Do Pre-Announcement Face-to-Face Interactions Increase the Returns to Acquisitions? Evidence from Smartphone Geolocational Data

Marco Testoni,[a] Mariko Sakakibara,[b] Keith Chen[c]

May 30, 2019

Information asymmetries make acquisitions risky, reducing firms' ability to gain from these transactions. We test whether face-to-face interactions with the target's employees before the acquisition provide informational advantages to the acquirer. For a sample of U.S. domestic acquisitions, we use smartphone geolocational data to measure the movement of people between merging companies' headquarters in the months before the acquisition announcement and use the number of visits between the two companies as a proxy for face-to-face interactions. Using bad weather conditions in the two companies' locations as a source of exogenous variation in intercompany mobility, we find evidence that more intense face-to-face interactions increase the abnormal returns on the acquirer's stock at the acquisition announcement.

Keywords: Mergers and acquisitions; abnormal returns; information asymmetry; monitoring; face-to-face interaction

We would like to thank Marvin Lieberman, Natarajan Balasubramanian, Tony Bernardo, Chirantan Chatterjee, Mark Garmaise, seminar participants at UCLA, and annual meetings at the Academy of Management and Strategic Management Society for helpful comments. We gratefully acknowledge the financial support of UCLA Anderson School of Management and the Academic Senate of the University of California, Los Angeles. We are grateful to SafeGraph Inc. for providing us with the smartphone geolocational data used for this study.

[a,b,c]University of California, Los Angeles, Anderson School of Management

e-mail: [a]marco.testoni.1@anderson.ucla.edu; [b]mariko.sakakibara@anderson.ucla.edu; [c]keith.chen@anderson.ucla.edu

1. Introduction

Mergers and acquisitions (M&As) are important means to expand the scale and scope of a firm (Villalonga and McGahan 2005, Wang and Zajac 2007). Acquiring existing firms allows the firm to save time and resources that would be required to set up a new business unit (Root 1994). However, information asymmetries make M&A transactions risky (Coff 1999, Capron and Shen 2007, Ragozzino and Reuer 2011), and many studies find that most acquisitions are not profitable for the shareholders of the acquirers (Jensen and Ruback 1983, Andrade et al. 2001, Haleblian et al. 2009). Face-to-face interactions with the target company's employees before the acquisition can provide managers with more information about the target. Such knowledge could be leveraged to make better M&A decisions and increase the acquirer's returns.

Despite the development of modern information and telecommunication technologies, face-to-face interaction remains a central channel for information and knowledge transfer in our economies (Flaherty et al. 1998, Gaspar and Glaeser 1998, Maznevski and Chudoba 2000, Mokhtarian 2002, Tillema et al. 2010, Calabrese et al. 2011). Indeed, business travel grows faster than output and trade, suggesting that firms assign great economic value to this form of communication (Hall 1998, Storper and Venables 2004, Hausmann 2016). Face-to-face contact provides unique advantages: it is an efficient communication method, especially suitable for the transfer of non-codifiable information and learning (Gaspar and Glaeser 1998, Storper and Venables 2004); it can also transfer information unintentionally, which is valuable in contexts where information is imperfect and parties have incentive to lie (Storper and Venables 2004); and it facilitates socialization, which further enhances communication (Tsai and Ghoshal 1998, Jarvenpaa and Leidner 1999, Storper and Venables 2004). Accordingly, previous research has highlighted the importance of face-to-face contact to collaborate in knowledge-intensive contexts (Agrawal and Goldfarb 2008, Catalini 2018, Catalini et al. 2018), monitor the other party in relationships with moral-hazard problems (Lerner 1995, Kang and Kim 2008, Giroud 2013, Bernstein et al. 2016), and develop social ties that foster the transfer of knowledge (Gulati 1995, Coval and Moskowitz 1999, Sorenson and Stuart 2001, Tsai 2002, Singh 2005, Bell and Zaheer 2007, Fracassi 2017).

We argue that face-to-face interactions with the target's employees before an acquisition are a powerful knowledge transfer mechanism that can help the acquirer's managers to increase the returns from the acquisition. A superior pre-acquisition information flow between the two merging companies can benefit the acquisition performance by providing a better deal-selection mechanism (Capron and Shen 2007, Ragozzino and Reuer 2011), conferring a competitive advantage in the bidding process (Barney 1988, Capron and Pistre 2002, Cai and Sevilir 2012), lowering transaction costs (Coff 1999, Reuer and Ragozzino 2008, Cai and Sevilir 2012), and providing more insights on how to structure the integration process and maximize the value of synergies (Datta 1991, Larsson and Finkelstein 1999, Zaheer et al. 2010, Wulf and

Singh 2011). These advantages should be positively reflected in the stock market performance of the acquirer when the acquisition is announced.

While anecdotal evidence suggests the importance of pre-announcement interactions for the success of M&As (Wheelwright et al. 2000, Cullinan et al. 2004), we still have limited empirical evidence of the causal effect of an improved information flow on the acquirer's returns. Previous literature on M&As has proposed different proxies for information availability, such as geographical proximity (Uysal et al. 2008, Ragozzino and Reuer 2011, Chakrabarti and Mitchell 2013 and 2016), industry relatedness (Capron and Shen 2007), board interlocks (Cai and Sevilir 2012), or the presence of previous alliances between merging companies (Reuer and Ragozzino 2008, Lin et al. 2009, Zaheer et al. 2010, Yang et al. 2011). Testing the effect of knowledge transfer on acquisition returns using these proxies is complicated by the fact that companies that share the same location, industry, directors, or a prior partnership might have unobserved complementarities that could increase the acquisition value.

To overcome this challenge, we introduce a more direct measure of face-to-face contacts between merging companies. Using smartphone geolocational data, we define the "employees" of a company as those who appeared in the acquirer's or in the target's headquarters during business hours in the eight months preceding the acquisition announcement. We proxy face-to-face interactions with the number of times employees visited the other company's headquarters. Because managers can choose how often to interact with the other company, face-to-face interactions are likely to be endogenous. For instance, visits might be more frequent if two companies share greater complementarities, or if the merger is more problematic and presents greater uncertainties. To identify the effect of face-to-face contacts on the acquirer's returns, we use the number of bad weather days in the merging companies' locations in the months preceding the acquisition as an exogenous source of variation in intercompany visits. The number of bad weather days is the number of days with precipitation, maximum temperature below 32°F, or maximum temperature above 90°F in either the acquirer's or the target's location. Bad weather conditions make mobility between two companies more problematic due to traffic and delays, in addition to making any visit less pleasant, especially while walking outdoors (Horanont et al. 2013). On the other hand, we argue that weather is exogenous to M&A performance and should affect returns only by influencing the employees' ability to interact between companies. Applying this empirical strategy and using data on U.S. domestic acquisitions by public acquirers announced between July 2016 and January 2018, we find evidence that more face-to-face contacts between merging firms positively affect the acquirer's abnormal returns at the acquisition announcement.

This study contributes to the literature in several ways. First, we contribute to the strategy literature on M&As. Whether and how acquisitions create economic value are key questions in strategy research (Haspeslagh and Jemison 1991, Hitt et al. 2001, Natividad 2014). Especially, how acquirers and targets can contribute to acquirers' superior returns is an important research issue (Chatterjee 1986 and 1992, Barney 1988, Capron and Pistre 2002, Mingo 2013). However, only a few studies (e.g., Capron and Shen 2007, Zaheer et al. 2010) test how knowledge about the target company can improve M&A performance. Building upon this literature, we provide evidence that face-to-face contacts between the acquirer and the target before the acquisition can enhance the acquirer's returns.

Another contribution of our study is to provide a novel measure of knowledge flow. Past studies on strategy, innovation, and entrepreneurship have used patent citations (Jaffe et al. 1993, Thompson and Fox-Kean 2005) or worker job changes (Agarwal et al. 2004, Song et al. 2003) as proxy for knowledge flow. In their study of M&As, Tate and Yang (2015) use the U.S. Census Bureau's LEHD data to identify worker job changes of target firms after acquisitions and examine how the retention of the workers of target firms differ in related diversification where human capital is transferrable. If knowledge transfer requires face-to-face contacts (Gaspar and Glaeser 1998, Storper and Venables 2004), geolocational data could provide a more direct measure to capture knowledge flows.

Similarly, direct measures of monitoring are also limited. For example, Bernstein et al. (2016) assume that the introduction of new direct airline routes increases venture capitalists' monitoring of their portfolio firms. Kang and Kim (2008) use board representation and nonroutine top executive turnover as a proxy for post-acquisition monitoring. We argue that company visits can provide a more fine-grained measure to quantify monitoring.

2. Theory

2.1. Face-to-Face Interaction and Knowledge Transfer

While the development of information and communication technologies greatly improved our ability to instantly transfer information between remote locations, face-to-face interaction remains a key conduit for knowledge transfer in our economies (Flaherty et al. 1998, Gaspar and Glaeser 1998, Maznevski and Chudoba 2000, Mokhtarian 2002, Tillema et al. 2010, Calabrese et al. 2011). Indeed, Agrawal and Goldfarb (2008) examine how the introduction of Bitnet (an early version of the internet) affected university collaboration and find that collaborations that benefited the most from this new technology were those between researchers at nearby universities, suggesting the complementarity between network communication and face-to-face interactions.

Different features underpin the lasting superiority of face-to-face interaction relative to other forms of communication. First, it is an efficient communication method, providing visual and body language cues, and high-frequency and simultaneous feedback (Storper and Venables 2004). These advantages facilitate learning and enable the transfer of information that is not easily codifiable (Gaspar and Glaeser 1998). For example, studies have shown that the quality and direction of scientific research are affected by how easy it is for scientists to meet (Agrawal and Goldfarb 2008, Catalini 2018, Catalini et al. 2018).

Second, by making it easier to observe a person's behavior and environmental context, face-to-face interaction can also transfer information unintentionally. This feature makes face-to-face interaction especially valuable in contexts where information is imperfect and one party has incentive to lie (Storper and Venables 2004). For instance, studies have shown that by facilitating interactions, geographical proximity increases venture capitalists' monitoring of their portfolio companies (Lerner 1995, Bernstein et al. 2016), block acquirers' oversight of their target firms (Kang and Kim 2008), and headquarters' monitoring of their manufacturing plants (Giroud 2013).

