schonberger 2020). Furthermore, firms with remote CEOs only account for about 3.6% of our sample. Using traditional propensity score matching would substantially reduce the sample size, thereby diminishing the statistical power of our tests. In contrast, entropy balancing preserves sample size and is often used in studies with unbalanced treatment and control groups (e.g., Shroff, Verdi, and Yost 2017).

4. Primary Regression Analyses

4.1 Earnings Forecast Frequency

To investigate the effect of remote work arrangement on the frequency of management forecast, we use the following regression model:

$$FreqMF_{it} = a_0 + a_1 Remote_{it} + Controls_{it} + Year\ FE + Firm\ FE + e_{it}, \quad (1)$$

where the dependent variable, $FreqMF_{it}$, is the natural logarithm of one plus the number of management earnings forecasts issued during a given year. $Remote_{it}$ is an indicator variable that equals to one if the CEO is defined as remotely working for the fiscal year. $Controls_{it}$ includes firm size (*Size*), analyst coverage (*Coverage*), return on assets (*ROA*), annual sales volume (*Sale*), an indicator variable of operating loss (*Loss*), an indicator variable for foreign income (*Foreign*), financial leverage (*Lev*), institutional ownership (*IOR*), an indicator variable for the first year the executive assumes the position (*FirstYear*), executive age (*Age*), and the year length of tenure (*Tenure*). More detailed information on control variables is available in Section 3.1. We include year, firm fixed effects to control for unobservable time-invariant firm characteristics. Finally, we cluster the standard errors by firm and year.

Table 4 presents the regression results. In Column (1), we estimate the model without control variables, while Column (2) reports results from the full model with all control variables included. In both columns, we find that the coefficient on *Remote* is negative and statistically significant at 1% level (-0.052, t-stat = -10.376 in Column (1); -0.037, t-stat = -7.834 in Column (2)), suggesting that firms with remote CEOs issue earnings guidance less frequently. Focus on the full model, in Column (2), the estimates suggest that relative to non-remote CEOs, firms with remote CEOs issue 3.7% fewer earnings guidance annually. Taken together, the results presented in Table 4 suggest that remote work arrangements of executives have an incremental effect on earnings guidance over those documented in prior research.

4.2 Earnings Forecast Accuracy

Next, we investigate the effect of remote work arrangements on the quality of management forecasts, specifically focusing on forecast accuracy. Forecast accuracy is likely to reflect executives' information quality about the firm's future performance. We restrict our sample to firm-years in which managers issue at least one earnings forecast to ensure that managers' decisions to provide earnings guidance do not affect our results. We conduct our analysis at the individual earnings forecast level, and estimate the following model:

$$Accuracy_{it} = a_0 + a_1 Remote_{it} + Controls_{it} + Year\ FE + Firm\ FE + e_{it}, \quad (2)$$

where $Accuracy_{it}$ is the absolute value of the difference between the management forecast and the actual earnings for the period forecasted, scaled by the stock price at the beginning of the fiscal year, and then multiplied by -1. A larger value indicates more accurate forecasts. Our variable of interest, $Remote_{it}$, is an indicator variable that equals one if the CEO is defined as remotely working for the fiscal year. The control variables mirror those of Eq. (1), except that we include forecast horizon as prior studies show that forecast horizon is associated with forecast accuracy and precision (e.g., Ajinkya et al. 2005). We cluster the standard errors by both firm and year.

Table 5 presents the results regarding the accuracy of earnings forecasts. In both columns, we find that the remote work arrangement of CEOs, *Remote*, is significantly negatively associated with forecast accuracy (-0.004, t-stat = -14.820 in Column (1); -0.003, t-stat = -3.889 in Column (2)). Focusing on the full model, in Column (2), the estimate indicates that the remote work arrangement for CEOs decreases management forecast accuracy by 0.003, or 12% of the sample

mean. Overall, our results suggest that having a remote CEO results in decreases in management forecast accuracy.

4.3 Stock Market Reaction to Issued Forecasts

So far, our results suggest that remote CEOs possess lower information quality regarding firms' future performance. Next, we investigate how stock prices respond to issued forecasts. If investors recognize that firms with remote CEOs provide less accurate forecasts, their reactions to these forecasts would be weaker. To test this prediction, we estimate the following model:

$$CAR_{it}\,[-2,\,2]/CAR_{it}\,[-1,\,1] \;=\; a_0 + a_1\,Remote_{it} \times Guid\_Surp_{it} + a_2\,Remote_{it} + a_3\,Guid\_Surp_{it} + Controls_{it} + Year\ FE + Firm\ FE + e_{it}, \quad (3)$$

where $CAR_{it}\,[-2,\,2]$ ($CAR_{it}\,[-1,\,1]$) is five (three) day cumulative abnormal stock returns centered around the issue date of management forecasts. Daily abnormal returns are computed as raw returns less market returns. $Remote_{it}$ is an indicator variable that equals one if the CEO works remotely for the fiscal year. *Guid_Surp* is the surprise of management forecast, defined as management forecast minus the analyst consensus forecast for the same period, scaled by the stock price at the beginning of the fiscal year. Our variable of interest is the interaction term, *Remote* × *Guid_Surp*. The control variables mirror those of Eq. (2). We also cluster the standard errors by both firm and year.

Table 6 presents the regression results. Column (1) shows results when $CAR\,[-2,\,2]_{it}$ is the dependent variable, and Column (2) reports results for $CAR\,[-1,\,1]_{it}$. The coefficient on management guidance surprise is positive at the 1% significance level in both columns, indicating

that stock market reaction is positively associated with the magnitude of the guidance surprise. More importantly, the coefficient on the interaction term *Remote* × *Guid_Surp* is significantly negative in both columns, indicating that stock market reaction is weaker for firms with remote CEOs than other firms.

