Firm Locations and Takeover Likelihood*

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ABSTRACT

We examine the impact of a firm's geographic location on its takeover likelihood with a sample of U.S. public firms from 1980 to 2005. We first show that firms located in an urban area are 8.3% more likely to receive a takeover bid and 10.5% more likely to complete the takeover transaction than firms located in a non-urban area. Our findings are robust after controlling for various firm characteristics, alternative econometric specifications, and endogeneity in firm locations. We propose three alternative hypotheses to explain the observed difference in takeover exposures between urban and non-urban firms: the information hypothesis that argues urban firms are subject to less soft information asymmetry relative to non-urban firms; the governance hypothesis that argues managers of urban firms are less entrenched than those of non-urban firms; and the synergy hypothesis that argues urban firms are able to generate higher synergies for bidders than non-urban firms. Our evidence supports the information and governance hypotheses, but does not provide any support for the synergy hypothesis.

Keywords: location, takeover likelihood, information asymmetry, corporate governance, synergy

JEL Classifications: G14, G30, G34

1. Introduction

This paper examines the impact of a firm's geographic location on its takeover likelihood. While intensive research has studied the relation between geography and various firm financial decisions, how a firm's geographic location affects its takeover exposure has attracted limited attention. This research question is particularly important because as Cremers, Nair, and John (2009) have shown, takeover exposure factor, besides other well-documented risk factors, helps explain cross-sectional equity returns and affects firm valuations. Therefore, the determinants of a firm's takeover exposure need to be carefully examined. A number of determinants have been identified to explain the probability of takeovers (see, e.g., Palepu 1986, Mikkelson and Partch 1989, Ambrose and Megginson 1992, Bodnaruk, Massa, and Simonov 2009, and Ivashina et al. 2009), yet a firm's geographic location has been largely neglected. This paper attempts to provide empirical evidence examining whether and why a firm's geographic location affects its takeover exposure.

We first document the impact of a firm's geographic location on its takeover likelihood using a sample of U.S. public firms between 1980 and 2005. After controlling for various firm characteristics, our striking results show that firms located in urban areas are 8.3% more likely to receive a takeover bid and the takeover transaction is 10.5% more likely to complete relative to non-urban firms. Our baseline results are robust to controlling for endogeneity in firm locations, and are also persistent across different subsample periods. After observing this pattern, we propose and test three hypotheses to explore the sources of the takeover exposure difference between urban and non-urban firms.

Our first hypothesis is based on the rationale that urban firms may have soft information advantages relative to their non-urban counterparts, hereafter referred to as "the information

hypothesis." A large literature has documented that a firm's geographic location impacts its information environment.[1] The key idea of this literature is that although the rapid development of transportation and communication tools in the last few decades has significantly reduced the costs of hard information collection, acquiring soft information of a firm from a distance is still difficult and costly.[2] In merger and acquisition (M&A) transactions, soft information is especially critical for bidders to evaluate various aspects of a potential target firm. Locating in urban areas facilitates the production and transmission of soft information through many channels such as a larger investor base (Coval and Moskowitz 2001, Ivkovic and Weisbenner 2005), more precise earnings forecasts (Malloy 2005, Bae, Stulz, and Tan 2008), and a higher stock liquidity and more analyst coverage (Loughram and Schulz 2005). Therefore, urban firms may be subject to less information asymmetry than non-urban firms. Such information advantage of urban firms facilitates takeover attempts from bidders and increases the likelihoods of deal completions.

The implication of the information hypothesis is that bidders are able to earn higher abnormal returns when they acquire urban targets. Less information asymmetry about the target firm reduces the bidder's risk of overpayment and therefore increases acquirer returns. We test this hypothesis with a sample of completed domestic acquisitions between 1980 and 2005. We find evidence that bidders earn significantly higher abnormal returns when their targets are located in urban areas. On average, the bidder's 11-day cumulative abnormal return (CAR) with urban targets is 50 basis points higher than that with non-urban targets.

[1] See, e.g., Coval and Moskowitz (1999, 2001), Petersen and Rajan (2002), Berger et al. (2005), Loughran and Schulz (2005), Malloy (2005), Kang and Kim (2008), Kedia, Panchapagesan, and Uysal (2008), Loughran (2008), John, Knyazeva, and Knyazeva (2009), and Tian (2010).

[2] Soft information is, by definition, different from hard information and difficult to put down on paper, store electronically, or transfer to others (see, e.g., Petersen and Rajan 2002).

Moreover, we find that bidders acquiring urban targets earn higher returns when the target firms are subject to *greater* information asymmetry. Specifically, the positive impact of target urban locations on acquirer returns is more pronounced when the target is a non-public firm, when the target is a small firm, and when stock is used as a payment method in the transaction. Since there is typically more severe information asymmetry problem when the target firm is non-public, is small, and stock is used as the payment method (Hansen 1987), our evidence suggests that soft information production facilitated by the target firm's urban location plays a more important role when hard information about the target firm is less available to the bidder.

The second hypothesis we propose to explain the baseline result is that urban firms may have less entrenched management teams and therefore they are mechanically "easier" for bidders to take over. We refer to this as "the governance hypothesis." To prevent or deter takeovers, firms have various anti-takeover provisions (ATPs) in corporate charters. ATPs reduce the probability of a successful takeover and hence the incentives of a potential bidder to launch a bid (e.g., Borokhorich, Brunarski, and Parrino 1997, Bebchuk, Coates, and Subramanian 2002, 2003). Because of urban firms' central locations and more nearby institutional investors, their managements may be less entrenched and less powerful (i.e., with fewer ATPs in corporate charters and stronger shareholder rights) than their non-urban counterparts, which increases their exposures to takeover attempts.

A direct way to test the governance hypothesis is to examine whether urban firms have more entrenched managements. We explore three corporate governance measures to test this hypothesis: the GIM index proposed by Gompers, Ishii, and Metrick (2003), the BCF index based on Bebchuk, Cohen, and Ferrell (2009), and the staggered board indicator used in Bebchuk

and Cohen (2005). We find that urban firms tend to have lower GIM index, lower BCF index, and are less likely to have a staggered board. The evidence suggests that, consistent with the governance hypothesis, urban firms' management is less entrenched and it is relatively easier for bidders to acquire urban firms.

The third hypothesis we propose suggests that urban firms may help generate higher synergies for acquirers than non-urban firms, hereafter referred to as "the synergy hypothesis." Synergies have long been cited as one of the most important reasons for M&As in the literature (see, e.g., Fluck and Lynch 1999, Fulghieri and Hodrick 2006). Urban firms, due to their central locations, may have better access to larger pools of investors, customers, lenders, and suppliers and various other resources, which makes them more attractive to potential acquirers. In other words, acquiring urban firms may help generate higher synergetic gains than acquiring non-urban targets, increasing the urban firms' takeover exposures.

The synergy hypothesis implies that acquisition synergies are higher if the target firm is located in urban areas. We construct two measures for acquisition synergies to explore this hypothesis. One measure captures the combined stock market reactions (both the bidder and the target firm) to the acquisition announcements. The other measure measures the post-transaction improvements in the combined firm's operating performance. We find that acquiring urban targets neither generates higher stock abnormal returns in the short run nor increases the combined firm's post acquisition operating performance in the long run. The evidence suggests that locating in urban areas *per se* does not generate additional acquisition synergies for the bidders, and therefore the synergy hypothesis is not supported by the data.

Our paper contributes to two strands in the literature. First, it sheds new light on the determinants of a firm's takeover likelihood. There has been a literature on predicting the

probability of a takeover bid occurring. Earlier research focuses on the role of various financial characteristics of a firm in its takeover exposure.[3] Ambrose and Megginson (1992) point out the importance of insider ownership and institutional holdings in determining a firm's exposure to takeover attempts. More recently, Ivashina et al. (2009) investigate the effects of bank lending relationship on the probability of a borrowing firm becoming a takeover target. Bodnaruk, Massa, and Simonov (2009) introduce the role of the stake of bidder's advisory investment bank into this literature. Our paper extends this stream of literature by documenting a firm's geographic location as another important dimension of takeover determinants and exploring the reasons why geographic location matters for a firm's takeover exposure.