Finally, face-to-face interaction facilitates socialization, which can enhance communication. The development of a social tie increases people's willingness to reciprocally share information, increases the perceived trustworthiness of messages (Tsai and Ghoshal 1998, Jarvenpaa and Leidner 1999, Storper and Venables 2004), and promotes the development of shared languages and similar cognitive structures (Cohen and Levinthal 1989, Lane and Lubatkin 1998, Ahuja and Katila 2001). Indeed, research has shown that social ties developed through collaborations or other interactions are important conduits for knowledge transfer between inventors (Singh 2005), venture capitalists (Sorenson and Stuart 2001), mutual fund managers (Bell and Zaheer 2007), investment managers and local companies (Coval and Moskowitz 1999), executives and directors of different companies (Fracassi 2017), organizational units within a company (Tsai 2002), and partner firms in alliances (Gulati 1995 and 1998).

2.2. Pre-announcement Face-to-Face Interaction and Acquisition Returns

Before an acquisition is announced, employees or executives of two merging companies can interact for a variety of reasons. For instance, managers of companies with no prior relationship can visit the other company and interact with their counterparts before the acquisition as part of their due diligence process (Wheelwright et al. 2000, Cullinan et al. 2004). In addition, companies can collaborate in the context of alliances or vertical relationships (Porrini 2004, Zaheer et al. 2010), or they may share a common director (Cai and Sevilir 2012). The central thesis of this study is that such pre-announcement face-to-face interactions are an effective conduit for knowledge transfer between merging companies that can benefit the acquirer's returns from the acquisition.

Previous literature used different proxies to measure the pre-acquisition information flow between merging companies. For example, Uysal et al. (2008) find that the acquirer's abnormal returns at the acquisition announcement are higher when the target is nearby, suggesting that acquirers could benefit from informational advantages in local acquisitions. Cai and Sevilir (2012) show that acquirers obtain higher abnormal returns if they share direct or indirect board connections with their targets. Zaheer et al. (2010) test whether the presence of a prior alliance between merging companies increases the acquirer's abnormal returns and find that prior alliances improve returns only in cross-country transactions. In this paper, we take a novel approach by measuring the intensity of face-to-face interactions using smartphone geolocational data to track the movement of employees between the headquarters of the two merging companies before the acquisition announcement. We posit that prior interactions can positively affect the acquirer's returns through at least four channels, as described below.

2.2.1. Better Selection. If the acquirer is not fully aware of the target's quality and the target's strategic and cultural fit with the acquirer, it incurs the risk of selecting a value-destroying acquisition deal (Chatterjee et al. 1992, Coff 1999, Capron and Shen 2007). Observing the target's internal strengths, weaknesses, knowledge base, and culture can be critical to properly evaluate the realizable benefits of an acquisition (Ragozzino and Reuer 2011, Chakrabarti and Mitchell 2013). Pre-announcement interactions could provide more information to the acquirer about the quality of the target and its fit with the acquirer. Such knowledge could help managers of the acquirer to reduce the probability of picking a bad deal. Hence, the average quality of a deal should increase with face-to-face interactions. In other words, an informational advantage could arise from a better draw mechanism at the deal selection stage.

2.2.2. Advantage in the Bidding Process. Competition among potential acquirers drives up the price of the target company, reducing the fraction of value created by the acquisition that is appropriated by the winning bidder (Barney 1988, Capron and Pistre 2002). If other competing bidders are less able to interact with the target (perhaps due to greater geographical distance), an acquirer can gain an advantage in the bidding process and pay a lower price relative to the expected synergies. Company visits and the development of personal relationships with the target's executives can provide the acquirer with "insider" information about the value of the target or the value of the achievable idiosyncratic synergies. In such contexts, bidders with no prior relationship with the target face greater information asymmetry problems and could avoid bidding for the target or bid less aggressively if they do (Hendricks and Porter 1988, Choi et al. 2017). For instance, Cai and Sevilir (2012) show that sharing a board interlock with the target benefits acquirers with lower takeover premiums.

2.2.3. Lower Transaction Costs. A better information flow between the two companies can increase managers' awareness of the strengths and weaknesses of the other firm and facilitate the identification of synergy sources. Such improved communication could reduce the need to write complex acquisition contracts (Coff 1999, Reuer and Ragozzino 2008) or to hire external agents—such as consultants and investment bankers—to gather information about the other company, and therefore reduce the transaction costs of the acquisition (Cai and Sevilir 2012).

2.2.4. Better Expected Integration and Synergies. Previous research has highlighted that an effective integration process is a critical determinant of an acquisition's performance (Datta 1991, Larsson and Finkelstein 1999, Birkinshaw et al. 2000, Wulf and Singh 2011). A superficial assessment of a target company often leads managers to underestimate the integration costs and overestimate the potential for synergies. Indeed, some case studies highlight how managers often postpone a detailed planning of the integration process until after the deal is signed (Cullinan et al. 2004). Pre-acquisition interactions can expose merging companies to the internal processes of each other, revealing where critical expertise resides within each firm and details of their organizational routines (Dyer and Singh 1998, Porrini 2004, Zaheer et al. 2010). Such knowledge can be leveraged to develop a better-defined roadmap for the post-acquisition integration process. In other words, more face-to-face interactions can provide managers with better insights on how to structure the deal and which strategic and organizational levers they need to pull to maximize the value of any given transaction.

In sum, we expect pre-announcement face-to-face interactions to increase the acquirer's returns from the acquisition. As common in the literature (e.g., Capron and Shen 2007, Uysal et al. 2008, Zaheer et al. 2010, Cai and Sevilir 2012), we measure acquisition performance with the abnormal returns on the acquirer's stocks at the acquisition announcement, which capture the stock market's expectations of future cash flows related to the acquisition (Haleblian et al. 2009). While face-to-face interactions might not be visible to the stock market, their outcome might be. For instance, a better deal-selection mechanism could increase the average quality of an acquisition deal (Uysal et al. 2008, Cai and Sevilir 2012). An advantage in the bidding process translates into a lower acquisition premium (Cai and Sevilir 2012). Lower transaction costs could result in lower fees paid to external financial and strategic advisors or less complex acquisition contracts (Coff 1999, Reuer and Ragozzino 2008, Cai and Sevilir 2012). Finally, a better-defined roadmap for the integration process can be partly revealed at the acquisition announcement and positively affect the expectations of future acquisition performance (Chatterjee et al. 1992, Zaheer et al. 2010). Thus, we predict:

Hypothesis: The greater the intensity of face-to-face contacts between the employees of two merging companies in the months preceding the deal announcement, the greater the acquirer's abnormal returns from the acquisition.

3. Methods

3.1. Data

3.1.1. M&A Data. The sample includes U.S. domestic acquisitions of companies by public companies that were announced between July 2016 and January 2018, excluding deals involving financial firms (companies with primary Standard Industrial Classification (SIC) codes from 60 to 69). Data on M&A transactions are collected from the Thomson SDC Platinum database. As is common in the literature (e.g., Uysal et al. 2008, Savor and Lu 2009, Cai and Sevilir 2012), we avoid considering the small and economically insignificant deals in SDC. Specifically, we include only transactions where the target's value is at least $10 million and at least 1% of the market capitalization of the acquirer. Acquirers' accounting data are retrieved from Compustat and stock market data from CRSP.

For every firm in the sample, we verified and sometimes corrected the addresses of the headquarters[1] reported in SDC using companies' websites, business news, and companies' publications reported in LexisNexis. We then visually identified the perimeter of the headquarters' buildings on Google Maps and geocoded the locations using the *geohash* system. Geohash is a publicly available geocoding system that assigns a string of letters and numbers to geographic locations. This system subdivides space using a hierarchical grid structure with different levels of precision. The more characters are included in the geohash string, the smaller the rectangular cell corresponding to the geohash. In most cases, we find that companies' perimeters are best described by a set of geohashes at the six- or seven-character level of precision. If a firm's headquarters comprise multiple buildings, we recorded a set of geohashes for each of them.

3.1.2. Smartphone Data. We obtained location tracking data from SafeGraph, a company that aggregates anonymized smartphone-location data from numerous applications on both Apple and Android smartphones. The SafeGraph data cover about 10% of the smartphone users in the United States and consist of "pings," each of which identifies the latitude and longitude of a smartphone at a moment in time. Smartphones are assigned unique and anonymous identifiers. We obtained the SafeGraph data for the period November 2015–November 2017. We then pulled all the pings that appeared in the companies' headquarters during the eight months preceding the acquisition announcement. Most of the observed visits fall into these eight-month windows. Indeed, as will be described in the results section, most of the interactions occur within the three to four months preceding the acquisition announcement. Because our smartphone data cover the period November 2015–November 2017, the latest acquisition announcements (in December 2017 and January 2018) have a shorter pre-announcement window to observe intercompany visits. As we will describe below, in the regressions we control for differences in data coverage by including period fixed effects.

From this sample, we removed all the pings associated with smartphones that were moving in the proximity of the companies (e.g., passersby). We then assumed that a smartphone belonged to an employee

---

[1] Even though firms can have many secondary locations (e.g., plants, subsidiaries, and branches), companies' headquarters are likely to be central for our analysis, since they represent the center of companies' decision making.

of the company if it appeared in the company's location during a business day (i.e., excluding weekends and national holidays) between 7:00 am and 7:00 pm in the pre-acquisition period. If the "employee" appeared in both the acquirer's and in the target's location, we assigned the person to the company where s/he appeared on the most business days.

Because smartphone data are anonymous, we cannot be certain that a person in a company's headquarters is an actual employee of the company. For instance, people that visited the headquarters of both merging companies in the months preceding the acquisition might be consultants or investment bankers that are hired to perform due diligence activities. Alternatively, they could be common business connections or partners in an alliance (Gulati 1995). In the concluding section, we describe how the presence of such people could affect our interpretation of the results.

3.2. Regression Model and Identification Strategy

Our objective is to test the effect of pre-announcement face-to-face contacts between the employees of the two merging companies on the abnormal returns on the acquirer's stock at the announcement of the acquisition. The key explanatory variable is the number of days that the acquirer's or the target's employees visited the headquarters of the other company in the eight months preceding the acquisition announcement. Because managers can choose how often to interact with the other company, face-to-face interactions are likely to be endogenous. For instance, during the due diligence process, the acquirer's managers might decide to interact more with the target if they believe the deal has the potential to create greater value. Moreover, companies that share greater complementarities have greater incentives to collaborate even as separate entities, which would result in more intense pre-acquisition interactions. Alternatively, managers of the acquirer could invest more time interacting with the target's employees if they expect the deal to be more problematic. Therefore, the identification of the effect of face-to-face interactions on the acquirer's returns requires an exogenous source of variation in intercompany visits.