In summary, the results in Tables 4 - 6 are consistent with our hypothesis that remote working arrangement limits the information available to CEOs, hindering their ability to issue accurate and precise forecasts. Investors seem to understand this, as they react less to management forecasts issued by firms with remote CEOs.

4.4 Difference-in-differences Analysis using Increases in Direct Flights

It is possible that unobservable factors that affect work arrangements also affect disclosure choices. To overcome endogeneity concerns, we exploit the increase in the number of direct flights between CEOs' primary residences and corporate headquarters as an exogenous change in travel convenience. We expect that a greater availability of direct flights reduces the travel burden for remote CEOs, enabling more frequent visits to headquarters and thereby mitigating the impact of remote work arrangements on the quantity and quality of voluntary disclosures.

We use a staggered difference-in-differences analysis to test whether increased direct flights mitigate the effects of remote work arrangements, leading to more frequent and accurate earnings forecasts. To measure changes in flight connectivity, we use the Domestic and International Segment T100 Traffic Data from U.S. and Foreign Carriers, provided by the U.S. Department of Transportation. This dataset includes detailed flight information and allows us to identify direct flights between executives' primary residences and the corporate headquarters for

each year in our sample period. Using this approach, we identified 422 CEO-year observations with increased direct flight availability.

We then re-estimate our primary regressions in a difference-in-differences framework. Since the increase in the number of direct flights occurs at different times across firms, we leverage multiple exogenous shocks affecting firms at different points in time. Treated firms are those experiencing an increase in direct flights, while control firms are those without such an increase (Giroud 2013; Heese and Pérez-Cavazos 2020). We estimate the following regression model:

$$DepVar_{it} = a_0 + a_1 Remote_{it} \times Flight\_Treated_{it} + a_2 Remote_{it} + a_3 Flight\_Treated_{it} + Controls_{it} + Year\ FE + Firm\text{-}Executive\ FE + e_{it}, \quad (3)$$

where *DepVar* is one of our two measures of management earnings forecasts, *FreqMF* and *Accuracy*. $Flight\_Treated_{it}$ is an indicator variable that equals one for firm-years in which the number of direct flights between corporate headquarters and the CEO's home increases, and 0 otherwise. $Remote_{it}$ is an indicator variable that equals one if the CEO is defined as remotely working for the fiscal year. We include the same set of control variables as in Eq. (1) and Eq. (2). We expect the coefficient of interest, a_1, to be positive if increased direct flights mitigate the effects of remote work arrangements.

Table 7 presents the results from the difference-in-differences analysis based on the increase in direct flights. Panel A reports descriptive statistics on flight availability. On average, there are 2,287 annual flights between a firm's headquarters and the CEO's city of residence, with flight distances typically exceeding 1,000 miles. Panel B presents the main regression results. We find that the coefficient estimates on the interaction term $Remote_{it} \times Flight\_Treated_{it}$ are positive

and statistically significant for both outcome variables. Specifically, following an increase in the number of direct flights, treated firms experience more frequent earnings forecasts (*FreqMF*: coefficient = 0.463, t-stat = 6.690) and more accurate forecasts (*Accuracy*: coefficient = 0.011, t-stat = 2.848) relative to control firms. Overall, these results reinforce our primary findings, confirming that remote work arrangements for CEOs influence both the quantity and quality of corporate disclosure.

4.5 Insider Trading Profitability

To explore the information friction channel through which CEOs' remote work arrangements affect disclosure choices, we investigate whether remote CEOs suffer an information loss about their firm. We use the profitability of CEOs' trades in their firms' stock to capture their private information about their company. We expect that remote CEOs have lower trading profits on their firms' stock compared to non-remote CEOs.

Cohen, Malloy, and Pomorski (2012) find that informationally motived, opportunistic insider trades, as opposed to routine trades, contain private information about firms' future fundamentals and yield persistent abnormal returns. Opportunistic trades are likely to reflect managers' private information. Thus, we remove routine insider trades and only focus on opportunistic insider trades. Following Cohen et al. (2012), if an insider makes trades in the same calendar month over a period of at least three consecutive years, then the trades are labeled as routine; otherwise, the trades are labeled as opportunistic. We measure the profit of an executive's opportunistic trades in fiscal year t as the average cumulative abnormal return over the 180-day

period following those trades.[9] To investigate the effect of remote work arrangements on the profit of opportunistic insider trades, we estimate the following regression model:

$$Alpha_{it} = a_0 + a_1 Remote_{it} + Controls_{it} + Year\ FE + Firm\text{-}Executive\ FE + e_{it}, \quad (4)$$

where $Alpha_{it}$ is the average cumulative abnormal return over the 180-day window across all opportunistic trades made by the executive during the year *t*. Daily abnormal returns are computed as raw returns less market returns. $Remote_{it}$ is an indicator variable that equals one if the executive is defined as remotely working for the fiscal year. We include a set of firm and executive characteristics that affect insider trading: the natural log of the market value of equity (*Size*), firm leverage (*Lev*), market-to-book ratio (*MTB*), return on total assets (*ROA*), an indicator variable for operating loss (*Loss*), total operating accruals (*Accruals*), annual sales volume scaled by the total assets (*Sales*), number of analysts following the firm (*Coverage*), and the standard deviation of quarterly sales divided by beginning-of-year total assets over the prior 20 quarters ($\sigma(Sales)$), annual cumulative returns (*AnnRet*), share turnover ratio (*Turnover*), executive age (*Age*), and executive's year length of tenure (*Tenure*). We cluster the standard errors by firm and year.

