Anticipation, Acquisitions and the Bidder Return Puzzle

By

Moon H. Song[+]

and

Ralph A. Walkling[*][++]

+San Diego State University, San Diego, California, 92182 Phone: 619-594-5334; e-mail moon.song@sdsu.edu

++Ohio State University, Faculty of Finance, College of Business, Columbus, Ohio, 43210 Phone: 614-292-1580; e-mail: Walkling.1@osu.edu

* Corresponding author.

The authors are grateful for comments on earlier drafts by participants in finance workshops at the University of Delaware, University of Pittsburgh, University of South Florida and Ohio State University. We also appreciate the benefit of discussions with Jean Helwege, Simi Kedia, and Karen Wruck.

Current version July 28, 2004

Anticipation, Acquisitions and the Bidder Return Puzzle

Abstract

This paper documents a dramatic difference in the abnormal announcement period returns of the first bidder to announce an acquisition attempt in a particular industry. Typical of the literature, the set of all bidders in our sample earn abnormal returns indistinguishable from zero. However, bidders announcing an acquisition after a 'dormant period' of at least a year without such activity in their industry earn significantly positive abnormal returns of 0.8%. This contrasts with the insignificantly negative returns earned by bidders with shorter industry dormant periods. We also document that the prices of subsequent bidders adjust proportionately to returns of the initial bidder at the time of that initial announcement. In addition, bidder abnormal returns are significantly positively related to the length of the dormant period. These results provide strong evidence in support of an anticipation hypothesis. Our results hold after controlling for variables typically associated with bidding firm returns.

Anticipation, Acquisitions and the Bidder Return Puzzle

1. Introduction

1.1 Anticipation and the Bidder Return Puzzle

For over two decades, the financial literature has been intrigued with understanding the abnormal returns to bidding firms in acquisitions. Two stylized facts from this literature relate to the level of bidder returns and the importance of recognizing anticipation effects. First, Jensen and Ruback (1983), Jarrell, Brickley and Netter (1988) and Andrade, Mitchell and Stafford (2001) summarize a large body of evidence spanning three decades and report that the unconditional acquisition period return to bidders is generally zero or slightly negative.[1] Second, Schipper and Thompson (1983) find that bidders announcing acquisition programs experience most of their abnormal returns at the time of the initial announcement. Malatesta and Thomson (1985) also document the importance of anticipation. Recent evidence in the literature reveals anticipation effects at the industry level for target firms. Song and Walkling (2000), for example, find that rivals of initial targets in an industry experience abnormal returns at the time of the initial announcement to the extent that they are also likely to be targets. Moreover, the size of abnormal returns increases with the degree of market surprise about the initial industry acquisition. Fuller, Netter, and Stegemoller (2002) find that the returns to frequent bidders during the 1990's are related to organizational form of the target (e.g., public or private), the size of the target, and the form of payment.

---

[1] A partial list of the literature examining the conditional returns to bidders includes Travlos (1986), Jarrell G.A., Poulsen (1989), Lang, Stulz and Walkling (1991), Hubbard and Palia (1995), Eckbo and Thorburn (2000), Fuller, Netter and Stegemoller (2002), and Moeller Schlingemann and Stulz (2004) .

Building on these observed regularities, we develop and test the "Anticipation Hypothesis." Simply stated, anticipated bids will experience smaller market reaction than bids that are a surprise. Unlike tests of program announcements for a specific firm, we develop our tests within and across industries. Our premise is that acquisition bids preceded by a long dormant period in the industry are less likely to be anticipated. This is the same technique used to measure surprise for rivals of targets in Song and Walkling (2000). The " anticipation hypothesis" suggests four testable implications: 1) Returns to the first bidder in a particular industry after a dormant period are likely to be greater in absolute value than returns to subsequent bidders. 2) The magnitude of abnormal returns to bidders should increase with the length of the dormant period in the bidders industry.[2] 3) Abnormal returns to subsequent bidders will be attenuated to the extent they are anticipated. 4) Abnormal returns to rivals will experience a contemporaneous and proportional adjustment to the abnormal return earned by the initial industry bidder.

Using a sample of 5726 acquisitions from 1985 to 2001, we find support for all four implications. Abnormal returns to bidders are significantly related to the length of the dormant period. The first bidder in an industry after a minimum twelve month dormant period experiences significantly positive abnormal returns averaging 0.77%. In contrast, the average abnormal return to all bidders is an insignificant 0.04% typical of the literature. In industries with less than a twelve month dormant period between acquisitions, the average abnormal return to the next bidder is an insignificant -0.12%. Moreover, abnormal returns to rival firms earned at the time of their industry's first bid, adjust in sign, magnitude and proportion to the abnormal returns of the initial industry bidder.

---

[2] Note that this hypothesis is agnostic about the sign of abnormal returns. Where bidding is a wealth reducing activity, the initial (unexpected) return will be more negative than those that follow. Where bidding is a wealth increasing activity, the initial (unexpected) return will be more positive than those that follow.

Note that our approach is distinct from methodologies examining clustering and merger waves. Clustering does not necessarily follow dormant periods. Our results also hold across multiple specifications of the dormant period and after controlling for other attributes associated in the literature with bidder returns.

The remainder of the paper is organized as follows: Section 2 reviews the relevant literature and provides a development of the 'anticipation hypothesis'. Section 3 describes our methodology. Univariate and multivariate results are presented in Section 4. Section 5 concludes.

2. Background and hypotheses

2.1 Bidder Returns

The most well documented phenomenon in the acquisition literature concerning bidding firms is that they tend to break even or lose a small amount on the announcement of acquisitions. Andrade, Mitchell, and Stafford (2001) in a recent large sample analysis of acquisitions spanning the 1973-98 period report that bidder abnormal returns average -0.7%. Bidding returns are also negative in each of the three subperiods analyzed. These results are consistent with previous summaries of the literature by Jarrell, Brickley and Netter (1988) and Jensen and Ruback (1983). Research also indicates that returns to bidders are significantly lower in stock acquisitions and in cases where larger targets are acquired.

The most popular explanation for zero to negative bidder returns is competition. Bidders negotiating in a competitive market will be forced to pay the expected value of non-unique gains to the target. Lower bidder returns in stock acquisitions are explained by the negative information the bidder signals about its own value with that form of payment. In related research, Fuller, Netter, and Stegemoller (2002) find that the returns to frequent bidders during the 1990's are related to organizational form of the target (e.g., public or private), the size of the target, and the form of payment. Differential returns in acquisitions with regard to form of payment are also noted in Travlos (1987), Huang and Walkling (1987), and Wansley, Lane and Yang (1983).

Moeller, Schlingemann and Stulz (2003a) also find that bidding firm size plays an important role in the acquisition returns earned by bidding shareholders. Shareholders of smaller bidding firms earn substantially higher returns than their larger firm counterparts, even after controlling for organizational form, method of payment, and other control variables. In a separate paper, Moeller, Schlingemann and Stulz (2003b) find dramatic losses to shareholders of acquiring firms in the 1998 to 2001 period. Most of the losses are related to a small number of acquisitions. In addition, firms with large announcement period losses underperform their industry in the post-announcement period.

2.2 Anticipation effects

The recognition of anticipation effects in acquisitions stems from the work of Schipper and Thompson (1983) and Malatesta and Thomson (1985). They argue that anticipated effects will be impounded in stock prices and attenuate returns measured at later dates. Recent applications find anticipation effects within industry groupings. Song and Walkling (2000) note that rivals of targeted firms experience contemporaneous positive abnormal returns to the extent they are likely to be targeted themselves.[3]

Two recent theoretical papers also develop ideas that can be related to anticipation. Jovanovic and Braguinsky (2002) present a model in which the negative market reaction to a bidder's acquisition announcement stems from a signaling effect. Specifically, they presume that the bidder's announcement of external acquisition signals that internal investment opportunities are poor. Their theoretical work does not address the issue of anticipation. Nevertheless, positive or

[3] The contagion literature also recognizes the anticipation effect across many venues.

negative industry information signaled by the first announced bid in an industry should be reflected in the stock prices of competing firms.

Rhodes-Kropf and Viswanathan (2003) suggest that periods of over or undervaluation lead to merger waves. These ideas are also reminiscent of Gort (1969) who suggests that exogenous shocks to an industry provide opportunities for consolidation and expansion. The occurrence of acquisition activity, after a long period without such activity, could signal an industry wide revaluation of targets (as in Song and Walkling, 2000) or bidders, as examined in this paper.

In the current research, we hypothesize that the initial bid in an industry signals information that is reflected throughout the remaining firms in the industry. We examine the degree to which the existence of the first bid and the market's reaction to this bid is reflected in the stock price of that firm's rivals. We condition our analysis on the dormant period, the length of time without previous bidding activity in the industry.