To overcome this challenge, we estimate a two-stage least squares regression, where we use the average number of bad weather days in the merging companies' locations in the months preceding the acquisition as an instrument for intercompany visits. Bad weather conditions make mobility between two companies more problematic due to traffic and delays and make any visit less pleasant, especially while walking outdoors (Horanont et al. 2013). Our identification assumption is that weather is exogenous to the acquirer's abnormal returns and affects performance only by reducing employees' mobility between companies. Because weather might partly capture the effect of companies' geographic locations and therefore their industrial composition, we control for either the merging companies' industry pair—defined at the two-digit SIC code level—or their state pair.

The bad weather "treatment" is the weather condition at the acquirer's and at the target's locations. Because weather conditions in nearby location-pairs are not independent, we cluster standard errors at the state-pair level (where state pair *(x,y)* includes both the case where the acquirer's state is *x* and the target's state is *y*, and the case where the acquirer's state is *y* and the target's state is *x*).

3.3. Measures

3.3.1. Dependent Variable: Cumulative Abnormal Returns. The stock market reaction to the acquisition announcement is measured as the cumulative abnormal returns (CAR) on the acquirer's stock over a three-day window centered on the deal announcement (date $t = 0$) (Brown and Warner 1985). First, we estimate on the 240-day pre-acquisition period $t \in [-260, -20]$ the market model $r_{it} = \alpha_i + \beta_i r_{mt} + \varepsilon_{it}$ (Fama et al. 1969), where r_{it} is the stock return of firm i on day t, r_{mt} is the daily market return on the CRSP value-weighted index, α_i and β_i are parameters specific to the company, and ε_{it} is the error term. Abnormal returns are then calculated as the residuals $\hat{\varepsilon}_{it} = r_{it} - \hat{r}_{it}$, where $\hat{r}_{it} = \hat{\alpha}_i + \hat{\beta}_i r_{mt}$ are the predicted returns, and $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the estimated coefficients. Finally, the cumulative abnormal returns are calculated by summing the daily abnormal returns $\hat{\varepsilon}_{it}$ over a three-trading day window surrounding the announcement date [-1, 1]. In the appendix, we report the results using some alternative event windows. Cumulative abnormal returns are expressed in percentages.

3.3.2. Number of Intercompany Visits. Our key explanatory variable is the number of days in which the acquirer's or the target's employees visited the other company's headquarters between 7:00 am and 7:00 pm of a business day in the eight months preceding the acquisition announcement. Similar results are found if we just consider the acquirer employees' visits to the target or the target employees' visits to the acquirer.

3.3.3. Bad Weather Days. The instrument for the number of intercompany visits is the number of days with bad weather in either the acquirer's or the target's location in the eight months before the announcement, expressed in logarithmic form. Weather conditions have been shown to significantly affect human behavior, including the choice of daily activities (Horanont et al. 2013) and psychological attitudes (Saunders 1993, Hirshleifer and Shumway 2003). The source of weather data is the NOAA Global Historical Climatology Network Daily (GHCN-Daily) data set (Menne et al. 2012b). GHCN-Daily contains daily weather measurements from land-based stations that are subject to a common suite of quality assurance reviews (Durre et al. 2010, Menne et al. 2012a). We measure weather in a firm's location using the climatological data from the weather station with the closest geographical coordinates to the firm's zip code, where zip code coordinates are obtained from the 2017 U.S. Census Gazetteer Files. As bad weather, we consider days with precipitation of at least 0.01 inches, maximum temperature below the freezing point (32°F),[2] and maximum temperature above 90°F. These precipitation and temperature thresholds are used in other summary data sets derived from the GHCN-Daily, such as the Global Summary of the Month (GSOM) and Global Summary of the Year (GSOY) data sets provided by the NOAA National Centers for Environmental Information (Lawrimore 2016). However, results do not substantially change by using alternative thresholds (e.g., 0.05 or 0.1 inches for precipitation, or by adding or removing 3°F from the temperature thresholds).

3.3.4. Travel Time. An important determinant of intercompany visits is likely to be the transportation time required to move between the two companies' headquarters. Indeed, the opportunity cost of intercompany visits should increase with the geographic distance between companies, as managers spend more time traveling and less time on more productive activities. Distance is a well-known determinant of social interactions, and its effects has been studied in a variety of fields (e.g., Golledge 2002, Gimpel et al. 2008).

To control for distance, for each acquirer-target pair, we calculate the average transportation time (in hours) required to travel from the acquirer to the target company's zip code during the eight months before the acquisition. To calculate the travel time between the companies, we follow Giroud (2013) and assume that managers choose the route and means of transport—by car or air—that minimize transportation time. Transportation time by car is calculated using MS MapPoint.[3] Transportation time by air is calculated by minimizing the sum of three components: (i) the driving time from the acquirer company to the origin airport, (ii) the flight time—considering both direct and indirect flights—to the destination airport, and (iii) the driving time from the destination airport to the target company. The fastest flight route between origin and destination airports is calculated using monthly data on flight duration (ramp-to-ramp time) from the T-100 Domestic Segment Database provided by the Bureau of Transportation Statistics.[4] The econometric models are estimated by considering the logarithm of transportation time.

3.3.5. Other Control Variables and Fixed Effects. We control for different deal or firm-specific characteristics that could correlate with intercompany visits and the acquirer's returns. For instance, the industry similarity of the two merging companies might affect their level of information asymmetry and

---

[2] We consider the maximum temperature rather than the minimum because the minimum is normally reached during night hours, which is not when intercompany visits would take place. However, results are substantially unchanged by using the minimum below 32°F as alternative threshold for freezing days.
[3] For firms located in the same zip code, we assumed that the driving time is two minutes.
[4] As Giroud (2013), we assume that one hour is spent at the origin and destination airports combined and—for indirect flights—each layover takes one hour (but results do not substantially change by making alternative assumptions).

synergistic complementarities (Chatterjee 1986, Coff 1999, Capron and Shen 2007). We control for this factor with the dummy *unrelated*, which indicates whether the acquirer and the target have different primary two-digit SIC codes. Because the presence of board interlocks might provide additional informational benefits that could affect the acquirer's returns (Cai and Sevilir 2012), we include the dummy *board interlock*, indicating whether the two companies share a common director. Data on boards of directors are obtained from Capital IQ Professional. Knowledge-intensive sectors might trigger more intense interactions for knowledge transfer (Dyer and Singh 1998). Hence, we include the variable *high-tech*, which is a dummy indicating whether the acquirer's or the target's primary four-digit SIC code is a high-tech sector, as defined by the American Electronics Association (Walcott 2000). Because larger transactions could impose greater risks on the acquirer (Hansen 1987) and increase managers' incentive to perform due diligence on the target, we include the variable *target relative size*, which is the ratio of the deal value to the sum of the deal value and the acquirer's market capitalization, computed at the end of the fiscal year before the announcement. Since public targets are less informationally opaque than private targets and their acquisition process is typically more competitive (Capron and Shen 2007), we control for the target's public status with the dummy *public target*. We also control for the acquirer's financial characteristics, measured at the end of the fiscal year before the announcement. *Acquirer Tobin's Q* is the ratio of the sum of the acquirer's market value of equity and book value of debt divided by the book value of assets. *Log(acquirer assets)* is the logarithm of the acquirer's total assets. *Acquirer ROE* is the acquirer's return on equity. *Acquirer leverage* is the acquirer's ratio of total debt to total assets. Moreover, to control for the size of the smartphone-users base of the two companies, we include the average number of smartphones that appear during business hours in the acquirer's and the target's locations (*average number smartphones*). Because the smartphone data are available up to November 2017, the acquisition announcements in the last two months have a shorter pre-announcement period over which to observe intercompany visits. We control for this difference in data coverage with the dummy *after 11/2017*, indicating whether the announcement is after the end of the smartphone-data coverage window.

To control for the unobservable heterogeneity of industries, we include the acquirers' industry fixed effects, where industries are defined at the two-digit SIC code level. As described above, in the most restrictive specifications, we also control for industry-pair or state fixed effects, where industry or state pair *(x,y)* includes the cases where the acquirer is in *x* and the target is in *y*, and vice versa. Finally, because the coverage of the data collected by *SafeGraph* increases over time, all the models are estimated with quarter-year fixed effects.

4. Results

Table 1 presents the descriptive statistics of the variables introduced in the previous section. Our sample includes 225 acquisition announcements. On average, the acquirers earned about 1.19% at the deal announcement.

—Insert Table 1 about here—

Table 2 provides the descriptive statistics for the number of intercompany visits. Using the methodology described in the previous section, we observe at least one intercompany visit for 95 transactions (about 42% of the sample). 74 acquirers visited their target, and 66 targets visited their acquirer. Among the transactions with at least one intercompany visit, on average, we observe one smartphone per visit and about 10 intercompany visits. The bottom of the table shows how the number of visits observed in a calendar month preceding the announcement changes as we move closer to the announcement month. Because the coverage of the smartphone data increases over time, we adjust the monthly number of visits by the average in that calendar month. For instance, for an announcement in February 2017, the adjusted number of visits in January 2017 (month –1) is the difference between the number of visits in January 2017 and the average number of visits observed in January 2017. As the table indicates, visits are more likely to occur in the months that are closer to the announcement, and they typically happen in the three or four months preceding the announcement. Similar patterns are observed in the subsamples of acquirers' visits to the target and targets' visits to the acquirer.

—Insert Table 2 about here—

Figure 1 plots the geographic distribution of acquirer-target pairs, distinguishing by whether we capture intercompany visits during the pre-announcement period (figure 1(a)) or we do not (figure 1(b)). Dots indicate the geographic coordinates of companies and ties link acquirers to the corresponding target. From the maps, we can notice that deals with intercompany visits are not concentrated in a particular geographic area but are spread throughout the country. Moreover, visits occur not only in local transactions, but also in deals where merging companies are distant from each other.

—Insert Figure 1 about here—

Panel A in Table 3 provides the descriptive statistics for the number of days with bad weather in either the acquirer's or the target's location in the eight months before the acquisition announcement, distinguishing by days with precipitation, maximum temperature ≤ 32°F, and maximum temperature ≥ 90°F. On average, approximately 60% of the days in the eight months preceding an announcement had bad weather in either the acquirer's or the target's location, and the most frequent bad weather condition is precipitation.

Panel B compares the probability of observing an intercompany visit during a business day with versus without bad weather conditions in either the acquirer's or the target's location in the eight months before the announcement. In each case, bad weather reduces the probability of a visit, and the difference is statistically significant at the 1% level.