Table 8 presents the results on insider trading profitability. In Column (1), we estimate Equation (4) without control variables, while Column (2) reports results from the full model with all control variables. In both columns, the coefficient on *Remote* is negative and statistically significant at the 1% level, indicating that remote CEOs earn lower abnormal returns from trading their own company's stock compared to non-remote CEOs. Focusing on the full model in Column (2), the coefficient on *Remote* is -0.099 with a t-statistic of -12.813, suggesting that having a remote

[9] Officers are subject to Section 16(b) of the Securities Exchange Act of 1934 (the Short-Swing Profit Rule), which prohibits insiders from profiting on opposite transactions in company stock within six months.

CEO is associated with a 9.9% decrease in abnormal trading returns. These findings further support the notion that remote work arrangements limit top executives' access to private information about their companies, resulting in lower profitability from insider trading.

4.6 Cross-sectional Analyses

To further reinforce the information friction channel, we conduct three cross-sectional tests to assess whether the impact of remote work arrangements on forecast quality is more pronounced when the information disadvantage of remote work is more significant.

4.6.1 Operational Complexity

The first cross-sectional test examines how the impact of remote work arrangements varies with a firm's operational complexity. Economic theory suggests that operational complexity affects information flows within an organization by impeding the acquisition and transmission of information (Crawford and Sobel 1982; Becker and Murphy 1992; Radner 1993; Stein 2002). When a CEO works remotely, organizational complexity is more likely to result in a greater loss of information quality.

We measure firm operational complexity using the number of geographic segments. Prior research suggests that top managers must dedicate significant time to communicating with different divisions to accurately forecast earnings, particularly when a firm operates across multiple regions. Consequently, we expect that the negative effect of remote work arrangements on the quality of management earnings forecasts is more pronounced in firms with greater geographic complexity.

To test this, we re-estimate Equation (2) using two subsamples based on the number of segments. Specifically, we classify firm-years in the top half of the sample distribution as the *High_Segments* subsample. Columns (1) and (2) of Table 9 reports the results. Consistent with our conjecture, we find the coefficient on *Remote* is negative and significant only in the *High_Segments* subsample, and the difference in coefficients between the two subsamples is statistically significant (z-statistics = -2.531).

4.6.2 CEO's Internal versus External Orientation

Next, we examine how the impact of remote work arrangements differs based on a CEO's internal versus external orientation. For internally oriented CEOs who primarily focus on internal operations, remote work can be particularly disruptive, as it reduces opportunities for face-to-face interactions with subordinates. In contrast, externally oriented CEOs, who spend a significant portion of their time at investor conferences and external meetings, are less reliant on being physically present in the office. As a result, we expect remote work arrangements to have a greater impact for internally oriented CEOs than on externally oriented CEOs.

Since we cannot directly observe how much time CEOs devote to internal affairs, we use the number of investor conferences a CEO attends as an inverse proxy for internal orientation. This approach is based on the assumption that CEOs who attend more investor conferences spend less time on their firms' internal matters. Our use of this proxy is supported by prior research and survey evidence showing that CEOs allocate a substantial amount of time to investor relations (Kirk and Markov 2016; Porter and Nohria 2018; IMS Investor Relations 2020).[10]

[10] Porter and Nohria (2018) indicate that, of all the CEOs' tasks, time with investors varies the second-most among CEOs, after time with customers. IMS Investor Relations (2020) suggests that CEOs spend 10%–20% of their time on investor relations.

We re-estimate Equation (2) using two subsamples based on the number of investor conferences a CEO attends. We categorize firm-years in the top half of the sample distribution as the *High_Attendance* group and those in the bottom half as the *Low_Attendance* group. Columns (3) and (4) of Table 9 present the results. Consistent with our expectation, we find that the coefficient on *Remote* is negative and significant only in the *Low_Attendance* subsample, indicating that remote work arrangements have a stronger impact on CEOs who are more internally focused. Moreover, the difference in coefficients between the two subsamples is statistically significant (z-statistic = 1.887, 5.449 respectively).

4.6.3 Teamwork Culture

Finally, we examine how the impact of remote work arrangements varies with the strength of a firm's teamwork culture. In organizations with a weaker teamwork culture, CEOs rely more on in-person interactions to gather information from subordinates, making their physical presence in the office more essential. Conversely, in firms with a strong teamwork culture, information flows more smoothly to the CEO, reducing the need for direct, in-office engagement. To measure teamwork culture, we use the proxy developed by Li et al. (2021), which applies a machine learning technique to analyze earnings call transcripts.

We re-estimate Equation (2) using two subsamples based on the strength of a firm's teamwork culture. Firm-years in the top half of the sample distribution are classified as the *High_Teamwork* group, while those in the bottom half are categorized as the *Low_Teamwork* group. Columns (5) and (6) of Table 9 report the results.

As expected, we find that the coefficient on *Remote* is more negative and significant in the *Low_Teamwork* subsample (-0.008, t-stat = -6.326), compared with *High_Teamwork* subsample

(-0.001, t-stat = -0.723). Additionally, the difference in coefficients between the two groups is statistically significant (z-statistic = 4.458). These findings suggest that remote work arrangements have a more pronounced effect on firms with weaker teamwork culture, where in-person interactions may play a more critical role in managerial decision-making.