2.3 Merger waves and dormant periods

The concept of merger anticipation effects is related to (but distinct from) evidence that acquisitions cluster by industry. Mitchell and Mulherin (1996) report this phenomenon for target firms. At the industry level 50% of the targets they examined over the 1982-89 period are concentrated in 25% of the years. Andrade and Stafford (2001) provide preliminary evidence that such clustering occurs for bidders. Harford (2003) reports results consistent with industry merger waves occurring as an efficient response to industry specific shocks. On average, mergers occurring during waves are associated with significantly positive wealth gains; mergers in the same industry, but outside of the wave period do not create wealth. Akbulut and Matsusaka (2003) examine diversifying acquisitions reporting that the means and medians of combined target and bidder returns are significantly positive during waves and insignificantly different from zero outside of the waves. Mean and median bidding firm returns are insignificantly negative both within and outside of waves.

We take a different approach, focusing on dormant periods (periods without acquisition activity) within bidding industries. While there is likely to be some positive relation between clustering and dormant periods, one need not be associated with the other. Clustering of bidding within an industry may be preceded by a long dormant period, but this need not be the case. Moreover, a long dormant period can be followed by an intense cluster of activity (i.e., an industry wave) but again, this need not be the case.

2.4 Hypotheses

The hypotheses implicit in our analysis relate to the market's anticipation or degree of surprise of firms becoming bidders. Following Song and Walkling (2000) we assume that the degree of surprise about an acquisition is related to the length of dormant periods (without bidding activity) within an industry. Four hypotheses stem from these arguments:

> *H_1: Returns to the first bidding firm following a dormant period without acquisition bids in an industry will be greater in absolute value than returns for subsequent bidders in the same industry.*
>
> *H_2: The magnitude of bidder returns will increase with the degree of surprise (i.e., length of the dormant period) preceding the announcement of a bid.*
>
> *H_3: The prices of subsequent bidders will adjust at the time an initial industry bid is announced.*
>
> *H_4: The prices rival firms will adjust at the time an initial industry bid is announced.*

Hypothesis four is similar in spirit to hypothesis three but does not require the market to correctly recognize subsequent bidders at the time of an initial industry bid. There are at least three reasons why our empirical tests may find these hypotheses to be false. First, we may be incorrect in our assumption that the appearance of an initial industry bid signals subsequent bidding activity in the same industry. Second, our measure of surprise, the dormant period within an industry, could be flawed or diminished by confounding effects. Alternatively, investors may anticipate bids through other means (e.g., a predictive model) without reference to dormant periods. Third, our measure of industry could be inadequate. All of these reasons work against our finding significant results.

3. Sample selection

We use the SDC database to identify both domestic and international acquisition bids above \$10 million by US bidders over the period 1/1/1985 through 12/31/2001. This produces an initial sample of 14,564 deals. We delete cases where CRSP SIC codes or CRSP returns are not available to calculate abnormal returns as well as 249 cases where multiple bids occur within an industry on the same day.[4] Because we are measuring anticipation effects within industries, we also delete bidders in industries with a small number of firms. Initially this is defined as fewer than five firms, but we note that our conclusions are unaltered if we restrict our analyses to industries with larger numbers of firms. Our screening rules produce a sample of 5726 firms.

The first three columns of Table1show the distribution of acquisition bids over the sample period. The largest concentration of bids occurs in the 1997 through 2000 period; although in no year does the percentage of acquisitions exceed 12% of the entire sample. Our firms are distributed across 370 different 4-digit SIC codes.[5] The fourth column of table one indicates the number of different four-digit industries participating in bidding activity in a particular year. Thus, in 1985

---

[4] It is problematic to determine which of these bids occurred first. Retaining these cases does not alter our results.

[5] Except where noted we utilize CRSP (historical) SIC codes. Kahle and Walkling (1996) discuss the advantages, disadvantages, and inconsistencies between Compustat and CRSP SIC codes. We use CRSP SIC codes here because of our need for historic SIC codes in a particular industry. In sensitivity tests, we also confirm our primary results regarding dormant periods and abnormal returns using SDC industry classifications. In subsequent tests involving SIC codes for target firms, many of which are private, we use SDC. We note similar differences in classifications between SDC and CRSP. However, since we are not mixing the two sources, this should not be a problem.

sixty-seven four-digit industries had at least one bidder attempting an acquisition. These numbers increase substantially throughout the 1990's, consistent with the increase in acquisition activity previously noted.

We test the anticipation hypothesis assuming that the dormant period (the length of time between acquisitions in an industry) relates to the degree of surprise for a particular bid. To calculate dormant periods we first sort bidding firms chronologically within their primary 4-digit CRSP SIC classification. A dormant period is defined as the number of days since a previous acquisition bid was announced by a firm in the bidder's 4 digit CRSP industry. We define an "*initial industry bidder*" (IIB) as the first firm in an industry to attempt any acquisition bid after a minimum 12-month dormant period without bidders in that industry.

The probability of being an IIB is directly related to the number of firms in an industry. In the results shown in the tables, we eliminate industries with fewer than five firms and also control for the number of firms in an industry in our multivariate tests. Our main conclusions, however, also hold if we restrict our analysis to industries greater than ten or twenty firms.

As one illustration of the dormant period concept consider the Steel Works and Blast Furnace Industry (SIC code 3312). Seventeen firms in this industry made acquisition bids over our sample period. Three of these would be classified as initial industry bidders since the preceding dormant period exceeds one year. The length of these three dormant periods is 2,126 days, 974 days and 388 days. None of the other fourteen bids was preceded by a dormant period lasting more than a year.

The fifth column of Table 1 shows the distribution of initial industry bidders (i.e., bids preceded by a dormant period of at least 12 months). A total of 1024 bids are classified as initial industry bids. Note that while we might expect the number of different industries involved in bids to increase with the overall level of acquisition activity, this is not necessarily true for the number of initial industry bidders. In times of high overall activity, the probability of a long dormant period is reduced; this should limit the number of IIBs. Nevertheless, the number of initial industry bidders remains high throughout the mid to late nineties, dropping only at the end of our sample period.

Some of the initial industry bidders made multiple bids within the next year. We will refer to these as 'program IIBs'. This is an empirically based definition of program bidders; it does not necessarily mean that these firms announced their intention to acquire multiple firms. These firms could also be compared to the 'frequent acquirers' of Fuller, Netter, and Stegemoller (2002) although we do not place restrictions on the number of subsequent bids they make. The last column of Table 1 reveals the time trend of program IIBs is similar to that of the entire sample.

4. Results

4.1 Dormant periods

Our first hypothesis links bidder abnormal returns with the length of the dormant period. Shorter dormant periods involve more regular bidding activity within an industry increasing the likelihood of bid anticipation. Table 2 reveals the distribution of industry dormant periods (in days) between bids for all 5,726 bidders. The mean dormant period preceding all bids in our sample is just over a year, 366 days. However, this value is distorted by extreme outliers, the most extreme value being 7981 days. The median dormant period is just 46 days. Regulated firms made 37% (2138 out of 5726) of the bids in our sample. Most of these bids (1967 bids) were by financial firms (CRSP Sic's beginning with 6); relatively few were made by utilities (171 bids). Because of the differing nature of these industries we are careful to separate results for these firms in our analyses. Indeed, extensive acquisition activity in the financial industry results in dramatically shorter dormant periods. The mean and median dormant periods are 158 days and 16 days respectively; both measures are dramatically shorter than that of the entire sample. Utilities, however, have mean dormant periods similar to the entire sample and median values more than double the sample.

By definition, initial industry bidders (IIBs) have dormant periods exceeding 12 months. The next to last row in Panel A of Table 2 reveals the distribution of dormant periods for the 1024 IIBs. Obviously mean and median dormant periods will be substantially larger than for the analysis of all bidders. Mean and median dormant periods for the IIBs are 1747 and 897 days, respectively. These periods amount to about 4.8 and 2.5 years respectively. There is a wide distribution of dormant periods for initial industry bidders: the lower quartile is 537 days (1 1/2 years) while the third quartile is 2328 days (over 6.4 years). The distribution of dormant periods for the program IIBs, shown in the last row of panel A, displays a distribution quite similar to that of the entire set of IIBs. Note that the dormant periods here are still prior to their first (IIB) bid. Dormant periods for their subsequent bids are included in the set of all bidding firms.

Since the minimum period to define an IIB is one year, an industry can contain multiple initial bidders over the entire sample period. Panel B of Table 2 reveals the distribution of initial industry bidders per industry. The mean and median number of IIBs per industry is 2.87 and 3.00, respectively. Two thirds of our 4-digit industries (67 %) have three or fewer IIBs. One hundred industries have only one IIB over our sample period. Sixty five industries have two initial industry bidders. One hundred and seventeen industries have four or more IIBs. Program IIBs are distributed across multiple industries as well. The last column of panel B shows that 146 different industries had one or more program IIB.