—Insert Table 3 about here—

Table 4 describes how the average frequency of intercompany visits and acquirer's returns change in the three tertiles for the total number of bad weather days. The average number of visits and the percentage of deals with at least one visit drop when moving from the first to the third tertile of bad weather days. Similarly, the average acquirer's CAR and the percentage of deals with positive abnormal returns are the highest in the first tertile of bad weather days and progressively decrease moving to the second and third tertiles. These descriptive results suggest that merging companies in bad weather conditions interact less with each other and their merger announcement is associated with lower acquirer's returns compared with companies with more favorable weather conditions.

—Insert Table 4 about here—

Table 5 presents the first-stage regressions, where the dependent variable is the number of intercompany visits and the instrument is the logarithm of the number of bad weather days. Columns (1), (2), and (3) report the models with announcement quarter-year and acquirer's industry fixed effect, with only the controls, only *log(bad weather days)*, and both the controls and *log(bad weather days)*, respectively. Column (4) replaces the acquirer's industry fixed effects with the acquirer's and the target's industry-pair fixed effects. Finally, column (5) replaces the industry-pair fixed effects with state-pair fixed effects.

As expected, bad weather conditions significantly reduce face-to-face interactions between the two companies. Specifically, the most restrictive specifications, with industry-pair fixed effects (column (4)) and with state-pair fixed effects (column (5)), indicate that a 1% increase in the number of bad weather days reduces the number of intercompany visits by about 0.12 and 0.18, respectively.

Another important determinant of face-to-face contacts is the travel time between the two companies. This finding confirms that distance reduces the acquirer's managers' ability to obtain information about the target via face-to-face contacts (see also Chakrabarti and Mitchell 2013 and 2016).

—Insert Table 5 about here—

Table 6 presents the estimates from the instrumental variable regressions, where the dependent variable is the acquirer's CAR at the announcement. Column (1) reports, for comparison, the estimates from an OLS model with only the controls, while columns (2)–(7) present the second-stage regressions with or without controls, where the *number of visits* is instrumented with *log(bad weather days)*. As in Table 5, columns (1)–(3) report the models with quarter-year and acquirer's industry fixed effects, column (4) includes the industry-pair fixed effects, and column (5) replaces the industry-pair fixed effects with state-pair fixed effects.

Confirming our hypothesis, face-to-face contacts in the pre-announcement period positively affect the acquirer's abnormal returns. Specifically, controlling for industry pairs (column (4)) or state pairs (column (5)), the regressions indicate that an additional day of visits increases the acquirer's cumulative abnormal returns by about 0.81–1.31 percentage points. Hence, the order of magnitude indicates that a one standard deviation increase in the number of visits corresponds to approximately a 0.9–1.5 standard deviation increase in the acquirer's returns.

Being highly correlated with intercompany visits, *log(travel time)* gains statistical significance in some of the regressions (columns (3) and (4)), while it is not significant when included without *number of visits* (column (1)). On the contrary, the statistical significance of intercompany visits persists also in the model without the control variables (column (2)), suggesting that our inference is not inflated by the presence of a collinear variable. In the appendix, we report additional robustness regressions excluding *log(travel time)* or including alternative functional forms for the travel time control. Overall, the estimates suggest that while proximity is a significant facilitator of intercompany visits, the latter are a much more important predictor of M&A performance. In other words, only deals for which interactions occur perform better, irrespective of the geographical distance between merging companies. In the appendix, we also report other robustness regressions using alternative event windows to compute the acquirer's abnormal returns.

—Insert Table 6 about here—

For comparison, in Table 7 we report the OLS regressions for the effect of intercompany visits on the acquirer's abnormal returns. Column (1) includes the announcement quarter-year fixed effects, the acquirer's industry fixed effects, and the controls; column (2) adds the *number of visits* variable; and columns (3) and (4) include the model with industry-pair or state-pair fixed effects, respectively. Finally, columns (5) and (6) add the interaction of *number of visits* with the dummy *unrelated* in the models with industry-pair and state-pair fixed effects, respectively.

The estimates from models (2)–(4) indicate that while the effect of visits is still significantly positive, its magnitude is smaller compared with the instrumental variable regressions. Hence, when the number of visits varies endogenously, its coefficient is smaller. This pattern could suggest that the acquirers' managers interact more with targets that are more problematic or that impose greater risks. Because such deals result in lower returns, the OLS regressions might underestimate the effect of face-to-face interactions.

Columns (5) and (6) also indicate that the positive effect of intercompany visits is significantly stronger in unrelated acquisitions. Hence, the informational benefits of face-to-face interactions appear to be stronger in contexts where the acquirer lacks the industrial expertise to evaluate the target and is therefore exposed to greater information asymmetry problems. However, because we do not have enough statistical power to test this interaction effect in the instrumental variable regressions, we cannot rule out endogeneity concerns about this result.

We conducted several robustness checks. First, the presence of a preexisting partnership between the merging companies could induce more intense intercompany visits and increase the performance of the acquisition (Porrini 2004, Zaheer et al. 2010). To test whether our results can be explained by the presence of a prior alliance, we collected SDC data on alliances. We found that only three acquisition deals involved companies that announced an alliance in the previous five years and our results do not substantially change by removing these observations. Second, for a horizontal merger, people who visited both merging companies in the months preceding the acquisition could be common customers or suppliers. A horizontal merger could also induce greater returns due to an increase in the bargaining power of the merged entity vis-à-vis its clients or suppliers (Fee and Thomas 2004, Shahrur 2005). To test for these possibilities, we run the same regressions reported in the text, but excluding horizontal acquisitions, defined as deals where the merging companies share the same primary four-digit SIC code (see also Fee and Thomas (2004) and Shahrur (2005)). Our results continue to hold in this restricted sample of non-horizontal acquisitions. Third, interactions between the employees of the two companies might be more frequent in friendly acquisitions than in hostile takeovers. Because the target's management's negative attitude towards the transaction might reduce the acquirer's returns (Haleblian and Finkelstein 1999, Cuypers et al. 2017), we checked whether the presence of hostile takeovers could partly explain our results. Using the SDC data to define the target's attitude, we found only one hostile takeover in our data set and results are not affected by removing this observation. Finally, our results do not substantially change by using the acquirer's visits to the target or the target's visits to the acquirer as alternative measure for interactions.

—Insert Table 7 about here—

5. Discussion and Conclusion

Information asymmetries make M&As risky (Coff 1999, Capron and Shen 2007, Ragozzino and Reuer 2011), reducing firms' ability to gain from these transactions (Haleblian et al. 2009). In this paper, we find that face-to-face contacts with the target's employees before the acquisition are a powerful channel for information transfer, which helps to increase the acquirer's returns. Because interactions between two companies can be driven by expectations of future acquisition returns, we inferred the effect of intercompany visits using bad weather conditions in the two companies' locations as a source of exogenous variation in mobility.

The results indicate that the positive effect of face-to-face interactions is economically meaningful: a one standard deviation increase in the number of visits corresponds to approximately a 0.9–1.5 standard deviation increase in the acquirer's returns. Previous studies using alternative proxies for information availability also found sizable effects, suggesting that a better pre-acquisition information flow is an important determinant of the acquisition performance. For instance, Cai and Sevilir (2012) show that acquirers' returns are 2.4 percentage points higher if the acquirer and the target share a common director. Moreover, Uysal et al. (2008) indicate that acquirers' returns in local transactions are more than twice the returns in non-local transactions.

Our study shows that intercompany visits provide an informational advantage to acquirers, which translates into higher announcement returns. We argue that the private information gathered through company visits can benefit acquirers by reducing the probability of picking a bad deal (Capron and Shen 2007, Ragozzino and Reuer 2011), providing an advantage in a competitive bidding process (Barney 1988, Capron and Pistre 2002, Cai and Sevilir 2012), reducing the transaction costs of the acquisition (Coff 1999, Reuer and Ragozzino 2008, Cai and Sevilir 2012), and providing insights into how to optimally structure the integration process and maximize the value of synergies (Datta 1991, Larsson and Finkelstein 1999, Zaheer et al. 2010, Wulf and Singh 2011). While our data does not allow us to empirically test the relative importance of each channel, these mechanisms are not mutually exclusive, and each one can contribute to provide informational advantages to the acquirer.[5]

As Cullinan et al. (2004: 104) argue, "In the wake of so many disappointing mergers and acquisitions, […] there are few better ways of spending managers' time and investors' money than in a careful and creative analysis of an acquisition candidate." Overall, our analysis stresses the importance of face-to-face interactions to support decision making in M&As. While information and communication technologies have greatly enhanced our ability to transfer information across remote locations, face-to-face interactions still appear to be a superior channel for information exchange. As discussed, the specific features of face-

[5] Disentangling these four channels would require additional data—such as the acquisition premium and the total value created by the transaction (which includes the target's returns)—that are only available for public targets. Our subsample of public targets is not large enough to draw any final conclusion on the relative importance of each channel.

to-face interaction—which facilitate the transfer of non-codifiable knowledge, monitoring, and socialization—underpin its lasting superiority as a form of communication (Storper and Venables 2004).

An important novelty of this study is our ability to quantify temporary human capital movements across organizational boundaries. The results show that the information flow derived from such interactions can provide great economic value. These temporary interactions were unobservable in previous studies, which inferred information flow through alternative measures, such as patent citations (Jaffe et al. 1993), geographical distance (Kang and Kim 2008, Uysal et al. 2008, Ragozzino and Reuer 2011, Giroud 2013, Mingo 2013, Chakrabarti and Mitchell 2013 and 2016, Bernstein et al. 2016), board interlocks (Cai and Sevilir 2012), strategic alliances (Gulati 1995, Lin et al. 2009, Zaheer et al. 2010, Yang et al. 2011), and workers' job changes (Song et al. 2003, Agarwal et al. 2004).

Our study also contributes to the literature on geography and M&As (e.g., Ragozzino and Reuer 2011, Chakrabarti and Mitchell 2013 and 2016) by documenting the mechanism through which distance can affect returns to M&As. Our results indicate that while geographical proximity is an important facilitator of face-to-face interactions, proximity per se does not affect acquirers' abnormal return. Hence, in our setting, geography matters only to the extent to which it facilitates human capital movements and decreases the costs of transferring knowledge.

There are limitations of our study that are worth mentioning. Because the smartphone data are anonymous, we cannot be certain that the smartphones that we identify in our sample belong to employees. For instance, people who visited the headquarters of both merging companies in the months preceding the acquisition might be external agents, such as consultants or investment bankers, that are hired to perform due diligence activities. However, if hiring such external agents is part of managers' effort to gather information about the target company and design the integration process, our interpretation of the results should not change substantially.