Second, our paper contributes to the fast growing literature on the role of geography in corporate finance. Existing research has documented that firm locations matter in many financial phenomena, such as corporate capital structure (Loughran 2008, Almazan et al. 2010), dividend policy (John, Knyazeva, and Knyazeva 2009), analyst coverage (Malloy 2005, Bae, Stulz, and Tan 2008), corporate restructuring (Landier, Nair, and Wulf 2009), bank lending (Petersen and Rajan 2002, Berger et al. 2005), venture capital investment (Lerner 1995, Tian 2010), and institutional holdings and stock liquidity (Loughran and Schulz 2005). Our paper contributes to this literature by showing the positive impact of a firm's urban location on its takeover likelihood and exploring the sources of urban firms' higher exposure to takeovers.

Two recent papers examine the closely related research questions to our paper. Kedia, Panchapagesan, and Uysal (2008) find that acquirer returns in local transactions are more than twice higher than that in non-local transactions. They interpret their findings to be consistent with the rationale that local transactions facilitate synergy discovery and soft information production. Kang and Kim (2008) find that block acquirers have a strong preference for local

[3] See, e.g., Stevens (1973), Dietrich and Sorensen (1984), Palepu (1986), and Mikkelson and Partch (1989).

targets, and local block acquirers of targets are more likely to engage in post-acquisition governance improvement than remote block acquirers. While the above research examines the role of geographic proximity between acquirers and targets in M&A transactions, we focus on the impact of a firm's geographic location on its likelihood of becoming a takeover target. This new angle allows us to push the line of inquiry pioneered by Kedia, Panchapagesan, and Uysal (2008) and Kang and Kim (2008) one step forward to explain why a firm's geographic location (in addition to its physical distance to the bidder) matters in the M&A transactions.

The rest of the paper is organized as follows. Section 2 discusses the sample selection and reports summary statistics. Section 3 presents our baseline results. Section 4 explores the reasons for the difference in takeover exposures between urban and non-urban firms. We conclude in Section 5.

2. Sample Selection and Summary Statistics

Our sample consists of all U.S. public firms recorded on the Compustat Industrial Annual Files from 1980 to 2005. The sample period ends in 2005 to allow for the availability of three years of post-M&A transaction operating performance in the Compustat Annual Files. We exclude firms in financial and regulated utility industries (SIC 6000-6999 and SIC 4900-4999) and firms located outside the United States. Following the previous literature, we use a firm's headquarter as a proxy for its geographic location.[4] We collect the firm's headquarter location data from Compustat and identify its corresponding latitude and longitude information by merging with the 2000 U.S. Census Bureau's Gazetteer Files. We calculate a firm's physical

[4] See, e.g., Coval and Moskowitz (1999), Ivkovic and Weisbenner (2005), and Malloy (2005)

distance to 10 largest metropolitan areas identified in the 2000 Census.[5] We then create a dummy variable, *Urban*, that equals one if the firm's headquarter is located within 30 miles radius from any one of top 10 metropolitan areas and zero otherwise, i.e., firms located in one of these 10 metropolitan areas and their suburbs are classified as urban firms, and all other firms are classified as non-urban firms. The detailed algorithm for calculating the physical distance between two locations is discussed in Appendix A.

We obtain M&A transaction information from the Securities Data Company's (SDC) Mergers and Acquisitions Database. We include both attempted and completed takeovers with the target firms that can be identified in the Compustat database. We are able to identify 5,521 attempted takeovers and 4,415 completed takeovers with full firm-level Compustat information available during the sample period.

Figure 1 presents the time series trends of takeovers in the sample period. The solid line represents attempted takeovers and the dotted line represents completed takeovers. We observe two major M&A waves in our sample period. The total number of acquisitions falls in the early 1990s after the first M&A wave occurred in late 1980s and increases steadily until reaching the peak level in 1999. This is consistent with the overall trend in M&A activities documented by Moeller, Schlingemann, and Stulz (2004). Figure 2 plots the time trend of attempted takeovers for urban and non-urban firms. The solid line refers to urban firms and the dotted line represents non-urban firms. In most years (except for 1992 and 1994), the solid line is way above the dotted one, suggesting that urban firms receive more attempted takeover bids than non-urban firms. The difference in attempted takeovers between urban and non-urban firms is larger during the M&A booms, i.e., late 1980s and late 1990s. We plot completed takeovers for urban and non-urban

[5] The 10 largest metropolitan areas include New York City, Los Angeles, Chicago, Washington-Baltimore, San Francisco, Philadelphia, Boston, Detroit, Dallas, and Houston.

firms in Figure 3, and find a very similar time pattern in the difference between urban and non-urban firms.

We further collect firm stock return data from CRSP, financial statement information from Compustat, analyst coverage data from I/B/E/S, institutional ownership and blockholder data from the Thomson Financial 13f institutional holdings database, and corporate governance proxy variables from RiskMetrics (formerly IRRC).

Table 1 presents the descriptive statistics of our sample. As shown in the top two rows, 5% of urban firms receive at least one takeover bid and 4% become completed takeover targets, compared to 4.6% (3.6%) for non-urban firms. The differences are statistically significant at the 1% level. We also report the summary statistics for various other firm characteristics in Table 1. Consistent with findings reported by Loughran (2008), urban firms are larger than non-urban firms on average. The mean total assets of urban firms are $840 million while those of non-urban firms are $615 million. The market-to-book ratio is higher for urban firms, suggesting that urban firms are more likely to be growth firms. Urban firms also have larger cash reserve, higher sales growth, lower asset tangibility, lower leverage, and lower returns on assets (ROA) relative to non-urban firms. We also find that urban firms have more analyst coverage than non-urban firms, which is consistent with Loughran and Schulz (2005). The variable constructions are described in more detail in Appendix B.

3. Empirical Tests and Results

3.1. Baseline Results

We estimate the following equation in our baseline regressions for a firm's takeover likelihood with the Probit model:

$$\Pr(\textit{receiving a takeover bid / completing a deal})_{i,t} = \Phi(\alpha + \beta * Urban_{i,t-1} + \gamma * controls_{i,t-1} + \varepsilon)$$

where the dependent variable is a dummy that equals one if the firm *i* receives a takeover bid (or is acquired) in year *t*, and zero otherwise. $\Phi(\cdot)$ represents the cumulative distribution function of the standard normal distribution. The main variable of interest is the *Urban* dummy that captures a firm's geographic location. We incorporate a number of controls suggested in the previous literature that help to predict a firm's takeover exposure: firm size, market-to-book ratio, ROA, leverage, cash availability, sales growth, asset structure, analyst coverage, and industry M&A intensity. The industry M&A intensity is captured by a dummy that equals one if there is a takeover attempt in the same industry in the year prior to the acquisition. To measure a firm's financial distress probability, following Ivashina et al. (2009), we include a dummy for bad z-score based on the Altman (1968) model, which equals one if the z-score falls below the Altman threshold value of 1.81, meaning that the firm is in the high default probability region. In addition, we include an indicator variable *Blockholder* to control for the existence of a large external shareholder because takeovers are more likely to occur as shareholder control increases (e.g., Shleifer and Vishny 1986, Ambrose and Megginson 1992). *Blockholder* is defined as one if there is an institutional shareholder who owns more than 5% of the firm's outstanding shares and zero otherwise. All firm financial variables are industry adjusted, and year dummies are included in all regressions to control for year fixed effects.

In the Probit regressions, the probability of receiving a takeover bid in the current year is thus estimated using values of the independent variables at the end of the previous fiscal year. We cluster heterogeneity-robust standard errors at the firm level as suggested by Petersen (2009) because the residuals may be correlated across observations on the same firm. We report

marginal effects of the independent variables since the coefficient estimates of the Probit models are usually hard to interpret.

