COMPETITION, AUCTIONS & NEGOTIATIONS IN REIT TAKEOVERS

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Abstract

The lack of hostile takeovers and relatively modest wealth gains associated with REIT mergers motivate two fundamental yet previously unexplored questions: how competitive are REIT takeovers, and how exactly does a REIT sell itself to another firm? This paper examines these questions using hand-collected data from SEC merger filings. Four primary findings emerge from this study. First, REITs most often utilize a sales process resembling an auction, where an average of 19 potential buyers are contacted. Second, REIT mergers are on average just as competitive, or more so, as those in other industries. Third, the market for corporate control for REITs is more active than previously thought. Fourth, failure to account for publicly available signals that a REIT is for sale (which typically occur several months in advance prior to the official public merger announcement) results in omitting approximately one third of the total shareholder wealth effect produced by REIT mergers.

Keywords: REIT, merger, competition, auction, negotiation, information costs

The regulated nature of REITs (Real Estate Investment Trusts) offers researchers the unique opportunity to test corporate finance theories while holding many key firm attributes constant. Accordingly, there have been dozens of studies in the top real estate journals that have examined REIT mergers. However, there remain fundamental questions regarding these events that have yet to be examined. Specifically, how competitive are REIT mergers and how exactly does a REIT sell itself to another firm?

Dating back at least to the days of Adam Smith, economists have been concerned about the level of competition in a given market. Because competition helps allocate productive resources to their most valuable use, agency theory suggests that a lack of competition in the realm of corporate takeovers may create an environment where firms are sold at prices that are not "fair" to the shareholders.[1]

With this in mind, there are two potentially troublesome characteristics of mergers in the real estate industry that raise concerns regarding the level of competition in this market. First, as Campbell et al. (2011) put it, there is a "lack of an active takeover market in the REIT sector". This statement appears to be based on the prior literature's findings that only one or two takeovers in the real estate industry can be characterized as hostile (Bianco et al., 2007; Eicholtz and Kok, 2008; Womack, 2012).[2] Second, the literature has consistently found that the estimated premium received by target firm shareholders is much lower in REIT mergers than in mergers occurring in other industries. For example, a study of three decades of real estate mergers by Womack (2012) finds a mean target premium of only 6%, while a study of 4,256 non-REIT

[1] The terms "mergers", "acquisitions", and "takeovers" are used interchangeably in this paper. Similarly, "target", and "seller" are used interchangeably, as are "bidder" and "buyer".

[2] Although hostile takeovers occur infrequently in any industry, we simply point out that they occur even less in the real estate industry. Schwert (2000) finds that 25% of his sample is characterized as hostile by the Securities Data Corporation (SDC). We perform a similar search in SDC, and find 4% of REIT takeovers are classified as hostile. Furthermore, Schwert finds that most of the characteristics of hostile takeovers seem to actually reflect strategic bargaining behavior, and thus concludes that hostility may be quite a subjective classification.

mergers by Andrade, Mitchell, & Stafford (2001) indicate a mean target premium of 16%.[3] Is it possible that something in the REIT structure is impairing competition in the M&A (mergers and acquisitions) market?

To examine this question, it is necessary to first address the question of how competition in takeovers should be measured. An obvious metric to consider is the number of publicly reported bidders in a given deal. However, Boone & Mulherin (2007) show that this measure represents only "the tip of the iceberg" of the actual level of takeover competition. Alternatively, one could examine the number of hostile takeovers to gauge competition in the market for corporate control, but Schwert (2000) finds that there is a significant degree of subjectivity in defining transactions as hostile and therefore these transactions may be difficult in objectively analyzing competition. A related strategy would be to examine unsolicited takeovers. These are transactions which are initiated by the bidder or other third party and accordingly are both objectively defined and relatively easily observed.

Other than noting a lack of hostile takeovers, the only other measure of competition documented by prior REIT merger studies is the frequency of transactions that occur during a given time period. Therefore, a large gap exists in our understanding of the level of competition that exists in the market for corporate control for REITs.

We assert that the source of this knowledge gap is the result of an implicit assumption made by prior studies that the initial event of the takeover process is the official public merger announcement. Therefore, the current body of knowledge regarding REIT takeovers is limited to what is observed from the announcement date forward.

We further assert that based on the work of Boone & Mulherin (2007, 2009, 2011), which do not study REIT deals, much of what is unknown about competition in REIT mergers involves

[3] The results and methodology from previous merger studies is summarized in Appendix Table 1.

basic and fundamental questions pertaining to the process that actually evolves in private prior to the official public announcement. For example, how precisely does a REIT go about selling itself to another firm, and how does this process differ from that of other industries? How competitive is this process? How does the level of competition influence merger premiums? And finally, are the answers to the above questions static across time, or do they change dynamically in response to the prevailing economic environment in which they occur?

The purpose of this paper is to answer the above questions by using hand-collected data from the U.S. Securities & Exchange Commission (SEC) merger filings for a sample of 165 mergers over a time period of 22 years (1989 to 2010). The primary findings from this study can be briefly summarized as follows. First, REITs most often utilize a sales process resembling an auction where many potential bidders (19 on average) are contacted. Second, REIT mergers are quite competitive on average, and we provide evidence that they are just as competitive, or more so, as those in other industries. Third, although there are no deals in the sample that are characterized as hostile, we find that 14% of the deals are unsolicited, which is quite similar to the level found in other industries, which indicates that the market for corporate control is more active than previously thought. Fourth, we find that the REIT takeover process is often complex, and that simple analysis of the official public merger announcement may not fully capture the valuation changes over this complex process. In fact, for a third of our sample, about a third of the wealth effect relating to the merger is already capitalized into the REIT's stock price before the public merger announcement is made. Accordingly, prior studies that focus only on the official public merger announcement have underestimated the associated returns.

The remainder of this paper is organized as follows. The next section provides information regarding the sample of mergers examined in this paper. The third section discusses the takeover process, explores hypotheses that explain why firms may pursue different sales

processes, and provides examples of each as found in our sample. The fourth section examines the level of competition in REIT mergers. The fifth examines the phenomenon of early merger announcements. The sixth section estimates wealth effects for the sample of mergers, with specific emphasis on quantifying the impact of sales process and early merger announcements on shareholder wealth. The final section summarizes the study and offers concluding thoughts.

Sample

Table 1 provides details regarding the formation of the sample utilized in this paper. The initial sample of REIT mergers was obtained from the SDC Platinum Mergers & Acquisitions Database (identified by SIC code 6798), which contained 204 observations from the years 1989 to 2010. The timeframe of the sample is determined by the availability of merger filings from the SEC, as discussed in further detail below. After analyzing each observation and confirming the merger announcement dates with press releases and articles contained in the LexisNexis and Factiva databases, we omit 7 seven observations that are not mergers (these were spinoffs, recaps, or bankruptcies), 8 observations where a similarly named firm in the same corporate family was acquired on the same day, 29 observations that are not listed in CRSP (most of these are REITs not listed on major U.S. stock exchanges), 7 transactions with an event day stock price of less than $5, and 2 observations where there was insufficient data in CRSP to calculate the estimation period component of the market model. Additionally, we add 10 observations from a review of CRSP delist codes and 4 observations identified from a list of equity REITs in Feng, Price & Sirmans (2011). In summary, 53 observations were omitted and 14 observations were

added to the initial sample of 204, and therefore the final sample consists of 165 observations over a time span of 22 years. [4]

To document the details of the merger process and measure the level of competition in these events, it is necessary to move beyond the traditional databases used in merger studies towards a manual review and collection of data directly from documents filed by with the SEC. More specifically, SEC form DEFM14A (for cash deals) and/or form S-4 (for stock deals) must be filed by or on behalf of the acquired firm when a shareholder vote is required on an issue related to a merger or acquisition. These documents contain details of the offer, information about the involved companies, as well as a section commonly entitled "merger background". This section provides a time line of events of how the firm came to the decision to sell itself, including specific details on the evolution of the current offer being voted on by the shareholders. Therefore, we obtain the appropriate SEC filing for each merger in the sample and manually record details of the merger process and level of competition in each merger directly from the merger filing. This data, along with stock price information obtained from CRSP and accounting data obtained from Compustat is added for each firm in the final sample.

Table 2 reports the temporal distribution of merger announcement dates in the sample, while Figure 1 compares this distribution to the contemporaneous National Association of Real Estate Investment Trusts (NAREIT) Financial Times Stock Exchange (FTSE) Composite Index (base year = 1980). According to Table 2 and Figure 1, REIT merger activity appears to be positively correlated with the broader commercial real estate market cycle, where takeover activity increases (decreases) as asset values and returns in the commercial real estate market increase (decrease). During the sample time period (1989-2010), there appears to be two

[4] In results not shown, the average time to completion for mergers in the sample (calculated as effective date minus announcement date, divided by 30) is 4.7 months, which is very similar to the 3.5 month average found by Allen & Sirmans (1987) and Eichholtz & Kok (2008), as well as the 4.3 month average found by Womack (2012).

complete cycles (from trough to peak to trough again). The first cycle occurs from 1990 to 1999, and the second occurs from 2000 to 2008.[5]

This temporal clustering of mergers in our sample is consistent with the studies of Mitchell & Mulherin (1996) and Andrade et al. (2001), which conclude that corporate takeovers are often the least-cost means for industry structure to respond to these changes. Accordingly, mergers tend to occur in waves and within the waves there is a clustering in specific industries in response to changes in regulation (which may remove artificial constraints on firm size and induce entry by new firms), financing innovations, and other unexpected shocks.