Alternatively, such people could be common business connections. As discussed earlier, the presence of common clients or suppliers could benefit merging firms by increasing their bargaining power vis-à-vis their clients or suppliers (Fee and Thomas 2004, Shahrur 2005). Our results are robust to the exclusion of horizontal mergers, which suggests that an increase in bargaining power is not the main driver of our results. However, common business connections could be an additional channel for knowledge transfer between the two companies. For instance, Gulati (1995 and 1998) shows that the presence of a common alliance partner facilitates the creation of a new alliance between two previously unconnected firms, by referring valuable information about the specific capabilities and reliability of potential partners. In the context of M&As, such common connections could provide additional insights about the other party in a merger.

Moreover, our data does not allow us to conclusively define the context in which intercompany visits occur. As discussed, face-to-face interactions can occur during the due diligence process between companies with no prior relationship (Wheelwright et al. 2000, Cullinan et al. 2004). Alternatively, companies can share a prior business collaboration (Porrini 2004, Zaheer et al. 2010, Cai and Sevilir 2012). While face-to-face interactions could provide informational advantages in both cases, understanding the context in which such contacts take place could shed additional light on the mechanism underlying our results. The data show that interactions disproportionally occur in the few months preceding the acquisition announcement, which could suggest that they are related to the planning of the acquisition. In addition, our results are robust to the inclusion of a control for the presence of a common director as well as industry-pair fixed effects, which can partly capture the vertical relatedness of the two merging firms. Results are also not driven by the presence of a prior alliance between merging companies. While we cannot draw a final conclusion on the nature of the observed visits, these patterns suggest that our results can be driven by interactions that occur as part of the due diligence process.

Despite these limitations, our results have implications for the study of strategic management. Our study demonstrates the usefulness of measuring knowledge flows between companies and analyzing the economic impact of such knowledge flows on these companies. Hence, future studies on intercompany relationships may benefit from using these novel measures of knowledge transfer. Our study also presents a new perspective regarding the role of geographic proximity. Our results suggest it is face-to-face interactions, not geographical proximity per se, that facilitate knowledge flows. Therefore, in the study of agglomeration, it may be beneficial to decompose the role of geographic proximity into the underlying factors that create the benefits of agglomeration.

Appendix

Robustness Regressions for the Instrumental Variable Regressions. Because the number of intercompany visits is highly correlated with the transportation time between the two companies' headquarters, in Table A1 we test the robustness of the instrumental variable regressions by omitting the travel time control or including it with alternative functional forms. Columns (1)–(3) present the models with quarter-year fixed effects, industry-pair fixed effects, and the other controls, while columns (4)–(6) replace the industry-pair fixed effects with state-pair fixed effects. Columns (1) and (4) omit the travel time control, columns (2) and (5) include the travel time control—expressed in hours—in a quadratic form, and columns (3) and (6) include the control in a cubic form. As the table shows, the results described in the main text hold also in these alternative regressions, and the magnitude of the coefficients is comparable to the previous estimates. Similar results hold by replacing the travel time control with the geodesic distance—expressed in miles—between the geographic coordinates of the merging companies' headquarters.

—Insert Table A1 about here—

In Table A2, we report the regressions with alternative event windows to compute the acquirer's cumulative abnormal returns: a two-day window [-1, 0] (columns (1) and (2)), a two-day window [0, 1] (columns (3) and (4)), and a 11-day window [0, 10] (columns (5) and (6)). Odd-numbered columns report the models with industry-pair fixed effects, and even-numbered columns the models with state-pair fixed effects. The regressions with these alternative event windows confirm the results reported in the main text.

—Insert Table A2 about here—

References

Agarwal R, Echambadi R, Franco AM, Sarkar M (2004) Knowledge transfer through inheritance: Spin-out generation, development, and survival. *Acad. Management J.* 47(4):501–522.

Agrawal A, Goldfarb A (2008) Restructuring research: Communication costs and the democratization of university innovation. *Amer. Econom. Rev.* 98(4):1578–1590.

Ahuja G, Katila R (2001) Technological acquisitions and the innovation performance of acquiring firms: A longitudinal study. *Strategic Management J.* 22(3):197–220.

Andrade G, Mitchell M, Stafford E (2001) New evidence and perspectives on mergers. *J. Econ. Perspect.* 15(2):103–120.

Barney JB (1988) Returns to bidding firms in mergers and acquisitions: Reconsidering the relatedness hypothesis. *Strategic Management J.* 9(S1):71–78.

Bell GG, Zaheer A (2007) Geography, networks, and knowledge flow. *Organ. Sci.* 18(6):955–972.

Bernstein S, Giroud X, Townsend RR (2016) The impact of venture capital monitoring. *J. Finance* 71(4):1591–1622.

Birkinshaw J, Bresman H, Håkanson L (2000) Managing the post-acquisition integration process: How the human integration and task integration processes interact to foster value creation. *J. Management Stud.* 37(3):395–425.

Brown SJ, Warner JB (1985) Using daily stock returns. *J. Financ. Econ.* 14(1):3–31.

Cai Y, Sevilir M (2012) Board connections and M&A transactions. *J. Financial Econom.* 103(2):327–349.

Calabrese F, Smoreda Z, Blondel VD, Ratti C (2011) Interplay between telecommunications and face-to-face interactions: A study using mobile phone data. *PLoS ONE* 6(7):e20814.

Capron L, Pistre N (2002) When do acquirers earn abnormal returns? *Strategic Management J.* 23(9):781–794.

Capron L, Shen JC (2007) Acquisitions of private vs. public firms: Private information, target selection, and acquirer returns. *Strategic Management J.* 28(9):891–911.

Catalini C (2018) Microgeography and the direction of inventive activity. *Management Sci.* 64(9): 4348-4364.

Catalini C, Fons-Rosen C, Gaulé P (2018) How do travel costs shape collaboration? *NBER Work. Pap.* 24780.

Chakrabarti A, Mitchell W (2013) The persistent effect of geographic distance in acquisition target selection. *Organ. Sci.* 24(6):1805–1826.

Chakrabarti A, Mitchell W (2016) The role of geographic distance in completing related acquisitions: Evidence from U.S. chemical manufacturers. *Strategic Management J.* 37(4):673–694.

Chatterjee S (1986) Types of synergy and economic value: The impact of acquisitions on merging and rival firms. *Strategic Management J.* 7(2):119–139.

Chatterjee S, Lubatkin MH, Schweiger DM, Weber Y (1992) Cultural differences and shareholder value in related mergers: Linking equity and human capital. *Strategic Management J.* 13(5):319–334.

Choi S, Guerra JA, Kim J (2017) Interdependent value auctions with insider information: Theory and experiment. *Work. Pap.*

Coff RW (1999) How buyers cope with uncertainty when acquiring firms in knowledge-intensive industries: Caveat emptor. *Organ. Sci.* 10(2):144–161.

Cohen WM, Levinthal DA (1989) Innovation and learning: The two faces of R&D. *Econ. J.* 99(397):569.

Coval JD, Moskowitz TJ (1999) Home bias at home: Local equity preference in domestic portfolios. *J. Finance* 54(6):2045–2073.

Cullinan G, Roux JML, Weddigen RM (2004) When to walk away from a deal. *Harv. Bus. Rev.* 82(4):96–104.

Cuypers IRP, Cuypers Y, Martin X (2017) When the target may know better: Effects of experience and information asymmetries on value from mergers and acquisitions. *Strategic Management J.* 38(3):609–625.

Datta DK (1991) Organizational fit and acquisition performance: Effects of post-acquisition integration. *Strateg. Management J.* 12(4):281–297.

Durre I, Menne MJ, Gleason BE, Houston TG, Vose RS (2010) Comprehensive automated quality assurance of daily surface observations. *J. Appl. Meteorol. Climatol.* 49(8):1615–1633.

Dyer JH, Singh H (1998) The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Acad. Management Rev.* 23(4):660–679.

Fama EF, Fisher L, Jensen MC, Roll R (1969) The adjustment of stock prices to new information. *Internat. Econom. Rev.* 10(1):1–21.

Fee CE, Thomas S (2004) Sources of gains in horizontal mergers: Evidence from customer, supplier, and rival firms. *J. Financial Econom.* 74(3):423–460.

Flaherty LM, Pearce KJ, Rubin RB (1998) Internet and face-to-face communication: Not functional alternatives. *Commun. Q.* 46(3):250–268.

Fracassi C (2017) Corporate finance policies and social networks. *Management Sci.* 63(8):2420–2438.

Gaspar J et al, Glaeser EL (1998) Information technology and the future of cities. *J. Urban Econ.* 43(1):136–156.

Gimpel JG, Karnes KA, McTague J, Pearson-Merkowitz S (2008) Distance-decay in the political geography of friends-and-neighbors voting. *Polit. Geogr.* 27(2):231–252.

Giroud X (2013) Proximity and investment: Evidence from plant-level data. *Q. J. Econ.* 128(2):861–915.

Golledge RG (2002) The nature of geographic knowledge. *Ann. Assoc. Am. Geogr.* 92(1):1–14.

Gulati R (1995) Social structure and alliance formation patterns: A longitudinal analysis. *Adm. Sci. Q.* 40(4):619–652.

Gulati R (1998) Alliances and networks. *Strategic Management J.* 19(4):293–317.

Haleblian J, Devers CE, McNamara G, Carpenter MA, Davison RB (2009) Taking stock of what we know about mergers and acquisitions: A review and research agenda. *J. Management* 35(3):469–502.

Haleblian J, Finkelstein S (1999) The influence of organizational acquisition experience on acquisition performance: A behavioral learning perspective. *Adm. Sci. Q.* 44(1):29.

Hall P (1998) *Cities in Civilization* (Fromm International, New York).

Hansen RG (1987) A theory for the choice of exchange medium in mergers and acquisitions. *J. Bus.* 60(1):75–95.

Haspeslagh PC, Jemison DB (1991) *Managing Acquisitions: Creating Value through Corporate Renewal* (Free Press, New York).

Hausmann R (2016) Should business travel be obsolete? *Project Syndicate*. Retrieved (March 14, 2019), https://www.project-syndicate.org/commentary/why-travel-for-business-by-ricardo-hausmann-2016-01.

Hendricks K, Porter RH (1988) An empirical study of an auction with asymmetric information. *Amer. Econom. Rev.* 78(5):865–883.

Hirshleifer D, Shumway T (2003) Good day sunshine: Stock returns and the weather. *J. Finance* 58(3):1009–1032.

Hitt MA, Harrison JS, Ireland RD (2001) *Mergers & Acquisitions: A Guide to Creating Value for Stakeholders* (Oxford University Press, New York).