4.7 Additional Analysis on CEO Shirking Behavior

The tests in Sections 4.4 and 4.5 provide support for the information friction channel. As previously discussed, remote work not only results in information loss for CEOs but also creates opportunities for reduced effort and concealed shirking behavior. To further investigate whether shirking behavior serves as an alternative mechanism, we examine whether the effects of remote work arrangements are more pronounced when CEOs have greater opportunities for self-serving activities.

Following Duchin and Sosyura (2025), we consider that CEOs may pursue better leisure opportunities near their remote residences, particularly if they live in a beach home—defined as a residence within 0.25 miles of the coast in a warm climate—during their long-distance arrangement. To test this, we re-estimate Equations (1) and (2) based on whether a CEO resides in a beach home. Specifically, we define *Beach_House* as an indicator variable equal to one if the CEO resides in a beach home while working remotely.

Table 10 presents the results. The interaction between *Remote* and *Beach_House* is statistically insignificant in both specifications: 0.060 (t-stat = 0.611) for *FreqMF*, and -0.001 (t-stat = -0.134) for *Accuracy*. These findings provide no evidence that shirking behavior explains the impact of remote work arrangements on the quantity and quality of management forecasts.

4.8 Robustness Checks

In this section, we conduct several sensitivity tests on our measure of remote work arrangements. Following Duchin and Sosyura (2025), we impose an additional criterion to define remote CEOs: a CEO is considered to have a remote working arrangement if the round-trip commute from their primary residence to the firm's headquarters exceeds 100 miles. As a robustness check, we explore alternative distance cutoffs of 0, 50, 150, 200, 250, and 300 miles, classifying CEOs with distances exceeding these thresholds as remote.

We re-estimate Equations (1) and (2) using these alternative cutoffs to define remote CEOs. Table 11 presents the results. Consistent with our main findings, we observe a negative and statistically significant coefficient on *Remote* across all cutoff points. These results confirm the robustness of our findings to different definitions of remote CEOs.

5. Conclusion

This paper examines how remote work arrangements of CEOs affect corporate voluntary disclosure quantity and quality. We find that remote CEOs are associated with lower frequency and lower accuracy of management forecasts. These findings are robust when using the increase in direct flights from executives' primary residences to corporate headquarters as an exogenous variation in travel convenience. Additionally, the effects of remote CEOs are more pronounced in firms with greater operational complexity, weaker teamwork cultures, or CEOs with a stronger internal focus. Furthermore, we document that remote CEOs earn lower profits from trading their companies' stocks, suggesting that they are less informed. Collectively, our results indicate that remote work arrangements reduce both the quantity and quality of management forecasts due to

limited access to information when CEOs are distant from headquarters. Finally, we find no evidence that these effects stem from increased shirking behavior.

Our study contributes to the literature by increasing the understanding of the economic consequences of remote work arrangements. While prior papers have focused on examining how remote workers and executives affect employee productivity and firm performance (Duchin and Sosyura 2025; Bloom, Liang, Roberts, and Ying 2015), little is known about the effect of these arrangements on firm voluntary disclosure. Second, we extend voluntary disclosure literature by identifying a unique non-pecuniary motive—CEOs' remote work arrangements—that affect both quantity and quality of management forecasts. Third, our paper contributes to the long line of literature on the implications of the internal information environment. Our evidence suggests that the job arrangement of top executives affects external communication properties through its impact on internal information quality.

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Appendix A: Proxy Statement Examples

Rubicon Technology, Inc.

Proxy Statement for the fiscal year ending December 31, 2008

EMPLOYMENT AND SEVERANCE ARRANGEMENTS

Raja M. Parvez CEO

We entered into an employment agreement with Raja Parvez, our president and chief executive officer, dated November 17, 2005, as amended July 25, 2007.

Term. The term of the agreement commenced on January 2, 2006 and expires on January 2, 2009 subject to automatic one-year extensions unless either party provides the other with written notice of non-renewal at least 60 days prior to the end of the then-current term.

Compensation. Under the terms of his agreement, Mr. Parvez is entitled to an annual base salary of $275,000, subject to annual review and adjustment, and an annual discretionary bonus of up to $75,000 based upon the achievement of business objectives. Mr. Parvez' actual salary and bonuses for 2007 are shown in the "Summary compensation table." Mr. Parvez was also granted a participation right in the MIB Plan. The MIB Plan terminated upon completion of the initial public offering. **We have also agreed to reimburse Mr. Parvez for reasonable commuting expenses (including travel and lodging costs and meal expenses) associated with his maintaining a presence in Illinois prior to his relocation from Pennsylvania.**

Proxy Statement for the fiscal year ending December 31, 2011

Foot Notes to Summary Compensation Table

(4) Reflects the reimbursement of commuting expenses from Mr. Parvez's home in Pennsylvania to Illinois. Following Mr. Parvez's decision not to relocate to Illinois permanently, we no longer reimburse him for commuting expenses and instead increased his base salary correspondingly.

HSN, Inc.

Proxy Statement for the fiscal year ending December 31, 2008

Other Compensation

Mindy Grossman CEO

Ms. Grossman, who lives in New York but spends the majority of her professional time at our headquarters in Florida, received reimbursement of her travel expenses as well as certain of her Florida living expenses, along with a tax "gross-up" of certain of these expenses. Under other limited circumstances, our executive officers have received non-cash and non-equity compensatory benefits. The values of these benefits are reported under the heading "Other Annual Compensation" in this filing pursuant to applicable rules, and are generally considered in determining overall compensation levels. Nonetheless, despite the fact that we report these reimbursements as compensation, we do not believe Ms. Grossman receives a personal benefit as a result of such reimbursements, as they merely compensate her for the incremental expenses of commuting to and working in Florida, while her family continues to reside in New York.