Panel C gives additional detail on the distribution of bids and initial industry bids by regulated and unregulated industries. The increased intensity of bids by financial firms resulted in fewer bids separated by a year or more. Regulated firms make up just 17% (172/1024) of the initial industry bids.

For each of the initial industry bids we check the financial press (Lexis-Nexis and Factiva) to find any press reports around the announcement date. We found press reports listing motives for the acquisition in 707 of the 1024 cases. Details are listed in Panel D of Table 2. Many of the motives are rather vague and overlapping in meaning. For example, the reason cited most often was 'growth' followed by economies of scale. These were by far the most popular reasons. Only 9 cases (0.9%) of the sample listed 'program of acquisitions' as the primary motive.

Panel E displays the number of bids made by the IIBs within a year of their initial bid. Of the 185 program IIBs, 145 make just one other acquisition bid in the next year. Twenty five IIBs make two additional acquisitions over that period. One IIB makes seven bids over this period.

4.2 Bidder abnormal returns and industry dormant periods

We calculate abnormal returns using the market model and standard cumulative abnormal return methodology. Daily returns for 240 days (covering the period t-300 through t-61) are used to estimate market model parameters for each bidding firm where day t represents the announcement date. We require a minimum of 100 daily returns, or the case is deleted. The average abnormal return on day t is calculated as the average difference between actual and estimated returns for the firms analyzed. Cumulative abnormal returns (CAR) summarize the price impact over the two-day period (-1, 0) surrounding the acquisition announcement. Average standardized abnormal returns and average standardized cumulative abnormal returns are used to create test statistics.

Table 3 presents results for all bidders, initial industry bidders (i.e., dormant period greater than one year) and for bidders classified by type of offer (horizontal or non-horizontal) and by the length of the dormant period preceding the bid. The average two-day average abnormal return, averaged across all 5726 bidders is an insignificant 0.04% with a t-statistic of 0.41. Forty-seven percent of these abnormal returns are positive. This is consistent with the widespread result in the literature that bidders generally break even or lose small amounts at the time of an acquisition announcement.

Panel B reports results categorized by various length dormant periods. Dormant periods less than one year are, by definition, those cases where another bid occurred in the industry in the previous 12 months. If the market expectation of subsequent bids is contingent on previous activity in the industry, these are the cases where anticipation effects are most likely to occur. That is, the price of bidders with shorter dormant periods is most likely to reflect anticipation effects. Indeed, the mean abnormal return is an insignificant -0.12% (t-statistics -1.27). By contrast, abnormal returns for bidders with a minimum 12 month dormant periods average 0.77% with a t-statistic of 3.97. In addition, about 53% of IIB abnormal returns are positive, compared to only 46% for bidders with dormant periods less than one year.

Panel B also reveals abnormal bidder returns across dormant periods ranging from one to over five years and beyond five years. Mean and median abnormal bidder returns increase monotonically across less than one year, one to five year and greater than five year categories. Mean abnormal returns across the three classifications rise from -0.12% for less than one year dormant periods to 0.69% for one to five year dormant periods and 0.96% for dormant periods exceeding five years. Median abnormal returns across the three categories of increasing dormant periods are -0.27%, 0.19% and 0.42%, respectively. The increasing pattern of abnormal returns is consistent with the anticipation hypothesis, *conditional on bidding being viewed as a positive activity on average.* The anticipation hypothesis is agnostic about the sign of bidder returns, addressing only the magnitude conditional on the expectation that bidding activity is positive or negative. We will return to this topic in our subsequent analysis. Although the general trend of abnormal returns increases over time, we note that the level of returns does not increase monotonically within the one to five year time frame time. In results not shown, we find that mean abnormal returns are higher in the one to two year range increasing monotonically after declining in the two to three year range. The smaller sample sizes of these yearly categories could be a factor in this result.

Of the 1024 initial industry bidders, 185 make additional acquisition bids in the next year. Panel C compares the abnormal return of program and non-program IIBs. Non-program IIB earn significantly positive abnormal returns around their initial bids, however program IIB earn insignificant returns. We do not find a significant difference across these classifications.

In Panel D we examine the impact of horizontal vs. non-horizontal initial industry bids. A horizontal acquisition is defined as the case where a bidder seeks a target in the same 4-digit SDC SIC code. (We take the SIC code from SDC for both bidder and target in this part of the paper. Many of our target firms are private and not found in CRSP data base.) Given the nature of SIC codes and the reliance on just the primary SIC code, this classification is imperfect. Errors in our classification will bias against our finding significant differences between the categories. Similar results are obtained using 2 digit codes.

At the 4-digit level, abnormal returns for horizontal and non-horizontal acquisitions are both insignificantly different from zero. However, abnormal returns for bidders involved in horizontal and non-horizontal initial bids are significantly greater for dormant periods exceeding one year in comparison to dormant periods of less than one year. This is true for both mean and median returns.

Also of interest, bidders with dormant periods less than 365 days in horizontal acquisitions earn significantly negative abnormal returns averaging -.35% (t-statistic = -2.35) around their own acquisition attempts. Abnormal returns for non-horizontal cases with dormant periods less than a year are insignificantly positive. One interpretation of our results here is that the subsequent bidders involved in horizontal bids are revealing that they do not intend to become targets themselves.

Becoming a bidder signals this information and causes the stock price to decline.[6] Results for Panel D are similar using a two-digit industry classification to define horizontal bids (not shown).

Panel E of table 3 reports results for financial firms. Financial firms earn significant negative abnormal returns of -0.4% at the time of their bid. The pattern is similar across horizontal and non-horizontal bids, with the latter being slightly more negative. These results are driven by the vast majority of financial bids with dormant periods less than one year. Given the intense speculation of consolidation in the financial industry, a bid by a firm signals it is less likely to be a target. Consistent with the results for all firms, financials with dormant periods greater than one year earn significantly greater abnormal returns in comparison to those with shorter dormant periods.

Panel F displays results for utilities. The relatively smaller sample sizes here preclude a definitive analysis. While the overall bidder return is negative in utilities, it is insignificantly negative for the sub-classifications.

The results of Table 3 are consistent with the anticipation hypothesis, conditional on acquisitions being (on average) a positive event. Across all bids, horizontal bids, non-horizontal bids, and across bids by financial firms, the magnitude of abnormal returns is greater for longer dormant periods. This is true for the mean, median and percentage of positive abnormal returns.

4.3 Are the effects of subsequent bidders anticipated?

The anticipation hypothesis suggests that the abnormal returns of subsequent acquisitions are anticipated at the time of the initial industry bidder. A direct test of this is to compare the abnormal return of IIBs with their 4 digit SIC peers classified by whether they will subsequently made a bid

---

[6] Another explanation relates to 'first mover advantages'. Since these are horizontal acquisitions, perhaps the first bidder has acquired the most attractive target. Related to this, the first bidder could now have a dominant advantage in the industry. As a consequence, the subsequent bid is inferior. However, this explanation does not explain why similar bids after one year earn significantly positive returns. Moreover, it is not clear that the subsequent bid is also a horizontal bid. Additional work is needed to establish this result.

themselves (*subsequent bidding* rivals*)* or not make such a bid themselves (*non-bidding* rivals). A subsequent bidder makes a bid after the IIB and before another IIB occurs. Thus, there is no dormant period exceeding 12 months for these subsequent bidders. We do not restrict the analysis to the case where the subsequent bidder targets firms in the same industry as that targeted by the IIB. Finally, note that some IIBs make subsequent bids themselves. Since we want to contrast subsequent bidders with IIBs, we separate these bids in the discussion below.

Table 4 presents some striking results. The first column reveals abnormal returns earned by non-bidding rivals. For the set of all firms (Panel A), non-bidding rivals earn insignificantly positive abnormal returns at the time of the IIB. In calculating these returns we have removed the few cases where non-bidding rivals were targeted at the time of IIB. In contrast, the average abnormal return for the set of all subsequent bidders (not including those subsequently made by the IIB) is significantly positive; the mean abnormal return is 0.18% with a t-statistic of 1.9. Absent anticipation effects (which could include information effects) or collusion, there is no reason for subsequent bidders to earn abnormal returns over the two day window (-1,0) around the IIB. In addition, the return they do earn is closer in magnitude to the abnormal returns of 0.7% earned by the IIBs themselves. This is consistent with the market identifying the subsequent bidders at the time of the initial industry shock and adjusting their prices in a similar fashion to the initial industry bidder. In addition, we checked all 2,289 subsequent bidders to determine if any were targeted by the initial industry bidder. We found only one case. The return of this firm at the time of the IIB was only 2.41%. Our results are not sensitive to the inclusion of this case.