Table 2 presents our baseline regression results. Columns (1) and (2) report results for attempted takeovers with the dependent variable equal one if the firm receives at least one takeover bid in a given year. In column (1), we start with a parsimonious regression and report the effect of a firm's geographic location on its takeover exposure without any control variables. The coefficient estimate of the *Urban* dummy is positive and significant at the 1% level, suggesting that locating in an urban area increases a firm's exposure to takeover attempts. We add a set of firm characteristics as control variables in the regressions and report the regression results in column (2). The coefficient estimate of the *Urban* dummy continues to be positive and significant at the 1% level. The magnitude of the *Urban* dummy's coefficient estimate is unchanged, 0.004, suggesting that locating in an urban area increases a firm's unconditional likelihood of becoming a takeover target by 0.4% in a given year. Given the fact that the average probability of receiving a takeover bid in our sample is 4.8% as reported in Table 1, the economic impact of a firm's location on its takeover exposure is significant: locating in an urban area increases a firm's probability of receiving a takeover bid by 8.3% in a given year.

In columns (3) and (4), we repeat the same regressions with the dependent variable replaced with a dummy that equal one if the transaction is completed (i.e., the firm is acquired) in a given year. Both the magnitudes and the significance levels of the *Urban* dummy remain unchanged in regressions with and without controlling for firm characteristics. The magnitude of the *Urban* dummy coefficient estimate suggests that locating in an urban area increases a firm's likelihood of being taken over by 10.5%, given the fact that the average sample probability of completing a M&A deal is 3.8% as reported in Table 1. The regression results show strong

evidence that a firm's geographic location not only affects its probability of receiving a takeover bid but also the likelihood of deal completions, even after controlling for various firm characteristics. As we notice from Table 2, the coefficient estimates of the *Urban* dummy hardly change after we include additional control variables, which suggests that our results are unlikely driven by omitted firm characteristics.

Some control variables have significant coefficient estimates. The coefficient estimates of Tobin's Q and sales growth are negative and significant, suggesting that firms with higher growth values are less likely to become a takeover target. Consistent with the existing literature, the industry M&A intensity dummy is positive and significant at the 1% level, suggesting that firms are more likely to receive a takeover bid during merger waves. Further, firms with financial difficulties (i.e., firms with higher default probabilities) are more likely to receive a takeover bid and get acquired, as suggested by the positive and significant coefficient estimates of the *Bad z-score dummy*. Finally, consistent with Cremers, Nair, and John (2009) and Ivashina et al (2009), we find positive and significant coefficient estimates of the *Blockholder* dummy, which confirms the active role of external blockholders in takeover activities.

3.2. Robustness Checks

We conduct a set of robustness tests for our baseline findings. First, we check whether our baseline results are robust to alternative econometric specifications. Second, we address the reverse causality concerns by focusing on a subsample of non-moving firms. Finally, we split our sample into two sub periods to control for possible time series variation in firm' takeover exposure.

One concern is that since some firms in our sample receive multiple takeover bids within the year, our baseline specification ignores this piece of information (recall that the dependent variable is an indicator of receiving takeover bids or not in our baseline regressions). We then count the number of attempted takeover bids a firm receives within a year and construct a new variable, *No. of Bids*.[6] We replace the dependent variable in our baseline specification with the new variable and run the OLS regression. The results are robust. For example, the coefficient estimate of the *Urban* dummy in column (2) of Table 2 is 0.004 (p-value=0.017). We also run the same regressions with a Poisson model to take care of the discrete nature of the number of takeover bids. The coefficient estimate of the *Urban* dummy in column (2) of Table 2 is 0.076 (p-value=0.014). Finally, we use a Tobit model that takes into consideration the non-negative nature of attempted takeover bids. The coefficient estimate of the *Urban* dummy in column (2) of Table 2 is 0.095 (p-value=0.002). Overall, our baseline findings that urban firms are subject to higher takeover exposures are robust to alternative econometrics specifications.

The second set of robustness tests is to deal with endogeneity concern in firm locations. As is the case for many empirical corporate finance studies, our empirical design may be subject to endogeneity criticisms. One concern is reverse causality, i.e., firms may want to increase its takeover likelihood by moving to urban areas first to get higher exposure to takeover attempts. Therefore, the documented relationship between a firm geographic location and its likelihood of becoming a takeover target may not necessarily reflect a causal consequence from the firm's location to its takeover exposure.

In order to get around the endogeneity problem, we limit our attention to a subsample of firms that have never moved, i.e., their headquarter locations remain unchanged during the

[6] Among 5,786 firm-year observations with non-zero attempted bids, 5,289 firm-year observations are associated with 1 bid, 415 firm-year observations are associated with 2 bids, 64 firm-year observations are associated with 3 bid, 17 firm-year observations are associated with 4 bids, and 1 firm-year observation are associated with 8 bids.

sample period. For this subsample, a firm's location is determined well before its subsequent M&A activities, thus it is least subject to reverse causality concerns.

One problem with the Compustat location data is that Compustat only provides a snapshot of state and county information of a firm's headquarter location. To correct for this deficiency, we collect data on firms' historical headquarter locations from Compact Disclosure. Unlike Compustat, Compact Disclosure publishes data on the firm headquarter street address, city, state, and area zip code on historical SEC filings from 1990 to 2004, which helps us identify the headquarter location change of each firm. Moving firms are identified as those with headquarter city name changing from one quarter to the other on Compact Disclosure. We are able to identify 1,785 moving firms in our sample.[7] Since we only have firm moving information from 1990 to 2004, we focus on this shorter period and drop all firm-year observations of the moving firms. Our remaining sample contains only firms that have never changed their headquarter locations between 1990 and 2004.

We repeat our baseline regressions in the non-moving firm subsample and report the regression results in Table 3. Our sample size reduces to 58,626 firm-year observations. The coefficient estimates of the *Urban* dummy in all regressions are positive and significant at the 5% level. The magnitudes of the *Urban* dummy coefficients remain unchanged from our baseline regressions, which suggests that the baseline findings are robust to controlling for reverse causality. In addition, we find that the magnitudes and statistical significance levels of coefficient estimates of other control variables are comparable to those in the baseline regressions reported in Table 2.

[7] We choose to identify moving firms based on the change of their address city names because changes in street numbers/names or zip codes may over-estimate the number of meaningful moving firms. On the other hand, identifying moving firms based on changes in states may ignore many observations of firm moving within a state.

Another concern is that our baseline results may be mainly driven by observations in the earlier years of the sample period. This is because in the most recent decade, the information technology and communications tools have developed very quickly, and this could have dramatically reduced the takeover likelihood difference between urban and non-urban firms relative to earlier decades. To address this concern, we conduct the third set of robustness checks by repeating the baseline regressions for two subsample periods and report the regression results in Table 4.

Column (1) presents the regressions for attempted takeovers between 1980 and 1992 and column (2) reports the results for attempted takeovers from 1993 to 2005. The coefficient estimates of the *Urban* dummy are positive and significant at the 5% level in both subsample periods, and the impact of an urban location on the firm's takeover exposures is even stronger in the later period (0.003 in the period between 1980 and 1992 versus 0.004 in the period between 1993 and 2005). The evidence suggests that although the recent rapid developments in communications and transportation tools have, to some degree, reduced the differences in various dimensions between urban and non-urban firms, urban firms are still more likely to receive a takeover bid. Columns (3) and (4) report regression results for completed transactions. The coefficient estimates of the *Urban* dummy are positive and significant at the 1% level across both subsample periods, which again suggests that our baseline results are not entirely driven by the earlier sample period.

By examining alternative econometric specifications, focusing on a subsample of non-moving firms in which reverse causality concerns are minimized, and repeating baseline regressions at different sub-sample periods, we find very similar results on the impact of a firm's geographic location on its takeover exposure. The evidence suggests that our baseline findings

are robust to alternative econometric specifications and endogeneity in firm locations, and they are persistent across different time periods.

4. Sources of the Difference in Takeover Exposures

The baseline findings suggest that urban firms are more likely to become takeover targets. A natural question to ask is why locating in urban areas significantly increases a firm's exposure to takeover attempts and probability of deal completions. In this section, we try to explore the possible sources of the observed differences in takeover likelihoods between urban and non-urban firms. Specifically, we propose three hypotheses that may help explain our baseline findings, namely, the information hypothesis, the governance hypothesis, and the synergy hypothesis. We test these hypotheses in the following sub-sections.

