

Remotely Productive: The Economics of Long-Distance CEOs*

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Abstract

We provide the first evidence on the efficacy of long-distance working arrangements between CEOs and firms. Long-distance CEOs underperform according to operating performance, insider reviews, and announcement returns to CEO departures. These effects are stronger when the CEO's commute is longer and crosses multiple time zones. Using the quality of schools available to the CEO's children as an instrument for the decision to commute, we argue that these effects are causal. CEOs' private costs of working remotely have long-run effects on their strategic decisions and on the future of their firms. Remote CEOs are 60% more likely to sell their firm to an acquirer, and they do so at bargain prices.

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One of the recent trends in corporate management has been a dramatic rise in working remotely. While this shift was catalyzed by the global pandemic of 2020, it has raised the question of whether remote management could be adopted as an efficient long-term strategy after the economy returns to business as usual. For example, according to the 2020 Gartner survey of top executives, 74% plan to increase remote work after the shelter-in-place restrictions expire, and 90% expect minimal disruptions while working off-site.

This paper studies how remote management by CEOs affects their financial decisions and ability to create value during normal business times. We seek to distinguish between two diverging views on remote management, which offer compelling arguments but relatively little empirical evidence.

On the one hand, the flexibility of remote management could allow boards to attain high-profile CEOs who would otherwise be unwilling to relocate for the job. Supporters of this view argue that remote technology can accommodate many of the CEOs' daily tasks and offer efficiency gains. For example, Porter and Nohria (2018), who track over 60,000 hours of CEOs' activity at large public firms, conclude that CEOs spend 72% of their time in meetings. The authors also find that 39% of CEO communication is done via remote means, such as email, telephone, or letters. These statistics suggest that many of CEOs' daily tasks could be done remotely, and doing so could be efficiency-improving. The advantages of remote management have also received vocal support from many CEOs. For example, the CEO of Patagonia, Yvon Chouinard, has even coined a term for his "MBA theory of management," which stands for "management by absence." Many other CEOs across a variety of sectors embrace a similar view. This leadership practice is sufficiently widespread to earn its own classification in the management literature as a *Laissez-faire* CEO style, characterized by hands-off management from a distance (e.g., see Yang (2015) for a review of its potential benefits).

On the other hand, the opponents of remote management emphasize the importance of the CEO's physical presence on the job and argue that the increasing tendency of some CEOs to manage from a distance may serve the CEOs' own interests at the expense of their shareholders. A recent illustration of this view is an activist campaign by Elliott Asset Management against Jack Dorsey, the CEO of Twitter and Square, who spends a significant fraction of his time working remotely.¹ Elliott has voiced concerns about Dorsey's remote management, pressuring the board to replace him. Another large shareholder, in an open letter to the board, has explicitly attributed Twitter's poor performance to "Mr. Dorsey's move to Africa."²

¹ For example, see "Singer's Elliott Seeks to Replace Twitter CEO Dorsey", Bloomberg, February 28, 2020.

² Open letter to the Chairman of the Board of Twitter, Inc., by Prof. Omid Kordestani, owner of 334,000 shares, Dec. 6, 2019. Available at: <https://www.profgalloway.com/twtr-enough-already>

To distinguish between these views, we build a comprehensive database of over 500 long-distance CEOs—those whose roundtrip commute from home to the headquarters exceeds 100 miles. To identify such CEOs, we use hand-collected data from firms' disclosures of the CEOs' commuting patterns, cross-checked with data on CEOs' primary residences from employment agreements and voter registration records. The average (median) long-distance CEO lives 1,040 (823) miles from the headquarters, flies in for a few days a week, and works remotely from home or another location at other times. The explicit costs of the CEOs' remote arrangements are fairly small and could well be outweighed by efficiency gains. The average firm of a long-distance CEO spends about \$150,000 per year on the reimbursement of commuting expenses, temporary housing, and telecommunication equipment.

We find that long-distance CEOs are economically important and perhaps more prevalent than might be expected. In 2000–2020, over 10% of publicly traded firms in our sample (with a combined value of \$2 trillion) have had a long-distance CEO. The frequency of such CEOs has been mostly increasing over the past two decades, reaching its peak in 2015. Long-distance CEOs appear across all main sectors in the economy, with a slightly higher concentration in technology and consumer goods.

Our first finding is that remote working relationships between CEOs and firms are associated with weaker performance. For example, when a firm is run by a long-distance CEO, it earns an annual ROA that is 1.5 percentage points lower than when the same firm is run by a locally-based CEO. This performance differential, equivalent to 19% of the standard deviation in ROA, is greater for CEOs who live further away from the headquarters and commute across multiple time zones. Since our analysis exploits within-firm variation, these effects are CEO-specific and cannot be explained by time-persistent firm attributes.

To establish a tighter link between firm performance and the CEO's remote management, we focus on a subset of CEOs who have long-distance arrangements for a fraction of their tenure at the firm. We exploit shocks from CEOs' relocations to and away from the headquarters by extracting the dates of such relocations from proxy disclosures detailing the reimbursement of relocation expenses. We find that the same CEO delivers weaker performance at the same firm when he performs a greater fraction of his duties remotely than when he manages the same firm from its headquarters. Specifically, we find no pre-trend in firm performance prior to a CEO's remote arrangement, followed by a rapid and persistent performance decline after the start of such an arrangement and no subsequent reversal during the years of commuting.

These results are robust to a variety of specifications. By including CEO fixed effects, we show that the performance decline persists after accounting for inherent CEO characteristics (such as skill, innate ability, and risk aversion) which could be correlated with selection into the group of commuters. By introducing CEO*firm fixed effects, we reach the same conclusions by exploiting a switch in the CEO's long-distance status, while holding constant the CEO-firm pair. This evidence suggests that the negative performance effects are linked to the long-distance CEO arrangements and cannot be explained by unobservable time-invariant CEO characteristics or the endogenous matching between CEOs and firms.

We investigate the mechanisms underlying the link between long-distance CEO arrangements and firm performance by drawing insights from firm insiders, the board of directors, and investors. In the analysis of firm insiders, we study 140,000 CEO reviews from the firm's managers and employees. We find that the average long-distance CEO receives a 3.2 percentage point lower approval rate than other CEOs at the same firm. Relative to the mean CEO approval rate of 61%, this differential amounts to an economically significant difference of 5.2%, with a *t*-statistic of 4.25. The lower approval rate of long-distance CEOs is even more pronounced in the reviews from the more informed firm insiders—those who hold managerial positions and work at the headquarters. In a content analyses of the CEO reviews, we identify several common concerns in the evaluations of long-distance CEOs: (1) absenteeism and detachment from the firm's daily operations, (2) short-term focus in financial decisions, and (3) excessive travel perquisites, which erode employee effort and incentives for cost efficiency.

In an analysis focused on the board and investors, we find confirming evidence that long-distance CEO arrangements do not last. Long-distance CEOs leave their positions sooner than their observationally similar peers, often under the pressure from investors or for family reasons. Consistent with the view that remote CEO arrangements are costly to the shareholders, long-distance CEOs stay at the firm for 1.2 years less than other CEOs at the same firm, and their departures generate a 2% positive announcement return. This market reaction is in stark contrast with the traditionally muted announcement returns around CEO departures (e.g., Warner, Watts, and Wruck 1988; Weisbach 1988) and suggests that investors perceive a significant increase in firm value from terminating a long-distance management contract.

If long-distance CEO arrangements are costly, why do they arise in the first place? In their interviews and public statements (reviewed in Section 2.3), CEOs often explain their long-distance arrangements by the

decision to avoid uprooting their children from school. Following this logic, we develop an instrumental variable that exploits the difference in the quality of high schools in the county of the CEO's primary residence before the appointment and the county of the firm's headquarters. We find that this instrumental variable is a strong predictor of CEOs' long-distance arrangements (F-statistic = 15.5), while being plausibly unrelated to corporate financial policies. In particular, a CEO is more likely to have a long-distance working arrangement with the firm if the quality of high schools (according to the U.S. News & World Report national rankings) is lower near the firm's headquarters than near the CEO's prior primary residence. Using the differential in the local high school quality as an instrument for the CEO's propensity to have a long-distance working arrangement, we show that the negative effect of such arrangements on firm performance is plausibly causal.

The consequences of remote CEOs extend beyond their tenure and the temporary decline in operating performance. We argue that the personal motives of long-distance CEOs, such as family considerations and the opportunity costs of their commute, alter their incentives in the takeover market and result in permanent effects on their firms. Consistent with this hypothesis, long-distance CEOs are 60% more likely to initiate the sale of their company to an acquirer than the CEOs who are not geographically separated from their families.

When long-distance CEOs engage in the sale of their company in the takeover market, they obtain lower returns for their shareholders and capture a smaller proportion of the combined gains from the merger. Target firms run by long-distance CEOs earn takeover premiums that are 2.4–2.8 percentage points lower than observationally similar targets run by locally-based CEOs. This premium differential corresponds to a price discount of 11–16% or \$125–\$182 million for the average target firm.