In the first market cycle of Figure 1, the dramatic change in the distribution of mergers follows the 1993 establishment of the "look-through" provision, which essentially enabled pension and mutual funds to purchase large ownership positions in REITs. [6] Market values rose steeply following this reduction in regulations, peaked in 1997, then fell to pre-act prices by the end of 1999. Other significant events during this time period include the first Umbrella Partnership REIT (UPREIT) initial public offering in 1992 and passage of the REIT Simplification Act of 1997.[7]

The second market cycle identified in the sample starts after passage of the REIT Modernization Act of 1999. Fueled by this reduction in regulations, the collapse of the dot-coms in the early 2000s, a low interest rate environment, the creation of REIT Exchange Traded Funds (ETFs) in 2000, and the passage of the REIT Improvement Act of 2004, commercial real estate

[5] Real estate market cycles are known to be much longer than traditional macroeconomic business cycles, and tend to last in the neighborhood of ten to twenty years (Geltner & Miller, 2001).

[6] Downs (1998) studied the adoption of this regulation within an event study framework and found that it produced a statistically significant and positive wealth effect for REIT shareholders.

[7] The UPREIT structure essentially enabled properties to be acquired by UPREITs as a tax deferred like kind exchange, while the REIT Simplification Act of 1997 replaced the potential disqualification of REIT status with a penalty in situations where a REIT fails to follow certain IRS rules, modified the taxation of retained capital gains, repealed the 30% gross income test, and made many other relatively more technical regulatory changes.

values and returns soared from 2000-2006. Subsequently, real estate markets collapsed in 2007-2008, with prices returning to near-2000 levels by the end of the period.[8]

Given the above discussion, we expect that there may be a differential response in the takeover market in our sample due to the changing regulatory and economic environment of these two time periods. Accordingly, rather than assuming that the takeover process is static across time, the various analyses in this paper will be conducted for the sample as a whole and for the two market cycles identified above as well (hereafter the years 1989-1999 will be referred to as Period 1 and the years 2000-2010 will be referred to as Period 2). This will allow our analysis to capture any changing dynamics of the merger process during the sample timeframe.

The Takeover Process

The Process in General

Before discussing the different sales processes that can be employed by a REIT to sell itself to another firm, it seems prudent to first contextualize this decision within the overall merger process. Therefore, we provide a brief overview of this process below.

The typical takeover process can be roughly divided into private and public phases. The public phase of the process is well known in the literature, while the private phase has not yet been examined. Therefore, a timeline of the private takeover process is detailed in Figure 2. When the board of directors of the target firm decide to sell the firm, they may choose to keep the decision private or they may publicly signal the decision, for example, by issuing a press

[8] Howe & Jain (2004) find that REITs experienced positive wealth gains from the legislative events leading to the passage of The REIT Modernization Act of 1999. The Act provided two very important regulatory changes (in addition to several other relatively minor changes). First, it allowed a REIT to own a taxable REIT subsidiary (TRS) that can provide real estate related services without the REIT forfeiting its tax exempt status. Second, the REIT distribution requirement was changed from 95% back to the 90% level that applied to REITs from 1960-1980. The REIT Improvement Act of 2004 included a number of provisions to increase the operation efficiency of REITs. Most notably, changes included the allowance of REITs to make certain types of loans, effectively removing timber sales from the prohibited transactions tax, conforming the treatment of foreign shareholders to that of other publicly traded U.S. companies, and allowing REITs to avoid REIT status disqualification for non-intentional violations.

release that the board will "pursue strategic alternatives to maximize firm value" (in corporate finance parlance, this phrase is commonly used as a way for the board to unofficially announce that the firm is for sale without subjecting itself to the potential for shareholder lawsuits).

Next, the target firm, or more commonly its financial advisors (investment bankers), will contact potential bidders. Interested potential buyers desiring more information will sign a confidentiality agreement in exchange for which the bidder receives access to private information about the target, its financial records, access to a data room, the ability to interview key employees, etc.

Following the review of the target's propriety information, it is customary for the remaining bidders to give the target a legally non-binding indication of interest, the primary purpose of which is two-fold. First, potential buyers give the target a preliminary idea about the value and possible deal structure that will be offered. Second, it serves as a way for disinterested buyers to signal their intention of terminating their participation in the process.

After receiving feedback from the target regarding the indication of interest (and most likely also updating their proforma models of the target's value and of the combined firm operations) the remaining potential buyers submit their legally-binding offers to the target in private. These deals are often negotiated for some time, and the target may then choose to publicly announce that an offer has been made. Alternatively, the bidder may choose to publicly announce that it made an offer. In either case, Boone & Mulherin (2009) note that sometimes the public announcement of an offer will prompt other bidders to make an offer, so there is some strategy involved regarding these announcements.

The target and successful bidder then sign a formal merger agreement which is announced to the financial and popular press. (It is this event that is implicitly considered by other merger studies as the first public knowledge of the merger). With this public

announcement, the private phase of the takeover process has ended and the remainder of the process occurs within the public realm.

The target (and sometimes the bidder also) then files SEC form DEFM14A and/or form S-4 which notifies shareholders of an upcoming vote in regards to the proposed merger. The shareholders vote on the proposed offer, and approximately three to six months later after receiving shareholder and regulatory approval, the deal is completed.

As implied by this discussion, substantial competitive activity occurs prior to the official public merger announcement. Therefore, analyzing the private phases of the merger process will provide a better understanding of both the competition involved in and the wealth effects generated by REIT mergers.

Auctions vs. Negotiations

Due to its implications on all the remaining steps, we assert that the most critical step in the process above (once the decision to sell has been made) is the decision regarding how many potential bidders to contact. Contrary to the intuition that a firm desiring to sell itself should contact as many bidders as possible, Boone & Mulherin (2007, 2009) and Bulow & Klemperer (2009) conclude that one size does not fit all in the takeover process.

For some large firms, or firms with a proprietary business strategy, the best way to sell itself may be to contact the single most likely bidder and negotiate the best terms possible with that one firm. [9] As discussed in more detail below, information costs, bidding costs, and firm size are three reasons that explain why a negotiated sale rather than an auction process is often the value maximizing choice for some firms.

[9] "Large" and "small" firms should be interpreted as relative sizes to a specific industry rather than as an absolute measure of total capitalization or assets. A large (small) firm in one industry might be quite small (large) in another industry.

The target firm possesses proprietary information about its own strategies, prospects, and value. Therefore, to obtain a fully-informed offer from a buyer the target firm may choose to reveal this proprietary information which increases the price the buyer is willing to pay for the target. However, revealing proprietary information could also harm the target if leaked to competitors. Although potential bidders usually sign confidentiality agreements limiting their ability to publicly reveal privileged information about the target, losing bidders in the same industry could still gain knowledge that confers competitive advantages without actually violating the terms of the confidentiality contracts. In this manner, this risk represents information costs to the target. Therefore, by negotiating with the single most likely bidder, the target can minimize this potential information cost.

Similarly, there are also costs that must be borne by the bidder. Coase (1937, 1992) argued that there can be significant costs associated with the use of market mechanisms like auctions because "negotiations to be undertaken, contracts have to be drawn up, inspections have to be made, arrangements have to be made to settle disputes, and so on" could be large enough for both target and seller that can in some cases be minimized by keeping certain functions inside the firm, thereby making a negotiated sale the preferred sales process.

Building on Coase's arguments, French & McCormick (1984) use theoretical models to show that as the number of bidders in an auction increase, the probability that any particular bidder will win the auction falls. Therefore, this reduced likelihood of winning discourages investment in costly information, which results in a less informed and therefore lower bid.

Additionally, the selection of a negotiated sale may be due to a much more practical reason, since the universe of bidders that are large enough to purchase a large firm may be quite limited (Boone & Mulherin, 2007). Furthermore, results from the same study suggest that the mere presence of large bidders in a corporate takeover appears to discourage other bidders from

entering (the number of bidders in a given takeover decline with average bidder size). Therefore, the size of both target and bidder may influence the choice of sales process.

In contrast, smaller and younger companies who may be relatively unknown as a general rule have more to gain and less to lose by disclosing its proprietary information to potential bidders in order to maximize the value it receives. Furthermore, since these firms are smaller, the universe of bidders that are financially able to purchase the target is larger. Therefore, for smaller, younger, and relatively unknown firms, the value maximizing sales process may be to contact many potential bidders, resembling a full-scale auction (Boone & Mulherin, 2007; Bulow & Klemperer, 2009).[10]

To help illustrate these two distinct sales processes (as well as to illustrate some of variables that will be analyzed in this study), Table 3 summarizes two mergers, one which followed a negotiated sale process and the other an auction process. The first example in the table is an illustration of a negotiation. In this transaction, Allied Capital Commercial Corp (the target) was acquired by Allied Capital Lending (the bidder), who had a pre-existing ownership affiliation with the target. The official public announcement of the deal was made on 8/24/1997, and then approximately four months later the deal was closed on 12/31/1997. The bidder, who is a publicly traded company, purchased the target with 100% stock. The merger was first discussed in a mutual decision between the two parties to meet in person in order to discuss the possibility of a merger, and therefore the transaction was not unsolicited. Also, there were no previous merger rumors or other public announcements that Allied Capital was for sale, so there was not an early public announcement. Apparently the initial meeting went well, as both parties ultimately agreed to merge the companies together. Accordingly, this example is categorized as a

[10] We use the term "auction" throughout the paper to denote the auction-like process that is described in this section. While there are many similarities between this process and a classic/formal auction process, there are also notable differences. We use the term simply to convey that some target firms contact many potential buyers in anticipation of selling the firm to the highest bidder.

negotiation because the target only contacted one potential buyer, that buyer signed a confidentiality agreement and subsequently gave the target a legally nonbinding indication of interest. The target then received an offer in private from the bidder, which was later publicly announced to the financial press.