4.1. The Information Hypothesis

An increasing literature has shown the role of firm locations and geographic proximities between various market players in the production and transmission of information. Geographic proximity is likely to facilitate the production and transmission of soft information that is difficult to code and recognize, as opposed to hard information that is tangible and can be less costly produced, stored, transmitted, and interpreted (Petersen and Rajan 2002). Since the physical access to urban firms is on average easier compared to non-urban firms, it is less costly for potential bidders to acquire soft information from urban firms by interacting with their managers through social, civic, and business meetings. Thus the first hypothesis we propose to explain the higher takeover exposure of urban firms is that urban firms are subject to less asymmetric information. The implication of the information hypothesis is that acquirers earn

higher abnormal announcement returns by acquiring urban firms than non-urban firms because of the information advantage inherent in urban target firms. Further, due to the role played by soft information in the M&A process, the higher abnormal announcement returns of bidders acquiring urban firms should be more pronounced for the target firms that are subject to larger hard information asymmetry.

We test this hypothesis using all completed acquisitions obtained from the SDC Mergers and Acquisitions Database between 1980 and 2005. We require that the acquirers have annual financial statement information from Compustat and daily stock return data from CRSP. We also exclude small deals with transaction values less than one million dollars. There are 13,692 M&A transactions that meet all the above criteria. Using the state and city information of target firms from the SDC, we create an *Urban Target* dummy that equals one if the target firm is located within the 30-mile radius of any one of the top 10 biggest metropolitan area and zero otherwise.

We estimate acquirer returns by calculating the 11-day CARs over the event window [-5, +5] around the acquisition announcement date. We use the CRSP equal-weighted return as the market return and estimate the market model parameters over the period from event day -210 to event day -11. We control for target public status by including a non-public dummy that equals one if the target is not a publicly traded firm. We use the dollar amount of deal value as a proxy for target size and include a small target dummy that equals one if the deal value is smaller than the median deal value. We also include a stock dummy that equals one if at least part of the transaction is financed with stock.

In addition, we control for a number of bidder and deal characteristics that have been documented to affect acquirer returns in the existing literature (see, e.g., Bradley, Desai, and Kim 1988, Lang, Stulz, and Walkling 1989, Bhagat, et al. 2005): acquirer's size, Tobin's Q, leverage,

and ROA (measured at the fiscal year-end prior to the acquisition announcement). Pre-announcement stock price run-up measured over the 200-day window from event day -210 to event day -11 and dummy variables on industry relatedness of the acquisition and whether the bidder and the target are both from high-tech industries are also included in the regressions. Kedia, Panchapagesan, and Uysal (2008) find that acquirer returns in local transactions are higher than in non-local transactions. We include the natural logarithm of the geographic distance between the acquirer and the target in our regressions to capture the effects of local transactions.

In Table 5, we report the regression results with the acquirers' 11-day CARs as the dependent variable. In column (1), the *Urban Target* dummy has a positive and significant coefficient estimate, suggesting that acquirers earn higher abnormal announcement returns when acquiring urban targets. Shareholders of acquirers that acquire urban targets on average earn 50 basis points more than those acquiring non-urban targets. The negative coefficient estimate of the physical distance between the acquirer and the target is in line with Kedia, Panchapagesan, and Uysal (2008), i.e., local transactions generate higher acquirer returns. Consistent with Chang (1998) and Fuller, Netter, and Stegemoller (2002), acquirers earn higher returns when they acquire non-public targets. We also find that the acquirer's size is negatively related with its CAR, which is consistent with the findings of Moeller, Schlingemann, and Stulz (2004).

Furthermore, we try to separate out the effect of soft information production (measured by target firm's geographic location) from the effect of hard information production on determining acquirer returns. We proceed by examining the impact of the targets' urban locations on acquirer returns when the target firms are subject to *greater* hard information asymmetry. If the information hypothesis is supported, we expect to observe the positive impact

of the gargets' urban location on acquirer returns is more pronounced for target firms that are subject to greater hard information asymmetry.

We first examine the target firm's public status. Non-public target firms are likely to face higher information asymmetry. This is because unlike public firms, they are not subject to quarterly mandatory disclosure requirements and typically receive less analyst coverage. Therefore, there is less hard information about non-public firms publically available to bidders, and soft information (if it could be produced and transmitted less costly when the target firm is located in an urban area) could play a more important role in reducing the information gap between the acquirer and the target. Put it differently, soft information arising from a target firm's urban location is more valuable when hard information about the firm is more difficult to collect. We expect the acquirer to realize a higher abnormal return when acquiring an urban target that is a non-public firm.

In column (2) of Table 5, we add an interaction term between the *Urban Target* dummy and the non-public target dummy to capture the complementary role in reducing the information gap played by the target firm's geographic location. The coefficient estimate of the non-public target dummy continues to be positive and statistically significant. On top of that, the coefficient estimate of the interaction term is positive and significant at the 1% level, which is consistent with the conjecture that the effect of the target firm's urban location on the acquirer's gain is more pronounced for non-public firms. To be more concrete, shareholders of acquirers earn 126 basis points higher abnormal returns when the non-public target firm is located in an urban area than the scenario that the non-public target is located in a non-urban area.

Next, following the same logic, we examine acquirer returns when the size of the target firm is small. Smaller firms are likely to face greater information asymmetries. If urban firms

have information advantage over non-urban firms, then the acquirer returns should be higher when the small target firm is located in an urban area. We add an interaction term between the *Urban Target* dummy and the small target dummy in column (3) of Table 5. We observe that the target size has a negative impact on the acquirer's announcement returns. Meanwhile, as expected, the coefficient estimate of the interaction term is positive and significant at the 5% level, suggesting that acquirers earn 91 basis points higher returns if the small target firm is located in an urban area.

Finally, in the spirit of the same idea, we examine acquirer returns when the stock is used as a payment method in the transaction. Stock is used as a method of payment when there is a severe information asymmetry problem between the acquirer and the target such that the acquirer is uncertain about the target's valuation (Hansen 1987). The information hypothesis argues that target firms located in an urban area could help to mitigate such information asymmetry problem and therefore increase acquirer returns. To examine this conjecture, we add an interaction term between the *Urban Target* dummy and the stock deal dummy in column (4) of Table 5. The coefficient estimate of the stock deal dummy is negative and significant, consistent with the theoretical predictions of the existing literature. However, the coefficient estimate of the interaction term between the *Urban Target* dummy and the stock deal dummy is positive and statistically significant, suggesting that although on average acquirers earn negative returns when stock is used as a payment method (-0.685%), acquirer returns become positive if their target firms are located in an urban area (0.105% = -0.685% + 0.790%).

Overall, our evidence suggests that firms located in urban areas are subject to less soft information asymmetry relative to firms located in non-urban areas, which helps explain why

urban firms are associated with higher takeover likelihood. The evidence supports the implications of the information hypothesis.

4.2. The Governance Hypothesis

To prevent or deter takeovers, firms have various ATPs in place, such as staggered boards, poison pills, and golden parachutes. Borokhovich, Brunarski, and Parrino (1997) and Bebchuk, Coates, and Subramanian (2002, 2003) show that ATPs reduce the probability of a successful takeover and the incentives of a potential bidder to launch a bid. One possible reason for the documented differences in takeover exposures between urban and non-urban firms might be that urban firms have fewer ATPs in corporate charters and their management teams are less entrenched, which makes urban firms easier to be taken over.

We collect the information about the number of ATPs a firm has in its charters and bylaws from the RiskMetrics database. We explore three corporate governance (shareholder rights) measures to test the governance hypothesis. The first measure is the GIM index proposed by Gompers, Ishii, and Metrick (2003). The GIM index combines 24 ATPs for S&P 1,500 firms. It is one of the most frequently used measures in the corporate governance literature. Our second measure is the BCF index constructed by Bebchuk, Cohen, and Ferrell (2009). BCF index is based on six ATPs that deserve most attention and are not influenced by the noise produced by the other ATPs (Bebchuk, Cohen, and Ferrell 2009). Finally, Bebchuk and Cohen (2005) focus on the staggered board indicator as a key ATP and find that it leads to a significantly lower firm value. We therefore include the staggered board dummy as our third corporate governance measure.