Taken together, our findings from the takeover market suggest that the private incentives of commuter CEOs affect their reservation price in merger negotiations and entail a wealth transfer from their shareholders to those of the acquirer. Acquirers in such transactions earn positive announcement returns of 50–120 basis points and capture a greater proportion of merger gains, consistent with the view that long-distance CEOs trade off some of the shareholder gains for their private incentives to end the commute.

The central contribution of this article is to provide the first evidence on the economic consequences of long-distance relationships between CEOs and firms. Our findings suggest that such arrangements introduce frictions into managerial decision rather than yield efficiency gains. While remote working relationships at the executive level have become clearly feasible from the technological perspective, our evidence highlights

their unintended effects on managerial incentives. Our findings extend prior research on (1) CEOs' personal incentives, (2) familial drivers of CEO policies, and (3) distance and executive decisions.

Our paper adds to the literature that studies how CEOs' personal incentives affect their financial decisions. Most related to ours are two papers that focus on CEOs' homes and travel patterns. Liu and Yermack (2012) study CEOs' real estate transactions and find that CEOs' purchases of luxurious estates are followed by a decline in their firm's performance, consistent with entrenchment. Yermack (2014) finds that CEO departures for short vacation trips are associated with a decline in corporate disclosures and a drop in stock volatility. We complement this work by studying CEOs' long-term remote arrangements with their firms and providing the first evidence on their economic consequences.

We also contribute to research on CEOs' private interests in mergers and acquisitions (M&A) and, in particular, the recent strand of this literature that focuses on CEOs' non-pecuniary incentives. Jenter and Lewellen (2015) show that CEOs are more likely to sell their companies as they approach the retirement age. Jiang, Qian, and Yonker (2019) find that CEOs prefer to acquire firms in their home state. We provide novel evidence on the role of CEOs' long-distance arrangements as a driver of M&A decisions. In contrast to the aforementioned papers, we show that CEOs' personal preferences come at the expense of lower takeover premiums and smaller merger gains captured by their firm's shareholders.

We also add to the emerging literature that studies the role of CEOs' families on their financial decisions. Cronqvist and Yu (2017) find that CEOs who experience the birth of a daughter increase investment in corporate social responsibility. Duchin, Simutin, and Sosyura (forthcoming) provide evidence on the composition of CEOs' families and show that familial factors affect CEOs' hiring decisions and capital allocations. We find that CEOs' family considerations have a first-order effect on their choice of primary residence and commute, and such decisions entail profound economic consequences.

Finally, we also add to the literature that studies the effect of geographic distance inside the firm. Giroud (2013) finds that production plants located further away from the headquarters obtain less investment and have lower productivity. In complement to this work's focus on the location of physical assets, our paper studies the location choices of the firm's top executives and demonstrates their importance for firm outcomes.

1. Data and Sample

1.1. Disclosure of CEOs' long-distance working arrangements

We begin constructing the sample of commuter CEOs by doing a comprehensive search of corporate disclosures, which discuss CEOs' commuting arrangements in 2000–2020. We limit our sample to publicly traded companies that are headquartered in the U.S. and have available data on CEOs from Execucomp or BoardEx. We start our sample in 2000 because data coverage in BoardEx is sparse in prior years. Our primary sources of disclosure comprise definitive proxy statements and CEO employment and separation agreements.

Definitive proxy statements (form DEF 14A) are mandatory disclosures filed with the Securities and Exchange Commission (SEC) when a publicly traded firm requests a shareholder vote, most commonly in conjunction with an annual meeting proxy. Our primary interest is in the additional disclosures related to CEOs' personal benefits and working arrangements in the proxy statement. This information is furnished for the shareholders to vote at the upcoming shareholders' meeting or to authorize a proxy to vote on their behalf.

In the section dedicated to executive compensation, proxy statements disclose the dollar value of annual compensation classified as other than as salary or bonus, such as the reimbursement of the CEO's commute to the primary residence, home office expenditures, apartment rental near corporate headquarters, or relocation expenses. Item 402 of SEC Regulation S-K (Executive Compensation) explicitly requires such disclosures: "Examples of items requiring disclosure as perquisites or personal benefits under Item 402 include, but are not limited to: ... personal travel using vehicles owned or leased by the company, personal travel otherwise financed by the company, personal use of other property owned or leased by the company, housing and other living expenses (including but not limited to relocation assistance and payments for the executive or director to stay at his or her personal residence), commuting expenses (whether or not for the company's convenience or benefit)." ³

If the combined value of the executives' personal benefits exceeds \$10,000 per year, firms must report these expenses and identify each item by type, regardless of the amount. Firms must also provide "a narrative disclosure of specific information regarding tabular items where necessary to an understanding of the tabular

³ As per disclosure requirements for executive compensation under 17 CFR § 229.402, Item 402 (page 78): <https://www.sec.gov/rules/final/2006/33-8732a.pdf>

disclosure.”⁴ These narrative disclosures are helpful for our purposes because they often discuss the location of the CEO’s primary residence in conjunction with his commuting expenditures. If a firm only discloses that the CEO’s primary residence is “out of state”, we establish its address from voter registration and deed records, following the algorithm in Section 1.2. Appendix A.1 shows sample disclosures of long-distance commuting arrangements in the definitive proxy statements.

We augment and cross-check the information in proxy statements with disclosures from CEOs’ employment and separation agreements, as well as their amendments. SEC Regulation S-K requires that firms disclose the terms of their employment agreements with named executives, including the CEO. These agreements are usually filed as exhibits accompanying the annual report or the proxy statement, and we obtain them from the SEC’s Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system and The Corporate Library database. CEOs’ employment agreements nearly always include a section on expense reimbursement and relocation expenditures, which we use to identify and confirm a CEO’s commuter status. For example, employment agreements of long-distance CEOs often acknowledge that the CEO will maintain his primary residence away from the headquarters, will be given an allowance for the technological setup of a remote home office, and will be reimbursed for travel expenses related to his long-distance commute to the headquarters. Appendix A.2 shows examples of such disclosures in CEOs’ employment agreements.

1.2. Primary residence and commuting distance

To establish the address of a CEO’s primary residence, we rely on the executive’s voter registration records, deed transfer records, and tax assessment records. We then cross-check this information with the CEO’s self-identified primary residence in employment and separation agreements, political contribution forms, insider trading records, and, where available, corporate disclosure of the names and addresses of the beneficial owners of stock, using the algorithm described below.

We hand-match CEOs with long-distance working arrangements to the Lexis Nexis Public Records (LNPR) database, using each executive’s full name and year of birth. LNPR aggregates information on over 500 million U.S. individuals (live and deceased), who are traced throughout the database via a unique ID linked to one’s social security number and employment records. Examples of records provided by LNPR

⁴ According to the disclosure guidance for executive compensation under 17 CFR § 229.402, Item 402 (page 18): <https://www.sec.gov/rules/final/2006/33-8732a.pdf>

include deed and tax assessment records, utility and telephone connections, and criminal filings. Prior studies have used LNPR to acquire personal information on CEOs (Cronqvist, Makhija, and Yonker 2012; Yermack 2014), fund managers (Pool, Stoffman, and Yonker 2012; Chuprinin and Sosyura 2018), securitization agents (Cheng, Raina, and Xiong 2014), and financial journalists (Ahern and Sosyura 2015).

We manually validate the accuracy of each LNPR match by ensuring that the CEO's employer, work email address, and title listed in the employment records in LNPR match the executive's career history. Using this verification procedure, we are able to establish unambiguous matches to LNPR for all long-distance CEOs in our sample. Using LNPR, we obtain each CEO's date of birth (month and year), state of origin (indicated by the first three digits of the social security number), and history of residential addresses, deed transfers, and tax assessment records. LNPR covers the universe of county deed records during our sample period.

We define a CEO's primary residence in a given year as the address where this executive is registered to vote or where he resides together with his spouse (based on utility connection records in LNPR). As an additional check, we verify that the location of the CEO's primary residence matches the city of the CEO's residence mentioned in the firm's discussion of the commuting expenses in the proxy statement.

Voter registration records are useful for identifying the CEO's primary residence because they typically require state-level identification (such as the state driver's license) and proof of continued residence in the state. Besides the CEO's residential address, voter registration records include the date of birth, date of registration, and date of last activity or moving out. We obtain voter registration records by filing disclosure requests for statewide voter registration data with each state's Department of State. We also obtain these records from LNPR. Using the combination of these sources, we obtain voter registration data for 35 states and the District of Columbia, which together comprise 86% of the U.S. population.⁵ We match executives to voter registration records using their full name and the month and year of birth (from LNPR). We verify these matches by confirming that the CEO's spouse (established via state vital records) is registered to vote at the same address. This robustness check provides an external validation of the accuracy of our data because CEOs' residential addresses (from voter records) and the information on their spouses (from state vital records and home deed records) come from unconnected data sources.