Similar results are obtained when the sample is restricted to cases where the *initial* bid is horizontal (Panel B) Returns to both bidding and non-bidding rivals following non-horizontal initial bids (Panel C) are insignificantly different from zero. Returns to the IIBs themselves are significantly positive. Abnormal returns following horizontal bids reveal a different story. Here, abnormal returns for subsequent bidders are significantly positive at the time of the first IIB announcement averaging 0.5%.

At the time of an acquisition announcement, the market evaluates a firm's bid as increasing or decreasing value. We know from the literature (and this paper) that slightly more than 50% of bidder abnormal returns are typically negative. As we have mentioned repeatedly, the anticipation hypothesis is agnostic about the direction of these returns asserting that regardless of sign, anticipated effects will be reflected in the returns of rivals.

In the last two panels of Table 4 we categorize our sample by the sign of the IIB's abnormal return. Absent anticipation effects, however, there is no direct linkage between initial IIB returns and the magnitude or sign of simultaneously measured returns for rival firms. It is possible that collusion could explain contemporaneous positive returns surrounding positive initial IIBs, especially for horizontal acquisitions. However, this would not explain any such similarity surrounding negative initial IIB returns. Results of these panels indicate that mean and median returns to subsequent bidders measured at the time of the IIB, are significantly positive for the positive IIBs and significantly negative for the negative IIBs. More than 53% of the returns to subsequent bidders are positive at the time a positive IIB is announced in their industry. Less than 40% of the returns to subsequent bidders are positive at the time of a negative IIB in their industry. These results are strongly supportive of the anticipation hypothesis. The mean and median for non-bidding rivals do not appear to reflect the signs of the IIB return. The mean return for non-bidding rivals, however, is much more positive and closer to significance (t-value = 1.64) in the case of positive IIB returns. Results for program IIBs, reported in the next to last column, are similar in spirit to Schipper and Thompson (1983). Significant abnormal returns are earned at the time of the first bid announcement.

Table 5 repeats this analysis for financial industries. (Results for utilities are not presented due to the rather small sample size.) With a few exceptions, results are similar to the set of all firms. Consistent with the previous analysis, financial firms that will be subsequent bidders earn significant abnormal returns (averaging 0.3%) at the time of their IIB. Also consistent with the set of all firms, they earn significantly positive abnormal returns when their IIB has positive abnormal returns. In contrast to the results for all firms, however, financials earn significantly positive abnormal returns when their IIB engages in a non-horizontal acquisition. Non-bidding rivals earn significantly positive abnormal returns when the initial bid is horizontal, perhaps reflecting the possibility that they might be targets themselves. They also earn significant returns when the initial bid is positive.

4.4 Direct tests of the anticipation hypothesis

To perform a more stringent test of the anticipation hypothesis we ask whether the prices of rivals adjust to in proportion to the magnitude of the return earned by the initial industry bidder. The dependent variable is the abnormal return for each rival at the time the IIB for their industry is announced. We regress this against the contemporaneous return earned by the initial bidder itself defined as IIBCAR. A positive coefficient is consistent with the anticipation hypothesis. In particular, a positive coefficient for IIBCAR indicates that the return to the rival is reacting (in a similar fashion) to the shock that the IIB causes in its industry. In our analysis we also specify dummy variables for subsequent bidders, financial firms, utilities, and the interaction of these terms. We allow the slope and intercept of our regressions to vary with each of these classifications. Thus, the interaction variable, IIBCAR*SBDUM captures the differential slope coefficient for subsequent bidders with respect to changes in magnitude of the initial bidders abnormal return.

Results are shown in Table 6. Panel A reveals results using the individual observations for the entire sample. Throughout the table we find that the returns for subsequent bidders, financial firms and utilities are indistinguishable from non-bidding rivals.[7] This is also true for the relevant interaction of these variables. However, with the exception of the horizontal initial acquisitions, all regressions reveal positive and highly significant coefficients for IIBCAR. That is, abnormal returns to all rivals (including subsequent bidders and non-bidders) react in proportion to the return earned by the initial bidder. Intriguing results are also found for the interaction variable allowing the slope coefficient for subsequent bidders to vary (IIBCAR*SBDUM). The significantly positive value for this variable in all but one of the regressions reveals that as the initial bidder's abnormal return increases, the abnormal returns to firms that will be subsequent bidders increase at a significantly faster rate than that of non-bidders. As in the previous table, results are strongly consistent with the anticipation hypothesis.

The regressions of Panel A involve clustering of returns; all returns for initial and subsequent bidders are clustered on the announcement day of the IIB. Brown and Warner (1985) do not find such clustering to be a problem. Indeed, the solution to this approach, forming portfolios, results in a loss of information and power. Nevertheless, we also utilize a portfolio approach grouping subsequent bidders associated with a particular IIB into a portfolio and repeating the experiment. Results, shown in Panel B, are generally similar for IIBCAR. The abnormal returns to all rivals tend to adjust significantly with changes in the abnormal return to the initial bidder. Returns for

---

[7] The nature of regulation in the financial industry has changed markedly in recent years. In particular the Reigle-Neal act of 1994 permitted interstate banking on a broad scale. To see if this had an impact on the financial firms in our sample we add a dummy variable equal to one for financial firms occurring later than 1994. The coefficient is insignificant.

the differential slope coefficient on subsequent bidders (SBDUM*IIBCAR) are generally insignificant in this table. The interpretation of the different results for this slope coefficient hinge on one's belief about the power argument of Brown and Warner. Nevertheless, the significant coefficient on IIBCAR in both panels is strongly supportive of the anticipation hypothesis.

4.5 Multivariate Analysis of the anticipation hypothesis

Table 7 contains a multivariate analysis of the first two implications of the Bidder Anticipation Hypothesis. In particular, we examine the multivariate relation between bidder abnormal returns and the length of the industry dormant period while controlling for other variables known to be related to abnormal returns. The sample here consists of all bidding firms including initial and subsequent bidders. Results are shown for all firms (columns 1 through 4), and for the subset of firms that are initial industry bidders (columns 5 through 7). A broad set of control variables, identified in the literature as relating to bidder returns is used to control for other factors. The various regressions differ in the particular specification of the dormant period. The first two columns reveal the relation between abnormal returns and the length of the dormant period measured in days. Regression 3 uses a dummy variable set equal to one for dormant periods exceeding a year. Regression 4 uses three different dummy variables for various length dormant periods. Regressions 5 through 7 repeat these specifications for the set of initial industry bidders.

In all specifications, the results are consistent with the anticipation hypothesis. For the set of all firms and for the subset of initial industry bidders, abnormal returns are significantly positively related to the length of the dormant period. The only deviation from significant results for the coefficients of the dormant period variables occurs in regression 4. Here we use three dummy variables to contrast various length dormant periods to those less than a year (which is contained in the intercept). Results are insignificant for dormant periods between five and ten years, but significant for both shorter (one to five year) and longer (beyond ten year) dormant periods. This is consistent with the pattern noted in our univariate results.

Similar to the work of Fuller, Netter, and Stegemoller (2002), we find that bidder abnormal returns are significantly higher when a private firm is the target and are lower in stock offers. Consistent with Moeller and Schlingemann (2004) we find that bidder returns are significantly higher when US firms acquire domestic targets compared to foreign targets. (The magnitudes of our coefficients also appear similar to theirs.) Also of interest is the fact that the number of firms in an industry is insignificantly related to abnormal returns for the set of all firms. For the set of initial industry bidders, however, abnormal returns are significantly positively related to the number of firms in the industry.

5. Conclusions

A dominant fact affirmed in over thirty years of the acquisition literature is that bidding firms earn zero to slightly negative abnormal returns. To the best of our knowledge, none of these efforts control for anticipation effects within an industry. Nevertheless, to the extent that an initial bid in an industry signals subsequent bidding activity by rival firms, we can expect prices to adjust. This will attenuate any subsequent announcement effect.

To examine this, we develop and test the bidder anticipation hypothesis. Two implications of this hypothesis are that bidder returns will be greater in absolute value for unexpected acquisitions and that these returns are positively related to the degree of surprise surrounding the bid announcement. A third implication is that the price of subsequent bidders will react to the shock of the initial industry bidder.

Our tests use the dormant period, the length of time since another bidding attempt by a firm in the same 4-digit industry, as a measure of surprise. After categorizing bidders by the length of the dormant period preceding their announcement, we find dramatically different results. Bidders with dormant periods of less than a year earn abnormal returns insignificantly different from zero. Bidders with dormant periods exceeding a year earn significantly positive abnormal returns. Returns also increase significantly with the length of the dormant period. Our results hold for multiple definitions of the dormant period and after controlling for variables known to influence bidder returns. In addition, abnormal returns to subsequent bidders measured at the time of the initial industry bid, vary in sign and magnitude with returns earned by the initial industry bidder. This is direct evidence of anticipation.