The summary statistics reported in Table 1 suggest that urban firms on average have fewer ATPs, i.e., lower GIM index and BCF index, and are less likely to have staggered boards. Table 6 reports the regression results for the relation between a firm's geographic location and its corporate governance indices. Following Gompers, Ishii, and Metrick (2010), we include several other control variables in the regressions. Again, we run the regressions separately for the full sample (columns 1-3) and the non-moving subsample (columns 4-6) for robustness. Columns (1), (2), (4), and (5) present the OLS regression results, and columns (3) and (6) present the Probit model regressions with the marginal effects of coefficients reported.[8]

The negative and significant coefficient estimates of the *Urban* dummy reported in columns (1) – (3) suggest that urban firms are associated with lower GIM index, lower BCF index, and are less likely to have a staggered board compared to non-urban firms. The economic impact of a firm's location on its corporate governance is quite large. For example, based on our coefficient estimates reported in column (3), an urban firm is 8.8% less likely to have a staggered board compared to its non-urban counterparts. Regarding other control variables, larger, older, and more mature firms tend to have more ATPs, consistent with the findings of the existing literature.

In columns (4) – (6), we repeat the same regressions in the non-moving subsample that is less subject to endogeneity concerns. We continue to find that the coefficient estimates of the *Urban* dummy are negative and significant, suggesting that urban firms' management are less entrenched. For example, based on the estimates reported in column (4), an urban firm on average has 0.5 fewer ATPs compared to a firm located in a non-urban area.

[8] For robustness checks, in an unreported analysis, we run the same regressions reported in column (1), (2), (4), and (5) with the Poisson model to take care of the discrete nature of the GIM index and the BCF index. The results do not change qualitatively.

In summary, our findings are consistent with the governance hypothesis that urban firms have better corporate governance (stronger shareholder rights) and their managements are less entrenched due to their central locations and more nearby blockholders and institutional investors, which helps to explain why urban firms have a higher takeover likelihood.

4.3. The Synergy Hypothesis

The third hypothesis we propose to explain why urban firms are subject to higher takeover exposures is based on the rationale that acquisitions usually generate synergies and urban firms may help synergy generation during the M&A transactions. Synergies have long been suggested as one of the most important reasons for M&As, for example, economies of horizontal or vertical integration, enhanced monopoly power, or tax effects (Fulghieri and Hodrick 2006). One of the possible reasons for the urban firm's higher takeover exposure is that acquiring urban firms may generate higher synergy gains. This argument hinges on the intuition that the urban target firm's central location is associated with a larger pool of customers, investors, lenders, and suppliers and an easier access to various other resources. Therefore, acquiring an urban firm may bring more investors, customers, lenders, and suppliers to the acquirer than acquiring a non-urban firm. We test the synergy hypothesis by examining whether or not the combined portfolio of the acquirer and the target gains higher returns upon the announcement of the acquisition transaction and whether or not the combined firm's operating performance improves afterwards.

We use the same sample as we have used in testing the information hypothesis but restrict the targets to be public firms. This is because our acquisition synergy measures need financial and accounting information for both the acquirer and the target. We measure

acquisition synergies in percentage returns using the methodology developed by Bradley, Desai, and Kim (1988). For each acquisition, we construct a value-weighted portfolio of both the acquirer and the target, with the weights based on their market capitalizations at the 11th trading day prior to the acquisition announcement. We address the toehold problem by subtracting the value of target equity held by the acquirer from the target's market capitalization. We compute the 11-day portfolio's cumulative abnormal return (PCAR) over the event window [-5, +5] around the announcement date.

Table 7 presents the regression results testing the synergy hypothesis. In column (1), the dependent variable is PCAR. The variable of interest is the *Urban Target* dummy. We control for various acquirer characteristics, target characteristics, and deal characteristics in the regression. The coefficient estimate of the *Urban Target* dummy is negative and not statistically significant, suggesting that we cannot reject the null hypothesis that the location of the target firm is independent of the short-run acquisition synergies. In other words, acquiring urban target firms does not generate additional value for shareholders of both the acquirer and the target upon the announcement of the deal.

Although we do not find significant correlation between the target firm's geographic location and PCAR, it is still possible that the stock market under-reacts to the announcement of the deal in the short-run and acquiring an urban firm helps to create higher synergies in the long-run. We then examine if acquiring an urban target firm improves the operating performance of the combined firm post the transaction.

We follow the methodology of Wang and Xie (2009) to measure the long-run post-acquisition operating improvement. We select control companies for the acquirer and the target based on their Fama-French industry classifications and pre-merger operating performance

measured by ROA. More specifically, for each acquirer, we identify all firms in the same Fama-French 48 industry and choose the one with the closest ROA (measured in the year immediately prior to the acquisition announcement) as the acquirer's control firm. The target's control firm is selected based on the same procedure.

The acquirer (target)'s performance-adjusted ROA for the pre-merger year is calculated as the difference between the firm's ROA and its control firm's ROA. We compute the pre-transaction performance-adjusted ROA as the weighted average performance-adjusted ROA of the acquirer and the target. We then track each acquisition for three years after its completion. For each year, we calculate the weighted average ROA of the acquirer's control firm and the target's control firm separately, and subtract it from the combined firm's ROA. Our main variable of interest is the change in operating performance that is defined as the difference between the pre-transaction performance-adjusted ROA and three-year average post-transaction performance-adjusted ROA.

We regress the constructed operating performance change on the *Urban Target* dummy as well as other control variables, and report the regressions results in the column (2) of Table 7. The coefficient estimate of the *Urban Target* dummy is negative and not statistically significant. We therefore cannot reject the null hypothesis that the target firm's geographic location has no impact on the post-acquisition operating performance of the combined firm.

For robustness, we also construct another measure for post-acquisition long-term operating performance, following Chen, Harford, and Li (2007). We track each acquisition for three years after its completion and calculate the acquirer's post-acquisition ROA. The abnormal change in operating performance is then calculated as the residual from the AR (1) regressions that regress post-acquisition industry-adjusted ROA on pre-acquisition corresponding measure.

We find that the coefficient estimates of the *Urban Target* dummy are negative but not statistically significant. The evidence suggests that the target's geographic location does not have a direct impact on the improvement of post-deal long-term operating performance.

In summary, our evidence suggests that acquiring urban firms neither generates higher abnormal stock returns in the short-run nor increases the combined firm's operating performance in the long-run. We conclude that the synergy hypothesis is not supported by the data.

5. Conclusion

In this paper, we examine the impact of a firm's geographic location on its likelihood of receiving a takeover bid and completing the transaction based on a sample of public firms from 1980 to 2005. We find that firms located in an urban area are 8.3% more likely to receive a takeover bid and 10.5% more likely to complete the acquisition transaction than non-urban firms. The baseline result is robust to controlling for various firm characteristics, endogeneity in firm locations, and different subsample periods. We propose three hypotheses to explain the observed difference.

Consistent with the information hypothesis, we find that acquirers realize higher announcement abnormal returns when acquiring urban targets, and the positive impact of target firm's urban location on acquirer returns is more pronounced when the target is a non-public firm, when the target is a small firm, and when stock is used as a payment method in the transaction. We also find consistent evidence with the governance hypothesis: urban firms have fewer ATPs in corporate charters, and this reduces the acquisition hurdles and encourages takeover attempts. Finally, we find no supporting evidence for the synergy hypothesis, i.e., acquiring an urban firm neither generates higher stock returns in the short-run nor increases the

combined firm's long-run operating performance. Taken together, our evidence suggests that urban firms are more likely to receive takeover bids and complete transactions because they are subject to less information asymmetry and have less entrenched managements. However, locating in urban areas *per se* does not generate additional synergies from the M&A transactions.