⁵ The fifteen states for which we do not have voter registration data include Arizona, Indiana, Iowa, Kentucky, Maine, Montana, Nebraska, New Hampshire, New Mexico, North Dakota, Tennessee, South Carolina, South Dakota, Virginia, and West Virginia.

If we are missing a CEO's voter registration record, we establish the executive's primary residence as the address of his real estate property (based on the history of deed records in LNPR) that matches the city of the CEO's primary residence in the firm's description of commuting expenses. If a firm does not disclose the city of the CEO's primary residence, we use the address where the CEO lives together with his spouse and verify that this address matches the CEO's primary address listed in the employment agreement or political contribution forms. Using this verification method, we identify the CEO's primary residence for 100% of the long-distance commuters in our sample.

Finally, we construct a historical panel of corporate headquarters from proxy statements and calculate the distance between the address of the firm's headquarters and the CEO's primary residence at the time of his tenure, using Google maps. We also calculate the time difference (in hours) between these locations, using The Time Zone Database. We augment these data with executives' education, career histories, and governance data from BoardEx, firm fundamentals from Compustat, and M&A activity from SDC Platinum.

1.3. Dates of commuting and CEO tenure

To establish the starting and ending year of a CEO's long-distance arrangement with a firm, we follow the firm's history of annual disclosures in the proxy statements pertaining to the CEO's commuting and relocation expenses. For example, if a firm discloses the reimbursement of its CEO's commuting expenses in 2012–2015, followed by the reimbursement of relocation expenses in 2015, we infer that the CEO had a long-distance working arrangement in 2012–2015, which ended with his relocation to the headquarters in 2015.

We verify CEO relocation events by tracing the revisions in CEOs' employment agreements (in the sections pertaining to remote work), as well as purchases and sales of the primary residences. During the relocation year, we establish the approximate month of the CEO's relocation to or away from the headquarters, by using the earliest of the following dates: (1) sale of the prior primary residence; (2) purchase of a new home near the headquarters, or (3) voter registration in a new state. We obtain the dates of home transactions from deed transfer records in LNPR and augment this information with property-level history from Zillow.com.

To exploit the variation in a CEO's long-distance status within each CEO-firm pair, we also collect the starting and ending dates of the CEO's tenure with the firm and the announcement dates for the CEO's appointment and departure. We obtain these data from corporate press releases about management changes.

1.4. Sample and summary statistics

We impose three conservative criteria to define long-distance working arrangements between CEOs and firms. First, we require that the roundtrip commute between the CEO's primary residence and the firm's headquarters exceed 100 miles. Such a commute would typically require the CEO to take air transportation to work or to split the commute across multiple days by staying near a firm's headquarters for a portion of the week and working remotely on other days. Second, we require that the CEO not own any real estate property within a 100-mile roundtrip commute from the headquarters, even if such a home is a secondary residence, during the period of his long-distance working arrangement. Third, we require that the long-distance working arrangement between the CEO and the firm last for a minimum of 12 months. This criterion eliminates short-term transitions associated with a CEO's slow relocation to the headquarters over the first months of his tenure. The minimum of a one year term also helps to ensure a sufficiently long observation period to study the real consequences of long-distance arrangements. The combination of these filters suggests that our estimates likely reflect the lower bound of the number of CEOs with long-distance working arrangements.

After imposing the sample filters, we can unambiguously identify 555 remote working arrangements between public firms and CEOs in 2000–2020, and they comprise our main sample. This sample includes 509 unique CEOs, 328 firms, and 1,925 firm-year observations. Our sample is economically important. Over 10% of publicly traded firms (with a combined market value of \$2 trillion) were run by a long-distance CEO during our sample period, and the median long-distance CEO managed such firms for five years.

Panel A in Table 1 shows summary statistics for the long-distance CEOs in our sample. The average long-distance CEO is 57 years old, holds two external board seats, and stays in his CEO position for 5.7 years. The dominant majority (95%) of CEOs are male, 65% have graduate degrees, and 43% hold MBAs. The average (median) long-distance CEO lives 1,041 (823) miles from the firm's headquarters and commutes for 3.5 years (or 75% of his CEO tenure).

Appendix Table 1 compares the commuter CEOs in our sample with other CEOs during our sample period that did not have a long-distance working arrangement. The commuter CEOs in our sample are statistically indistinguishable from other CEOs at their firms on all of the examined attributes (such as age, gender, business education, and external board seats), except for firm tenure. In particular, commuter CEOs remain in their top executive position for 1.2 years less than their non-commuting counterparts. In section 2.4,

we investigate this pattern by studying the reasons for CEO turnover and the announcement returns associated with the departures of commuter CEOs.

Panel B in Table 1 shows that long-distance CEOs manage economically important firms. Their average (median) firm has a book value of assets of \$43 (\$3) billion, earns an annual revenue of \$8.5 (\$2.2) billion, spends \$345 (\$67) million on annual capital investment, generates an annual return on assets of 3.0% (3.0%), and maintains a market-to-book ratio of 1.85 (1.46).

Figure 1 shows that the proportion of long-distance CEO in publicly traded firms was gradually increasing during most of our sample period, reached its peak in 2015, and started to decline during the final years of the sample. This pattern is consistent with a rapid pace of technological development during the first decade of the new millennium that facilitated remote work and reduced the opportunity cost of commuting.

Figure 2 plots the distribution of commuter CEOs across industries. As expected, commuter CEOs are more likely to run technology firms, where remote work is likely more feasible. Long-distance working arrangements between firms and CEOs are also more frequent in sectors with wider geographical networks and a greater dispersion in office locations, such as retail and consumer non-durables.

Figure 3 plots the heat map of the fraction of firms run by long-distance CEOs in each state, where the firm's location is identified by its headquarters during the CEO's tenure. The figure reveals a well-dispersed pattern and shows that commuter CEOs manage firms scattered across 36 states. Long-distance CEO arrangements are more prevalent for firms headquartered in colder climates and remote areas. The top five states with the highest fraction of commuter CEOs include Wyoming, Vermont, Kansas, Delaware, and Nebraska, with more than 18% of firms in the state run by a commuter CEO during our sample.

Figure 4 shows the states of long-distance CEOs' primary residences during their tenure with the firm. The CEOs' residences show more clustering in warmer climates and within proximity to the water. This pattern suggests that lifestyle considerations may play a role in CEOs' commuting decisions. We revisit this pattern in Section 2.3, which develops an instrumental variable for the CEO's commuting decision.

In summary, long-distance CEOs manage economically important firms which span all of Fama-French 12 industries, appear across all regions in the U.S., and account for one tenth of all publicly traded firms. The frequency of remote management across all sectors was increasing for most of the past two decades, suggesting an important economic trend in corporate governance.

2. How do Long-Distance CEOs Perform?

2.1. Evidence from firm insiders

We begin by studying personal assessments of the CEO's performance by corporate insiders, such as mid-level managers, plant supervisors, and rank-and-file employees at the same firm. This setting offers three useful features. First, it provides us with a large number of direct, quantifiable evaluations that pertain directly to the CEO rather than the company. Second, since the evaluations of the CEO are usually accompanied by free-form comments, they help us gain insights into the stated reasons for the CEO's approval or disapproval without limiting the scope of possible mechanisms by ex-ante priors. Third, prior research shows that the internal reviews of the CEO by firm employees contain novel, value-relevant information that predicts future firm performance and stock returns (Huang et al. 2015; Green et al. 2019).

Our dataset comprises over 140,000 employee reviews compiled by Glassdoor, Inc. The data provider offers additional services to employees, such as salary benchmarking, and, in return requires an employee to provide an anonymous company review, salary disclosure, or interview discussion. This business model, which requires a submission of a review and personal authentication, produces a large volume of evaluations, while limiting the impact of outliers and the scope for manipulation. The integrity of the reviews is preserved by the company's policy to never edit authentic reviews and to apply screens to detect fraud.

Table 2 focuses on the assessment of the CEO's professional performance by firm insiders, according to the question "Do you approve of the way your CEO is leading your company?" The answer to this question is recoded on a three-point scale (approve, no opinion, or disapprove), and the dependent variable in Table 2 is an indicator that equals 1, 0, or -1, respectively. The regressions alternate with respect to year, industry, and firm fixed effects. Standard errors are adjusted for heteroskedasticity and clustered by firm to accommodate time-series dependence in residuals. Here and henceforth, we report the absolute values of t -statistics.

The results show that employees are more likely to disapprove of the professional performance of commuter CEOs. This conclusion is reliably statistically significant at 1%, whether these CEOs are compared against their peers at other companies in the same year (column 2) or against other CEOs at the same firm (columns 3–4). According to the restrictive specification in column 4, which exploits within-firm variation in CEO approvals, commuter CEOs have a 3.2 percentage point lower approval rating than other CEOs at the same firm and with similar professional characteristics. Relative to the average approval rating of 61%, this

differential amounts to an economically significant difference of 5.2%, and this result is strongly statistically significant, with a *t*-statistic of 4.25.