Appendix B: Variable Definitions

Variables	Definitions
FreqMF	Natural log of one plus the number of the forecasts issued during the current year.
Accuracy	The absolute value of the difference between the management forecasted EPS and the actual EPS scaled by the stock price at the beginning of the fiscal year, multiplied by −1.
CAR[-2,2]	Cumulative abnormal stock returns from two days before to two days after the issuance of management forecasts. Daily abnormal returns are computed as raw returns less market returns.
CAR[-1,1]	Cumulative abnormal stock returns from one day before to one day after the issuance of management forecasts. Daily abnormal returns are computed as raw returns less market returns.
Horizon	The number of days between the forecast release date and the fiscal year-end date, divided by 365.
Remote	Indicator variable that equals one if the CEO is defined as remotely working for the fiscal year.
Size	Natural logarithm of total assets at the beginning of the year.
ROA	Earnings before interest, tax, depreciation, and amortization (EBITDA) divided by total assets.
Loss	An indicator variable that equals one if a firm has negative operating income, and zero otherwise.
Sale	Natural log of Sale.
Lev	The sum of the short-term and long-term debt divided by the book value of total assets.
Coverage	The natural log of the average number of analysts follows for the fiscal year.
IOR	Percentage of the company's common stock held by institutional investors.
Foreign	An indicator variable that equals one if a firm reports foreign income, and zero otherwise.
FirstYear	An indicator variable if the CEO is newly appointed for the fiscal year
Tenure	Number of years the manager has served for the firm
Age	Age of the manager in years
Flight_Treated	Indicator variable that equals 1 for firm-years in which the number of direct flights between corporate headquarters and the CEO's home increases, and 0 otherwise.
Alpha	The 180-day buy-and-hold abnormal return for the insider stock purchase. Daily abnormal returns are computed as raw returns less market returns.
Geo_Seg	The firm's number of geographic segments.

Conference	Natural log of the conference attendance for the CEO.
Teamworking	Firm's teamworking culture measure in Li et al. (2021).
Beach_House	An indicator variable if the CEO's primary residence is within 0.25 miles to a coast.

Figure 1: Distribution of Remote CEO Primary Residence

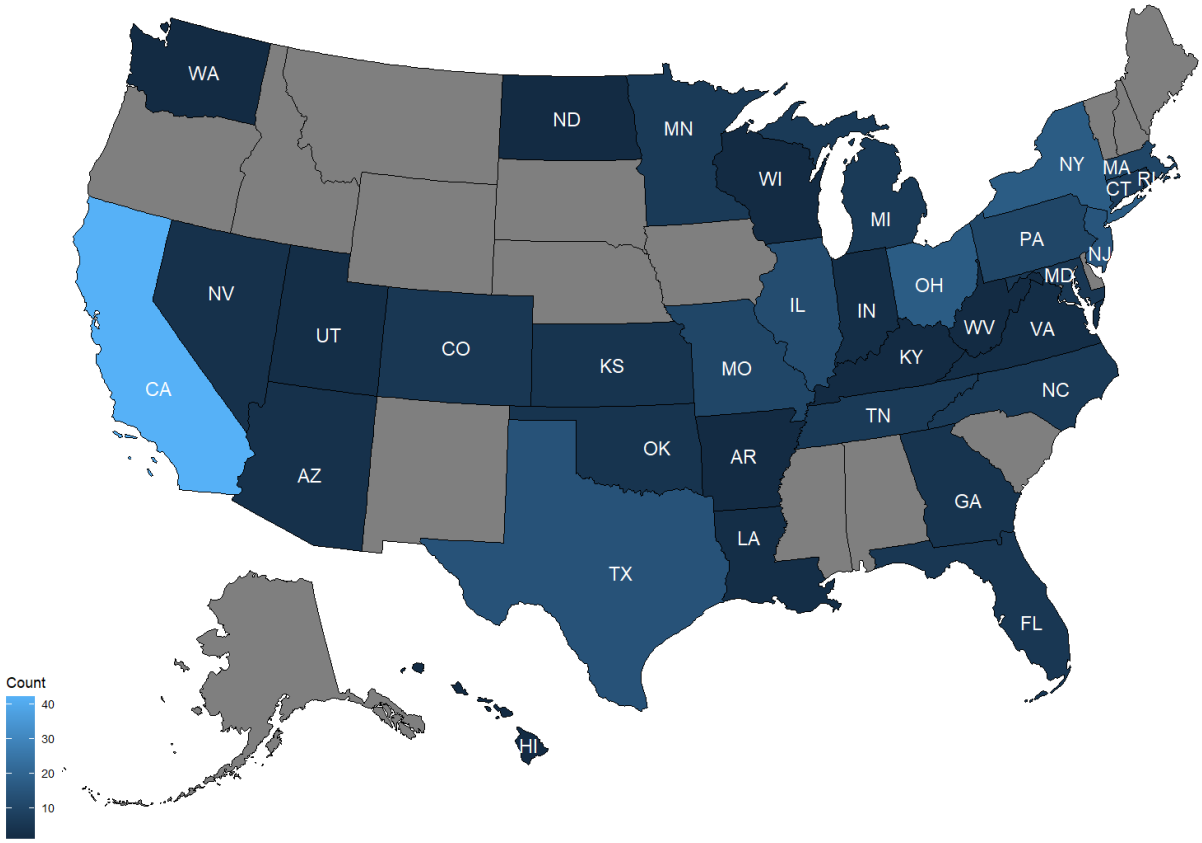

Table 1: Sample Selection

	# Firm-years
Total firm-years with available data on CEOs	56,188
Less:	
CEOs with tenure of less than one year	(207)
Observations with missing variables	(11,426)
Final Sample	44,555
Firm-Year Observations with Remote CEO	1,621
Distinct Remote CEO	744

Table 2: Industry Distribution of Remote CEOs

This table reports the industry distribution of remotely working CEOs. Industries are classified using the Fama-French 12-industry classification.