In contrast, the second example in the table illustrates an auction sales process, as Eagle Hospitality Properties Trust contacted 66 potential buyers. The merger process for Eagle began via a board meeting held on 1/29/2007 (approximately three months before the official public merger announcement on 4/30/2007), during which the board declared that it would "consider strategic alternatives to maximize shareholder value". Of the 66 potential buyers contacted, 32 were interested enough to sign a confidentiality agreement to obtain private information regarding the target. Subsequent to a review of this information, 9 of the potential buyers gave the target a non-binding indication of their interest in purchasing the target, of which 3 ultimately made a private bid to purchase the target, and only Apollo Real Estate (a privately held firm) publicly announced its offer to acquire the target. Apollo's all-cash offer was accepted by the target, and the deal was completed on 8/15/2007.

Competition in REIT Mergers

As indicated by the above examples, clearly there is not a one size fits all strategy when a firm puts itself up for sale. Given this fact, a major contribution to the literature would be to examine SEC merger filings to determine the level of competition in REIT mergers and thereby determine which sales process is most common among these firms. [11]

[11] Our depiction of auctions versus negotiations as defined by the number of the number of potential bidders is supported by recent work from Paul Klemperer, who is highly regarded for his research on auctions. See for example Bulow & Klemperer (2009).

With this goal in mind, Table 4 provides a summary of competition at each major phase of the merger process. The average REIT in the sample contacts 19 potential bidders. Therefore, REITs typically utilize an auction sales process rather than a negotiation process. Of the contacted bidders, 10 eventually sign a confidentiality/standstill agreement. As Boone & Mulherin (2011) note, while a measure such as the number of potential bidders contacted is a somewhat noisy measure of bidding competition and could involve some "cheap talk" or entail "sham bids", all of the remaining competition measures pose significant costs to both the bidders and the target firm and therefore represent real competition. For example, as discussed previously, the signing of confidentiality agreements presents information costs to the target firm in that it agrees to reveal non-public information. Symmetrically, bidders that reach the stage of confidentiality agreements and indications of interest typically incur non-trivial bidding costs (hiring investment banks, legal advisors, etc.)

After analyzing private data regarding the target firm, on average 4 of the remaining bidders subsequently give the target a non-binding indication of interest. The target ultimately receives 1.36 private and binding written offers, where 1.10 of these offers are publicly announced. The mean of 1.10 publicly announced bids reflects the fact that only a small fraction of the sample had more than one publicly announced bid. These figures are similar to those in other industries, as reported in Boone & Mulherin (2007) which finds an average of 1.13 publicly announced bids and Andrade et al. (2001) which finds an average of 1.0 to 1.2 publicly announced bids.[12]

When analyzing competition by time period, there appears to be a substantial and statistically significant increase in the mean number of potential bidders contacted from Period 1

[12] As a general rule of thumb, it appears that the average number of bidders involved in each phase of the merger process decreases by roughly half as the transaction reaches the next phase of the process.

to Period 2, which results in a statistically significant increase in the number of confidentiality agreements signed and indications of interest as well. However, the increase in the number of private bids and publicly announced bidders is statistically insignificant.

To ensure that the above results are robust and are not being driven by a certain firm type or investment focus, Table 5 examines the number of potential buyers contacted (which determines the sales process) by the target firms across fifteen different subsamples. The table indicates that the results for the number of bidders contacted is not dependent on any specific REIT or property type. (Furthermore, later on in the study a probit model of the choice of sales procedure provides similar findings). Therefore, the conclusions drawn from Table 4 are robust to REIT type and investment focus.

Although the level of competition in REIT mergers appears to be substantial, how does this competition compare to that in other industries? To address this question, Table 6 compares time Period 1 in this paper (1989-1999) to the results from Boone & Mulherin (2007), which covers non-REITS for exactly the same time span for each phase of the takeover process.[13] Similarly, the table compares time Period 2 in our sample (2000-2010) to Boone & Mulherin (2011), which covers very similar years (2003-2007) for non-REITS. For nearly every measure and across both time periods, the mean level of competition is higher for REITs than for non-REITS (except for *Indications of Interest*, which is not reported in Boone & Mulherin (2007), and *Publicly Announced Bids* in Period 1, which is only 3 basis points lower.[14]

Therefore, the evidence suggests that REIT mergers not only are competitive, but they are just as competitive or more so than those in other industries. This is an important contribution

[13] "Non-REITS" denotes firms in all other industries, as most mainstream finance merger studies (including those cited above) exclude SIC Code 6798 (REITs).

[14] Since we can observe only the means from the other studies, it is not possible to test for the statistical significance of the difference in means across the studies. However, given that the REIT averages are nearly always higher, even if the difference in means tests were insignificant, this would still imply that REIT merger competition on average is indifferent from other industries.

to the literature because of concerns regarding the fairness of the value received by target shareholders and the potential concern that the REIT structure somehow impairs competition.

In Table 7, we continue the analysis by providing summary statistics for several important deal characteristics examined in this paper. Although the sample is dominated by publicly traded bidders, there is a sharp increase in REIT acquisitions by private firms (particularly private equity firms) in Period 2. The fraction of private bidders in the sample (27%) is very comparable to the 24% found in Ling & Petrova (2011), as is the dramatic increase in acquisitions by private firms from the 1990s to the 2000s.[15]

On the surface, the finding that all cash deals comprise almost half (46%) of the sample is somewhat surprising, given the dividend distribution requirement faced by REITs. However, since method of payment is often a function of bidder entity type in REIT takeovers (Womack, 2012), the shift from stock to cash from Period 1 to Period 2 as the primary method of payment in the sample is mostly attributable to the shift from public to private bidders in the sample.[16]

In response to the active merger market, rising real estate asset values, and an increase in private bidders, we find a strong shift in the sales process strategy employed by REITs from the first to second periods. Particularly, we find that the use of auctions nearly doubles. Additionally, the sharp decrease in the number of affiliated deals from Period 1 to Period 2 is also most likely attributable to these same factors.

Furthermore, we provide one additional measure of competition in Table 7. Although hostile takeovers would give an alternate measure of the health of the market for corporate control since the deals are initiated by buyers, Schwert (2000) finds that the hostility in many of

[15] Brau et al. (2013) also document a substantial number of privitizations from the mid to late 2000s. See Ling & Petrova (2011) for a detailed study of the determinants of a publicly-traded REIT becoming a takeover target, and Brau et al. (2013) for a detailed study of the determinants of going private decisions.

[16] Ling & Petrova (2012) find that all cash is used 95% of public-to-private REIT takeovers, although the study also finds that there has also been a shift toward the use of cash in public-to-public deals.

these transactions is often more accurately described as strategic bargaining by the respective parties and as a result the "hostile" definition can be quite subjective. However, we can both objectively define and readily observe unsolicited deals (which are takeovers initiated by the bidder or third party).

The table reports that the number of unsolicited deals is quite steady at around 14% for the sample as a whole, as well as for the two time periods. Boone & Mulherin (2007) report that unsolicited deals comprise 15% of the sample of 400 mergers from 2003-2007. Therefore, an important finding in this table is that although no deals in the sample are categorized as hostile, the percentage of REIT mergers which result from an unsolicited offer is approximately the same as the percentage from other industries during the same time period.

Collectively, results from the analyses presented in this section provide robust evidence that the market for corporate control for REITs is more active than previously thought, despite the absence of hostile takeovers.

Early Announcements

Not only is the REIT takeover market competitive, but at times the market is so competitive that some target firms in the sample signal that they are for sale and then pursue an auction-like sales process. We refer to such a signal in this study as an early merger announcement (or early "in play" announcement), which is defined as an announcement by the target board that they are considering "strategic alternatives to maximize shareholder value", a financial or popular press story of a merger rumor, the occurrence of an earlier bid by a third party, or etc. which occurs before the official public merger announcement. These events are signals or information leakages that indicate to the market that the target is "in play" as an acquisition target. Accordingly, if the information conveyed by an early announcement is

capitalized into the target's stock price but this announcement is not accounted for within the event study, this may downwardly bias the estimated wealth effects.

As shown in Appendix Table 1, only Boone & Mulherin (2011) has explicitly accounted for early dates in the estimation of merger premiums. However, in that study the wealth effect of the early announcement is never separately quantified. Therefore, it is currently unknown how these early dates might impact the estimation of merger wealth effects for REITs or any other industry, which is a subject explored in greater detail later on in this paper.

In Panel A of Table 8, information is provided regarding the portion of sample mergers that have an early announcement. Out of the 165 takeovers, 55 deals (33%) have an early announcement that occurred prior to the official public announcement, and this percentage increases significantly from Period 1 to Period 2. The most common type of early event in the sample is the announcement by the board that they are "considering strategic alternatives to maximize shareholder value" (31 transactions), followed by merger rumors in the financial or popular press (11 transactions), with the remaining 12 transactions resulting from previous bids or a variety of other relatively infrequent activities.

Given that approximately a third of the sample has an early merger announcement, it is important to examine and quantify the changes in shareholder wealth that might be associated with these events. If these announcements convey new information to the market, this information will be capitalized into the stock prices of the target firm prior to the official merger announcement. Accordingly, if not accounted for, the estimated merger wealth effects will be downwardly biased. Additionally, if these announcements occur in the estimation period, this will also bias the market model results by producing biased alpha and beta coefficients.