Horanont T, Phithakkitnukoon S, Leong TW, Sekimoto Y, Shibasaki R (2013) Weather effects on the patterns of people’s everyday activities: A study using GPS traces of mobile phone users. *PLoS ONE* 8(12):e81153.

Jaffe AB, Trajtenberg M, Henderson R (1993) Geographic localization of knowledge spillovers as evidenced by patent citations. *Quart. J. Econom.* 108(3):577–598.

Jarvenpaa SL, Leidner DE (1999) Communication and trust in global virtual teams. *Organ. Sci.* 10(6):791–815.

Jensen MC, Ruback RS (1983) The market for corporate control: The scientific evidence. *J. Financ. Econ.* 11(1–4):5–50.

Kang JK, Kim JM (2008) The geography of block acquisitions. *J. Finance* 63(6):2817–2858.

Lane PJ, Lubatkin M (1998) Relative absorptive capacity and interorganizational learning. *Strategic Management J.*:461–477.

Larsson R, Finkelstein S (1999) Integrating strategic, organizational, and human resource perspectives on mergers and acquisitions: A case survey of synergy realization. *Organ. Sci.* 10(1):1–26.

Lawrimore J (2016) Global Summary of the Month, Version 1.0. NOAA National Centers for Environmental Information. Retrieved (February 25, 2019), DOI:10.7289/V5QV3JJ5.

Lerner J (1995) Venture capitalists and the oversight of private firms. *J. Finance* 50(1):301–318.

Lin Z (John), Peng MW, Yang H, Sun SL (2009) How do networks and learning drive M&As? An institutional comparison between China and the United States. *Strategic Management J.* 30(10):1113–1132.

Maznevski ML, Chudoba KM (2000) Bridging space over time: Global virtual team dynamics and effectiveness. *Organ. Sci.* 11(5):473–492.

Menne MJ, Durre I, Vose RS, Gleason BE, Houston TG (2012a) An overview of the global historical climatology network-daily database. *J. Atmospheric Ocean. Technol.* 29(7):897–910.

Menne MJ, Durre I, Vose RS, Gleason BE, Houston TG (2012b) Global Historical Climatology Network - Daily (GHCN-Daily), Version 3. NOAA National Centers for Environmental Information. Retrieved (April 5, 2019), http://doi.org/10.7289/V5D21VHZ.

Mingo S (2013) The impact of acquisitions on the performance of existing organizational units in the acquiring firm: The case of an agribusiness company. *Management Sci.* 59(12):2687–2701.

Mokhtarian PL (2002) Telecommunications and travel: The case for complementarity. *J. Ind. Ecol.* 6(2):43–57.

Natividad G (2014) Integration and productivity: Satellite-tracked evidence. *Management Sci.* 60(7):1698–1718.

Porrini P (2004) Can a previous alliance between an acquirer and a target affect acquisition performance? *J. Management* 30(4):545–562.

Ragozzino R, Reuer JJ (2011) Geographic distance and corporate acquisitions: Signals from IPO firms. *Strategic Management J.* 32(8):876–894.

Reuer JJ, Ragozzino R (2008) Adverse selection and M&A design: The roles of alliances and IPOs. *J. Econ. Behav. Organ.* 66(2):195–212.

Root FR (1994) *Entry Strategies For International Markets* 2nd ed. (Lexington Books, Lexington, MA).

Saunders EM (1993) Stock prices and wall street weather. *Am. Econ. Rev.* 83(5):1337–1345.

Savor PG, Lu Q (2009) Do stock mergers create value for acquirers? *J. Finance* 64(3):1061–1097.

Shahrur H (2005) Industry structure and horizontal takeovers: Analysis of wealth effects on rivals, suppliers, and corporate customers. *J. Financial Econom.* 76(1):61–98.

Singh J (2005) Collaborative networks as determinants of knowledge diffusion patterns. *Management Sci.* 51(5):756–770.

Song J, Almeida P, Wu G (2003) Learning–by–hiring: When is mobility more likely to facilitate interfirm knowledge transfer? *Management Sci.* 49(4):351–365.

Sorenson O, Stuart TE (2001) Syndication networks and the spatial distribution of venture capital investments. *Am. J. Sociol.* 106(6):1546–1588.

Storper M, Venables AJ (2004) Buzz: Face-to-face contact and the urban economy. *J. Econ. Geogr.* 4(4):351–370.

Tate GA, Yang L (2015) The human factor in acquisitions: Cross-industry labor mobility and corporate diversification. *U.S. Census Bureau Center for Economic Studies Working Paper*, CES 15–31.

Thompson P, Fox-Kean M (2005) Patent citations and the geography of knowledge spillovers: A reassessment. *Amer. Econom. Rev.* 95(1):450–460.

Tillema T, Dijst M, Schwanen T (2010) Face-to-face and electronic communications in maintaining social networks: The influence of geographical and relational distance and of information content. *New Media Soc.* 12(6):965–983.

Tsai W (2002) Social structure of "coopetition" within a multiunit organization: Coordination, competition, and intraorganizational knowledge sharing. *Organ. Sci.* 13(2):179–190.

Tsai W, Ghoshal S (1998) Social capital and value creation: The role of intrafirm networks. *Acad. Management J.* 41(4):464–476.

Uysal VB, Kedia S, Panchapagesan V (2008) Geography and acquirer returns. *J. Financial Intermediation* 17(2):256–275.

Villalonga B, McGahan AM (2005) The choice among acquisitions, alliances, and divestitures. *Strategic Management J.* 26(13):1183–1208.

Walcott SM (2000) *Defining and Measuring High Technology in Georgia* (Andrew Young School of Public Policy, Georgia State University).

Wang L, Zajac EJ (2007) Alliance or acquisition? A dyadic perspective on interfirm resource combinations. *Strategic Management J.* 28(13):1291–1317.

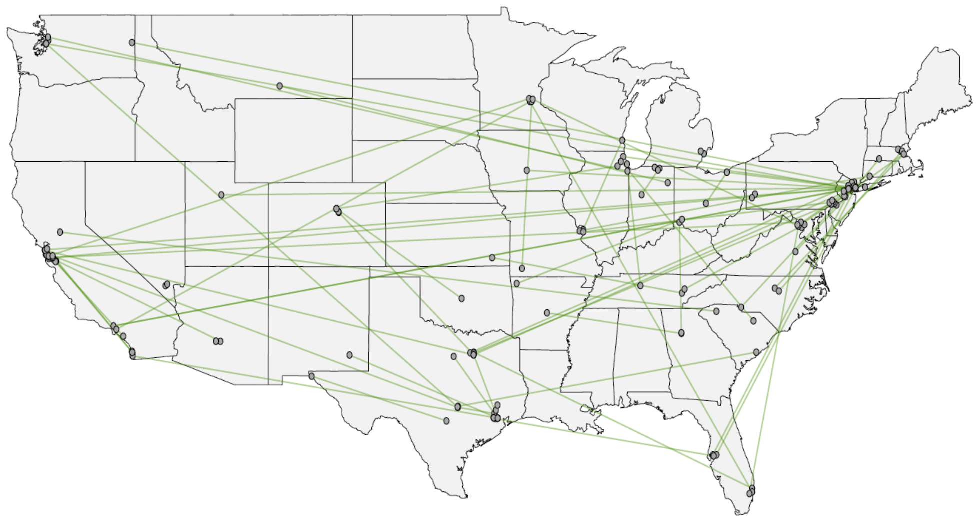
Wheelwright SC, Holloway CA, Tempest N, Kasper D (2000) *Cisco Systems, Inc.: Acquisition Integration for Manufacturing (A). HBS No. 9-600-015.* (Harvard Business Publishing, Boston, MA).

Wulf J, Singh H (2011) How do acquirers retain successful target CEOs? The role of governance. *Management Sci.* 57(12):2101–2114.

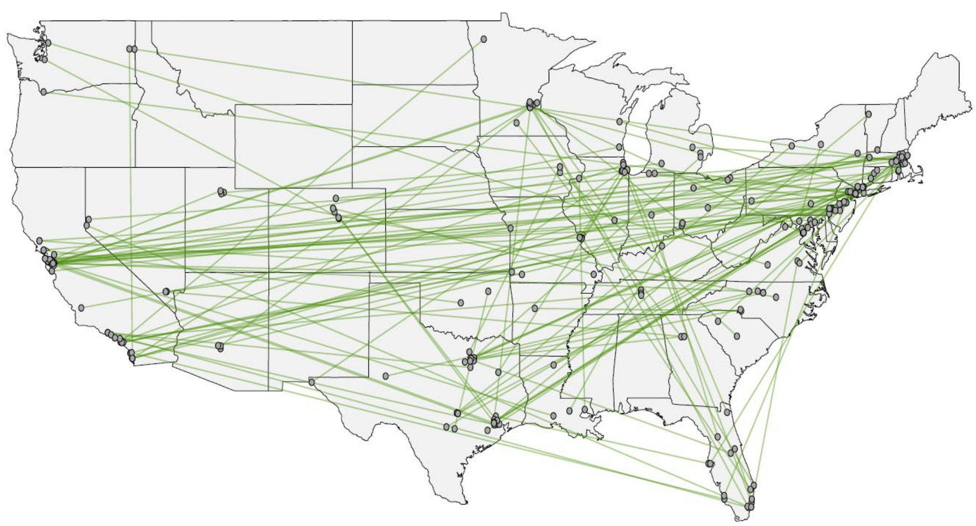
Yang H, Lin Z, Peng MW (2011) Behind acquisitions of alliance partners: Exploratory learning and network embeddedness. *Acad. Management J.* 54(5):1069–1080.

Zaheer A, Hernandez E, Banerjee S (2010) Prior alliances with targets and acquisition performance in knowledge-intensive industries. *Organ. Sci.* 21(5):1072–1091.

Figure 1 The Geographical Distribution of Pre-announcement Face-to-Face Interactions



1a. Deals with Observed Pre-acquisition Visits



1b. Deals with No Observed Pre-acquisition Visits

Notes. Dots indicate the geographic coordinates of merging companies and ties link acquirers to the corresponding target. Figure 1a includes the deals for which we observe intercompany visits during the pre-acquisition announcement period. Figure 1b shows the deals for which we do not observe any interaction.