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Appendix A: Distance Calculation between Two Locations

For each firm, we obtain the pair of latitude and longitude coordinates (measured in degrees of decimal) of its headquarter from the U.S. Census Bureau's Gazetteer City-State File. Because of the earth's near-spherical shape (technically an oblate spheroid), calculating an accurate distance between two points requires the use of spherical geometry and trigonometric math functions. We therefore convert latitude or longitude from decimal degrees to radians by dividing the latitude and longitude values by 180/π, or approximately 57.296. Because the radius of the Earth is assumed to be 6,378.8 kilometers, or 3,963 miles, we use the Great Circle Distance Formula to calculate mileage between two pairs of latitudes and longitudes:

$$3963 \times Arccos[Sin(Lat1) \times Sin(Lat2) + Cos(Lat1) \times Cos(Lat2) \times Cos(Long2 - Long1)]$$

where *Lat1* and *Lat2* (*Long1* and *Long2*) represent the latitudes (longitudes) of two points respectively.

Appendix B: Variable Definitions and Data Sources

Main Variables of Interest	
Urban dummy	Dummy variable: one if a firm's headquarter is located in one of the top 10 largest US metropolitan areas (including suburbs) and zero otherwise. (Source: Compustat)
Urban target dummy	Dummy variable: one if a target firm's headquarter is located in one of the top 10 largest US metropolitan areas (including suburbs) and zero otherwise. (Source: SDC)
Other Variables	
Advertising expense	Advertising expense (item 45), scaled by book value of total assets (item 6). (Source: Compustat)
Bad z-score	Dummy variable: one if $z < 1.81$ and zero otherwise. (Source: Compustat)
BCF index	Governance index based on 6 anti-takeover provisions, taken from Bebchuk, Cohen, and Ferrell (2009). (Source: RiskMetrics)
Blockholder	Dummy variable: one if there is at least one institutional shareholder who owns more than 5% of the total shares outstanding and zero otherwise. (Source: Thomson Financial 13f)
Cash	Cash and short-term investments (item 1), scaled by book value of total assets (item 6). (Source: Compustat)
CAPEX	Capital expenditure (item 128), scaled by book value of total assets (item 6). (Source: Compustat)
Diversifying acquisition	Dummy variable: one if the acquirer and the target are not within the same Fama-French (1997) industry and zero otherwise. (Source: SDC and Professor Kenneth French's website: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/)
GIM index	Governance index based on 24 anti-takeover provisions, taken from Gompers, Ishii, and Metrick (2003). (Source: RiskMetrics)
High tech	Dummy variable: one if the bidder and the target are both in the high tech industries defined by Loughran and Ritter (2004) and zero otherwise. (Source: SDC)

Industry M&A intensity	Dummy variable: one if there are takeovers with the same Fama-French (1997) 48 industries in the year prior to the event and zero otherwise. (Source: SDC and Kenneth French's website: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/)
Leverage	Book value of debts over book value of total assets: (item 34 + item 9)/item 6. (Source: Compustat)
Ln (1+No. of analysts)	Natural logarithm of the number of following analysts. (Source: I/B/E/S)
Ln(distance b/w acquirer and target)	Natural logarithm of physical distance in miles between acquirers and targets. (Source: SDC)
Market value of equity	Market value of equity: item 25*item 199. (Source: Compustat)
Merger of equals	Dummy variable: one if the deal is classified as merger of equals by SDC and zero otherwise. (Source: SDC)
Non-public target	Dummy variable: one if the target is a non-public firm and zero otherwise. (Source: SDC)
PPE	Property, plant, and equipment (item 7), scaled by book value of total assets (item 6). (Source: Compustat)
R&D	Research and development expense (item 46), scaled by book value of total assets (item 6). (Source: Compustat)
ROA	Operating income before depreciation (item 13), scaled by total assets (item 6). (Source: Compustat)
Sales growth	Δsales/sales: Δitem 12/item 12. (Source: Compustat)
Small target	Dummy variable: one if the deal value is smaller than the median deal value and zero otherwise. (Source: SDC)
Staggered board	Dummy variable: one if the board is classified and zero otherwise. (Source: RiskMetrics)
Stock deal	Dummy variable: one if the deal is at least partially stock-financed and zero otherwise. (Source: SDC)
Tender offer	Dummy variable: one for tender offers and zero otherwise. (Source: SDC)
Tobin's Q	Market value of assets over book value of assets: (item 6 – item 60 + item 25*item 199)/item 6. (Source: Compustat)
Total assets	Book value of total assets (item 6). (Source: Compustat)
Z-score	Following the Altman (1968) model, z = 12(working capital/total assets) + 1.4(retained earnings/total assets) + 3.3(EBIT/total assets) + 0.6(market value of equity/book value of total liabilities) + 1.0(sales/total assets). (Source: Compustat)