To examine the extent to which bias might be produced by the choice of the estimation period, Panel B of Table 8 provides information regarding the number of trading days between

the early announcement and the official public announcement for the 55 deals in the sample that have an early date. The median and mean early merger announcement occurs 94 trading days and 123 trading days, respectively, prior to the official public announcement. This supports the use of market model estimation windows that occur well in advance of the event date, such as the (-379,-127) window advocated by Schwert (1996).[17]

Shareholder Wealth Effects

Three primary questions remain to be answered in this study, and all three pertain to quantifying the shareholder wealth produced by REIT mergers. First, do early merger announcements convey valuable information to the market about a future takeover of the target firm? Second, if so, how do these early announcements impact shareholder wealth? Third, how does the choice of sales process impact shareholder wealth?

To begin answering these questions, in Panel A of Table 9 we compare the wealth effects from mergers with early dates versus those without early dates. For mergers with early dates, we report separate event day cumulative abnormal returns (CARs) for the early announcement as well as the official announcement. The CARS are produced from a market model, which is a capital asset pricing model (CAPM) estimated by regressing firm returns (including dividends) on the market return (value-weighted market portfolio) during an estimation period from a certain number of days before the announcement date.[18] The estimated constant (alpha) and coefficient (beta) are then used to predict the firm's daily return during the subsequent event

[17] Which is the same estimation period used in the current study.

[18] This study follows prior literature by placing primary reliance on the (−1,+1) window. This three day window is commonly utilized to compensate for imprecise measurement of when the merger announcement actually occurred. However, in results not reported, other event windows are utilized to ensure the reported results are robust to the choice of window specification.

window. The difference between the firm's actual return and the predicted return is then summed over the event window to calculate the firm's market model CAR.

The first column in Panel A indicates that the mean early announcement (-1,+1) return is 4.3%. This is substantial, as it represents over a third of the total wealth effect produced by the merger. The second column of Panel A reports that the mean official announcement (-1,+1) return is 7.6%, which is in line with the estimates from recent REIT merger studies (Eicholtz & Kok, 2008; Ling & Petrova, 2011; Womack, 2012). Combining the two announcement CARs (from the first and second columns), we estimate a mean total wealth effect (third column) of approximately 11.9% for the subsample of firms that have early announcements. Compared to the 9.2% total return (reported in the last column of the same line) for firms without an early announcement, it appears for the moment that there might be a differential wealth effect.[19]

In Panel B of Table 9 we estimate abnormal returns for the complete sample when excluding the early announcement date CAR and then once again when including this measure. The mean CAR is 8.7% when the early announcement is excluded, compared to 10.2% when included. The third column indicates that there is a statistically significant difference between those means.

At this point, Panels A&B in Table 9 indicate that early announcements might result in a higher return for shareholders. But if this was true, why would all firms not use early announcements? Clearly, we need to move beyond simple univariate measures towards a more rigorous examination of this issue.

In Tables 10 & 11, we do just that. Although these two tables are structured very similarly, they are actually focused on examining two separate questions. Table 10 is focused on the question of whether the choice of sales procedure affects merger returns, while Table 11 is

[19] Although a t-test of the difference of those means is statistically insignificant.

focused on the question of whether firms that utilize an early merger announcement earn higher merger returns versus those that do not.

To explore why all firms are not sold in a competitive auction-like process, in Table 10 we follow Boone & Mulherin (2007) by contrasting two intuitive hypotheses. The agency cost hypothesis argues that auctions generate greater revenues than do negotiations and concludes that impediments to auctions harm target shareholders. By contrast, the information cost hypothesis notes that the use of auctions is costly and asserts that the choice is firm specific. Accordingly this hypothesis concludes that auctions will not always dominate negotiations.

To distinguish between the hypotheses, a regression model is needed to compare the wealth effects for auctions and negotiations. If agency costs are the driving force behind the choice between auctions and negotiations, then the wealth effects for auctions should be significantly greater than the wealth effects for negotiations. By contrast, if the information cost hypothesis is correct, then there will be no difference, on average, between the wealth effects for auctions and negotiations. Therefore, an appropriate test of this hypothesis would be to regress merger returns on a vector of explanatory variables, including a control for the type of sales process chosen. If the latter is statistically significant, this would provide evidence that one sales process is associated with a higher return than the other process. [20]

However, it is quite possible that the sales process is endogenous in such a regression model, as the choice of the sales procedure in a given takeover might plausibly be a function of

[20] It should be noted that the greater transparency of REIT assets could somewhat reduce, but certainly not eliminate, the effect of the information cost hypothesis. The only case in which it would be eliminated would be in a world in which all information for REITs is already reflected in share prices. Obviously, this world currently does not exist. Rather, we are likely in a world of reduced information asymmetries, where more information (particularly in regards to value) is known about real estate assets than assets in other industries. Furthermore, the dramatic increase in the use of an auction sales process by REIT targets in Period 2, which is highly correlated with the growth of private equity, indicates a change in the sales process chosen by REITs based on factors external to the firm.

the expected returns produced by the sales mechanism. Therefore, to control for this potential endogeneity, a simultaneous equation model is estimated using a pair of two-stage regressions.

In Model 1 of Table 10, the estimated probability from the first-stage probit model of the choice of sales procedure (*Sales Procedure**) is used as an explanatory variable in the second stage model of the merger returns (CARs). Then, in Model 2, the order is reversed and the fitted value from the first-stage regression of merger returns (*Returns**) is used as an explanatory variable in the second-stage probit model of the choice of sales procedure. To ensure that the models satisfy both the rank and order conditions necessary for identification of the parameters, one statistically significant variable in the first-stage must be omitted from the second-stage.[21] Furthermore, the use of heteroskedastic robust standard errors is warranted.

Results from both models indicate that (*ceteris paribus*) the first-stage estimates are insignificant in the second-stage. These findings imply that the wealth effects from auctions are indifferent from the wealth effects produced by negotiations. This provides support for the information cost hypothesis, where the sales process chosen is based upon the potential information costs borne by both the target and bidder. Therefore, our findings suggest that REITs choose the sales procedure that is optimal given their particular firm attributes and circumstances.

Additionally, we can also use Table 10 to help test the early information hypothesis. This hypothesis states that early merger announcements convey new and important information to the market about the future prospects of a merger. According to this hypothesis, a portion of the

[21] Specifically, *ln(Assets)*, *Market2book*, and *ln(Years Old)*, which collectively proxy for firm size and market exposure, have explanatory power in the choice of sales procedure (see the first-stage of Model 1) but do not have explanatory power for merger returns (see the first-stage of Model 2). Therefore, these variables are omitted in the second-stage of Model 1. Similarly, *Equity REIT* and *Hybrid REIT* have explanatory power for merger returns (see the first-stage of Model 2) because different asset classes have different returns, but the variables do not have explanatory power for the choice of sales process (see the first-stage of Model 1). Therefore, these variables are omitted in the second-stage of Model 2. It should be noted that that *Public*, *Affiliated*, *Cash*, *Unsolicited*, and *Early Announce* are omitted from the model of sales procedure since these variables occur after the sales procedure decision is made.

merger premium is realized earlier in the merger process, but the total wealth change relating to the merger is unchanged. This hypothesis can be tested in the following manner. When the target firm's cumulative abnormal return from the official public announcement of a merger is regressed on a vector of explanatory variables and an early merger announcement dummy variable, then that dummy variable will be negative and significant. However, when the cumulative abnormal return measure includes both the early and official announcement premiums, the dummy early announcement variable will be statistically insignificant. Otherwise, if the variable remains significant, this would be evidence against the hypothesis, implying that early announcements do earn a differential return.

In Table 10, the merger return is based on the (-1,+1) official public merger announcement date market model CAR. Since this variable does not include the capitalized effect of an early announcement, we are effectively replicating the (-1,+1) event window used by the prior literature. *Early Announce* is the dummy explanatory variable indicating the presence of an early announcement. Results from this variable indicate that an early announcement is associated with a statistically significant 5% lower CAR than when early announcements are not used. Note that this estimate is very close to the estimate from the "Mean Target CAR" in the first column of Panel A of Table 9. Therefore, early announcements do appear to contain new and valuable information. But do early announcements affect shareholder wealth?

To answer this final question, in Table 11 the merger return utilized in the regression models is calculated as the sum of the (-1,+1) early announcement return and the (-1,+1) official announcement return. The use of this dependent variable implies that we have accounted for the capitalization of the early announcement directly in our abnormal return calculation. We then repeat the regression specification from the prior model. The results indicate that *Early Announce* is now statistically insignificant, which provides evidence that an early merger

announcement does not result in a higher abnormal return when a correctly specified model is utilized.

Therefore, in summary, early merger announcements do appear to contain valuable and new information to the market regarding the target firm's future merger prospects. However, the early announcement only affects the timing of the merger premium and not the magnitude of the premium for a given transaction. In other words, the total of the early and official announcement date abnormal returns are statistically equivalent to deals in which there is no early merger announcement. These findings imply that prior studies that focus on estimating official public announcement abnormal returns have understated the shareholder wealth gains from mergers.

Conclusion

Because competition in a market promotes the allocation of productive resources to their most valuable use, an implication of a lack of competition in the realm of corporate takeovers is that a firm may not be sold at a price that is "fair" to its shareholders. In regards to REIT takeovers, the combination of a lack of hostile takeovers and relatively modest wealth gains found by previous REIT merger studies calls in to question the level of competition in these transactions. Furthermore, it calls into question whether the REIT structure is impairing competition in the corporate takeover market.

Accordingly, this paper contributes to the literature by providing an examination of the level of competition in REIT mergers using hand-collected data from SEC merger filings for a sample of 165 mergers over two merger waves that occur during a time span of 22 years (1989 to 2010). The primary findings from the study are summarized and discussed below.