Columns 5–8 show that the lower approval rate of long-distance CEOs is more prevalent in the evaluations from the arguably more informed insiders—those with managerial positions (identified as “manager”, “director”, or “senior” in the job title) and those located at the firm’s headquarters (identified by office location). For example, columns 7 and 8 indicate that the gap in the approval rate between long-distance CEOs and their locally-based peers is more than twice as large in the evaluations from firm insiders based at the headquarters than from those based in other office locations (4.6 and 2.2 percentage points, respectively).

Next, we examine the qualitative content of employees’ reviews. To gain insights into the issues raised about the CEOs’ performance, we read a sample of comments in the area labeled as feedback on the CEO. Our free-form content analysis reveals three common themes in the evaluations of commuter CEOs.

First, employees point out that long-distance CEOs appear less frequently on the firm’s premises and suggest that these CEOs are less informed about the firm’s daily operations. This theme is common across reviews pointing out that long-distance CEOs are “not around most of the time” and appear to be “out of touch”, “disconnected”, or “clueless as to day to day operations.” Appendix A.3 shows examples of such reviews and their detailed comments.

Second, employees suggest that long-distance CEOs have a short-term focus and are not committed to the firm in the long-run. Some employees point out the general short-termism in the CEO’s behavior by emphasizing “a very short-term focus” or “prioritizing short-term goals.” Others are more specific to argue that long-distance CEOs are swayed by the incentives to cash out and end their commute, suggesting that “the CEO actions make sense if you are going to sell off the company or just break it” or indicating that “CEO [is] making changes to make the company attractive for takeover bids.”

Third, employees suggest that the private benefits endowed to the long-distance CEOs, such as a generous housing allowance or a work-to-home commute in the firm’s helicopter, undermine employee effort and incentives for cost efficiency. In the words of one employee, “it’s disheartening to know layoffs are pending (10k in late 2013) and see the executives taking their helicopters back and forth to their homes.” This issue appears to erode employee incentives: “They expect you as a DM to get your managers (\$30,000 a year)

and your hourly employees (min. wage) to work miracles while corporate executives take the private company jet back and forth to work from home every week.”

In summary, employees and corporate insiders suggest that long-distance CEOs underperform in running their companies relative to a variety of benchmarking groups. The disapproval rate of long-distance CEOs is greater among managers and employees based at the headquarters. Employees suggest that the commuter CEOs’ absenteeism detracts from their understanding of daily operations, their commute creates incentives to cash out, and their personal perquisites erode employee productivity and cost-efficiency.

2.2. Long-distance CEOs and operating performance

Figure 5 depicts changes in a firm’s operating performance around the CEO’s start of a long-distance commute. The horizontal scale shows event time in years, where year one corresponds to the first year after the firm’s CEO enters a long-distance working arrangement. The vertical scale shows the coefficients from the regressions of a firm’s operating performance, measured as the return on assets (ROA) and defined as the ratio of annual net income to average book assets (variable definitions appear in Appendix B) on a CEO’s annual commuter status. Vertical bars represent 95% confidence intervals. Figure 5 exploits only within-firm variation in event time, thus netting out the effect of time-invariant firm characteristics, such as a firm’s location, industry, geographic dispersion, and complexity.

Figure 5 reveals three clear patterns. First, there is no significant pre-trend before the start of a CEO’s long-distance commute. The ROA remains stable during the four years preceding a long-distance arrangement, and, if anything, ticks up slightly in the year immediately preceding the start of a long-distance commute. Second, there is a sharp drop in a firm’s performance in the first-year after the CEO enters a long-distance arrangement. Third, the drop in operating performance is persistent and shows no reversal during the commuting years. Overall, a long-distance commute is associated with a significant and persistent decline in operating performance, after netting out the effect of time-invariant firm characteristics.

Table 3 studies the association between a CEO’s long-distance working arrangement and his firm’s operating performance, while absorbing unobservable heterogeneity across firms, CEOs, and time periods. The dependent variable is a firm’s ROA, and the main variable of interest is an indicator *Long distance CEO*, which is equal to one for firm-years when the CEO’s roundtrip commute from his primary residence to the firm’s headquarters exceeds 100 miles. Here and henceforth, *t*-statistics (reported as absolute values) are based

on standard errors that are adjusted for heteroskedasticity and clustered by firm to account for time-series correlation in firm-level financial policies and outcomes.

Column 1 in Panel A of Table 3 studies within-firm variation in ROA around the CEO's long-distance commute and is similar to the specification in Figure 5. The results from this regression analysis match those in Figure 5 in magnitude and statistical significance. According to column 1, a firm's ROA declines by 1.2 percentage points (or 15% of the standard deviation in ROA) when its CEO starts commuting long distance. This result is significant at 1%, with a t -statistic of 3.39.

Column 2 in Panel A includes CEO fixed effects, which account for time-invariant differences across CEOs, such as innate ability, ethics, and execution skills. This specification compares the performance of the same CEO between the periods when he lives near the firm's headquarters and the periods when he has a long-distance commute. The results in this specification confirm the strong negative association between a long-distance commute and operating performance (significant at 1%). The inclusion of CEO fixed effects indicates that this association cannot be explained by time-invariant CEO characteristics correlated with a decision to work remotely. In other words, long-distance working arrangements do not indicate low-quality CEOs; rather, the same CEO appears to achieve weaker operating results under a long-distance working arrangement.

Column 3 includes firm and CEO fixed effects simultaneously and shows that the negative relation between long-distance commuting and firm performance is robust to absorbing both cross-firm and cross-CEO heterogeneity. With the inclusion of these fixed effects, the magnitude and significance of the main results remain comparable. The addition of CEO fixed effects to a specification with firm fixed effects increases the adjusted R^2 from 43.8% to 77.6% (columns 1 and 3, respectively), suggesting that unobservable differences across CEOs explain an additional 33.8% of variation in firm performance. This is consistent with prior evidence that CEOs influence firm performance (e.g., Adams, Almeida, and Ferreira 2005; Malmendier and Tate 2009; Kaplan, Klebanov, and Sorensen 2012) and that this effect is causal (Jenter, Matveyev, Roth 2016; Bennedsen, Pérez-González, and Wolfenzon 2020).

Column 4 augments the specification with year fixed effects, which account for the economy-wide temporal variation in firm performance. The main results persist with similar magnitude and significance in the regressions saturated with firm, CEO, and year fixed effects. According to this specification, a given CEO

achieves a 1.6 percentage point lower ROA at the same firm when he has a long-distance commute than when he lives near the headquarters. This result is statistically significant at 1% with a t -statistic of 4.39.

Column 5 introduces the most restrictive specification by replacing firm and CEO fixed effects with CEO*Firm fixed effects, while also controlling for year fixed effects. In this column, the estimates are derived from the time-series variation in a CEO's commuter status within the CEO-firm pair, after netting out the temporal variation in ROA attributable to the economy and the business cycle. By holding constant the CEO-firm pairs, this specification accounts for the matching between CEOs and firms. The coefficient on the indicator *Long-distance CEO* remains negative, significant at 1% (t -statistic = 2.88), and similar in economic magnitude to earlier specifications. These results indicate that the underperformance of long-distance CEOs is not driven by the matching of long-distance CEOs to low-quality firms. The comparison of point estimates, which remain stable as the regressions are saturated with fixed effects, suggests that the economic magnitude of the association between long-distance CEOs and firm performance is mostly attributable to a change in the CEO's commuter status rather than to the characteristics of firms, CEOs, or CEO-firm pairs.

Panel B in Table 3 extends the analysis of operating performance, while focusing on the characteristics of the CEO's long-distance working arrangement and measures of the firm's corporate governance. All regressions in Panel B include firm, CEO, and year fixed effects.

Column 1 in Panel B shows that the negative relation between a CEO's long-distance commute and operating performance is economically stronger for CEOs who live further away from the headquarters. According to the point estimates on the variables *Long-distance CEO, below median distance* and *Long-distance CEO, above median distance* in column 1, the negative effect of a CEO's commute on ROA is about 46% stronger in economic magnitude for CEOs whose commuting distance to the headquarters exceeds the sample median (823 miles).

Column 2 shows that the negative effect of a CEO's long-distance commute is about twice as large for CEOs who live in a different time zone than the firm's headquarters. This can be seen from the comparison of the point estimates on the variables *Long-distance CEO, same time zone* and *Long-distance CEO, different time zone* in column 2 (-0.011 and -0.021, respectively).