Figure 1: Takeovers of Public Firms between 1980 and 2005

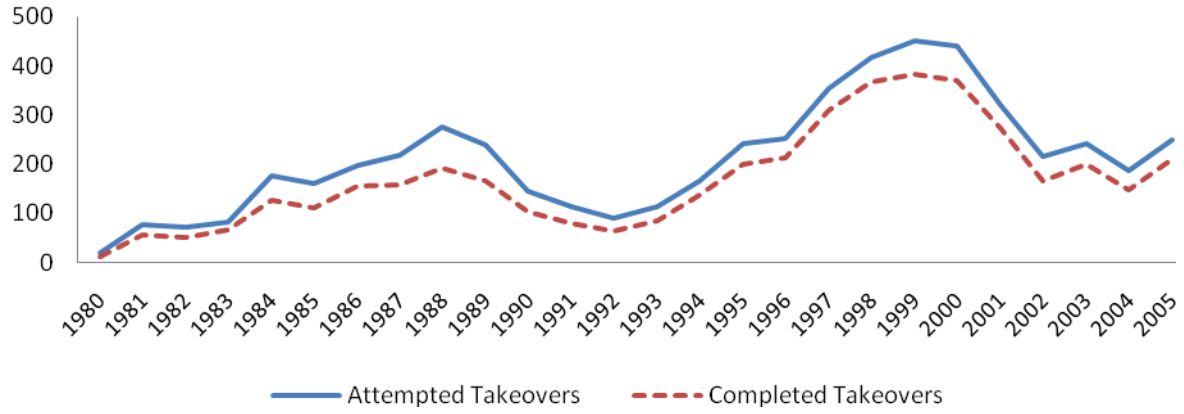

Figure 2: Attempted Takeovers of Public Firms between 1980 and 2005

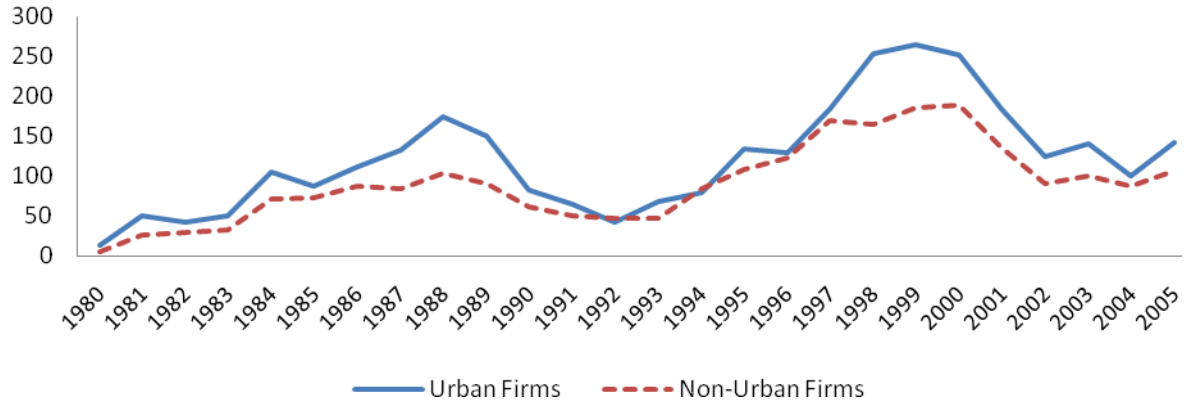

Figure 3: Completed Takeovers of Public Firms between 1980 and 2005

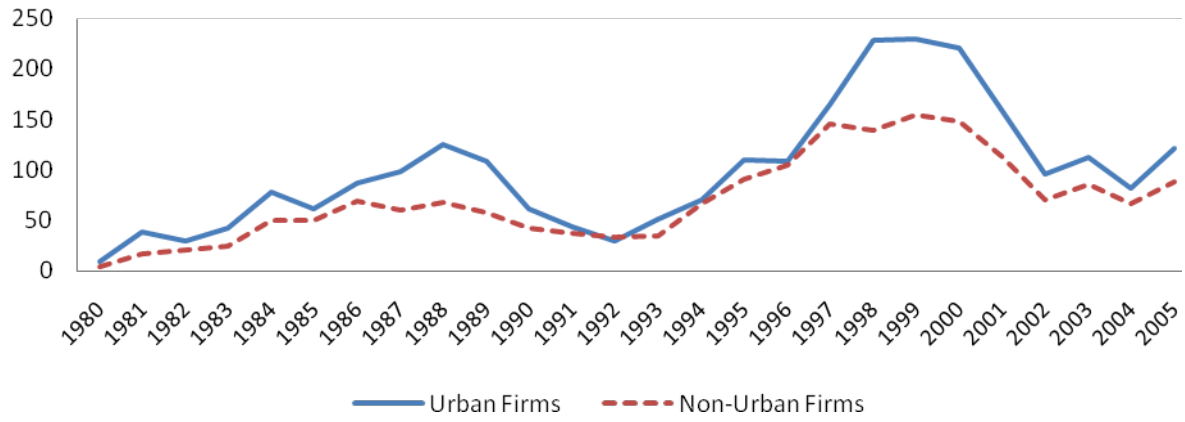

Table 1: Summary Statistics

This table reports summary statistics of the sample of 114,978 U.S. firm-year observations on Compustat universe between 1980 and 2005. Variable definitions are in Appendix B. *** indicates significance at the 1% level.

	Full Sample	Urban	Non-urban	Difference
Attempted takeover	0.048	0.050	0.046	0.004***
Completed Takeover	0.038	0.040	0.036	0.004***
Total assets (Mil.)	740	840	615	225***
Tobin's Q	2.271	2.338	2.187	0.151***
Cash	0.167	0.187	0.142	0.046***
PP&E	0.542	0.498	0.597	-0.099***
Leverage	0.263	0.251	0.279	-0.028***
ROA	0.011	-0.001	0.025	-0.027***
Sales growth	0.285	0.294	0.273	0.021***
Bad Z-score	0.194	0.189	0.199	-0.009***
Blockholder	0.363	0.362	0.364	-0.002
No. of analysts	3.183	3.350	2.976	0.374***
GIM index	8.997	8.811	9.222	-0.410***
BCF index	2.058	1.983	2.148	-0.165***
Staggered Board	0.571	0.532	0.617	-0.086***
N	114,978	63,642	51,336	

Table 2: Baseline Regressions for Firm's Takeover Likelihood

This table presents the Probit regressions for a firm's takeover likelihood. Columns (1) and (2) report the results in the attempted takeovers sample, and columns (3) and (4) report the results in the completed takeovers sample. The dependent variable is a dummy variable that equals one if the company is the target of an attempted (completed) takeover. Definitions of independent variables are in Appendix B. All Compustat variables are industry adjusted and all regressions control for year fixed effects. Standard errors adjusted for heteroskedasticity and firm clustering are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable:	Attempted Takeover		Completed Takeover	
	(1)	(2)	(3)	(4)
Urban dummy	0.004***	0.004***	0.004***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)
Tobin's Q		-0.004***		-0.003***
		(0.000)		(0.000)
PP&E		-0.002		-0.000
		(0.002)		(0.002)
Ln(cash)		0.000		0.000
		(0.000)		(0.000)
Ln(market equity)		0.000		0.000
		(0.000)		(0.000)
Industry M&A intensity		0.010***		0.007***
		(0.003)		(0.002)
Leverage		0.005*		0.005**
		(0.003)		(0.002)
ROA		0.003		0.002
		(0.002)		(0.002)
Sales growth		-0.001**		-0.001
		(0.001)		(0.001)
Bad z-score dummy		0.010***		0.007***
		(0.002)		(0.002)
Blockholder		0.031***		0.026***
		(0.002)		(0.001)
Ln(1+No. of analysts)		-0.000		0.001
		(0.001)		(0.001)
Observations	114,978	114,978	114,978	114,978
No. of targets	5,521	5,521	4,415	4,415
Pseudo R^2	0.022	0.043	0.026	0.047

Table 3: Baseline Regressions for Firm's Takeover Likelihood Non-Moving Sample
This table presents the Probit regressions for the Compustat non-moving sample from 1990 to 2004. Columns (1) and (2) reports the results in the attempted takeovers sample, and columns (3) and (4) report the results in the completed takeovers sample. The dependent variable is a dummy variable that equals one if the company is a target of an attempted (completed) takeover. Definitions of independent variables are in Appendix B. All Compustat variables are industry adjusted and all regressions control for year fixed effects. Standard errors adjusted for heteroskedasticity and firm clustering are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable:	Attempted Takeover		Completed Takeover	
	(1)	(2)	(3)	(4)
Urban dummy	0.004**	0.004**	0.004**	0.004**
	(0.002)	(0.002)	(0.002)	(0.002)
Tobin's Q		-0.004***		-0.003***
		(0.001)		(0.001)
PP&E		-0.005*		-0.003
		(0.003)		(0.002)
Ln(cash)		0.001**		0.001**
		(0.001)		(0.001)
Ln(market equity)		-0.003***		-0.002***
		(0.001)		(0.001)
Industry M&A intensity		0.011**		0.011***
		(0.005)		(0.003)
Leverage		0.004		0.004
		(0.004)		(0.003)
ROA		0.006**		0.005
		(0.003)		(0.003)
Sales growth		0.000		0.001
		(0.001)		(0.001)
Bad z-score dummy		0.015***		0.012***
		(0.003)		(0.003)
Blockholder		0.032***		0.028***
		(0.002)		(0.002)
Ln(1+No. of analysts)		0.003**		0.004***
		(0.001)		(0.001)
Observations	58,626	58,626	58,626	58,626
No. of targets	3,202	3,202	2,703	2,703
Pseudo R^2	0.015	0.035	0.018	0.039

Table 4: Baseline Regressions for Firm's Takeover Likelihood in Sub-Period Samples
This table presents the Probit regressions for a firm's takeover likelihood. Columns (1) and (2) report the results in the attempted takeovers sample, and columns (3) and (4) report the results in the completed takeovers sample. The dependent variable is a dummy variable that equals one if the company is the target of an attempted (completed) takeover. Definitions of independent variables are in Appendix B. All Compustat variables are industry adjusted and all regressions control for year fixed effects. Standard errors adjusted for heteroskedasticity and firm clustering are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable:	Attempted Takeover		Completed Takeover	
	1980~1992	1993~2005	1980~1992	1993~2005
	(1)	(2)	(3)	(4)
Urban dummy	0.003**	0.004**	0.004***	0.005***
	(0.002)	(0.002)	(0.001)	(0.002)
Tobin's Q	-0.006***	-0.004***	-0.003***	-0.003***
	(0.001)	(0.001)	(0.001)	(0.001)
PP&E	-0.001	-0.004	-0.000	-0.001
	(0.003)	(0.003)	(0.002)	(0.002)
Ln(cash)	-0.001	0.001**	-0.001	0.001**
	(0.001)	(0.001)	(0.000)	(0.001)
Ln(market equity)	0.004***	-0.003***	0.003***	-0.002***
	(0.001)	(0.001)	(0.000)	(0.001)
Industry M&A intensity	0.007**	0.011**	0.006**	0.010**
	(0.003)	(0.005)	(0.003)	(0.005)
Leverage	-0.000	0.007*	0.002	0.007**
	(0.004)	(0.003)	(0.003)	(0.003)
ROA	-0.004	0.009***	-0.002	0.006**
	(0.004)	(0.003)	(0.004)	(0.003)
Sales growth	-0.003***	-0.000	-0.003**	0.000
	(0.001)	(0.001)	(0.001)	(0.001)
Bad z-score dummy	0.005*	0.014***	0.001	0.011***
	(0.003)	(0.003)	(0.002)	(0.002)
Blockholder	0.027***	0.035***	0.021***	0.032***
	(0.002)	(0.002)	(0.002)	(0.002)
Ln(1+No. of analysts)	-0.005***	0.004***	-0.003***	0.005***
	(0.001)	(0.001)	(0.001)	(0.001)
Observations	50,618	64,360	50,618	64,360
No. of targets	1,869	3,652	1,349	3,066
Pseudo R^2	0.054	0.032	0.049	0.036