Contrary to the intuition that a REIT should contact as many bidders as possible when it is for sale, this study finds that a one-on-one negotiation may be optimal for some firms. This is

explainable by the potential information costs borne by both the target and bidder, as well as the size of the firms. Large firms, who may have more to lose from a leakage of the firm's propriety strategic information and who face a smaller universe of firms that are financially able to acquire them, seem to prefer a negotiation process.

For the exact opposite reasons, smaller and less well known firms seem to prefer an auction-like process where many potential bidders are contacted in order to obtain a fully-informed bid. Therefore, the optimal choice between the auction and negotiation sale processes is not universal, but rather is firm-specific.

The choice of sales process has no statistically significant effect on the shareholder wealth created by mergers, which is evidence against an agency cost explanation (where management negotiates the best deal for themselves at the expense of the shareholders). Rather, the results support the information cost hypothesis (where the expected information cost borne by the target and bidder determines the sales process utilized by the target).

The study reveals that REIT takeovers are on average just as competitive, or more so, as those in other industries. This conclusion not only holds for the sample as a whole, but also for both merger waves studied, and for each phase of the merger process as well. In fact, the results indicate that REITs most often utilize a sales process resembling an auction, where many potential bidders (19 on average) are contacted. Particularly, the study finds a strong shift towards the use of auctions in the 2000s, which is a response to the active merger market, rising real estate asset values, and an increase in acquisitions by private equity bidders.

To provide a comprehensive study of competition, this study also examines unsolicited deals (where the merger is initiated by the bidder or other third party) which are objectively defined and easily observed (in contrast to hostile takeovers - see Schwert, 2000). We find that 14% of the deals are unsolicited, which is quite similar to the level found in other industries

during the same time period. Combined with the findings of robust competition among both public and private bidders to acquire REIT targets, these results indicate that the market for corporate control of REITs is much more active than originally thought.

Competition for REIT firms is at times so robust that some target firms put themselves up for sale and pursue an auction-like sales process. For approximately a third of the sample we find that an early announcement (defined as an announcement by the target board that they are considering "strategic alternatives to maximize shareholder value", a financial or popular press story of a merger rumor, an earlier bid by a third party, or etc., that occurs before the official public merger announcement and are effectively information leakages that signal that the firm is "in play" as an acquisition target) occurs several months prior to the official public announcement. The results indicate that these early announcements convey substantial information to the market that the target firm is "in play" as a potential acquisition by another firm, as they are associated with an average 4.3% return before the public merger announcement is even made, which is approximately one third of the 11.9% average total return from these mergers.

However, of particular importance, we find that early merger announcements do not result in a higher return for the target firm. Rather, approximately a third of the total wealth effect is obtained earlier in the merger process at the time of the early announcement. Accordingly, when including both firms that did and did not use an early merger announcement, this study finds that REIT targets received an average total return of 10.2% during the past two decades. This is an important finding because although this does not fully explain the difference in merger premiums earned by REIT and non-REIT firms, it does close the gap considerably.

Overall, results from this study strongly indicate that REIT mergers are quite competitive and we find no evidence that the REIT structure impairs competition in the corporate takeover

market. Therefore, the lower relative frequency of hostile takeovers and lower merger premiums associated with REIT mergers are not related to the level of competition for REIT firms.

Theory suggests that the source of disparity in merger returns may be explainable by either an imbalance in the supply and demand for REIT acquisitions, or by the nature of the underlying real estate assets. (Taxes are unlikely to be a factor, as the shareholders of both REIT and non-REIT firms would face similar tax liabilities, *ceteris paribus*). For supply to be the cause of the lower returns, there would need to be an excess supply of REITs that are for sale relative to the demand for those firms. However, Table 1 from Ling & Petrova (2011) indicates only about 5% of the number of existing REITs each year (which corresponds to about 8 mergers on average per year) are acquired. For demand to be the cause, there would need to be a lower demand relative to supply for REIT target firms. However, the results of the current paper indicate robust bidding behavior among firms to acquire REIT targets. Therefore, supply and demand factors do not seem to be the source of the lower returns.

Therefore, it is reasonable to conclude that the nature of the underlying real estate assets is the most likely cause for the lower merger returns. A review of the prior REIT merger literature indicates that only two studies have attempted to address this issue. Eichholtz & Kok (2008) suggests that if real estate assets are relatively transparent, then the lower observed returns might be justified by the homogeneity in operations of real estate companies which does not allow for large synergy benefits following mergers. Similarly, Womack (2012) suggests that lower REIT merger returns might be linked to the nature of real estate assets: long-term leases, predictable future cash flows, little to no exploitable excess capacity, limited synergistic effects,

and etc. However, neither study conducts an empirical examination into the matter, and therefore this unresolved topic warrants examination by future studies. [22]

[22] In contrast, the initial public offering literature (IPO) has examined this issue more in-depth, as REIT IPOs also exhibit lower returns than IPOs in other industries (that is, REIT IPOs have lower underpricing, and therefore lower returns). For example, Gokkaya et al. (2013) and Steele et al. (2013) present arguments that there is less unknown public information, or information asymmetries, regarding real estate assets. These studies suggest that asymmetric information in REITs should be relatively minor because real estate investors use similar conventions in the property valuation process, REITs face frequent property value assessment by governmental agencies, and REITs pay regulated, stable dividend payments. Therefore, if other firms are able to value REITs with comparatively greater ease, then the associated asymmetric information cost should be relatively less than when acquiring companies in other industries.

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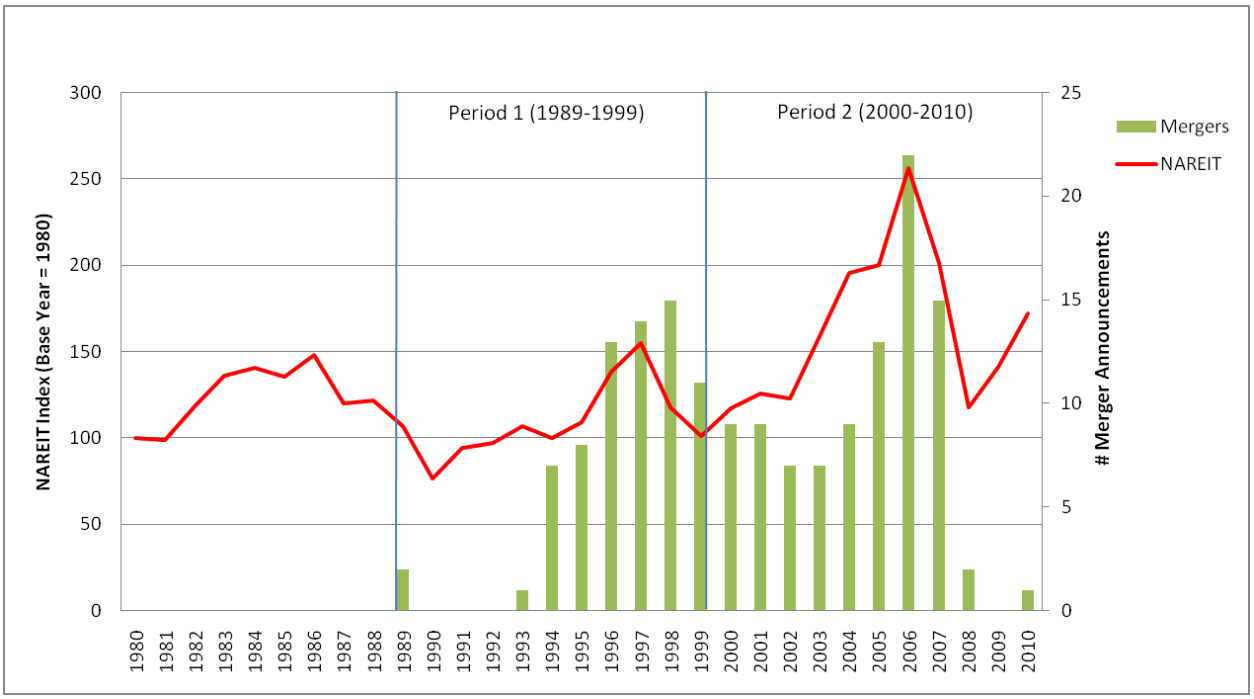
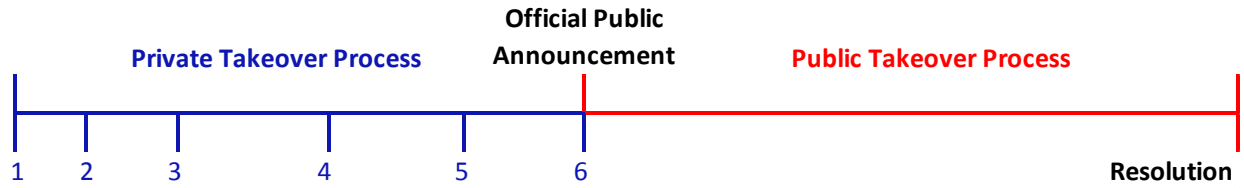
Figure 1: Merger Frequency & NAREIT Index



Notes: This figure charts the National Association of Real Estate Trusts (NAREIT) Financial Times Stock Exchange (FTSE) Composite Index (base year = 1980) and the frequency of merger announcements for each year in the sample. The NAREIT index scale is on the left horizontal axis, while the merger count scale is on the right horizontal axis. The vertical lines in the chart denote the two sub-sample periods studied in this paper, Period 1 (1989-1999) and Period 2 (2000-2010).

