

Anticipation, Acquisitions and Bidder Returns

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 appreciate comments on earlier drafts by participants in finance workshops at the University of Delaware, University of Pittsburgh, University of South Florida, Case Western Reserve and Ohio State University. We also appreciate the benefit of comments from and discussions with Karl Diether, Bing Han, Jarrad Harford, Jean Helwege, Kewei Hou, Kathy Kahle, Simi Kedia, Frederik Schlingemann, Rene Stulz, and Karen Wruck. We are grateful to Gilberto Loureiro, Carrie Pan and Rodolfo Martell for excellent research assistance. Moon H. Song acknowledges the financial support provided by the Korea Research Foundation. Ralph A. Walkling thanks the Charles M. Dice Center at Fisher College for partial financial support.

Current version 03/29/2005

Anticipation, Acquisitions and Bidder Returns

Abstract

This paper develops and tests the anticipation hypothesis as applied to a bidding firm's returns and the returns of its rivals. Our results provide strong support for anticipation and the transfer of subsequent bidding information throughout a bidder's industry. First, the abnormal returns of bidding firms are significantly related to the degree of surprise surrounding a bid announcement. Second, at the time of an initial industry bid announcement, rival firms that will also become bidders in the near future experience significant and differential price adjustments in comparison to rivals who will not bid. Third, these price adjustments are significantly and positively related to the abnormal returns earned by the initial industry bidder. Our results hold after controlling for variables typically associated with acquiring firm returns. Less anticipated bidding activity is, on average, a wealth creating activity. Moreover, the magnitude of the anticipation effect is large enough to alter some well known results. For example, the literature documents that bidders in stock acquisitions earn significantly negative returns. The same result is found in the literature for bidders seeking publicly traded targets. We find that bidders in less anticipated acquisitions earn significantly positive abnormal returns in stock acquisitions and insignificant returns in acquisitions of public targets. Thus, the magnitude of the anticipation effect is larger than that associated with either form of payment or organizational form of the target.

Anticipation, Acquisitions and Bidder Returns

1. Introduction

Every bid announcement has the potential to signal information about the firms involved and their respective industries. Stock prices adjust to the degree this information is unanticipated and expected to impact particular firms. Early literature on anticipation of program bids reaches alternate conclusions. Schipper and Thompson (1983), Malatesta and Thompson (1985), and Loderer and Martin, (1990) suggest that future bids by program bidders are anticipated at the time of the initial bid. Alternatively, Asquith, Bruner and Mullins (1983) find that bidding firms earn significant returns preceding each of their first four bids. More recently, Fuller, Netter, and Stegemoller (2002) analyze frequent bidders during the 1990's and find that the order of the acquisitions does not affect acquirers' excess returns. Similarly, Conn, Cosh, Guest, and Hughes, (2004) analyze bidding by UK firms and find that returns from multiple acquirers are similar to those of single acquirers.

Each of these results focuses on whether sequential bids by a specific firm are anticipated. But information about impending bids is also disseminated through a bidder's industry. Indeed, any bid by a firm has the potential to contain information pertinent to firms in its industry. Recent work in the asset pricing literature underscores this idea. Hou (2004), for example, finds that industries are "the primary channel for news dissemination in the equity market." Information may impact all firms in an industry, or if the information relates to bidding itself and the market correctly discerns which rivals will be subsequent bidders, only the prices of those firms will adjust.

There has been extensive research of the effect of acquisitions on the rivals of target firms, yet very little analysis of the effect on rivals of bidding firms. Eckbo (1983, 1985, 1992), Stillman (1983), Eckbo and Wier (1985), and Mitchell and Mulherin (1996), find that rivals of acquisition targets earn significant, positive abnormal returns. Fee and Thomas (2004) document significant reactions to firms involved in

product-market relationships with bidders and targets. Song and Walkling (2000) find that rivals of target firms experience abnormal returns to the extent that they are also likely to be targets. Moreover, the size of the abnormal return increases with the degree of market surprise about the initial industry acquisition.

To the best of our knowledge, a similar analysis of anticipation in bidding industries does not exist. We simply don't know the degree to which the market reaction to an acquisition bid reflects anticipation. The impact of bidding on rival firms is also relatively unexplored. We don't know the degree to which effects are felt throughout a bidder's industry, nor do we know whether differential effects are reflected in rivals that will be subsequent bidders themselves (as opposed to firms that are rivals but will not subsequently bid).