Table 5: Regressions for Acquirer Announcement Returns

This table presents the OLS regressions for acquirer returns. The dependent variable is the 11-day acquirer CARs around the announcement date. Definitions of independent variables are in Appendix B. All regressions control for year fixed effects. Standard errors adjusted for heteroskedasticity and firm clustering are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable:	Acquirer CARs [-5, +5]			
	(1)	(2)	(3)	(4)
Urban target dummy	0.498**	-0.468	0.056	0.169
	(0.223)	(0.355)	(0.284)	(0.249)
Non-public target	2.329***	1.705***	2.332***	2.340***
	(0.277)	(0.322)	(0.276)	(0.277)
Urban target dummy * Non-public target		1.261***		
		(0.431)		
Small target	-1.604***	-1.596***	-2.024***	-1.598***
	(0.264)	(0.264)	(0.301)	(0.264)
Urban target dummy * Small target			0.910**	
			(0.427)	
Stock deal	-0.312	-0.309	-0.305	-0.685**
	(0.255)	(0.255)	(0.255)	(0.307)
Urban target dummy * Stock deal				0.790*
				(0.454)
Ln(distance b/w acquirer and target)	-0.103*	-0.101*	-0.105*	-0.103*
	(0.056)	(0.056)	(0.056)	(0.056)
Ln(market cap)	-0.908***	-0.906***	-0.901***	-0.904***
	(0.085)	(0.085)	(0.085)	(0.085)
Tobin's Q	-0.073	-0.073	-0.070	-0.078
	(0.063)	(0.063)	(0.063)	(0.063)
Leverage	1.528**	1.552**	1.576**	1.496**
	(0.637)	(0.637)	(0.639)	(0.638)
ROA	-1.422	-1.411	-1.398	-1.433
	(1.213)	(1.213)	(1.213)	(1.212)
Stock price run-up	-2.836***	-2.829***	-2.840***	-2.838***
	(0.361)	(0.361)	(0.361)	(0.362)
Diversifying acquisition	0.271	0.270	0.269	0.269
	(0.232)	(0.231)	(0.232)	(0.231)
High tech	0.228	0.215	0.224	0.217
	(0.340)	(0.340)	(0.340)	(0.341)
Tender offer	1.823***	1.887***	1.844***	1.848***
	(0.520)	(0.519)	(0.520)	(0.521)
Merger of equals	3.027*	2.985*	3.021*	3.049*
	(1.706)	(1.717)	(1.714)	(1.698)
Constant	0.641	1.138	0.774	0.766
	(1.492)	(1.456)	(1.477)	(1.452)
Observations	13,692	13,692	13,692	13,692
Adjusted R^2	0.055	0.056	0.056	0.055

Table 6: Regressions for Corporate Governance Indices

This table presents the regressions results for corporate governance measures. Columns (1) and (4) report the OLS regressions with the GIM index as the dependent variable. columns (2) and (5) report the OLS regressions with the BCF index as the dependent variable. Columns (3) and (6) report the Probit regressions with the staggered board dummy as the dependent variable. Definitions of independent variables are in Appendix B. All regressions control for industry and year fixed effects. Standard errors adjusted for heteroskedasticity and firm clustering are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Full Sample			Non-moving Sample		
Dependent Variable:	GIM index	BCF index	Staggered Board	GIM index	BCF index	Staggered Board
	(1)	(2)	(3)	(4)	(5)	(6)
Urban dummy	-0.458***	-0.157**	-0.088***	-0.446***	-0.180**	-0.110***
	(0.129)	(0.064)	(0.026)	(0.143)	(0.070)	(0.028)
Ln(assets)	0.302***	0.053**	0.021**	0.298***	0.052*	0.027**
	(0.054)	(0.026)	(0.011)	(0.062)	(0.030)	(0.012)
S&P 500 dummy	0.145	0.011	-0.009	0.187	0.016	-0.014
	(0.192)	(0.095)	(0.037)	(0.208)	(0.104)	(0.042)
Ln(firm age)	1.368***	0.231***	-0.030	1.392***	0.225***	-0.037
	(0.133)	(0.064)	(0.025)	(0.144)	(0.070)	(0.028)
Leverage	0.222	0.261**	-0.046	0.375	0.407***	-0.018
	(0.236)	(0.116)	(0.047)	(0.263)	(0.129)	(0.054)
ROA	-0.160	0.028	-0.002	-0.377	-0.109	-0.047
	(0.400)	(0.203)	(0.080)	(0.455)	(0.219)	(0.094)
Sales growth	-0.232***	-0.154***	-0.058***	-0.228***	-0.154***	-0.065***
	(0.074)	(0.035)	(0.016)	(0.087)	(0.041)	(0.019)
Capex	-0.957	0.066	0.204	-1.412	0.092	0.238
	(0.965)	(0.469)	(0.185)	(1.037)	(0.520)	(0.204)
R&D	0.331	-0.398	-0.202	0.292	-0.324	-0.129
	(0.953)	(0.460)	(0.203)	(1.078)	(0.499)	(0.227)
Advertising	-2.520	-2.169**	-1.076***	-2.912	-2.587***	-1.229***
	(1.839)	(0.880)	(0.357)	(1.994)	(0.918)	(0.385)
Observations	16,163	16,163	16,163	13,408	13,408	13,408
Adj./Pseudo R^2	0.161	0.080	0.044	0.174	0.101	0.057

Table 7: Regressions for Acquisition Synergies

This table presents the OLS regressions for acquisition synergies. The dependent variable in column (1) is the 11-day PCARs for a value-weighted portfolio of the acquirer and the target around the announcement date. The dependent variable in column (2) is the improvement in the combined firm's post acquisition ROA. All regressions control for year fixed effects. Standard errors adjusted for heteroskedasticity and firm clustering are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable:	PCAR	Change in ROA
	(1)	(2)
Urban target dummy	-0.503	-0.007
	(0.400)	(0.005)
Ln(distance b/w acquirer and target)	-0.060	0.002
	(0.109)	(0.001)
Ln(acquirer's market cap)	-0.649***	0.002
	(0.205)	(0.002)
Acquirer's Tobin's Q	-0.260*	-0.003
	(0.133)	(0.003)
Acquirer's leverage	3.123**	-0.020
	(1.462)	(0.019)
Acquirer's ROA	1.879	-0.007
	(2.525)	(0.087)
Ln(target's market cap)	-0.215	-0.003
	(0.216)	(0.002)
Target's Tobin's Q	-0.189	-0.002
	(0.155)	(0.003)
Target's leverage	-1.548	-0.003
	(1.114)	(0.011)
Target's ROA	0.586	-0.043**
	(1.184)	(0.022)
Relative deal size	2.508***	0.003
	(0.775)	(0.004)
Target's public status dummy	0.170	0.010
	(1.216)	(0.010)
Stock deal	-2.267***	0.003
	(0.451)	(0.005)
Diversifying acquisition	-0.038	-0.005
	(0.458)	(0.007)
High tech	0.265	-0.002
	(0.627)	(0.010)
Tender offer	2.391***	-0.005
	(0.572)	(0.006)
Merger of equals	1.205	-0.011
	(1.808)	(0.017)
Constant	4.629***	0.008
	(1.376)	(0.018)
Observations	2,209	1,959
Adjusted R^2	0.104	0.016