An alternate explanation for one of our results (increased returns to the initial bidder) is the first mover hypothesis which asserts that initial bidders earn larger returns by being first to establish a strategic competitive advantage. This hypothesis is interesting and deserving of a detailed formal analysis. Although such an analysis of the first mover hypothesis is beyond the scope of this paper, we can assert the independent importance of the anticipation hypothesis. Three arguments support this claim. First, abnormal returns increase with the length of the dormant period. This result is predicted by the anticipation hypothesis but not the pure form of the first mover hypothesis. Although the first mover hypothesis could be adjusted to assert greater advantages following longer dormant periods, the theory would need to be developed and incorporate reasons why competitive pressures did not shorten the dormant period. That is, with increasing gains bidders would be encouraged to bid more quickly. A second reason to assert why the anticipation hypothesis exists apart from the first mover hypothesis is that the first mover hypothesis is likely to be predominant in horizontal or vertical acquisitions. We find adjustment of rival prices across all forms of acquisitions. These adjustments tend to be greater for firms that will be subsequent bidders. Third, and most compelling, we find that the abnormal returns to subsequent bidders adjust at the time of the initial industry bid. Moreover, they adjust in proportion to the returns earned by the initial bidder. This effect is pervasive across all rivals of initial bidders and there is some evidence that the market adjusts the contemporaneous returns of subsequent bidders at a greater rate than for non-bidding rivals. Returns for all rivals adjust in sign, magnitude and proportion to the returns of the initial industry bidder. These effects are predicted by the anticipation hypothesis but not by the first mover hypothesis.

References

Akbulut, M. E. and Matsusaka, J. G., 2003 Fifty Years of Diversification Announcements, Working paper, University of Southern California

Andrade, G., Mitchell, M., Stafford, E. 2001. New Evidence and Perspectives on Mergers. Journal of Economic Perspectives 15(2), 103-120.

Barney Jay B., Returns to Bidding Firms in Mergers and Acquisitions: Reconsidering the Relatedness Hypothesis Strategic Management Journal, Vol. 9, (Summer, 1988), pp. 71-78.

Betton, S., Eckbo, E., 1997. State-contingent payoffs in takeovers: new structural estimates. Unpublished working paper. Stockholm School of Economics.

Boone, A., Mulherin, J. H. 2002. Corporate Restrucutring and Corporate Auctions. Unpublished working paper. Claremont McKenna College.

Bradley, M., Desai A., Kim E., 1983. The rationale behind interfirm tender offers: Information or Synergy? Journal of Financial Economics 11, 183-206.

Brown and Warner, Using daily stock returns: the case of event studies, Journal of Financial Economics, 1985, 14, 3-32.

Comment R., Schwert G., 1995. Poison or Placebo? Evidence on the deterrence and wealth effects of modern antitakeover measures. Journal of Financial Economics 39, 3-43.

Cottrell, Tom and Gordon Sick, “First-Mover (Dis)advantage and Real Options” Journal of Applied Corporate Finance, Summer 2001, Volume 14, Number 2

Daines Robert, Does Delaware law improve firm value?. Journal of Financial Economics, 2001, vol. 62, issue 3, pages 525-558..

Dong, M., Hirshleifer, D., Richardson, Scott, Teoh, S. H., 2003. Does Investor Misvaluation Drive the Takeover Market? Unpublished working paper. The Ohio State University.

Eckbo, E., 1983. Horizontal mergers, collision, and stockholder wealth. Journal of Financial Economics 11, 241-273.

Eckbo, E., 1985. Mergers and the market concentration doctrine: Evidence from the capital market. Journal of Business 58, 325-349.

Eckbo, E., 1992. Mergers and the value of antitrust deterrence. Journal of Finance 47, 1005-1029.

Eckbo B.E., Thorburn K.S., Gains to bidder firms revisited: Domestic and foreign acquisitions in Canada, Journal Of Financial And Quantitative Analysis, 35 (1): 1-25 Mar 2000

Eckbo, E., Wier, P., 1985. Antimerger policy under the Hart-Scott-Rodino Act: A reexamination of the market power hypothesis. Journal of Law and Economics 28, 119-149.

Fuller, Kathleen; Netter, Jeffry; and Stegemoller, Mike, What Do Returns to Acquiring Firms Tell Us? Evidence from Firms That Make Many Acquisitions, Journal of Finance, August 2002, v. 57, iss. 4, pp. 1763-

Gort, Michael, 1969, "An Economic Disturbance Theory of Mergers" Quarterly Journal of Economics, 83, pp. 624-42

Harford, J. 2003. Efficient and Distortional Components to Industry Merger Waves. Unpublished working paper. University of Washington.

Hasbrouck, J., 1985. The characteristics of takeover targets, Q and other measures. Journal of Banking and Finance 9, 351-62.

Hubbard, R. Glenn and Palia, Darius, Benefits of Control, Managerial Ownership, and the Stock Returns of Acquiring Firms, The RAND Journal of Economics, Vol. 26, No. 4,. (Winter, 1995), pp. 782-792.

Huang, Yen-Sheng, and Walkling, R. "Target Abnormal Returns Associated with Acquisition Announcements: Payment, Acquisition Form, and Managerial Resistance " The Journal of Financial Economics, Vol 19, No. 2, (December 1987): 329-349.

Jarrell G.A., Poulsen A.B., The Returns To Acquiring Firms In Tender Offers - Evidence From 3 Decades, Financial Management, 18 (3): 12-19 Fall 1989

Jensen, M., 1988. comment on "Characteristics of hostile and friendly takeover targets", by Morck, R., Shleifer, A., Vishny, R.. In Auerbach, A. (Ed.) Corporate Takeovers, Causes and Consequences. University of Chicago Press, Chicago.

Jovanovic, B., Braguinsky, S. 2002. Bidder Discounts and Target Premia in Takeovers. NBER Working Paper Series.

Kahle, K., Walkling, R., 1996. The impact of industry classifications on financial research. Journal of Financial and Quantitative Analysis 31, 309-335.

Lang, L., Stulz, R., and Walkling, R. A Test Of The Free Cash Flow Hypothesis: The Case Of Bidder Returns" The Journal of Financial Economics (October 1991):315-337.

Malatesta, Paul, and Rex Thompson, 1985 Paritally Anticipated Events: A model of stock price reaction with an application to corporate acquisitions, Journal of Financial Economics 14, 237-250.

Malmendier, U., Tate, G. 2002. Who Makes Acquisitions? CEO Overconfidence and the Market's Reaction. Unpublished working paper. Stanford University.

McConnell, J., Servaes, H., 1990. Additional evidence on equity ownership and corporate value. Journal of Financial Economics 27, 595-612.

Mikkelson, W., Partch, M., 1989. Managers' voting rights and corporate control. The Journal of Financial Economics 25, 263-290.

Mitchell, M., Mulherin, H., 1996. The impact of industry shocks on takeover and restructuring activity. The Journal of Financial Economics 41, 193-229.

Moeller, Sara B. and Frederik P. Schlingemann, 2004, Global diversification and bidder gains: A comparison between cross-border and domestic acquisitions, Journal of Banking and Finance (forthcoming).

Moeller, S., Schlingemann, F., Stulz, R. 2003a. Do Shareholders of Acquiring Firms gain from Acquisitions? NBER Working Paper Series.

Moeller, S., Schlingemann, F., Stulz, R. 2003b Wealth destruction on a massive scale: A study of acquiring-firm returns in the merger wave of the late 1990s. Unpublished working paper. The Ohio State University.

Morck, R., Shleifer, A., Vishny, R., 1988. Management ownership and market valuation: An empirical analysis. Journal of Financial Economics 20, 293-316.

Nelson, R. 1959, Merger Movements in American Industry, 1895-1956, Princeton University Press

Palepu, K., 1986. Predicting takeover targets. Journal of Accounting and Economics 8, 3-35.

Rhodes-Kropf, M., Viswanathan, S. 2003. Market Valuation and Merger Waves. Unpublished working paper. Columbia University.

Schipper, Katherine and Rex Thompson (1983), "Evidence on the Capitalized Value of Merger Activity for Acquiring Firms," Journal of Financial Economics 11, pp. 85-119.

Schnaars, Steven P., *Managing Imitation Strategies: How Later Entrants Seize Markets From Pioneers*, The Free Press, New York, 1994.

Shleifer, A. and R. Vishny, 2002, "Stock Market Driven Acquisitions," Working paper, Harvard University and University of Chicago

Song, M., Walkling, R., 1993. The impact of managerial ownership on acquisition attempts and target shareholder wealth. The Journal of Financial and Quantitative Analysis 28, 439-457.