Analyzing the effect to bidders and to rivals of bidding firms is particularly difficult because the magnitude of announcement period returns is quite small. For this same reason, the existence of an anticipation effect is important to document; any measurable effect is likely to be a sizable component of bidder returns. Indeed, our results are consistent with the interpretation that bidding activity for less anticipated acquisitions is in general a wealth increasing activity. This is in contrast to the negative or zero abnormal returns documented in the literature. As one example of this, the abnormal returns to bidders in stock offers are negative, consistent with the literature. However, we find that returns in less anticipated stock offers are significantly positive. Similarly, while the literature reports significantly negative abnormal returns to bidders targeting publicly traded firms, these bidders earn insignificant returns in less anticipated acquisitions. These results do not negate the importance of form of payment and target's organizational structure, but they do indicate the magnitude and importance of anticipation effects.

This research develops and tests the "bidder anticipation hypothesis" as it relates to bidding firms and rival firms. 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 industry dormant period (without

acquisition bids) are less likely to be anticipated. This is the same technique used to measure surprise for rivals of targets in Song and Walkling (2000). In addition to addressing the existence of anticipation, our research design conveys information about the type of information anticipated. Bidding firm announcements could signal industry wide information with effects pervasive across all firms in the industry. Alternatively, if the information is specific to firms that will be subsequent bidders and if the market is able to anticipate these conditions, we would expect differential returns for those specific firms.

Using a sample of 3389 acquisitions from 1985 to 2001, we find strong support for the bidder anticipation hypotheses. 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 announcement returns averaging 0.71%. In contrast and typical of the literature, the average abnormal return to all bidders is an insignificant 0.18%. In cases with less than a twelve month dormant period between acquisitions, the average abnormal return to the next bidder is an insignificant 0.04%. Moreover, abnormal returns to subsequent bidders *earned at the time of their industry's first bid*, adjust in sign, magnitude and proportion to the abnormal returns of the respective initial industry bidder.

Note that our approach is distinct from methodologies examining clustering and merger waves. Initial bids do not have to be followed by additional bids in their industry and waves are often preceded by earlier bids. Our results also hold across after controlling for form of payment, organizational form, target attitude, target nationality, multiple bidders, offer outcome, merger waves, and 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 bidder anticipation hypotheses. 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 financial literature has long been intrigued with understanding the magnitude and factors affecting abnormal returns to bidding firms. Jensen and Ruback (1983), Jarrell, Brickley and Netter (1988), Jarrell and Poulsen (1989) and Andrade, Mitchell and Stafford (2001) summarize a large body of evidence spanning four decades and report that the unconditional acquisition period return to bidders is generally zero or slightly negative.¹ For example, Andrade, Mitchell, and Stafford report that bidder abnormal returns for acquisitions spanning the 1973-98 period average -0.7%. Bidding returns are also negative in each of the three sub periods analyzed.

Bradley and Sundaram (2004) find significant superior performance for bidders acquiring US firms during the 1990s. However, their measure of performance includes run-up in the pre-announcement period. Their conclusion is that performance (the run-up) drives acquisitions, not the other way around. Returns in the announcement and in the post-announcement period reverse pre-announcement run-up but not enough to eliminate it. Interestingly, negative announcement returns are only found in the subset of large, stock-financed acquisitions of publicly traded targets. Roll (1986), Jensen (2004), and Shleifer and Vishny (2003) argue the influence of hubris and overvaluation as explanations for bidder returns. Shleifer and Vishny illustrate cases where bidders earning negative short run returns could still be maximizing value; the alternative to the acquisition may have been worse. The trading of overvalued equity for lower valued assets improves the position of bidding shareholders.

Other measurable factors that emerge in analyses of bidder returns include form of payment [Travlos (1987), Huang and Walkling (1987), and Wansley, Lane and Yang (1983)], organizational form and

¹ A partial list of the literature examining the conditional returns to bidders includes Travlos (1987), Lang, Stulz and Walkling (1991), Hubbard and Palia (1995), Eckbo and Thorburn (2000), Fuller, Netter and Stegemoller (2002), and Moeller Schlingemann and Stulz (2004).

nationality of the target (e.g., public or private; domestic or foreign), [Faccio, McConnell and Stolin (2004), Fuller, Netter, and Stegemoller (2002) Moeller, Schlingemann and Stulz (2003a) and Moeller, Schlingemann and Stulz (2003b)].