Industry	Number of Remote CEOs	Percent of Firms with Remote CEOs
Non-Durables	47	7.79%
Durables	41	5.34%
Manufacturing	57	6.81%
Energy	15	3.51%
Chemicals	97	11.73%
Business Equipment & Software	77	8.20%
Telecommunication	114	15.38%
Utilities	35	7.71%
Wholesale & Retail	86	10.42%
Healthcare	84	10.18%
Finance	70	8.19%
Other	68	7.66%
Total	744	8.38%

Table 3: Descriptive Statistics

Panel A presents summary statistics for the main variables in the sample. Panel B presents summary statistics (mean) for firms with Remote CEOs ("Remote") and firms without Remote CEOs/ ("Non-Remote") in the original sample and after re-weighting the Non-Remote sample via the entropy balancing technique. Bold numbers denote statistical differences at 10% levels. Variable definitions are provided in Appendix B.

Panel A: Summary statistics

Statistic	N	Mean	St. Dev.	P25	Median	P75
FreqMF	44,555	0.463	0.750	0.000	0.000	1.099
Accuracy	53,092	−0.025	0.080	−0.019	−0.004	−0.001
CAR[-1,1]	53,092	0.002	0.069	-0.029	0.002	0.035
CAR[-2,2]	53,092	0.003	0.074	-0.032	0.003	0.040
Remote	44,555	0.036	0.187	0	0	0
Size	44,555	7.220	2.154	5.928	7.305	8.660
ROA	44,555	0.001	0.212	0.003	0.034	0.075
Loss	44,555	0.234	0.423	0	0	0
Sale	44,555	6.646	2.227	5.538	6.833	8.092
Lev	44,555	0.247	0.224	0.058	0.208	0.367
Coverage	44,555	6.395	7.371	0.000	4.000	10.250
IOR	44,555	55.631	37.149	11.238	67.690	85.752
Foreign	44,555	0.296	0.457	0	0	1
FirstYear	44,555	0.364	0.481	0	0	1
Age	44,555	55.951	8.197	51.000	55.780	61.000
Tenure	44,555	3.111	2.663	1	2	4
Geo_Seg	44,555	6.575	7.094	1	3	9
Conference	37,696	3.045	4.918	0	1	5
Horizon	53,092	5.331	0.621	4.858	5.476	5.835

Panel B: Summary statistics of the pre- and post-weighted sample

	Un-weighted Sample (Pre-Entropy Balancing)			Weighted Sample (Post-Entropy Balancing)		
	Remote	Non-Remote	Difference	Remote	Non-Remote	Difference
	Mean	Mean	((1)-(2))	Mean	Mean	((3)-(4))
	(1)	(2)		(3)	(4)	
Size	8.187	7.183	**1.004**	8.187	8.184	0.003
ROA	0.003	0.001	**0.002**	0.003	0.004	-0.001
Loss	0.268	0.233	**0.035**	0.268	0.267	0.001
Sale	7.76	6.604	**1.156**	7.76	7.755	0.005
Lev	0.255	0.246	**0.009**	0.255	0.255	0.000
Coverage	8.783	6.305	**2.478**	8.783	8.809	-0.026
IOR	66.112	55.235	**10.877**	66.112	66.224	-0.112
Foreign	0.365	0.294	**0.071**	0.365	0.363	0.002
FirstYear	0.343	0.364	**-0.021**	0.343	0.34	0.003
Age	56.501	55.93	0.571	56.501	56.52	-0.019
Tenure	3.183	3.108	0.075	3.183	3.196	-0.013

Table 4: Remote Work Arrangement and Management Forecast Frequency

This table reports the estimation results of Equation (1). The variable FreqMF is the natural log of one plus the number of the forecasts issued during the current year. The variable Remote denotes an indicator variable that equals one if the CEO is defined as remotely working for the fiscal year. Year and firm fixed effects are included in all specifications. T-statistics based on standard errors clustered by firm and year are reported in parentheses.***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in the appendix B.

Dependent variable:	*FreqMF*	
	(1)	(2)
Remote	−0.052***	−0.037***
	(−10.376)	(−7.834)
Size		0.072***
		(8.671)
ROA		−0.039**
		(−2.064)
Loss		−0.106***
		(−14.291)
Sale		0.071***
		(8.357)
Lev		−0.109***
		(−5.843)
Coverage		0.029***
		(6.335)
IOR		0.001***
		(11.443)
Foreign		−0.041***
		(−4.519)
FirstYear		0.012*
		(1.685)
Age		−0.002***
		(−4.022)
Tenure		0.004***
		(2.614)
Observations	44,555	44,555
Fixed_Effects	Firm, Year	Firm, Year

Table 5: Remote Work Arrangement and Management Forecast Accuracy

This table reports estimation results of Equation (2). The variable *Accuracy* denotes the absolute value of the difference between the management forecasted EPS and the actual EPS scaled by the stock price at the beginning of the fiscal year, multiplied by −1. The variable *Remote* denotes an indicator variable that equals one if the CEO is defined as remotely working for the fiscal year. Year and firm fixed effects are included in all specifications. T-statistics based on standard errors clustered by firm and year are reported in parentheses.***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in the appendix B.