Figure 2: Private Phases of the Takeover Process



1. Private or public (via early merger announcement) initiation
2. Contact potential buyers (1= negotiation, 2+ = auction)
3. Interested buyers sign confidentiality agreements to obtain private information about the target
4. Buyers give target a legally nonbinding indication of interest
5. Buyers submit legally binding offers to the target in private
6. Target or bidder officially announces the offer to the public

Notes: This figure details the timeline of events that occur in private prior to the official public announcement of a takeover. There are two important insights captured by this figure. First, there is a substantial amount of competitive activity that occurs in private. (This activity is subsequently disclosed in SEC merger filings, which are the key data source for this study). Secondly, mergers begin either with a private or public decision to sell the firm. When the decision is made in private, the official public announcement is the first time the public is informed that the target firm is for sale. However, when the decision to sell is made public via a signal or information leakage (for example, when the board of directors issue a press release that they will pursue "strategic alternatives to maximize shareholder value") then the market is informed that the target firm is an acquisition target well before the official public announcement. (These types of events are referred to as an *Early Merger Announcement* within this study). Accordingly, these early announcements have important implications for measuring the shareholder wealth effects created by mergers.

Table 1. Sample Development

Source / Adjustment	# Observations
Initial data from SDC (1989 to 2010)	204
Not a takeover target	- 7
Same family, same day	- 8
Not available on CRSP	- 29
Price < $5	- 7
< 100 days in estimation period	- 2
REIT target from CRSP delist	+ 10
REIT target from Feng, Price & Sirmans (2011)	+ 4
Total sample	165

Notes: This table provides details regarding the sample development. The initial sample downloaded from the SDC Platinum Mergers & Acquisitions Database comprised of 204 mergers that were announced during the 1989 to 2010 time period. Subsequently, we omit 7 observations that are not mergers (these were spinoffs, recaps, or bankruptcies), 8 observations where a similarly named firm in the same corporate family was acquired on the same day, 29 observations that are not listed in CRSP (most of these are REITs not listed on major U.S. exchanges), 7 transactions with event day stock price of less than $5, and 2 observations where there was insufficient data in CRSP to calculate the estimation period component of the market model. Furthermore, we add 10 observations from a review of CRSP delist codes and 4 observations identified from a list of equity REITs in Feng, Price & Sirmans (2011). In summary, 53 observations were omitted and 14 observations were added to the initial sample of 204, resulting in a final sample of 165 observations over a time period of 22 years.

Table 2. Sample Distribution by Year

Year	Observations	Year	Observations
Period 1		Period 2	
1989	2	2000	9
1990	0	2001	9
1991	0	2002	7
1992	0	2003	7
1993	1	2004	9
1994	7	2005	13
1995	8	2006	22
1996	13	2007	15
1997	14	2008	2
1998	15	2009	0
1999	11	2010	1
Subtotals:	71		94

Total observations: 165

Notes: This table summarizes the sample distribution of takeover announcements by year.

Table 3. Example of Negotiation versus Auction

	Negotiation	Auction
Target	Allied Capital Commercial Corp	Eagle Hospitality Properties Trust
Bidder	Allied Capital Lending	Apollo Real Estate
Official Announce Date	8/14/1997	4/30/2007
Effective Date	12/31/1997	8/15/2007
Method of Payment	Stock	Cash
Bidder Type	Public	Private
Unsolicited	No	No
Affiliated	Yes	No
Initiation Event	Mutual meeting	Target Board
Early Announce Date	No	1/29/2007
Early Event	No	Consider Strategic Alternatives
Contact	1	66
Confidentiality	1	32
Indications of Interest	1	9
Private Written Bids	1	3
Publicly Announced Bids	1	1

Notes: This table provides examples of the auction and negotiation sales procedures. *Auction* refers to transactions in which the *Target* (selling firm) contacts multiple potential *Bidders* (buying firm) and *Negotiation* refers to a sales process focusing on a single buyer. *Agreement Date* is the date on which the target and bidder sign the merger agreement. *Official Announce Date* is the date on which the financial media report the merger agreement. *Effective Date* is the date on which the merger is completed. *Method of Payment* reports whether the payment was entirely in cash, entirely in stock, or a mix. *Bidder Type* indicates whether the bidder was a publicly traded or a private firm. *Unsolicited* indicates whether the merger was initiated by the bidder or a third party (but the deal attitude is not hostile). *Affiliated* reports whether the bidder has an ownership affiliation with the target. *Initiation Event* indicates the type of event that initiated the merger. *Early Announce Date* is the date on which an early public merger announcement (i.e.: announcement by the target board that they are considering "strategic alternatives to maximize shareholder value", financial or popular press stories of a merger rumor, etc.) is made, which occurs prior to the official public merger announcement. *Early Event* is the type of early merger announcement made by the target. *Contact* refers to the number of potential bidders contacted by the seller and its investment bank. *Confidentiality* refers to the potential buyers that engage in a confidentiality/standstill agreement. *Indications of Interest* refers to the number of potential buyers that express a non-binding interest in acquiring the target. *Private Written Bids* refers to the number of written offers received by the target in private. *Publicly Announced Bids* refers to the number of formal bids for the target that were publicly announced.

Table 4. Measures of Takeover Competition

Variable	Full Sample (n = 165)	Period 1 1989-1999 (n = 71)	Period 2 2000-2010 (n = 94)	Difference Pd.2-Pd.1 & (p-value)
Contacted				
Mean	19	11	25	14 (.0028)
Median	5	1	8	7 (<.0001)
Std Dev	32	23	36	
Confidentiality				
Mean	10	7	12	5 (.0362)
Median	3	1	5	4 (<.0001)
Std Dev	15	16	15	
Indication of interest				
Mean	4	3	4	1 (.0053)
Median	2	1	3	2 (.0005)
Std Dev	3	3	3	
Private written bids				
Mean	1.36	1.32	1.40	.08 (.5070)
Median	1.00	1.00	1.00	.00 (.2530)
Std Dev	.77	.79	.75	
Publicly announced bids				
Mean	1.10	1.10	1.11	.01 (.8791)
Median	1.00	1.00	1.00	.00 (.6654)
Std Dev	.32	.35	.31	

Notes: This table summarizes the sales process for the full sample of 165 mergers. To capture the dynamics of this process over time, the table also provides the measures by time period. P-values from difference in means t-tests and Wilcoxon signed-rank difference in medians tests are reported in parentheses. *Contacted* is the number of potential bidders contacted by the target firm and/or its financial advisors. *Confidentiality* is the number of potential buyers that sign a confidentiality/standstill agreement. *Indication of Interest* is the number of potential buyers that express a non-binding interest in acquiring the target firm. *Private Written Bids* refers to the number of written offers received by the target in private. *Publicly Announced Bids* refers to the number of formal bids for the target that were publicly announced.

Table 5. Number of Bidders Contacted by Subsample

	Including Variable				Excluding Variable			
	N	Mean	Median	Std Dev	N	Mean	Median	Std Dev
Full Sample	165	19	5	32				
REIT Type								
Equity REIT	148	19.72	5	32.48	17	14.12	2	25.21
Mortgage REIT	14	9.21	2	14.19	151	20.07	5	32.83
Hybrid REIT	3	37.00	12	53.11	162	18.81	5	31.44
UPREIT	85	16.40	6	25.84	80	22.06	2	37.03
Self-Managed	123	18.59	5	31.73	42	20.79	3	32.31
Self-Advised	143	19.50	5	32.20	22	16.82	1	29.56
Property Type								
Unclassified	8	40.25	28	39.52	157	18.07	4	31.12
Diversified	11	30.36	4	46.33	154	18.34	5	30.55
Health Care	7	4.43	1	4.54	158	19.80	5	32.33
Industrial/Office	34	29.35	6	47.66	131	16.50	4	25.77
Lodging/Resorts	11	22.91	23	19.32	154	18.88	4	32.53
Mortgage	15	9.00	2	13.70	150	20.16	5	32.92
Residential	28	11.25	3	17.57	137	20.76	5	33.80
Retail	38	17.00	4	23.19	127	19.79	5	34.00
Self-Storage	13	9.69	1	27.27	152	19.95	5	32.10

Notes: This table provides information regarding the distribution of the number of potential buyers (bidders) that are contacted by the target REIT after the firm has decided that it is for sale. The table presents the data for the full sample as well as several subsamples based on firm characteristics and property type focus. *Including Variable* provides measures when only that specific firm or property type is included, while *Excluding Variable* provides measures when that firm or property type is excluded. *Equity REIT*, *Mortgage REIT*, and *Hybrid REIT* indicate the general asset focus of the REIT. *UPREIT* indicates whether the REIT is organized as an Umbrella Partnership REIT. *Self-Managed* indicates whether the management is directly employed by the REIT. *Self-Advised* indicates whether the REIT manages its own investment portfolio. *Unclassified*, *Diversified*, *Health Care*, *Industrial*/*Office*, *Lodging*/*Resorts*, *Mortgage*, *Retail*, *Self-Storage* indicate the specific REIT asset focus. *Unclassified* indicates that the property focus falls outside of the other listed categories.

Table 6. Merger Competition: Real Estate versus Other Industries

Variable	REITs 1989-1999 (n = 71)	All Firms[1] 1989-1999 (n = 400)	REITs 2000-2010 (n = 94)	All Firms[2] 2003-2007 (n = 870)
Contacted	11	9	25	14
Confidentiality	7	4	12	6
Indication of interest	3	NR	4	3
Private written bids	1.32	1.29	1.40	1.30
Publicly announced bids	1.10	1.13	1.11	1.10

Notes: This table compares the level of competition in real estate mergers to that of other industries. The analysis is broken out by time period in order to improve the level of comparison. (1) = Figures obtained from Table 2 of Boone & Mulherin (2007) which studies mergers from 1989 to1999 and excludes REITs, (2) = Figures obtained from Table 5 of Boone & Mulherin (2011) which studies mergers from 2003 to 2007 and excludes REITs, and "NR" = not reported. *Contacted* is the mean number of potential bidders contacted by the target firm and/or its investment bank. *Confidentiality* is the mean number of potential buyers that sign a confidentiality/standstill agreement. *Indication of Interest* is the mean number of potential buyers that express a non-binding interest in acquiring the target firm. *Private Written Bids* refers to the number of written offers received by the target in private. *Publicly Announced Bids* refers to the number of formal bids for the target that were publicly announced.