Column 3 focuses on the role of corporate governance. If the negative association between a CEO's long-distance working arrangement and firm performance captures agency issues, such as the CEO's decision

to prioritize personal objectives over firm value, this relation should be attenuated in the presence of strong governance. We focus on three governance mechanisms: (1) board independence, (2) institutional ownership, and (3) the Gompers, Ishii, and Metrick (2003) index of shareholders' rights, which we combine into an aggregate index, ranging from 0 to 1. The index is computed as the firm's average percentile ranking according to each of the three governance metrics, and higher index values indicate stronger governance.

The results in column 3 show that the negative relation between long-distance CEOs and firm performance is attenuated by stronger corporate governance. The negative effect of a CEO's long-distance commute on firm performance is reduced by more than 60% for firms with stronger monitoring mechanisms, as measured by the above-median value of the governance index (a more independent board, higher institutional ownership, and stronger shareholder rights).

Column 4 compares the performance of long-distance CEOs during the first and second decades in the sample period (2000 to 2010 and 2011 to 2020, respectively). The results show that long-distance working arrangements between CEOs and firms are negatively associated with firm performance during both the first and second half of the sample period, and these conclusions are reliably statistically significant at 1%. The point estimates on the indicator variables *Long-distance CEO, 2000-2010* (coefficient = -0.018) and *Long-distance CEO, 2011-2020* (coefficient = -0.014) suggest that the negative effect of long-distance arrangements on firm performance has become smaller in magnitude during the second half of the sample. This result is consistent with a number of technological improvements in the infrastructure supporting remote work and electronic communication during the recent decade.

In summary, the start of a CEO's long-distance commute is associated with a rapid and significant drop in the firm's operating performance. This pattern shows no evidence of a pre-trend or reversal and remains robust to accounting for unobservable CEO and firm characteristics, as well as CEO-firm matches. Firm performance is weaker when the CEO's commute is longer and crosses multiple time zones.

Considered jointly, the results so far set a high bar for a possible omitted variable that could explain the decline in a firm's performance, while being unrelated to the CEO's long-distance commute. Such a variable cannot be a time-persistent firm or CEO characteristic (captured by the respective fixed effects). It should vary within each CEO-firm pair, produce a decline in firm performance precisely at the start of a CEO's commuting period, and increase in intensity with the distance and inconvenience of the commute.

2.3. Instrumental variable analyses

This section aims to further tighten up the link between a CEO's long-distance arrangement and its consequences for firm performance by exploiting an idiosyncratic driver of a CEO's commuting decision plausibly unrelated to firm performance. To select such a variable, we review interview transcripts with commuter CEOs, their responses to analysts' questions during earnings calls, and their personal disclosures explaining their decision to commute long-distance. Appendix A.4 provides examples of these sources and the CEOs' stated reasons for remote working arrangements.

Among the most common factors, CEOs state that their decision to commute is driven by family considerations and, in particular, the desire to avoid uprooting their children from high-quality schools. Thus, as candidate instrument for the CEO's decision to commute, we propose the difference in the quality of high schools in the county of the CEO's primary residence prior to his CEO appointment and the county near the firm's headquarters. Since CEOs tend to have more children than the average U.S. household (the average CEO has three children, according to Duchin, Simutin and Sosyura 2021), this factor could affect a significant fraction of executives. Further, the quality of high schools in the county of the CEO's primary residence before his appointment is a time-persistent variable measured in an exogenous location, usually far away from headquarters. Such a persistent variable from a remote area appears plausibly unrelated to the temporal variation in firm performance—our main outcome of interest.

To measure the quality of high schools in a county, we obtain the national rankings of over 24,000 public and magnet schools from the U.S. News & World Report and the national rankings of nearly 9,000 private schools from the educational data repository Niche, Inc. We measure the quality of schools at the county level to accommodate a CEO's choice to live anywhere in a given county and select the best available schools. We use the 2020 rankings for superior data availability. Since the rankings are highly persistent in time, the measurements taken as of the time of writing remain informative throughout the sample period.

Column 1 in Table 4 shows the first-stage regression explaining the CEO's decision to commute long-distance from his primary residence to the headquarters. The first-stage regression is estimated as a linear probability model with year fixed effects, where the dependent variable is the binary indicator *Long-distance CEO*, defined as before. The instrumental variable, *School quality*, is an indicator that equals 1 if the national ranking of the best high schools in the county of the CEO's primary residence before his appointment exceeds

the ranking of the best high schools in the county of the firm's headquarters, and zero otherwise. We focus on the ranking of the best high schools in each county because CEOs likely have the capability to send their children to the best schools in the area. For non-commuter CEOs, the county of primary residence prior to the CEO's appointment is the county where his professional position was based before his CEO tenure.

Column 1 shows that the quality of local high schools is a strong driver of CEOs' commuting decisions. CEOs are more likely to remain at their primary residence and avoid relocating to the headquarters if high schools in their home county are better than those in the county of the firm's headquarters. This result is significant at 1%, and the first-stage regression has an F-statistic of 15.5, indicating a powerful instrument. The value of the F-statistic comfortably exceeds the rule-of-thumb threshold of 10 recommended for strong instruments in linear regressions (Stock and Yogo 2005). The adjusted R^2 of the first-stage regression is 8.5%, indicating that the first-stage regression explains a significant part of variation in CEOs' commuting decisions.

Column 2 shows the results of the second-stage instrumental variable regression, which examines the effect of a CEO's long-distance commute on firm performance. The dependent variable is a firm's ROA, and main independent variable is the predicted value of the indicator *Long-distance CEO* from the first stage regression. The result from the second-stage regression confirms the negative effect of a CEO's long-distance commute on firm performance and suggests that this effect is causal. The coefficient on the instrumented indicator *Long-distance CEO* is negative, significant at 1%, and implies that a CEO's long-distance commute leads to a 1.3% decline in his firm's operating performance.

Columns 3-6 alternate with respect to year and firm fixed effects in the first- and second-stage regressions. According to the most restrictive specification in column 6, which includes firm and year fixed effects, a CEO's long-distance commute leads to a 1.2% decline in his firm's operating performance. The economic magnitude of the performance effect in the instrumental variable specifications is comparable to the estimates obtained from "naïve" regressions in Table 3. This pattern suggests that relying on the exogenous part of the variability in the CEO's commuting status does not fundamentally alter our earlier conclusions, consistent with a low likelihood of omitted variables.

In summary, the quality of high schools in a local area is a strong predictor of the CEO's commuting decision. Using this source of variation as an instrument for the CEO's long-distance working arrangements, we find that such arrangements undermine firm performance.

2.4. Evidence from the board and investors

The results so far suggest that long-distance working arrangements between firms and CEOs do not appear to be value improving. If the erosion in operating performance during the commuter CEO's tenure is indeed attributable to the suboptimal firm-CEO match, we should observe that such matches will be short-lived. The board of directors should end a long-distance arrangement with a CEO after extracting a sufficiently precise signal from his performance under such an arrangement. Furthermore, the replacement of a long-distance CEO should be cheered by investors and result in positive announcement returns. This subsection tests these hypotheses, focusing on CEO turnover and investor reaction to the departures of commuter CEOs.

Table 5 compares the longevity of firm-CEO matches between long-distance CEOs and their locally-based peers. The dependent variable is the longevity of a CEO-firm match, measured as the natural logarithm of the number of years a CEO remains in his position with a firm. The main variable of interest is the indicator *Long-distance CEO*, and the comparison group includes CEOs of publicly traded companies during our sample period with available data on CEOs from Execucomp and BoardEx.

Table 5 shows that long-distance CEOs are more likely to separate from the firm, resulting in shorter CEO tenures. Column 1 shows that this conclusion is significant at 1% when we compare the CEOs of the same firm, as indicated by firm fixed effects. In column 2, this pattern persists if we restrict our analysis to within-CEO variation and compare the tenures of the same CEO across multiple firms, exploiting the difference in his commuter status. In columns 3–5, we saturate the regressions with combinations of firm, CEO, and year fixed effects. In column 6, we include all of the above groups of fixed effects and reach the same conclusion after absorbing unobservable heterogeneity across firms, CEOs, and years. In this most restrictive specification, the coefficient on the indicator *Long-distance CEO* is negative and statistically significant at 10%, despite the limited statistical power in a specification saturated with fixed effects. The point estimate of -0.033 (expressed as the natural logarithm of years) indicates that long-distance CEOs remain with the firm for one year less than their local peers, after controlling for unobservable time-persistent CEO and firm characteristics and the time trend. Relative to the average CEO tenure of 5.7 years in our sample, this represents an economically important 17.5% reduction in CEO tenure.

Table 6 studies investor reaction to the departures of long-distance CEOs, focusing on announcement returns in an event study framework. In the top (bottom) three rows, the dependent variable is the

announcement return on the company's stock price around a three-day window (seven day window) centered on the day of the announcement of the long-distance CEO's departure. Days refer to trading days, and the announcement date is the earliest date when the CEO's departure is first announced by the firm in a press release or during a conference call. The table shows cumulative abnormal returns and buy-and-hold returns and alternates across three return benchmarks: (1) the Capital Asset Pricing Model, (2) the three-factor model of Fama and French (1992), and (3) the four-factor model of Carhart (1997).