Dependent variable:	*Accuracy*	
	(1)	(2)
Remote	−0.004***	−0.003***
	(−14.820)	(−3.889)
Horizon		−0.005***
		(−23.843)
Size		−0.001**
		(−2.398)
ROA		0.036***
		(13.161)
Loss		−0.011***
		(−15.602)
Sale		−0.001
		(−1.310)
Lev		−0.008***
		(−5.353)
Coverage		0.008***
		(23.471)
IOR		0.001***
		(14.554)
Foreign		0.003***
		(5.506)
FirstYear		0.001***
		(2.673)
Age		−0.001
		(−1.050)
Tenure		0.001
		(1.439)
Observations	53,092	53,092
Fixed_Effects	Firm, Year	Firm, Year

Table 6: Remote Work Arrangement and the Market Reaction to Management Forecasts

This table presents regression results of the market reaction to management forecasts conditional on CEOs' remote working status. In Column (1), the regression is based on CAR from two days before to two days after the issuance of management forecasts. In Column (2), the regression is based on CAR from one day before to one day after the issuance of management forecasts. *Guid_Surp* is defined as management forecast minus the prevailing analyst consensus forecast for the same period, scaled by the stock price at the beginning of the fiscal year. The definitions of all variables are reported in Appendix B. Standard errors are clustered at both the firm and year levels, and t-statistics are reported in the brackets. *, **, and *** represent significance levels of 0.10, 0.05, and 0.01, respectively.

Dependent variable:	*CAR*[-2,2]	*CAR*[-1,1]
	(1)	(2)
Remote×*Guid_Surp*	−0.006***	−0.005**
	(−2.688)	(−2.230)
Remote	0.002**	0.001**
	(2.163)	(2.163)
Guid_Surp	0.010***	0.010***
	(6.548)	(7.434)
Horizon	−0.001	−0.0004
	(−1.320)	(−0.737)
Size	−0.008***	−0.007***
	(−6.336)	(−5.770)
ROA	0.091***	0.074***
	(15.273)	(13.298)
Loss	−0.008***	−0.009***
	(−5.693)	(−6.641)
Sale	−0.001	0.001
	(−0.661)	(0.115)
Lev	−0.011***	−0.011***
	(−2.941)	(−3.343)
Coverage	−0.001*	−0.001*
	(−1.806)	(−1.728)
IOR	0.001	−0.001
	(0.184)	(−1.019)
Foreign	0.002	0.002
	(1.138)	(1.322)
FirstYear	0.006***	0.006***
	(6.344)	(6.028)
Age	−0.0001	−0.0001

	(−1.430)	(−0.882)
Tenure	0.001*	0.001
	(1.682)	(0.997)
Observations	53,092	53,092
Fixed Effects	Firm, Year	Firm, Year

Table 7: Difference-in-Differences Analysis Based on the Number of Direct Flights

This table presents the results from a difference-in-differences analysis on the effect of the increase in the number of direct flights between between CEOs' primary residences and corporate headquarters. Panel A reports the descriptive results for flights, and Panel B reports the results for regression analysis. The variable *FreqMF* is the natural log of one plus the number of the forecasts issued during the current year. *Accuracy* denotes the absolute value of the difference between the management forecasted EPS and the actual EPS scaled by the stock price at the beginning of the fiscal year, multiplied by −1. *Remote* is an indicator variable that equals one if the CEO is defined as remotely working for the fiscal year. *Flight_Treated* is an indicator variable that equals one for firm-years in which the number of direct flights between corporate headquarters and the CEO's home increases, and 0 otherwise. Control variables include firm size (*Size*), analyst coverage (*Coverage*), return on assets (*ROA*), annual sales volume (*Sale*), an indicator variable of operating loss (*Loss*), financial leverage (*Lev*), institutional ownership (*IOR*), an indicator variable for the first year the executive assumes the position (*FirstYear*), executive age (*Age*), and the year length of tenure (*Tenure*). Year and fixed effects are included in all specifications. T-statistics based on standard errors clustered by firm and year are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in the appendix B.

Panel A: Descriptives of the number of flights

Average Flights From HQ to CEO	2,287
Average Flights Distance	1,090
Treated Remote CEO-Year	422

Panel B: Difference-in-Differences Analysis

Dependent variable:	*FreqMF*	*Accuracy*
	(1)	(2)
Remote×*Flight_Treated*	0.463***	0.011***
	(6.690)	(2.848)
Remote	−0.042***	−0.004***
	(−8.894)	(−12.290)
Flight_Treated	−0.378***	−0.009**
	(−5.343)	(−2.028)
Controls	Yes	Yes
Observations	44,555	53,092
Fixed Effects	Firm, Year	Firm, Year

Table 8: Remote Work Arrangement and Insider Trading Profit

This table reports regression results from the estimation of Equation (4). The variable *Alpha* is the 180-day, buy-and-hold abnormal return for the insider stock purchase. Daily abnormal returns are computed as raw returns less market returns. The variable *Remote* is defined as remotely working for the fiscal year. Columns (1) and (2) report specifications with firm and year fixed effect, and CEO and year fixed effect, respectively. T-statistics based on standard errors clustered by firm and year are reported in parentheses.***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in the appendix B.