Table 1 Descriptive Statistics and Correlation Matrix

		Mean	S.D.	Min	Max	(1)	(2)	(3)	(4)	(5)
(1)	*CAR[-1, 1] (%)*	1.19	12.45	-94.54	100					
(2)	*Number of visits*	4.34	14.05	0	108	0.23				
(3)	*Log(bad weather days)*	4.95	0.29	3.69	5.34	-0.22	-0.37			
(4)	*Log(travel time)*	1.14	1.02	-3.40	2.41	-0.08	-0.48	0.47		
(5)	*Unrelated*	0.34	0.47	0	1	0.05	0.04	0.08	0.05	
(6)	*Board interlock*	0.06	0.24	0	1	-0.04	-0.07	0.07	-0.01	-0.03
(7)	*High-tech acquirer*	0.28	0.45	0	1	-0.08	0.03	-0.25	-0.04	-0.06
(8)	*Target relative size*	0.22	0.20	0.01	0.92	0.09	0.22	-0.02	-0.07	0.06
(9)	*Public target*	0.44	0.50	0	1	-0.13	-0.10	-0.06	-0.02	-0.16
(10)	*Acquirer Tobin's Q*	2.00	1.09	0.59	9.03	0.03	-0.01	-0.31	-0.06	-0.08
(11)	*Log(acquirer assets)*	7.83	2.06	2.54	12.91	-0.16	-0.05	0.03	-0.02	-0.17
(12)	*Acquirer ROE*	0.09	0.47	-2.33	3.18	-0.14	-0.10	0.08	0.04	-0.06
(13)	*Acquirer leverage*	0.53	0.21	0.00	0.98	-0.05	-0.09	0.22	0.11	-0.03
(14)	*Avg. num. smartphones*	67.40	144.78	1.15	1093.65	-0.12	0.31	0.03	0.04	0.00
(15)	*After 11/2017*	0.12	0.33	0	1	-0.02	0.01	-0.09	0.08	-0.09

		(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(7)	*High-tech acquirer*	0.01								
(8)	*Target relative size*	0.09	-0.03							
(9)	*Public target*	0.25	0.13	0.09						
(10)	*Acquirer Tobin's Q*	0.13	0.13	-0.28	0.03					
(11)	*Log(acquirer assets)*	0.00	0.05	-0.35	0.42	-0.14				
(12)	*Acquirer ROE*	0.06	-0.04	-0.09	0.16	0.04	0.30			
(13)	*Acquirer leverage*	0.01	0.05	-0.03	0.17	-0.21	0.43	0.30		
(14)	*Avg. num. smartphones*	-0.09	0.00	0.10	-0.03	-0.04	0.12	-0.01	0.05	
(15)	*After 11/2017*	0.02	-0.01	-0.01	0.06	0.15	0.08	0.02	0.03	0.04

Table 2 Intercompany Visits Descriptive Statistics

		Intercompany visits (acquirer's or target's visits)		Acquirer's visits to the target		Target's visits to the acquirer	
Observations with at least 1 visit		95		74		66	
For the subsample with at least 1 visit:							
		Mean	S.E.	Mean	S.E.	Mean	S.E.
Number of people per visit		1.07	0.02	1.04	0.01	1.03	0.01
Number of visits		10.27	2.07	7.54	1.53	8.12	1.76
Adjusted number of visits by month: (month of M&A announcement = 0)							
	-1	0.48	0.31	0.14	0.20	0.53	0.29
	-2	0.41	0.33	0.34	0.26	0.35	0.30
	-3	0.36	0.35	0.36	0.30	0.36	0.31
	-4	0.21	0.30	0.30	0.25	0.03	0.25
	-5	0.09	0.27	0.05	0.20	0.05	0.23
	-6	-0.15	0.25	-0.12	0.17	-0.12	0.24
	-7	-0.3	0.20	-0.18	0.17	-0.33	0.14
	-8	-0.49	0.16	-0.35	0.13	-0.43	0.14

Notes. The columns with intercompany visits include observations with either visits of the acquirer's employees to the target's HQ or visits of the target's employees to the acquirer's HQ. Adjusted number of visits by month is the difference between the number of visits in a calendar month and the average number of visits observed in that calendar month (e.g., for an announcement in February 2017, the adjusted number of visits in January 2017 (month −1) is the difference between the number of visits in January 2017 and the average number of visits observed in January 2017).

Table 3 Bad Weather Days

Panel A. Number of days with:		Mean	S.D.	Min	Max
(a)	Precipitation (≥ 0.01 inches)	114.83	32.70	22	201
(b)	Max temperature ≤ 32°F	11.06	17.13	0	146
(c)	Max temperature ≥ 90°F	46.37	39.66	0	168
(a, b, or c)	Bad weather	146.88	33.93	40	209

Panel B. Probability of a visit on a day with vs. without (a), (b), (c), or (a, b, or c):		With	Without	Difference	t-statistic of the difference
(a)	Precipitation (≥ 0.01 inches)	0.02	0.04	-0.02	11.25
		(0.00)	(0.00)	(0.00)	
(b)	Max temperature ≤ 32°F	0.01	0.03	-0.02	3.80
		(0.00)	(0.00)	(0.00)	
(c)	Max temperature ≥ 90°F	0.02	0.03	-0.01	3.89
		(0.00)	(0.00)	(0.00)	
(a, b, or c)	Bad weather	0.02	0.04	-0.02	12.00
		(0.00)	(0.00)	(0.00)	

Notes. Panel A provides the descriptive statistics for the number of days with bad weather in either the acquirer's or the target's location in the 8 months before the acquisition announcement. Panel B compares the probability of observing an intercompany visit during a business day with vs. without bad weather (in either the acquirer's or the target's location) in the 8 months before the announcement. Standard errors are in parentheses.

Table 4 Bad Weather Days Tertiles, Number of Visits, and Acquirers' CAR

Bad weather days in:	1st tertile		2nd tertile		3rd tertile	
	Mean	S.E.	Mean	S.E.	Mean	S.E.
Number of visits	7.90	2.39	3.79	1.18	1.11	0.46
% with ≥ 1 visit	53.25	5.72	44.74	5.74	27.78	5.32
CAR[-1, 1] (%)	3.19	1.61	1.69	1.07	-1.50	1.55
% with CAR[-1, 1] > 0	67.53	5.37	61.84	5.61	50.00	5.93

Notes. The first tertile includes observations with less than or equal to 140 bad weather days, the second tertile observations with more than 140 and less than or equal to 163 bad weather days, and the third tertile observations with more than 163 bad weather days.

Table 5 First-Stage Regressions

	(1)	(2)	(3)	(4)	(5)
	Number of visits				
Log(bad weather days)		-17.17***	-7.81***	-11.92**	-17.80**
		(3.40)	(2.75)	(5.01)	(6.89)
Log(travel time)	-5.49***		-4.40***	-4.95***	-7.27***
	(1.45)		(1.10)	(1.18)	(1.83)
Unrelated	0.92		1.10		-0.41
	(2.33)		(2.36)		(2.40)
Board interlock	-1.49		0.02	0.16	5.48
	(2.00)		(2.10)	(2.92)	(5.09)
High-tech acquirer	1.74		1.10	2.46	0.44
	(1.65)		(1.79)	(2.15)	(3.16)
Target relative size	9.20		7.80	8.31	22.82*
	(7.77)		(7.35)	(8.20)	(13.05)
Public target	-2.12		-2.30	-3.71	-6.73*
	(2.01)		(2.19)	(2.52)	(3.97)
Acquirer Tobin's Q	0.45		-0.09	-0.50	-0.43
	(0.72)		(0.68)	(1.08)	(1.04)
Log(acquirer assets)	0.26		0.09	0.22	-0.46
	(0.33)		(0.32)	(0.50)	(0.65)
Acquirer ROE	-2.08		-1.84	-1.09	-2.52
	(2.26)		(2.12)	(2.04)	(4.05)
Acquirer leverage	-4.15		-2.38	-5.73	7.03
	(4.66)		(4.38)	(6.39)	(6.65)
Avg. num. smartphones	0.03***		0.03***	0.02**	0.05***
	(0.01)		(0.01)	(0.01)	(0.01)
After 11/2017	-1.66		-1.40	2.89	-10.63**
	(4.50)		(4.16)	(3.94)	(4.97)
Fixed effects:					
Quarter-year	Yes	Yes	Yes	Yes	Yes
Acquirer industry	Yes	Yes	Yes	-	-
Industry pair	-	-	-	Yes	-
State pair	-	-	-	-	Yes
Instrument F statistic		25.45	8.08	5.66	6.67
p-value		0.00	0.01	0.02	0.01
Within R-squared	0.35	0.16	0.37	0.39	0.50
# of observations	216	216	216	183	126

Notes. Standard errors are clustered by pairs of states where the two firms are located (state pair *(x,y)* includes both the case where the acquirer's state is *x* and the target's state is *y*, and vice versa). Standard errors are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Industry fixed effects are defined at the 2-digit SIC level. Industry or state pair *(x,y)* includes the cases where the acquirer is in *x* and the target is in *y*, and vice versa. # of observations are the # of non-singleton observations.

Table 6 Instrumental Variable Regressions

	(1)	(2)	(3)	(4)	(5)
	OLS	2SLS	2SLS	2SLS	2SLS
			CAR[-1, 1] (%)		
Number of visits		0.44***	1.07***	0.81**	1.31**
		(0.08)	(0.40)	(0.35)	(0.63)
Log(travel time)	-0.92		4.97*	4.74**	9.63
	(0.99)		(2.54)	(2.33)	(6.27)
Unrelated	1.64		0.65	0.00	0.89
	(1.62)		(1.93)	(0.00)	(3.67)
Board interlock	-1.73		-0.12	2.60	-4.11
	(4.09)		(3.92)	(4.15)	(7.03)
High-tech acquirer	-1.93		-3.80	-5.66**	-5.19
	(1.84)		(2.50)	(2.32)	(3.79)
Target relative size	16.49**		6.61	12.19	-24.81
	(8.30)		(6.95)	(7.56)	(23.10)
Public target	-3.64**		-1.36	-1.16	4.52
	(1.50)		(2.48)	(2.86)	(6.95)
Acquirer Tobin's Q	0.77		0.29	0.46	-2.22
	(1.12)		(1.35)	(1.35)	(2.48)
Log(acquirer assets)	0.05		-0.23	-0.17	-0.90
	(0.49)		(0.61)	(0.72)	(1.04)
Acquirer ROE	-1.99		0.24	-5.27**	-0.09
	(1.77)		(2.48)	(2.22)	(4.77)
Acquirer leverage	-1.57		2.88	5.42	6.02
	(5.20)		(6.69)	(7.49)	(14.47)
Avg. num. smartphones	-0.00		-0.03**	-0.02**	-0.06*
	(0.01)		(0.01)	(0.01)	(0.03)
After 11/2017	-4.03		-2.25	-5.15	12.32
	(4.62)		(5.29)	(5.47)	(11.75)
Fixed effects:					
Quarter-year	Yes	Yes	Yes	Yes	Yes
Acquirer industry	Yes	Yes	Yes	-	-
Industry pair	-	-	-	Yes	-
State pair	-	-	-	-	Yes
# of observations	216	216	216	183	126

Notes. In columns (2)–(7), *number of visits* is instrumented with *log(bad weather days)*. Standard errors are clustered by pairs of states where the two firms are located (state pair *(x,y)* includes both the case where the acquirer's state is *x* and the target's state is *y*, and vice versa). Standard errors are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Industry fixed effects are defined at the 2-digit SIC level. Industry or state pair *(x,y)* includes the cases where the acquirer is in *x* and the target is in *y*, and vice versa. # of observations are the # of non-singleton observations.