Table 6 shows that the announcements of long-distance CEOs' departures are associated with large positive returns. The point estimates across all 12 specifications in the table are consistently positive, statistically significant in 10 of the 12 specifications, and clustered in a tight range of economic magnitudes. The results suggest that departures of long-distance CEOs are associated with a 1.7-2.2% increase in the firm's market value. The comparison across shorter and longer event time windows shows that investors rapidly react to the information about the CEOs' departures. The market's reaction is positive, immediate, and shows no reversal over the following days.

The positive stock price reaction to the departures of commuter CEOs is a strong signal from investors. In contrast, typical CEO departures in general settings result in close-to-zero or negative announcement returns, consistent with substantial costs associated with CEO replacement (e.g., Borstadt 1985; Reinganum 1985; Weisbach 1988; Jenter, Matveyev, and Roth 2016).

In summary, long-distance working relationships between firms and CEOs do not last. Such arrangements are terminated sooner, whether compared to other employment contracts of the same CEO or to other CEOs of the same firm. Departures of long-distance CEOs are associated with large positive returns.

3. The long-run effects of commuter CEOs: Evidence from M&A

This section studies the long-run effects of remote CEOs that extend beyond their tenure with the firm. While a decline in operating performance can be addressed with the arrival of a new CEO, some strategic decisions impose permanent consequences on a firm's stakeholders. Perhaps the most important and largely irreversible among such decisions is the survival of a company as an independent enterprise. This section focuses on this key decision by studying the role of long-distance CEOs in mergers and acquisitions (M&A).

3.1. The likelihood of a takeover

There are two theoretically motivated channels through which a CEO's long-distance arrangement could affect the likelihood of a firm's takeover: (1) CEO's private incentives, and (2) disciplining role of the M&A market.

First, if remote CEOs incur large opportunity costs from their long-distance commute and foregone time with their families, they will face a stronger incentive to sell their company to an outside bidder. Such a transaction would usually allow the CEO to cash out, end the commute, and reunite with the family. This hypothesis is voiced in some of the employees' reviews of long-distance CEOs, as discussed in Section 2.1. Consistent with this conjecture, CEOs of target firms play a central role in seeking potential buyers, initiating merger talks, and negotiating the terms of the deal. For example, Graham, Harvey, and Puri (2015) find that CEOs are most directly involved in the takeover process compared with any other financial decision, and they are least likely to delegate this decision to other agents.

Second, external takeovers are a powerful governance mechanism. If long-distance CEOs are indeed suboptimal matches for their firms, an acquirer may realize significant gains by acquiring the company, removing the management, and improving its operating performance. This hypothesis is grounded in a long-standing body of work that demonstrates the disciplining role of the M&A market in curbing inefficient management both theoretically (e.g., Scharfstein 1988) and empirically (Karpoff and Malatesta 1989; Bertrand and Mullainathan 2003; Giroud and Mueller 2010).

Panels A and B of Table 7 study the association between the CEO's long-distance commute and the likelihood of receiving or accepting an acquisition bid, respectively. In Panel A, the dependent variable is a binary indicator that equals one if a firm receives a successful or unsuccessful takeover bid in a given year and zero otherwise. In Panel B, the dependent variable is an indicator that equals one if a firm receives a successful takeover bid in a given year and zero otherwise. In both panels, the main independent variable of interest is the indicator *Long-distance CEO*. Other independent variables include an array of firm and CEO control variables (defined in Appendix B) that have been shown to affect the likelihood of receiving a takeover bid, following Jenter and Lewellen (2015). The specification is estimated as a logistic regression (column 1) and as a linear probability model to accommodate the inclusion of industry, firm, and year fixed effects (columns 2–4). As in all other tables, standard errors are adjusted for heteroskedasticity and clustered by firm. The inclusion of industry fixed effects accounts for industry-level consolidation. Year fixed effects control for

the fluctuations in merger activity in time and across the business cycle. Firm fixed effects account for time-persistent firm characteristics that could influence its attractiveness as a target, such as location, complexity, diversification, or innovativeness.

The results in Panel A of Table 7 show that commuter CEOs are significantly more likely to receive takeover bids. This result is strongly significant at 1% across all columns, with t -statistics ranging from 4.0 to 6.5. The economic effects are equally strong. According to the specification in column 4, which includes all control variables and firm and year fixed effects, a firm is 3.8 percentage points more likely to receive a takeover bid when it is run by a long-distance CEO than when it is run by a local CEO. Since the unconditional annual probability that a firm receives a takeover bid is 6.6% in our sample, the presence of a long-distance CEO increases the probability that a firm will be an acquisition target by roughly 60%.

In summary, a firm is considerably more likely to be acquired during the tenure of a long-distance CEO. This pattern is consistent with the CEO's private incentives and the disciplining role of the M&A market. Remote CEOs impose important long-run effects on a significant number of firms.

3.2. Takeover premiums and the division of gains

In this final subsection, we study whether a CEO's long-distance arrangements affect the wealth of their shareholders during takeovers and the division of merger gains between the target and acquirer. If long-distance CEOs face private costs associated with their commute (e.g., travel fatigue, opportunity cost of time, separation from family), they may be willing to accept lower premiums in merger negotiations to close a transaction and end their commute.

Table 8 examines acquisition premiums paid for target firms of long-distance CEOs, using two measures of premiums. The first measure is the target's cumulative abnormal stock return (in percent) from 20 trading days before the transaction announcement to the day after the announcement. This measure incorporates the pre-announcement run-up in the target's price but ignores any changes in the stock price from the announcement to deal closure. The second measure is the target's cumulative abnormal return during a three-day window centered on the date of the transaction announcement. This metric captures the short-term announcement return to the acquisition. Abnormal returns are calculated according to the CAPM, the three-factor model of Fama and French (1992), and the four-factor model of Carhart (1997). Following Schwert (1996), model parameters are estimated from daily security returns over the (-315,-63) period. Control

variables include firm and CEO characteristics that have been shown to affect merger premiums, such as target firm leverage, size relative to the acquirer, method of payment (cash, stock, or their combination), trailing stock returns, profitability, indicator for same-industry deals, CEO age and tenure, and others (listed in Table 8 and defined in Appendix B). To account for the variation in merger premiums across time and business cycles, as well as the variation in premiums across industries, all regressions include year and industry fixed effects, respectively.

The results in Table 8 suggest that long-distance CEOs negotiate lower premiums when their firms are acquired. This conclusion is robust across all measures of takeover premiums. The coefficients on the indicator *Long-distance CEO* are consistently negative and statistically significant at 1% in all specifications. The results indicate large economic effects on the wealth of target shareholders. Target firms run by commuter CEOs obtain 2.4-2.8 percentage points less in acquisition premiums. Consistent with the lower acquisition price, the three-day announcement returns in such deals are 2.5–2.6 percentage points lower. This effect corresponds to an 11–16% reduction relative to the average acquisition announcement return (21%) for targets with similar characteristics.

If long-distance CEOs accept lower acquisition premiums for their firms, this effect should result in a wealth transfer from the shareholders of the target to those of the acquirer. We test this hypothesis in Table 9, which examines how the acquirer's stock price reacts to the announcement of an acquisition of a target firm run by a commuter CEO. The dependent variables are the acquirer's price run-up or cumulative abnormal return over a three-day window centered on the date of the transaction announcement, computed as in Table 8 and estimated against three benchmark models. As in Table 8, all regressions include firm and CEO control variables for acquisition outcomes, as well as industry and year fixed effects.

The results in Table 9 are consistent with a wealth transfer to the acquirer's shareholders. Across all specifications, the announcement returns to acquirers are positive and statistically significant at 1%. The coefficient estimates indicate that acquirers' stock prices increase by 50–120 basis points in response to the acquisition announcement. This result shows that the acquisitions of firms run by long-distance CEOs are viewed by investors as unusually attractive for the acquirers because the returns to acquirers around other merger announcements of public firms are traditionally negative or close to zero (e.g., Mulherin and Boone 2000; Fuller, Netter and Stegemoller 2002).

The comparison of economic magnitudes between the announcement returns for the acquirers and targets is consistent with a wealth transfer from the target's to the acquirer's shareholders. Measured 20 days before the acquisition, the average market value of the target firm run by a commuter CEO accounts for 24% of the acquirer's market value. If the reduction in the target's announcement return of 2.4–2.8 percentage points (Table 8) reflects a wealth transfer to the acquirer's shareholders in the form of a lower acquisition price, it should increase the acquirer's value by 58–67 basis points ($24\% \times 2.4$ and $24\% \times 2.8$, respectively) when the merger announcement reveals the acquisition price. This pattern aligns closely with the results reported in Table 9, both in direction and quantitative estimates.