Table 7. Transaction Summary Statistics

Variable	Full Sample (n = 165)	Period 1 1989-1999 (n = 71)	Period 2 2000-2010 (n = 94)	Difference Pd.2-Pd.1 (p-value)
Public Bidder				
Mean	.73	.89	.62	-.27 (<.0001)
Median	1	1	1	0 (.0002)
Std Dev	.44	.32	.49	
Cash				
Mean	.46	.17	.68	.51 (<.0001)
Median	0	0	1	1 (<.0001)
Std Dev	.49	.38	.47	
Auction				
Mean	.61	.39	.78	.39 (<.0001)
Median	1	0	1	1 (<.0001)
Std Dev	.48	.49	.42	
Affiliated				
Mean	.16	.28	.06	-.22 (.0004)
Median	0	0	0	0 (.0002)
Std Dev	.37	.45	.25	
Unsolicited				
Mean	.14	.13	.15	.02 (.6861)
Median	0	0	0	0 (.6873)
Std Dev	.35	.34	.36	
Size ($MM)				
Mean	778	287	1,149	862 (.0001)
Median	312	152	477	325 (<.0001)
Std Dev	1,608	360	2,034	

Notes: This table reports summary statistics for the primary deal characteristics. P-values from difference in means t-tests and Wilcoxon signed-rank difference in medians tests are reported in parentheses. *Public Bidder* = 1 if the bidder is a publicly traded U.S. corporation, 0 otherwise. *Cash* = 1 if the method of payment was entirely in cash, 0 otherwise. *Auction* = 1 if the target contacts multiple potential buyers, 0 otherwise). *Affiliated* = 1 if the bidder has an ownership affiliation with the target, 0 otherwise. *Unsolicited* = 1 if the merger was initiated by the bidder or a third party, 0 otherwise. *Size* is the equity value of the target firm in $ millions (measured as stock price*shares outstanding) estimated 64 trading days prior to the official public merger announcement.

Table 8. Early Merger Announcements

Panel A. Portion of Sample With an Early Merger Announcement

Variable	Full Sample (n = 165)	Period 1 1989-1999 (n = 71)	Period 2 2000-2010 (n = 94)	Difference Pd.2-Pd.1 (p-value)
% Early Announce	33%	24%	40%	16% (.0262)

Panel B. Number of Trading Days Between Early Announcement & Official Public Merger Announcement Date

	N	%	Mean	Median	Min	Max
Full Sample	55	33%	123	94	3	476
Period 1 (1989-1999)	17	10%	100	88	24	194
Period 2 (2000-2010)	38	23%	133	101	3	476

Notes: This table reports the number of days between an early merger announcement and the official public announcement of the merger. *% Early Announce* refers to the percentage of deals where there is an early merger announcement (i.e.: announcement by the target board that they are considering "strategic alternatives to maximize shareholder value", financial or popular press stories of a merger rumor, etc.) which occurs prior to the official public merger announcement. Of the 165 deals in the sample, 55 deals (33%) have an early announcement, which occurs on average 123 days prior to the official public announcement.

Table 9. Target Firm Returns

Panel A. Full Sample

	Mergers with Early Announce (n = 55)			No Early Announce (n = 110)
Variable	Early (-1E, +1E)	Official (-1, +1)	Total	Official (-1, +1)
Mean Target CAR	.043 (.0008)	.076 (<.0001)	.119 (<.0001)	.092 (<.0001)
Median Target CAR	.037 (.0004)	.080 (<.0001)	.109 (<.0001)	.080 (<.0001)

Panel B. Implied Average Target Returns

Variable	Excluding Early Announce CAR (n = 165)	Including Early Announce CAR (n = 165)	Difference (P-value)
Mean Target CAR	.087 (<.0001)	.102 (<.0001)	-.014 (.0008)
Median Target CAR	.080 (<.0001)	.092 (<.0001)	-.012 (.0004)

Notes: This table compares event study mean and median returns from the market model for mergers with an early merger announcement to those without an early announcement. P-values are reported in parentheses. *Early Announce* refers to the case when there was an early merger announcement (i.e.: announcement by the target board that they are considering "strategic alternatives to maximize shareholder value", financial or popular press stories of a merger rumor, etc.) which occurs prior to the official public merger announcement. The window (-1E, +1E) = (-1 early announcement, +1 early announcement), where day 0 is the early announcement date. The window (-1, +1) = (-1 official public announcement, +1 official public announcement), where day 0 is the official public announcement of the merger. The third column of Panel A is the sum of the first two columns. The estimation period for the (-1E, +1E) model is (-379,-127) prior to the early announcement, while the estimation period for the (-1, +1) model is (-379,-127) prior to the official public announcement date. In results not reported, longer event windows of (-5 early, +5 announce), (-42 early, +126 announce), (-42, effective date) provide very similar results.

Table 10. Two-Stage Regression Analysis Using (-1,+1) Official Announcement Returns

	Model 1		Model 2	
Variable	1st Stage Probit Procedure	2nd Stage OLS Returns	1st Stage OLS Returns	2nd Stage Probit Procedure
Intercept	-8.754	-0.332	-0.287	-5.514
	(0.979)	(0.001)	(0.087)	(0.084)
Sales Procedure*		0.034		
		(0.636)		
Returns*				-1.983
				(0.865)
Public		-0.001	-0.002	
		(0.980)	(0.946)	
Affiliated		-0.025	-0.028	
		(0.262)	(0.217)	
Cash		0.063	0.063	
		(0.016)	(0.018)	
Unsolicited		0.042	0.044	
		(0.077)	(0.065)	
Early Announce		-0.050	-0.051	
		(0.004)	(0.003)	
Period 2	0.740	0.013	0.024	1.026
	(0.013)	(0.657)	(0.279)	(0.032)
Self-Managed	-0.122	-0.033	-0.031	-0.088
	(0.744)	(0.113)	(0.152)	(0.859)
Self-Advised	0.249	0.039	0.041	0.267
	(0.559)	(0.142)	(0.093)	(0.653)
ln(Assets)	0.187		-0.003	0.235
	(0.107)		(0.725)	(0.153)
Market2book	-0.698		-0.002	-0.975
	(0.063)		(0.943)	(0.091)
ln(Years Old)	0.309		0.004	0.423
	(0.043)		(0.614)	(0.048)
UPREIT	-0.021	0.023	0.025	0.003
	(0.938)	(0.197)	(0.169)	(0.993)
Equity REIT	4.432	0.354	0.360	
	(0.989)	(0.001)	(0.001)	
Hybrid REIT	5.027	0.418	0.428	
	(0.988)	(0.001)	(0.001)	
Unclassified	1.116	-0.002	0.002	1.620
	(0.168)	(0.976)	(0.954)	(0.153)
Diversified	-0.198	-0.005	-0.013	-0.194
	(0.706)	(0.905)	(0.752)	(0.791)

Health Care	-0.574	0.016	0.006	-0.692
	(0.331)	(0.614)	(0.818)	(0.387)
Industrial/Office	0.213	-0.038	-0.037	0.292
	(0.577)	(0.079)	(0.077)	(0.579)
Lodging/Resorts	0.558	-0.066	-0.062	0.806
	(0.421)	(0.032)	(0.029)	(0.403)
Mortgage	3.989	0.371	0.377	-0.499
	(0.991)	(0.001)	(0.001)	(0.467)
Retail	-0.428	-0.022	-0.027	-0.609
	(0.228)	(0.387)	(0.269)	(0.213)
Self-Storage	-0.523	0.004	-0.007	-0.711
	(0.344)	(0.893)	(0.812)	(0.365)
N	158	158	158	158
R^2	0.272	0.219	0.209	0.233

Notes: This table reports simultaneous equations analysis for the target firm returns and choice of sales procedure. The cumulative abnormal return (CAR) is calculated from a market model where day 0 is the official public announcement of the merger and the estimation period is (-379,-127) prior to the official announcement date. *Sales Procedure** is the predicted probability of the sales procedure from the first-stage probit model. *Returns** is the predicted value of the merger returns from the first-stage regression model. *Public* = 1 if the bidder is a publicly traded U.S. corporation, 0 otherwise. *Affiliated* = 1 if the bidder has an ownership affiliation with the target, 0 otherwise. *Cash* = 1 if the method of payment for the merger is 100% cash, 0 otherwise. *Auction* = 1 if the target contacted multiple potential bidders, 0 otherwise. *Unsolicited* = 1 if the merger was initiated by the bidder or a third party (but the deal attitude is not hostile), 0 otherwise. *Early Announce* = 1 if there was an early merger announcement (i.e.: announcement by the target board that they are considering "strategic alternatives to maximize shareholder value", financial or popular press stories of a merger rumor, etc.) which occurs prior to the official public merger announcement, 0 otherwise. *Period 2* = 1 if the merger occurred from 2000-2010, 0 otherwise. *Self-Managed* = 1 if the firm's management is directly employed by the REIT, 0 otherwise. *Self-Advised* = 1 if the REIT manages its own investment portfolio, 0 otherwise. *ln(Assets)* is the natural log of the firm's total assets as of the end of the year prior to the merger. *Market2book* is the firm's market to book ratio. *ln(Years old)* is the natural log of firm age, in years (calculated as the official public announcement date minus the initial public offering date divided by 365). *UPREIT* = 1 if the REIT is organized as an Umbrella Partnership REIT, 0 otherwise. *Equity REIT* and *Hybrid* REIT are dummy variables that indicate the general REIT asset focus (*Mortgage REIT* is the omitted category). *Unclassified, Diversified, Health Care, Industrial*/*Office, Lodging*/*Resorts, Mortgage, Retail, Self-Storage* are dummy variables indicating the specific REIT asset focus (*Retail* is the omitted category). *Unclassified* indicates that the property focus falls outside of the other listed categories. The OLS model reports an adjusted R^2 while the probit model reports a pseudo R^2. Seven observations are lost due to data unavailability of all variables. Heteroskedastic robust p-values are reported in parentheses underneath the estimated coefficients. In results not reported, longer CAR windows of (-5 early, +5 announce), (-42 early, +126 announce), (-42, effective date) provide very similar results.