Song, M., Walkling, R., 2000, "Abnormal Returns To Rivals Of Acquisition Targets: A Test Of The 'Acquisition Probability Hypothesis' " with Moon H. Song The Journal of Financial Economics Vol 55, 2: 143-172

Stillman, R., 1983. Examining antitrust policy towards horizontal mergers. Journal of Financial Economics 11, 225-240.

Toxvaerd, Flavio, 2002, Strategic Merger Waves: A theory of Musical Chairs. Unpublished working paper. Universidade Nova de Lisboa.

Travlos, Nickolaos G Corporate Takeover Bids, Methods of Payment, and Bidding Firms' Stock Returns, The Journal of Finance, Vol. 42, No. 4. (Sep., 1987), pp. 943-963.

Wansley, J., Lane, W., and Yang H. "Abnormal Returns to Acquired Firms By Type of Acquisition and Method of Payment," Financial Management, Vol. 12, No. 3, (Autumn 1983), pp. 16-22.

Table 1: Distribution of acquisition bids over the sample period. The sample consists of all US bidders on the SDC database announcing both domestic and international acquisition bids above $10 million over the period 1/1/1985 through 12/31/2001. This produces an initial sample of 14,564 deals. We delete cases where CRSP Sic codes or CRSP returns are not available to calculate abnormal returns. We also delete bidders in industries with a small number of firms (initially this is defined as fewer than five firms). This results in a sample of 5726 bidders. "An initial industry bidder" (IIB) is the first firm in a 4-digit CRSP SIC code to make a bid after a minimum 12-month dormant period without bids by other firms in the industry.

Year	N	% of Total	# of 4 digit industries with at least one bidder	# initial industry bidders (IIB)	# of IIBs making additional bids within 1 year (program IIBs)
1985	138	2.4%	67	37	2
1986	174	3.0%	71	51	8
1987	167	2.9%	73	44	6
1988	161	2.8%	77	46	6
1989	168	2.9%	70	46	2
1990	111	1.9%	56	37	5
1991	134	2.3%	63	43	7
1992	185	3.2%	86	62	7
1993	273	4.8%	105	71	17
1994	388	6.8%	119	62	14
1995	442	7.7%	154	90	17
1996	507	8.9%	152	74	16
1997	593	10.4%	164	89	30
1998	667	11.7%	178	87	20
1999	606	10.6%	154	64	17
2000	611	10.7%	153	71	9
2001	401	7.0%	116	50	2
Total	5726	100.0%	370*	1024	185

* There are 370 unique industries with at least one bidder over the sample period.

Table 2: Distribution of dormant periods and initial industry bidder activity. Panel A shows the distribution of dormant periods. To calculate dormant periods we first sort each of the 5726 acquisition bids chronologically within each four digit (CRSP) industry. A dormant period is defined as the length of time since a previous bidding announcement in the same 4-digit CRSP industry. "An initial industry bidder" (IIB) is the first firm in a 4-digit CRSP SIC code to make a bid after a minimum 12-month dormant period. In row 1, results for all bidders are used. Rows 2-4 present results for bidders in regulated firms. Row 5 presents results for all initial industry bidders. Row 6 presents results for IIBs making additional bid(s) within a year. Panel B shows the number of industries and the associated number of IIBs over the sample period. We define bidders making subsequent bids within one year as program bidders. Panel C shows the distribution of initial industry bids by type of industry. Panel D presents motives mentioned for the 1024 IIBs. Panel E reveals the number of subsequent bids made by program IIBs within one year after their initial announcement.

Panel A: The distribution of dormant periods

Level	N	Mean	Min	Q1	Median	Q3	Max
All bidding firms	5726	366	1	10	46	213	7981
Regulated	2138	174	1	5	16	67	7981
Financial	1967	158	1	5	14	54	7981
Utility	171	352	1	26	94	289	4441
IIBs	1024	1747	366	537	897	2328	7981
Program IIBs (i.e. making additional bids within 1 year)	185	1627	366	490	854	1788	7168

Panel B: The number of industries and the associated number of IIBs

# IIB	# Industries with this many IIBs	% Industries with this many IIBs	# Industries with this many program bidders
1	100	28	113
2	65	18	28
3	75	21	4
4	56	16	1
5	33	9	0
6	20	6	0
7	4	1	0
8	4	1	0
	357	100%	146

The mean and median number of IIBs per industry is 2.87 and 3.00, respectively.

Panel C: The distribution of initial industry bidders classified by industry

Industry	# of IIB	# of bids over the sample
Unregulated	852	3588
Financial	134	1967
Utility	38	171
Regulated (finance/utility)	172	2138
	1024	5726

Table 2, continued

Panel D. Motives mentioned in the press for the initial industry bids

Reason	**# Firms**	
Growth	263	25. 68%
Economies of scale	256	25.00%
Acquire technology	73	7. 13%
International expansion	55	5.37%
Vertical integration	35	3. 42%
Price	10	0.98%
Program of acquisitions	9	0.89%
Other reasons Quality of Management/ HR	6	0. 59%
No article found or no explicit reason given	317	30.96%
Total	1024	100.00%

Panel E: The number of subsequent bids made by 'Program' IIBs

# of total bids including IIB	# of IIB making additional this many bid within a year
2	145
3	25
4	6
5	3
6	5
7	1
	185

Table 3: Cumulative announcement period (-1,0) abnormal returns for bidding firms categorized by dormant period and type of acquisition. Panels A and B reveal abnormal returns classified by length of dormant period. Other panels contain information on abnormal returns classified by form of the industry and type of bid. The abnormal return for each firm is defined as the residual from the market model. Abnormal returns are cumulated over the two-day announcement period (-1,0), where 0 is the announcement date of the initial industry target. The letter D represents dormant period. To calculate dormant periods we first sort each of the 5726 acquisition bids chronologically within each four digit (CRSP) industry. The dormant period is the length of time preceding a bid without other bids in the same industry. t-statistics are shown in parentheses. Panel D show results for horizontal and non-horizontal bids. Horizontal is defined as a case where the initial bidder seeks a target in the same 4 digit (SDC) SIC codes. Similar results are obtained with 2-digit SIC codes.

	N	Mean	Median	% Pos.
Panel A: Results for all firms				
All	5726	0.04 (0.41)	- 0.21	47%
Panel B: Results for various dormant				
D<=1 yr	4702	- 0.12 (- 1.27)	- 0.27	45.8%
D>1 yr (IIBs)	1024	0.77 (3.97***)	0.29	52.6%
Difference t-stat between D<1yr vs D>1yr		3.94***		
5yrs >=D> 1 yr	710	0.69 (3.08***)	0.19	51.7%
5 yrs <D	314	0.96 (2.52**)	0.42	54.5%

	N	Mean	Median	% Pos.
Panel C: Results Program and non-program IIBs				
Program IIB	185	0.45 (1.27)	0.35	52.4%
Non-program IIB	839	0.85 (3.78***)	0.29	52.7%

Continued on next page.

Table 3, Continued

		N	Mean	Median	% Pos.
Panel D Analysis of horizontal and non-horizontal initial acquisition bids					
All	Horizontal	2065	-0.112 (-0.83)	-0.189	47.3
	Non-horizontal	3661	0.120 (1.05)	-0.207	46.9
	Difference t-stat		1.28		
Horizontal	D<= 1 yr	1710	-0.346 (-2.35**)	-0.273	45.8
	D> 1 yr (IIBs)	355	1.014 (3.09***)	0.431	54.1
	Difference t-stat		3.82***		
Non-horizontal	D<= 1 yr	2992	0.002 (0.02)	- 0.273	45.8
	D> 1 yr (IIBs)	669	0.647 (2.67***)	0.242	51.7
	Difference t-stat		2.19**		
Panel E: Analysis of horizontal and non-horizontal initial acquisition bids in financials					
All	All	1967	-0.439 (-5.42***)	-0.330	43.5
	Horizontal	695	-0.339 (-2.58***)	-0.236	46.0
	Non-horizontal	1272	-0.494 (-4.84***)	-0.391	42.1
	Difference t-stat		0.92		
Horizontal					
	D<= 1 yr	642	-0.449 (-3.28***)	-0.279	45.0
	D> 1 yr (IIBs)	53	1.000 (2.29**)	0.245	58.5
	Difference t-stat		2.93***		
Non-horizontal					
	D<= 1 yr	1191	-0.578 (-5.84***)	-0.404	41.4
	D> 1 yr (IIBs)	81	0.743 (1.14)	0.280	51.9
	Difference t-stat		2.00**		

Continued on next page.