In summary, firms run by long-distance CEOs are sold at bargain prices, and these transactions appear to reflect a wealth transfer from the shareholders of the target to those of the acquirer. Private incentives of commuter CEOs affect their reservation price in merger negotiations and produce long-lasting effects on shareholder wealth.

Conclusion

This paper has studied the performance consequences of CEOs' long-distance working arrangements. We find that such arrangements erode operating performance and introduce agency frictions in CEOs' strategic decisions, resulting in permanent effects on their firms. Our findings suggest that the private incentives of long-distance commuters increase their propensity to sell the firm, reduce their reservation price, and produce a wealth transfer from the shareholders of their firm to those of the acquirer. Although remote work is becoming increasingly popular across all levels of corporate hierarchy, our paper is among the first to study the consequences of long-distance working arrangements on the decisions of top executives.

Our study also shows that CEOs' family factors have a first-order effect on their working arrangements, productivity, and strategic decisions. While most prior work has focused on CEOs' monetary incentives in M&A, such as cash payments (Hartzell, Ofek, and Yermack 2004), option grants (Fich, Cai, and Tran 2011), and career concerns (Wulf 2004), we find that CEOs' non-pecuniary incentives have profound economic consequences. We hope that the growing interest in constructing a more complete picture of CEOs' private motives beyond their firm will continue to expand our understanding of their financial decisions.

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Appendix A: Sample disclosures

This appendix includes sample disclosures of CEOs' long-distance working arrangements from proxy statements and employment letters, as well as CEOs' personal disclosures related to the reasons for their long-distance working arrangements.

Appendix A.1

Sample disclosures of CEO long-distance arrangements in proxy statements

Example 1

Proxy statement for Vista Outdoor Inc., for shareholders' meeting on 06/18/2018, p. 37

CEO: Christopher T. Metz

The amounts in this column consist of a stipend for expenses in connection with Mr. Metz's commuting between Vista Outdoor's Utah headquarters and his home in Florida.

Example 2

Proxy statement for Global Eagle Entertainment Inc., for shareholders' meeting on 11/28/2017, p. 30

CEO: David M. Davis

Amounts disclosed under "All Other Compensation" include (1) for Mr. Davis, approximately \$50,000 for commuting benefits for his travel to and from his principal residence in Minnesota and our Company's headquarters in Los Angeles, California, and \$4,300 for 401(k) employer matching contributions;

Example 3

Proxy statement for 3D Systems Corporation for shareholders' meeting on 04/30/2007, p. 35

CEO: Abraham N. Reichental

Since joining the Company in 2003, Mr. Reichental's primary residence has been in South Carolina, and the living expenses were for a residence maintained by him in California, where our headquarters were located until 2006.

Example 4

Proxy statement for Mattel Inc., for shareholders' meeting on 04/05/2017, p. 81

CEO: Christopher A. Sinclair

For Mr. Sinclair, the amount shown is a special allowance of \$60,000 per month, in lieu of participation in Mattel's relocation program or any one-time special relocation payment, and was intended to assist Mr. Sinclair with his living and commuting expenses while working in California and maintaining his primary residence in Florida. Mr. Sinclair ceased to be eligible for this allowance effective April 1, 2017 in connection with his new role as Executive Chairman.

Example 5

Proxy statement for Libbey Inc., for shareholders' meeting on 03/28/2019, p. 28

CEO: William A. Foley

Direct payment or reimbursement of personal financial planning and tax return preparation fees; annual executive health screening and related services; ground transportation for trips between Toledo, Ohio, and the Detroit/Wayne County Metropolitan airport for the executive when traveling for business purposes and the executive's spouse when traveling together; membership in one airline club of the executive's choice; for executives relocating at Libbey's request, moving and related expenses associated with the move (may also include loss-on-sale protection when necessary to attract talent); and, for Mr. Foley until April 24, 2019, a housing allowance for housing in the Toledo, Ohio, area since his primary residence is in the Cleveland, Ohio, area.

Example 6

Proxy statement for Verisign Inc., for shareholders' meeting on 04/10/2012, p. 31
CEO: D. James Bidzos

Additionally, because Mr. Bidzos was located in California and the Company's headquarters are in Virginia, the Company also provided Mr. Bidzos with a corporate-leased apartment and automobile while he was in Virginia. The Compensation Committee approved a value not to exceed \$10,000 per month for the apartment, costs associated with the apartment such as cleaning services and utilities, and the automobile.

Example 7

Proxy statement for FSI International Inc., for shareholders' meeting on 12/07/2011, p. 19
CEO: Donald S. Mitchell

In addition to Company-paid premiums on term life and long-term disability policies for executive officers, the Company also pays the cost for Mr. Mitchell to travel to our headquarters in Minneapolis from his office in San Diego, and for his lodging expenses while in Minneapolis. These arrangements were agreed to by the Company and Mr. Mitchell in 1999 in connection with his original hiring by the Company.

Example 8

Proxy statement for Cryo Cell International Inc., for shareholders' meeting on 10/30/2019, p. 19
CEO: David Portnoy

The agreements also provide for reimbursement for all business expenses, including reasonable commuting expenses for David Portnoy between his home in Miami, Florida to the Company's headquarters in Tampa, Florida, including lodging and rental car expenses for when he is working in the Company's offices in Tampa. David Portnoy's principal place of employment shall be at the Company's offices in Miami, Florida, provided he shall travel to the Company's headquarters as necessary to fulfill his responsibilities under the agreement.

Appendix A.2

Sample disclosures of CEO long-distance arrangements in employment contracts

Example 1

Exhibit 10.1 in the annual report (10-K) for NCR Corporation for fiscal year 2005, p. 3
CEO: James M. Ringler

Because you will need to spend time working at the Company's headquarters in Dayton, Ohio, NCR will provide you with the following during the Engagement: (a) temporary housing at its corporate guest facility in Dayton, Ohio, including meals at such facility (with an approximate cost to the Company of \$3,000 per month); and (b) a rental vehicle and car service to and from the airport (with an approximate cost to the Company of \$1,500 per month).

During the Engagement, NCR will also permit you to use the corporate aircraft for business travel and for travel between your Florida residence or any other residence and the Company's offices in Dayton, Ohio, and elsewhere as needed.

Example 2

Exhibit 10.1 in the current report (8-K) for ATA Holdings Corporation on 10/21/2005, p. 2
CEO: John G. Denison

The Companies understand that Executive's permanent residence is in Dallas, Texas, and the Companies acknowledge that Executive may continue to commute weekly or bi-weekly to such permanent residence consistent with Executive's commuting practices during his employment under the Initial Employment Agreement, as long as such commuting does not interfere unreasonably with the execution of Executive's duties for the Companies.

Example 3

Exhibit 10 in the current report (8-K) for Rite Aid Corporation on 01/18/2000
CEO: Mary F. Sammons

Other than for necessary travel in connection with the performance of his duties hereunder, the Executive shall be based in Portland, Oregon, and shall not at any time be required to relocate his primary residence from the Portland metropolitan area, regardless of the location from time to time of the Company's principal headquarters. The Company shall provide suitable office space, staff and equipment to enable the Executive to discharge his duties from such location.

Example 4

Exhibit 10.1 in the current report (8-K) for Convergys Corporation on 02/12/2010, p. 2
CEO: Jeffrey H. Fox

For so long as you remain employed with the Company, the Company shall provide you with temporary housing or a monthly housing allowance to be paid to you on the last business day of each month commencing February 2010 and otherwise reimburse you in accordance with the Company's general expense policies.

Example 5

Exhibit 99 in the current report (8-K) for Zilog Inc., on 01/30/2002
CEO: James M. Thorburn

The Company will reimburse Executive for all reasonable business expenses actually incurred by Executive, including commuting expenses for up to two round trip visits per week to Executive's residence, and expenses incurred for temporary housing.

Example 6

Exhibit 10.35 in the annual report (10-K) for Spirit Airlines Inc., for fiscal year 2015, page 2
CEO: Robert L. Fornaro

Executive shall be required to maintain regular hours at Company's headquarters (which are currently located in Miramar, Florida) and to perform his duties and responsibilities hereunder primarily from and at the Company's headquarters, it being understood and agreed that the foregoing shall not preclude Executive from traveling on Company business to the extent reasonably required to perform his duties and responsibilities. Subject to the foregoing, Executive may perform, on a lesser scale, some of his duties and responsibilities from and at his primary residence; provided, however, that Executive shall arrange his schedule so as to be present in person at the Company's headquarters as and when necessary to perform those duties and responsibilities that cannot be effectively or properly performed elsewhere.