Table 11. 2SLS Regression Analysis Using Total Returns:
(-1,+1) Early Announcement + (-1,+1) Official Announcement

	Model 1		Model 2	
Variable	1st Stage Probit Procedure	2nd Stage OLS Returns	1st Stage OLS Returns	2nd Stage Probit Procedure
Intercept	-8.754	-0.284	-0.184	-5.085
	(0.979)	(0.001)	(0.324)	(0.063)
Sales Procedure *		0.064		
		(0.461)		
Returns*				-9.071
				(0.556)
Public		0.021	0.019	
		(0.416)	(0.476)	
Affiliated		-0.029	-0.037	
		(0.221)	(0.151)	
Cash		0.093	0.093	
		(0.001)	(0.001)	
Unsolicited		0.079	0.083	
		(0.007)	(0.005)	
Early Announce		-0.024	-0.025	
		(0.234)	(0.210)	
Period 2	0.740	-0.002	0.020	0.886
	(0.013)	(0.947)	(0.447)	(0.029)
Self-Managed	-0.122	-0.041	-0.035	-0.053
	(0.744)	(0.162)	(0.227)	(0.902)
Self-Advised	0.249	0.039	0.042	0.164
	(0.559)	(0.193)	(0.139)	(0.754)
ln(Assets)	0.187		-0.006	0.219
	(0.107)		(0.479)	(0.122)
Market2book	-0.698		0.000	-0.823
	(0.063)		(0.993)	(0.091)
ln(Years Old)	0.309		0.007	0.385
	(0.043)		(0.504)	(0.052)
UPREIT	-0.021	0.003	0.008	0.002
	(0.938)	(0.894)	(0.718)	(0.996)
Equity REIT	4.432	0.293	0.305	
	(0.989)	(0.001)	(0.001)	
Hybrid REIT	5.027	0.343	0.361	
	(0.988)	(0.001)	(0.001)	
Unclassified	1.116	-0.034	-0.029	1.536
	(0.168)	(0.628)	(0.655)	(0.115)
Diversified	-0.198	0.008	-0.008	-0.129
	(0.706)	(0.854)	(0.857)	(0.843)

Health Care	-0.574	0.026	0.008	-0.592
	(0.331)	(0.475)	(0.793)	(0.401)
Industrial/Office	0.213	-0.025	-0.024	0.281
	(0.577)	(0.33)	(0.349)	(0.55)
Lodging/Resorts	0.558	-0.045	-0.037	0.768
	(0.421)	(0.298)	(0.361)	(0.382)
Mortgage	3.989	0.353	0.364	-0.442
	(0.991)	(0.001)	(0.001)	(0.458)
Retail	-0.428	-0.032	-0.041	-0.552
	(0.228)	(0.236)	(0.118)	(0.213)
Self-Storage	-0.523	0.006	-0.016	-0.616
	(0.344)	(0.872)	(0.638)	(0.374)
N	158	158	158	158
R^2	0.272	0.236	0.227	0.239

Notes: This table reports simultaneous equations analysis for the target firm returns and choice of sales procedure. The cumulative abnormal return (CAR) is calculated by adding the (-1,+1) early announcement CAR, where day 0 is the early announcement and the estimation period is (-379,-127) prior to the early announcement date, to the (-1,+1) official public announcement CAR. *Sales Procedure** is the predicted probability of the sales procedure from the first-stage probit model. *Returns** is the predicted value of the merger returns from the first-stage regression model. *Public* = 1 if the bidder is a publicly traded U.S. corporation, 0 otherwise. *Affiliated* = 1 if the bidder has an ownership affiliation with the target, 0 otherwise. *Cash* = 1 if the method of payment for the merger is 100% cash, 0 otherwise. *Auction* = 1 if the target contacted multiple potential bidders, 0 otherwise. *Unsolicited* = 1 if the merger was initiated by the bidder or a third party (but the deal attitude is not hostile), 0 otherwise. *Early Announce* = 1 if there was an early merger announcement (i.e.: announcement by the target board that they are considering "strategic alternatives to maximize shareholder value", financial or popular press stories of a merger rumor, etc.) which occurs prior to the official public merger announcement, 0 otherwise. *Period 2* = 1 if the merger occurred from 2000-2010, 0 otherwise. *Self-Managed* = 1 if the firm's management is directly employed by the REIT, 0 otherwise. *Self-Advised* = 1 if the REIT manages its own investment portfolio, 0 otherwise. *ln(Assets)* is the natural log of the firm's total assets as of the end of the year prior to the merger. *Market2book* is the firm's market to book ratio. *ln(Years old)* is the natural log of firm age, in years (calculated as the official public announcement date minus the initial public offering date divided by 365). *UPREIT* = 1 if the REIT is organized as an Umbrella Partnership REIT, 0 otherwise. *Equity REIT* and *Hybrid* REIT are dummy variables that indicate the general REIT asset focus (*Mortgage REIT* is the omitted category). *Unclassified*, *Diversified*, *Health Care*, *Industrial*/*Office*, *Lodging*/*Resorts*, *Mortgage*, *Retail*, *Self-Storage* are dummy variables indicating the specific REIT asset focus (*Retail* is the omitted category). *Unclassified* indicates that the property focus falls outside of the other listed categories. The OLS model reports an adjusted R^2 and the probit model reports a pseudo R^2. Seven observations are lost due to data unavailability of all variables. Heteroskedastic robust p-values are reported in parentheses underneath the estimated coefficients. In results not reported, longer CAR windows of (-5 early, +5 announce), (-42 early, +126 announce), (-42, effective date) provide very similar results.

Appendix Table 1: Prior Merger Studies

Study	Sample Period	Sample Size	% Cash	Bidder Type	Event Day 0	Estimation Window	Longest Event Window	Mean Target Returns[1]
Panel A: Selected REIT Merger Studies								
McIntosh, Officer, & Born (1989)	1969-1986	27	NR	Public Firms	Official public announcement	(-100,-10)	(-1,0)	3%
Elayan & Young (1994) [2]	1972-1987	136	NR	Public RE firms	Official public announcement	(-250,-121)	(-20,+20)	8%
Campbell, Ghosh & Sirmans (1998)	1989-1998	27	NR	Public Equity REITs	Official public announcement	NA	(-2,+2)	5%
Campbell, Ghosh & Sirmans (2001)	1994-1998	45	18%	Public REITs	Official public announcement	(-110,-3)	(-1,+1)	3%
Sahin (2005)	1990-2000	35	NR	Public REITs	Official public announcement	(-200,-21)	(-1,+1)	4%
Eichholtz & Kok (2008)	1999-2004	250	62%	International Public REITs & RE firms	Official public announcement	NA	NA	7%
Brau, Carpenter, Rodriguez, & Sirmans (2011)	1985-2009	80	NR	Private Firms	Official public announcement	NA	(-1,+1)	14%
Ling & Petrova (2011)	1992-2007	161	47%	Public & Private Firms	Official public announcement	(-261,-61)	(-2,+2)	9%
Womack (2012)	1980-2007	94	10%	Public REITs & RE firms	Official public announcement	(-120,-31)	(-30,+180)	6%
							Panel A: Mean Target CAR	7%
							Panel A: Median Target CAR	6%
Panel B: Selected General Merger Studies								
Mulherin & Boone (2000)	1990-1999	376	NA	Public Firms	Official public announcement	NA	(-1,+1)	21%
Schwert (2000)	1975-1996	2,296	62%	All	Official public announcement	(-316,-64)	(-63,+126)	22%
Andrade, Mitchell & Stafford (2001)	1973-1998	4,256	35%	Public Firms	Official public announcement	NA	(-20,ED)	20%
Boone & Mulherin (2011)	2003-2007	870	61%	All	Official public announcement & early date	(-253,-127)	(-42,ED)	21%
							Panel B: Mean Target CAR	21%
							Panel B: Median Target CAR	21%

Notes: This table summarizes the methodology and results of the prior merger literature which report target firm returns. Panel A summarizes REIT merger studies and Panel B summarizes general (i.e.: non-REIT) merger studies. "NA" = the market model was not used in this study, "NR" = not reported, "ED" = effective date (completion) of the merger, (1) = calculated from the average of the various event windows reported in the study, (2) = this study includes transactions where controlling interest (>50%) was acquired, (3) = cash + mix. *% Cash* indicates the percentage of deals in each study where cash was used as the method of payment. It should be noted that the large variation in *% Cash* is attributable to the different types of bidders and sample time periods used by the various studies. *Longest Event Window* reports the maximum window size utilized in each study.