Table 7 OLS Regressions

	(1)	(2)	(3)	(4)	(5)	(6)
			CAR[-1, 1] (%)			
Number of visits		0.29**	0.26**	0.46***	0.00	0.21
		(0.11)	(0.12)	(0.16)	(0.08)	(0.21)
Num. of vis. × Unrelated					0.49**	0.49**
					(0.23)	(0.22)
Log(travel time)	-0.92	0.67	1.13	2.21	0.43	1.65
	(0.99)	(0.56)	(0.76)	(1.40)	(0.75)	(1.35)
Unrelated	1.64	1.38		0.93		-1.55
	(1.62)	(1.33)		(2.41)		(3.17)
Board interlock	-1.73	-1.29	1.69	-0.85	1.66	0.53
	(4.09)	(3.88)	(4.30)	(6.99)	(4.26)	(6.42)
High-tech acquirer	-1.93	-2.43	-3.60**	-4.83	-3.88**	-4.32
	(1.84)	(1.86)	(1.74)	(3.24)	(1.80)	(3.16)
Target relative size	16.49**	13.82**	17.95***	-4.84	15.20**	-9.09
	(8.30)	(6.17)	(6.58)	(19.07)	(5.82)	(17.35)
Public target	-3.64**	-3.03*	-3.32**	-0.91	-2.77*	-0.62
	(1.50)	(1.63)	(1.67)	(3.92)	(1.63)	(3.90)
Acquirer Tobin's Q	0.77	0.64	0.59	-2.20	0.56	-1.91
	(1.12)	(1.16)	(0.94)	(1.86)	(0.80)	(1.59)
Log(acquirer assets)	0.05	-0.02	0.16	-1.53	-0.08	-1.70
	(0.49)	(0.51)	(0.53)	(1.03)	(0.51)	(1.04)
Acquirer ROE	-1.99	-1.38	-5.77***	-1.55	-5.87***	0.15
	(1.77)	(1.66)	(1.67)	(2.67)	(1.56)	(2.81)
Acquirer leverage	-1.57	-0.37	0.37	12.75	3.31	16.12
	(5.20)	(4.87)	(5.87)	(16.08)	(4.14)	(15.06)
Avg. num. smartphones	-0.00	-0.01	-0.01	-0.02	0.00	-0.01
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)
After 11/2017	-4.03	-3.55	-3.23	5.41	-1.75	5.03
	(4.62)	(4.19)	(4.74)	(10.94)	(4.10)	(11.23)
Fixed effects:						
Quarter-year	Yes	Yes	Yes	Yes	Yes	Yes
Acquirer industry	Yes	Yes	-	-	-	-
Industry pair	-	-	Yes	-	Yes	-
State pair	-	-	-	Yes	-	Yes
Within R-squared	0.15	0.22	0.28	0.24	0.36	0.30
# of observations	216	216	183	126	183	126

Notes. Standard errors are clustered by pairs of states where the two firms are located (state pair *(x,y)* includes both the case where the acquirer's state is *x* and the target's state is *y*, and vice versa). Standard errors are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Industry fixed effects are defined at the 2-digit SIC level. Industry or state pair *(x,y)* includes the cases where the acquirer is in *x* and the target is in *y*, and vice versa. # of observations are the # of non-singleton observations.

Table A1 Instrumental Variable Regressions without the Travel Time Control or with Alternative Functional Forms

	(1)	(2)	(3)	(4)	(5)	(6)
	CAR[-1, 1] (%)					
Number of visits	0.35**	0.77***	0.78***	0.73***	1.14***	1.26**
	(0.16)	(0.27)	(0.28)	(0.24)	(0.41)	(0.59)
Travel time (hours)		5.60***	10.34**		8.73**	14.33
		(2.09)	(4.68)		(4.04)	(12.41)
Travel time^2		-0.50**	-1.78*		-0.62**	-2.29
		(0.19)	(0.96)		(0.30)	(2.92)
Travel time^3			0.09			0.11
			(0.06)			(0.17)
Unrelated	0.00	0.00	0.00	0.24	-0.07	0.40
	(0.00)	(0.00)	(0.00)	(3.00)	(3.56)	(3.63)
Board interlock	1.57	2.79	2.86	-0.38	-2.60	-4.60
	(4.62)	(4.07)	(3.97)	(7.14)	(7.60)	(7.27)
High-tech acquirer	-4.16**	-5.14**	-4.77**	-5.96*	-5.62	-6.01
	(1.97)	(2.19)	(2.18)	(3.18)	(3.86)	(4.12)
Target relative size	15.34**	11.17	10.48	-9.56	-21.09	-24.26
	(6.61)	(7.12)	(7.01)	(18.34)	(18.57)	(21.86)
Public target	-2.62	-1.59	-1.70	2.19	3.38	4.96
	(1.86)	(2.49)	(2.46)	(3.93)	(5.58)	(7.65)
Acquirer Tobin's Q	0.21	0.19	0.35	-2.66	-2.72	-2.57
	(1.05)	(1.35)	(1.34)	(1.94)	(2.35)	(2.51)
Log(acquirer assets)	-0.11	-0.12	-0.04	-1.51	-1.25	-1.07
	(0.60)	(0.69)	(0.65)	(1.03)	(1.10)	(1.04)
Acquirer ROE	-5.08***	-5.09**	-5.28**	-0.41	-0.34	0.66
	(1.77)	(2.17)	(2.17)	(3.40)	(4.13)	(5.48)
Acquirer leverage	1.58	4.49	4.32	9.30	8.27	6.13
	(5.96)	(7.84)	(7.95)	(15.31)	(16.54)	(17.04)
Avg. num. smartphones	-0.01	-0.02**	-0.02**	-0.04**	-0.06**	-0.06*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.03)
After 11/2017	-2.22	-3.41	-3.46	10.92	13.14	13.99
	(4.81)	(4.90)	(4.75)	(12.75)	(11.74)	(11.74)
Fixed effects:						
Quarter-year	Yes	Yes	Yes	Yes	Yes	Yes
Industry pair	Yes	Yes	Yes	-	-	-
State pair	-	-	-	Yes	Yes	Yes
# of observations	183	183	183	126	126	126

Notes. Number of visits is instrumented with *log(bad weather days)*. Standard errors are clustered by pairs of states where the two firms are located (state pair *(x,y)* includes both the case where the acquirer's state is *x* and the target's state is *y*, and vice versa). Standard errors are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Industry fixed effects are defined at the 2-digit SIC level. Industry or state pair *(x,y)* includes the cases where the acquirer is in *x* and the target is in *y*, and vice versa. # of observations are the # of non-singleton observations.

Table A2 Instrumental Variable Regressions with Alternative Event Windows for CAR

	(1)	(2)	(3)	(4)	(5)	(6)
	CAR[-1, 0] (%)		CAR[0, 1] (%)		CAR[0, 10] (%)	
Number of visits	0.72**	1.35**	1.01**	1.24**	1.00**	1.13**
	(0.32)	(0.52)	(0.41)	(0.48)	(0.48)	(0.49)
Log(travel time)	3.83*	8.86	6.04**	8.79**	6.63*	9.20**
	(2.14)	(5.26)	(2.76)	(3.96)	(3.56)	(3.98)
Unrelated	0.00	1.44	0.00	0.07	0.00	0.69
	(0.00)	(3.25)	(0.00)	(3.10)	(0.00)	(3.64)
Board interlock	-2.00	-6.07	3.02	-4.59	4.52	-10.05
	(3.12)	(5.52)	(4.20)	(6.36)	(4.88)	(7.04)
High-tech acquirer	-6.90***	-4.32	-7.04***	-7.45**	-6.11**	-5.32
	(2.27)	(3.25)	(2.37)	(3.58)	(2.84)	(3.38)
Target relative size	8.65	-16.46	12.23	-15.45	12.25	-14.39
	(6.36)	(19.93)	(9.32)	(14.89)	(10.31)	(15.67)
Public target	0.15	4.66	-0.85	2.31	0.52	2.10
	(2.22)	(5.87)	(3.55)	(4.98)	(4.33)	(4.84)
Acquirer Tobin's Q	0.32	-2.06	0.23	-2.32	-0.23	-3.50
	(1.04)	(2.09)	(1.48)	(2.51)	(1.61)	(2.25)
Log(acquirer assets)	-0.10	-0.58	-0.27	-0.35	-1.02	-0.01
	(0.59)	(1.13)	(0.83)	(1.05)	(0.98)	(1.04)
Acquirer ROE	-4.80**	-0.94	-4.45*	1.16	-4.72	-2.24
	(2.05)	(4.45)	(2.60)	(4.90)	(3.17)	(5.06)
Acquirer leverage	0.49	-0.62	6.11	-6.33	8.13	-11.87
	(7.19)	(14.21)	(8.50)	(9.45)	(10.59)	(12.11)
Avg. num. smartphones	-0.02**	-0.07**	-0.03**	-0.05**	-0.02*	-0.06**
	(0.01)	(0.03)	(0.01)	(0.02)	(0.01)	(0.02)
After 11/2017	-6.22	9.77	-4.45	8.05	-4.99	12.55
	(3.97)	(10.02)	(5.88)	(6.62)	(6.84)	(9.30)
Fixed effects:						
Quarter-year	Yes	Yes	Yes	Yes	Yes	Yes
Industry pair	Yes	-	Yes	-	Yes	-
State pair	-	Yes	-	Yes	-	Yes
# of observations	183	126	183	126	183	126

Notes. Number of visits is instrumented with *log(bad weather days)*. Standard errors are clustered by pairs of states where the two firms are located (state pair *(x,y)* includes both the case where the acquirer's state is *x* and the target's state is *y*, and vice versa). Standard errors are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Industry fixed effects are defined at the 2-digit SIC level. Industry or state pair *(x,y)* includes the cases where the acquirer is in *x* and the target is in *y*, and vice versa. # of observations are the # of non-singleton observations.