Table 3, Continued

		N	Mean	Median	% Pos.
Panel F: Analysis of horizontal and non-horizontal initial acquisition bids in utility industries					
All	All	171	-0.635 (-1.97**)	-0.199	44.4
	Horizontal	80	-0.571 (-1.43)	-0.305	43.8
	Non-horizontal	91	-0.691 (-1.39)	-0.179	45.1
	Difference t-stat		0.19		
Horizontal					
	D<= 1yr	67	-0.488 (-1.07)	-0.199	44.8
	D>1yr (IIBs)	13	-1.000 (-1.37)	-0.975	38.5
	Difference t-stat		0.47		
Non-horizontal					
	D<= 1yr	66	-0.623 (-1.05)	-0.133	47.0
	D>1yr (IIBs)	25	-0.871 (-0.95)	-0.206	40.0
	Difference t-stat		0.22		

***, **, and * denote statistical significance at the 1-percent, 5-percent, and 10-percent levels, respectively, in two-tailed tests.

Table 4: Abnormal returns of rival and subsequent bidding firms calculated at the time of initial industry bid. This table examines abnormal returns earned by rivals defined as those firms in the same 4-digit industry as the IIB. Some of these firms bid after the IIB, some do not. Abnormal returns for all firms are calculated at the time of the IIB announcement. The first two columns contain results for rival firms and IIBs. Some of the subsequent bids were made by IIBs themselves. (These IIBs are termed 'program bidders'.) The subsequent bids by these 'program bidders' are deleted in the analysis of the fourth column and reported separately in the fifth column. Horizontal is defined as a case where the initial bidder seeks a target in the same 4 digit (SDC) SIC codes. Similar results are obtained with 2-digit SIC codes.

Continued on next page

Table 4, continued. Abnormal returns of rival and subsequent bidding firms calculated at the time of initial industry bid.

		Non Bidders (rival firms)	IIB	All subsequent bids	Subsequent bids (Excluding bids by IIB)	Subsequent bids by IIBs	Non Bidders vs SB(Excluding Bids by IIB) t-test
Panel A All	N	17,867	1,024	2,289	2,041	248	
	Mean	0.047	0.774	0.242	0.180	0.750	
	t-stat	(1.00)	(3.97***)	(2.66***)	(1.91*)	(2.31**)	1.25
	Median	-0.100	0.289	-0.032	-0.073	0.590	
	%+	47.2	52.5	48.8	47.8	56.9	
Panel B							
IIB is	N	7,138	355	898	823	75	
Horizontal	Mean	0.079	1.014	0.595	0.500	1.631	
	t-stat	(1.04)	(3.09***)	(3.94***)	(3.21***)	(2.91***)	2.41**
	Median	-0.076	0.431	0.214	0.069	1.363	
	%+	47.6	54.1	53.1	52.1	64.0	
Panel C							
IIB is Non-	N	10,729	669	1,391	1,218	173	
horizontal	Mean	0.025	0.647	0.015	-0.036	0.368	
	t-stat	(0.42)	(2.67***)	(0.13)	(0.31)	(0.93)	0.46
	Median	-0.116	0.242	-0.190	-0.214	0.377	
	%+	46.9	51.7	46.0	44.9	53.8	

Continued on next page.

Table 4, continued. Abnormal returns of rival and subsequent bidding firms calculated at the time of initial industry bid.

		Non Bidders (rival firms)	IIB	All subsequent bids	Subsequent bids (Excluding bids by IIB)	Subsequent bids by IIB	Non Bidders vs SB(Excluding Bids by IIB) t-test
Panel D							
CAR of IIB	N	9,634	538	1.389	1,248	141	
is positive	Mean	0.113	4.435	0.834	0.500	3.791	
	t-stat	(1.64)	(17.96***)	(6.73***)	(3.88***)	(10.77***)	2.65***
	Median	-0.079	2.742	0.632	0.196	2.879	
	%+	47.8	100.0	58.0	53.2	100	
Panel E							
CAR of IIB	N	8,233	486	900	793	107	
is negative	Mean	-0.031	-3.278	-0.672	-0.323	-3.256	
	t-stat	(0.51)	(19.40***)	(5.38***)	(2.45**)	(10.82***)	2.05**
	Median	-0.126	-2.159	-0.795	-0.562	-2.425	
	%+	46.5	0	34.7	39.3	0	

Table 5: Financials; Abnormal returns of rival and subsequent bidding firms calculated at the time of initial industry bid. This table examines abnormal returns earned by rivals in financial industries (SIC codes beginning with 6). Rivals are defined as those firms in the same 4-digit industry as the IIB. Some of these firms bid after the IIB, some do not. Abnormal returns for all firms are calculated at the time of the IIB announcement. The first two columns contain results for rival firms and IIBs. Some of the subsequent bids were made by IIBs themselves. (These IIBs are termed 'program bidders'.) The subsequent bids by these 'program bidders' are deleted in the analysis of the fourth column and reported separately in the fifth column. Horizontal is defined as a case where the initial bidder seeks a target in the same 4 digit (SDC) SIC codes. Similar results are obtained with 2-digit SIC codes

Continued on next page

Table 5, continued.

		Non-bidders (rival firms)	IIB	All subsequent bids	Subsequent bid (Excluding bids by IIB)	Subsequent bids by IIB	Non Bidders vs. SB(Excluding Bids by IIB) t-test
Panel A							
All	N	4,392	134	520	487	33	
	Mean (t-value)	0.099	0.845	0.267	0.294	-0.123	
	t-stat	(1.52)	(1.97**)	(2.04**)	(2.16**)	(0.25)	0.97
	Median	-0.064	0.262	0.007	0.017	-0.756	
	%+	46.8	54.5	50.2	50.7	42.4	
Panel B							
IIB is Horizontal	N	2,029	53	148	140	8	
	Mean	0.207	1.000	0.192	0.153	0.889	
	t-stat	(2.30**)	(2.29**)	(0.91)	(0.73)	(0.69)	0.16
	Median	-0.041	0.245	0.153	0.153	0.318	
	%+	47.3	58.5	55.4	55.7	50.0	
Panel C							
IIB is Non-horizontal	N	2,363	81	372	347	25	
	Mean	0.006	0.743	0.297	0.351	-0.447	
	t-stat	(0.06)	(1.14)	(1.82*)	(2.05**)	(0.86)	1.38
	Median	-0.078	0.280	-0.002	-0.002	-0.795	
	%+	46.3	51.9	48.1	48.7	40.0	

Continued on next page

Table 5 continued.

		Non-bidders (rival firms)	IIB	All subsequent bids	Subsequent bid (Excluding bids by IIB)	Subsequent bids by IIB	Non Bidders vs. SB(Excluding Bids by IIB) t-test
Panel D							
CAR of IIB	N	2,069	73	354	340	14	
is positive	Mean	0.249	3.623	0.482	0.402	2,427	
	t-stat	(2.18**)	(6.61***)	(3.03***)	(2.47**)	(4.37***)	0.77
	Median	-0.043	2.174	0.680	0.389	1.640	
	%+	47.5	100	57.1	55.3	100	
Panel E							
CAR of IIB	N	2,323	61	166	147	19	
is negative	Mean	-0.035	-2.48	-0.191	0.043	-2.003	
	t-stat	(0.51)	(6.91***)	(0.83)	(0.17)	(5.20***)	0.28
	Median	-0.078	-1.409	-0.467	-0.374	-1.548	
	%+	46.2	0	35.5	40.1	0	

***, **, and * denote statistical significance at the 1-percent, 5-percent, and 10-percent levels, respectively, in two-tailed tests.

Table 6: Are the anticipated returns to rival firms proportional to those of the initial industry bidder? This table shows OLS regressions relating subsequent bidders' and non- bidders' abnormal returns to initial bidders abnormal returns measured at the time of the IIB. The dependent variable is the subsequent bidder's and non-bidders' abnormal return over the two-day announcement period (-1,0) for the IIB. The independent variable is the initial industry bidders' abnormal return measured over the same period. T-statistics are shown in parentheses. Panel A shows the results of individual regressions. In Panel B, we group all rivals of an initial industry bidder into a portfolio and repeat the analysis.