Dependent variable:	*Alpha*	
	(1)	(2)
Remote	-0.156^{***}	-0.099^{***}
	(-4.312)	(-12.813)
Size		-0.038^{***}
		(-5.338)
FirstYear		-0.034^{***}
		(-3.960)
ROA		0.194^{***}
		(3.996)
Accruals		0.003
		(0.071)
Loss		-0.121^{***}
		(-9.221)
MTB		-0.001
		(-0.681)
AnnRet		-0.270^{**}
		(-2.426)
Ep		0.001
		(0.296)
Sale		-0.001^{***}
		(-2.663)
Lev		-0.067^{*}
		(-1.839)
σ(Sales)		0.002^{***}
		(4.639)
Coverage		0.100^{***}
		(14.451)
Age		0.182^{***}

		(4.885)
Tenure		0.001
		(1.365)
Observations	28,622	28,622
Fixed Effects	Firm, Year	Firm, Year

Table 9: Cross-Sectional Analyses

This table reports the estimation results of Equation (2) conditional on the number of Geographic segments, CEO conference attendance, and Teamworking Culture (*Geo_Seg*, *Conference*, *Teamworking*). *Accuracy* denotes the absolute value of the difference between the management forecasted EPS and the actual EPS scaled by the stock price at the beginning of the fiscal year, multiplied by −1. The "High" subsample contains observations above the sample median of variables, *Geo_Seg*, *Conference*, and *Teamworking*, and the "Low" subsample contains those below the respective medians. Controls include firm size (*Size*), analyst coverage (*Coverage*), return on assets (*ROA*), annual sales volume (*Sale*), an indicator variable of operating loss (*Loss*), financial leverage (*Lev*), institutional ownership (*IOR*), an indicator variable for the first year the executive assumes the position (FirstYear), executive age (*Age*), and the year length of tenure (*Tenure*). Year and firm fixed effects are included in all specifications. T-statistics based on standard errors clustered by firm and year are reported in parentheses.. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in the appendix B.

Dependent variable:	*Accuracy*					
	Geo_Seg		*Conference*		*Teamworking*	
	High	Low	High	Low	High	Low
	(1)	(2)	(3)	(4)	(5)	(6)
Remote	−0.005***	−0.001	0.001	−0.008***	−0.001	−0.008***
	(−4.147)	(−0.805)	(1.016)	(−5.870)	(−0.723)	(−6.326)
Coefficient	-0.004**		0.009***		0.007***	
Z-Statistics	(-2.531)		(5.449)		(4.458)	
Observations	14,349	14,340	18,144	26,438	16,845	17,925
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year

Table 10: Remote Work Arrangement and CEO Shirking Behavior

This table reports regression results from the estimation of Equations (1) and (2) conditional on whether the CEO lives in a beach house (*Beach_House*). The variable *FreqMF* is the natural log of one plus the number of the forecasts issued during the current *year*. The variable *Remote* is an indicator variable that equals one if the CEO is defined as remotely working for the fiscal year. Year and firm fixed effects are included in all specifications. T-statistics based on standard errors clustered by firm and year are reported in parentheses.***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in the appendix B.

Dependent variable:	*FreqMF*	*Accuracy*
	(1)	(2)
Remote×Beach_House	0.060	−0.001
	(0.611)	(−0.134)
Remote	−0.026*	−0.003***
	(−1.859)	(−3.826)
Beach_House	0.185	−0.008
	(1.205)	(−1.154)
Horizon		−0.005***
		(−23.842)
Size	0.056***	−0.001**
	(8.132)	(−2.397)
ROA	−0.048***	0.036***
	(−2.828)	(13.160)
Loss	−0.094***	−0.011***
	(−12.609)	(−15.602)
Sale	0.033***	−0.00000
	(5.098)	(−1.311)
Lev	−0.058***	−0.008***
	(−3.227)	(−5.353)
Coverage	0.030***	0.008***
	(6.457)	(23.465)
IOR	0.002***	0.0001***
	(18.034)	(14.554)
Foreign	0.002	0.003***
	(0.263)	(5.506)
FirstYear	−0.050***	0.001***
	(−8.223)	(2.674)
Age	−0.001**	−0.00003
	(−2.307)	(−1.052)
Tenure	−0.0003	0.0001

	(−0.236)	(1.441)
Observations	44,555	53,092
Fixed Effect	Firm, Year	Firm, Year

Table 11: Robustness Check: Range Cutoffs

This table reports regression results from the estimation of Equations (1) and (2), with different cutoffs of distances between CEOs' primary residences and corporate headquarters. CEOs whose distance exceeds the cutoff are classified as Remote. All specifications include full controls, year, and firm fixed effect. Standard errors are clustered at firm and year level.

Cutoff	Dep. Var.	Coefficient	T-Stat	Fixed effects
0	*FreqMF*	-0.037	-7.834	Year, Firm
0	*Accuracy*	-0.003	-3.889	Year, Firm
50	*FreqMF*	-0.033	-7.039	Year, Firm
50	*Accuracy*	-0.003	-2.381	Year, Firm
100	*FreqMF*	-0.034	-7.140	Year, Firm
100	*Accuracy*	-0.003	-2.684	Year, Firm
150	*FreqMF*	-0.033	-7.086	Year, Firm
150	*Accuracy*	-0.003	-2.684	Year, Firm
200	*FreqMF*	-0.034	-7.227	Year, Firm
200	*Accuracy*	-0.003	-2.704	Year, Firm
250	*FreqMF*	-0.033	-7.033	Year, Firm
250	*Accuracy*	-0.003	-2.321	Year, Firm
300	*FreqMF*	-0.033	-7.062	Year, Firm
300	*Accuracy*	-0.003	-2.587	Year, Firm