Example 7

Exhibit 10.16 in the annual report (10-K) for Starz LLC for fiscal year 2012, page 2
CEO: Christopher Albrecht

Executive shall not be required to relocate his principal residence from the Los Angeles, California metropolitan area to the Englewood, Colorado metropolitan area during the Term. The Company and Executive shall agree on a reasonable budget for Executive's travel between Los Angeles and Englewood as necessary for the conduct of the Company's business and the performance of Executive's duties hereunder.

Example 8

Exhibit 10.1 in the current report (8-K) for Novatel Wireless Inc on 08/06/2014, page N/A
CEO: Alex Mashinsky

In connection with the Executive's commute from his New York residence, the Company will also reimburse Executive for the cost of his weekly trips from New York to San Diego, including coach-class travel, reasonable San Diego area lodging reimbursement, and ground transportation. The Executive shall also be entitled to \$750 per month non-accountable reimbursement for all other costs incurred in connection with his commute to and stay in the San Diego area, including but not limited to non-business meals.

Appendix A.3

Sample insider reviews of commuter CEOs grouped by common themes

1. Absenteeism and disconnect from the firm's daily operations

CEO generally absent from the Buffalo office and seems out of touch.

CEO is not around most of the time and with the senior management changing so rapidly, future of the company is very uncertain.

I can't say I have ever seen the people like the CEO or CFO in the NY headquarters office more than a handful of times over numerous years.

Management absent most times.

Upper Management is not around enough.

CEO is completely out of touch with some selling practices regarding customers.

There is a huge disconnect between upper management and the rest of the workforce.

Upper Management and CEO are clueless as to day to day operations

CEO is out of touch with his employees

Poor management & archaic management structure, poor hours, clueless CEO.

Turnover is basically a revolving door at this point. An out of touch CEO and corporate staff.

2. Short-termism in financial decisions

I don't think that the new CEO really understands the business. ... Of course, the CEO actions make sense if you are going to sell off the company or just break it up and sell off parts.

CEO making changes to make the company attractive for takeover bids.

Executive leadership seems to have little direction, poor communication, no accountability. Prioritize short term goals over long term ones.

Current manage is putting short term gains ahead of long term vision.

3. Private travel benefits of commuter CEOs undermine employee morale and effort

Very hard to swallow travel cuts when the company helicopter continues to fly almost daily.

It's disheartening to know layoffs are pending (10k in late 2013) and see the executives taking their helicopters back and forth and to their homes.

I have worked at the HQ site for several years. I have seen the executives throttling others pay so they can stuff their wallets. 600K spent on the CEO for his furniture, nearly a million dollars spent for a lease so the CEO can travel in his own private jet, hundreds of thousands spent for fuel for the CEO's personal plane (Yes he has his OWN plane). These execs, JLL included, continue job cuts, outsourcing, and pretty much starving the employees while they spend over a thousand dollars on their fancy dinners and lavish lifestyles. I could never recommend working here.

They expect you as a DM to get your managers (\$30,000 a year) and your hourly employees (min. wage) to work miracles while corporate executives take the private company jet back and forth to work from home every week. It's insanity. Overall, DG is a terrible place to work.

Constant layoffs while NCR buys \$50 million dollar airplanes for senior management (2 years ago) and pays Nuti \$16.8 million (last year)

Frank gets a new plane and we require more with less. It's a shame. Again we understand the bottom line is important but why always impact the workers?

Stop nickel and diming your employees -- by cutting 401Ks, no raises, cutting severances while threatening thousands of layoffs -- all while posing in front of your private jet ...

Management also preaches price controls but doesn't practice it themselves in any way/shape/form (e.g. - purchase of second corporate jet).

I'm ashamed to say I work for VISA, by far the worst sweatshop I have ever seen in over 40 years in IT. Have fun in your shiny new corporate jet that you blew our pension fund money on, Charlie Scharf!

The senior management is completely incompetent and they laid off 7000 employees in 1 year but still Terry Lundgren makes millions and flies around in his private jet.

Reward your employees throughout the year and stop spending money on corporate jets.

Appendix A.4

Examples of CEO disclosures explaining the reasons for their long-distance arrangements

Example 1

Source: Proxy statement for JPMorgan Chase & Co for shareholders' meeting on 03/31/2008, p. 17

CEO: James Dimon, J.P. Morgan Chase & Co.

Mr. Dimon and his family resided in Chicago at the time of the merger and planned to keep Chicago as their home while their children completed high school. Mr. Dimon also continued to work in Chicago a portion of his time. The family relocated to New York during 2007.

Example 2

Source: The commuting CEO: Gary Rodkin travels far from his Connecticut home to run Omaha's ConAgra

Publication: *The Wall Street Journal*, 05/22/2006; Author: Steven Gray

CEO: Gary M. Rodkin, ConAgra Foods

Still, ConAgra's board opted to let Mr. Rodkin, 54 years old, tackle these challenges as a commuter CEO, traveling every week between ConAgra and his Connecticut home. Under Mr. Rodkin's employment contract, ConAgra pays for the corporate jet that runs him the 1,100 miles each way, and it also covers the cost of an apartment across the street from ConAgra's headquarters -- an arrangement that will last as long as two years. Mr. Rodkin says he requested the perks because he didn't want to uproot his daughter, who is a junior in high school.

Example 3

Source: Penney CEO not moving his family to Texas: how corporate aircraft perks stack up

Publication: *The Dallas Morning News*, 04/13/2012; Author: Maria Halkias

CEO: Ron Johnson, JC Penney

"Ron has school age children and he and his wife decided it did not make sense to uproot their family, given his travel schedule, which is expected to continue at this pace for the foreseeable future," a company spokeswoman said.

Appendix B. Variable Definitions

This appendix defines the variables. Parenthetical entries refer to the annual Compustat item name.

B.1 CEOs

Age: CEO's age in years

Commute distance: The distance between the firm's headquarters and the CEO's home, calculated for long-distance CEOs.

Commuting period: The number of years that a CEO works remotely in a given firm.

Different time zone: An indicator equal to one if the home of a long-distance CEO is in a different time zone than the firm's headquarters, and zero otherwise.

External board seats: The number of directorships at other firms

Graduate degree: An indicator equal to one if the manager holds a graduate degree and zero otherwise

Long-distance CEO: An indicator equal to 1 for CEOs whose roundtrip commute from home to the headquarters exceeds 100 miles and 0 otherwise.

Long-distance CEO, below (above) median distance: An indicator equal to 1 for long-distance CEOs whose roundtrip commute from home to the headquarters is below (above) the median commute distance of long-distance CEOs and 0 otherwise.

Long-distance CEO, same (different) time zone: An indicator equal to 1 for long-distance CEOs whose home is in the same (a different) time zone than the headquarters and 0 otherwise.

Long-distance CEO, below (above) median governance: An indicator equal to 1 for long-distance CEOs whose firms' quality of corporate governance is below (above) the sample median and 0 otherwise. Corporate governance is measured as an index combining the following three measures of governance: (1) board independence, defined as the ratio of the number of independent directors to the total number of directors; (2) the Gompers, Ishii, and Metrick (2003) governance index, and (3) the percentage of shares held by institutional investors. The index averages a firm's percentile ranking in the sample according to each measure. We then scale the index to range from 0 (low) to 1 (high).

Long-distance CEO, 2000-2010 (2011-2020): An indicator equal to 1 for long-distance CEOs in the first (second) half of the sample period and 0 otherwise.

Male: An indicator equal to one if the manager is male and zero if the manager is female

MBA: An indicator equal to one if the manager holds an MBA degree and zero otherwise

Percent of CEO tenure in commute: The number of years that a CEO works remotely in a given firm divided by his overall tenure as CEO.

School quality: An indicator that equals one if the best school ranking in the CEO's residence county is higher than the highest school ranking in the county where the firm is headquartered and zero otherwise.

Tenure with the firm: The number of years the manager has worked at the firm

B.2 Firms

Book assets: Book value of total assets (at) in millions of dollars

Capital expenditure / assets: The ratio of capital expenditure (capx) to identifiable book assets (at)

EBITDA: Earnings before interest, taxes, depreciation and amortization (ebitda) in millions of dollars.

ROA: Return on assets, calculated as net income (ni) divided by book assets (at).

Market-to-book: Market value of assets [book assets (at) + market value of common equity (csho*prcc) - common equity (ceq) - deferred taxes (txdb)] / [0.9*book value of assets (at) + 0.1*market value of assets]

B.3 Employee Reviews

CEO approval: A variable that equals 1 if the employee “approves” the CEO, 0 if the employee has “no opinion” about the CEO, and -1 if the employees “disapproves” the CEO. This variable is based on employee reviews on www.glassdoor.com.

Managers: Employees whose job title is “manager” “director” or “senior” on www.glassdoor.com.

Rank-and-file employees: Non-manager employees on www.glassdoor.com.

Headquarter-state employees: Employees on www.glassdoor.com that reside in the state in which the firm is headquartered.

Different-state employees: Employees on www.glassdoor.com that do not reside in the state in which the firm is headquartered.