Panel A: Individual Approach

	All cases	All Cases	Horizontal	Non-horizontal	Positive IIB CAR	Negative IIB CAR
Constant	0.02	-0.00	0.03	-0.01	-0.04	0.13
	(0.45)	(-0.04)	(0.35)	(-0.26)	(-0.39)	(1.41)
IIB's abnormal return (IIBCAR)	2.07	2.13	0.38	4.01	2.00	4.44
	(3.08***)	(3.14***)	(0.40)	(4.17***)	(1.97**)	(2.52**)
Subsequent bidder dummy (SBDUM)	-0.07	-0.07	0.12	-0.23	-0.13	-0.07
	(-0.49)	(-0.43)	(0.42)	(-1.03)	(-0.45)	(-0.18)
IIBCAR*SBDUM	6.77	6.82	7.50	7.21	7.37	6.15
	(4.19***)	(4.11***)	(3.67***)	(2.19**)	(3.33***)	(0.78)
Financial Dummy (FINDUM)		0.10	0.17	0.03	0.23	-0.07
		(0.93)	(1.05)	(0.22)	(1.38)	(-0.48)
SBDUM*FINDUM		0.24	0.18	0.55	0.29	-0.00
		(0.70)	(0.21)	(1.35)	(0.39)	(-0.01)
SBDUM*IIBCAR*FINDUM		-4.77	-24.66	-3.57	-7.38	-11.97
		(-0.55)	(-0.85)	(-0.37)	(-0.32)	(-0.64)
Utility Dummy (UTIDUM)		-0.05	-0.29	0.07	0.06	-0.17
		(-0.21)	(-0.69)	(0.27)	(0.15)	(-0.65)
SBDUM*UTIDUM		-0.90	-0.09	-0.78	-1.45	-0.55
		(-1.35)	(-0.05)	(-0.95)	(-0.37)	(-0.62)
SBDUM*IIBCAR*UTIDUM		2.94	-19.11	12.11	3.76	19.67
		(0.13)	(-0.47)	(0.36)	(0.04)	(0.56)
Adj R^2	0.00	0.00	0.00	0.00	0.00	0.00
F-stat	15.53	5.74	2.86	4.03	3.65	1.54
p-value	0.00	0.00	0.00	0.00	0.00	0.13
N	19,907	19,907	7960	11,947	10,882	9,025

Panel B: Portfolio Approach

	All cases	All Cases	Horizontal	Non-horizontal	Positive IIB CAR	Negative IIB CAR
Constant	0.105	0.16	0.23	0.13	0.10	0.26
	(1.14)	(1.60)	(1.57)	(0.98)	(0.62)	(1.27)
IIB's abnormal return (IIBCAR)	4.60	4.56	1.60	6.08	4.83	5.87
	(3.15***)	(3.12***)	0.75	(3.13***)	(2.39**)	(1.53)
Subsequent bidder dummy (SBDUM)	-0.11	-0.17	-0.23	-0.14	-0.81	0.42
	(-0.63)	(-0.86)	(-0.80)	(-0.54)	(-2.67***)	(0.92)
IIBCAR*SBDUM	2.79	3.39	0.85	4.10	9.25	7.74
	(1.02)	(1.19)	(0.19)	(1.12)	(2.54**)	(0.78)
Financial Dummy (FINDUM)		-0.34	-0.28	-0.39	-0.21	-0.51
		(-1.27)	(-0.76)	(-1.05)	(-0.62)	(-1.17)
SBDUM*FINDUM		0.61	0.19	0.94	0.49	0.18
		(1.18)	(0.25)	(1.32)	(0.66)	(0.17)
SBDUM*IIBCAR*FINDUM		-8.81	-6.87	-9.18	-0.79	-24.95
		(-0.98)	(-0.33)	(-0.87)	(-0.06)	(-1.06)
Utility Dummy (UTIDUM)		-0.29	-0.48	-0.20	-0.14	-0.42
		(-0.60)	(-0.69)	(-0.31)	(-0.19)	(-0.62)
SBDUM*UTIDUM		-0.55	0.38	-0.97	0.00	-0.39
		(-0.60)	(0.28)	(-0.82)	(0.00)	(-0.24)
SBDUM*IIBCAR*UTIDUM		-4.44	6.28	-8.01	-23.59	3.56
		(-0.27)	(0.20)	(-0.41)	(-0.46)	(0.13)
Adj R^2	0.01	0.01	0.00	0.02	0.03	0.00
F-stat	6.74	2.72	0.32	2.71	3.58	0.96
	0.00	0.00	0.97	0.00	0.00	0.47
N	1,392	1,392	489	903	745	647

***, **, and * denote statistical significance at the 1-percent, 5-percent, and 10-percent levels, respectively, in two-tailed tests.

Table 7: Do bidder abnormal returns vary with the dormant period? This table shows OLS regressions relating abnormal returns of bidding firms to various measures of their dormant period. The dependent variable is the abnormal return for each individual bidder over the two-day announcement period (-1,0) surrounding the announcement of their acquisition bid. T-statistics are shown beneath the coefficients. Regressions 1-4 include all firms. Regressions 5, 6 and 7 are for initial industry bidders.

	All bidding firms				IIB firms		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constant	-0.20	-0.25	-0.40	-0.42	-2.53	-2.57	-2.28
	(-0.29)	(-0.35)	(-0.55)	(-0.58)	(-1.74*)	(-1.77*)	(-1.59)
Dormant period (in days)	2.76	2.74			2.09	2.13	
	(2.79***)	(2.77***)			(1.77*)	(1.80*)	
Dormant period > 1 year?			0.78				
			(2.96***)				
1<D≤5 years?				0.77			
				(2.63***)			
5<D≤10 years?				-0.09			-0.81
				(-0.15)			(-1.40)
10<D years?				1.76			1.19
				(3.00)			(2.00**)
Size	-5.38	-4.02	-5.25	-5.30	-6.21	1.55	-1.54
	(-1.79*)	(-1.30)	(-1.75*)	(-1.76*)	(-0.09)	(0.00)	(-0.22)
Target is in Compustat (Public target proxy)	-1.52	-1.49	-1.52	-1.50	-1.54	-1.54	-1.51
	(-6.96***)	(-6.83***)	(-6.96***)	(-6.91***)	(-3.20***)	(-3.21***)	(-3.14***)
Number of firms in industry	-0.03	0.03	-0.00	0.00	0.80	0.83	0.74
	(-0.37)	(0.33)	(-0.02)	(0.02)	(2.77***)	(2.84***)	(2.57***)
Bidder's Q ratio	0.00	-0.01	0.00	0.00	-0.03	-0.03	-0.03
	(0.10)	(-0.44)	(0.16)	(0.10)	(-0.27)	(-0.34)	(-0.35)
Successful offer?	0.15	0.15	0.16	0.17	0.70	0.68	0.80
	(0.46)	(0.44)	(0.48)	(0.51)	(1.05)	(1.03)	(1.21)
US target?	0.72	0.77	0.72	0.39	0.98	1.01	0.99
	(2.22**)	(2.38**)	(2.23**)	(-1.01)	(1.60)	(1.64)	(1.62)
Merger?	-0.37	-0.40	-0.38	-0.37	-0.15	-0.16	-0.10
	(-0.97)	(-1.05)	(-1.00)	(-1.00)	(-0.20)	(-0.22)	(-0.14)
Attitude (1 = Friendly)	0.43	0.43	0.47	0.50	0.77	0.78	0.91
	(0.88)	(0.88)	(0.97)	(0.97)	(0.83)	(0.84)	(0.98)
Bidder incorporated in Delaware?	0.47	0.39	0.46	0.47	0.37	0.38	0.41
	(2.52**)	(2.03**)	(2.49**)	(2.52**)	(0.90)	(0.93)	(1.00)
Target incorporated in Delaware?	-0.27	-0.31	-0.25	-0.26	0.03	0.01	-0.01
	(-1.00)	(-1.17)	(-0.93)	(-0.96)	(0.05)	(0.01)	(-0.01)
Cash offer?	0.42	0.40	0.40	0.40	-0.04	-0.05	-0.06
	(1.65)	(1.58)	(1.56)	(1.58)	(-0.09)	(-0.11)	(-0.12)
Stock offer?	-0.36	-0.32	-0.36	-0.36	-0.35	-0.34	-0.37
	(-1.62)	(-1.41)	(-1.60)	(-1.59)	(-0.68)	(-0.65)	(-0.70)
Multiple offer?	-0.56	-0.57	-0.57	-0.58	-1.20	-1.19	-1.25
	(-1.28)	(-1.32)	(-1.32)	(-1.33)	(-1.57)	(-1.55)	(-1.63)
Toehold position	0.70	0.65	0.77	0.97	1.66	1.72	2.47
	(0.36)	(0.34)	(0.40)	(0.50)	(0.52)	(0.54)	(0.77)
Regulated Industries		-0.43				-0.40	
		(-1.85)				(-0.67)	
Adj R^2	0.02	0.02	0.02	0.02	0.02	0.02	0.02
F-stat (*p*-value)	7.86	7.59	7.93	7.33	1.96	1.86	2.10
	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.02)	(0.01)
N	4430	4430	4430	4430	825	825	825

***, **, and * denote statistical significance at the 1-percent, 5-percent, and 10-percent levels, respectively, in two-tailed tests.