2.2 Anticipation effects

Schipper and Thompson (1983), Asquith, Bruner and Mullins (1983) and Malatesta and Thompson (1985) argue that anticipated effects will be impounded in stock prices. Becher (2004) finds market anticipation of subsequent bidding by banks around the passage of merger related banking regulation. A recent application finds anticipation effects within industries. 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.² While not a formal analysis of anticipation effects, the acquisition probability model of Palepu (1986) recognizes the possibility of their existence by including an explanatory dummy variable set equal to one if an acquisition occurred in a firm's industry in the previous 12 months.

Jovanovic and Braguinsky (2002) present a theoretical 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 negative industry information signaled by the first announced bid in an industry should be reflected in the stock prices of competing firms.

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.

² The contagion literature also recognizes the anticipation effect across many venues.

Andrade and Stafford (2004) provide preliminary evidence that clustering occurs for bidders. Harford (2003) suggests that industry merger waves are 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. In theoretical work, Rhodes-Kropf and Viswanathan (2004) suggest that periods of over or undervaluation lead to merger waves. Rhodes-Kropf, Robinson, and Viswanathan (forthcoming) find empirical support for this proposition. 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.

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.³

We take a different approach following Song and Walkling (2000) by using the length of dormant periods (without bidding activity) within an industry as a proxy for the degree of surprise about an acquisition. 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 or short dormant period. Moreover, a long dormant period can be followed by an intense cluster of activity (i.e., an industry wave) or the absence of activity.

³ Additional research on merger waves is contained in Gugler, Mueller, and Yurtoglu (2004).

2.4 Hypotheses

Three hypotheses stem from our discussion of anticipation:

H₁: In wealth creating acquisitions 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.

H₂: Abnormal returns to rivals that are subsequent bidders will be different from firms that do not subsequently bid.⁴

H₃: Abnormal returns to subsequent bidders will experience a greater contemporaneous and proportional adjustment to the abnormal return earned by the initial industry bidders than non-bidding rivals

The first hypothesis also suggests that the magnitude of returns for the initial bid following a long dormant period will be greater than for subsequent bidders in that firms industry.⁵ The second hypothesis tests whether the market differentiates subsequent bidders from non-bidding rivals at the time of an initial bid. Hypothesis three tests whether subsequent bidders earn a differential adjustment in comparison to non-bidding rivals.

The null hypotheses associated with each of the above statements would imply the lack of anticipation across firms in an industry. But even if our hypotheses are correct, 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 industry could be inadequate. Third, 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

⁴ Rivals are defined as firms in the same four digit CRSP category as the initial industry bidder.

⁵ Note that our first hypothesis relates to the magnitude of bidder returns conditional on the acquisition being wealth creating. We also test the separate implications for wealth creating and wealth decreasing acquisitions. For simplicity, we use the phrase wealth increasing (decreasing) to mean acquisitions with positive (negative) abnormal returns. We fully appreciate the insight of Shleifer and Vishny (2003) that a negative abnormal return does not necessarily mean the bidder was destroying wealth. The alternative may have been worse.

periods. Related to this, Boone and Mulherin (2004) report that while only 13% of the firms in their sample had multiple public bidders about half of these firms disclose private negotiations with other potential bidders in SEC documents. Our classification measures rely on public announcements. Private negotiations are often reported with a lag or may not be reported at all. Moreover, selling firms may solicit bids from multiple parties resulting in the spread of private information in the industry even before the first public announcement. The spread of private information prior to public announcements can result in price adjustments that bias against our finding significant abnormal returns at the time of the public announcement. All of these reasons work against our finding significant results.

3. Research design

3.1 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 financial firms and utilities (CRSP SIC codes 6000 through 6999 and 4900 through 4999) and 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.⁶ To avoid spurious results from industries with little acquisition activity, we also delete bidders in four-digit CRSP industries containing less than five firms or where less than five acquisitions occurred over the sample period. We note that our conclusions are unaltered if we further restrict our analyses to industries with larger numbers of acquisitions. Our screening rules produce a sample of 3389 firms.

The first three columns of Table1 show the distribution of acquisition bids over the sample period. The largest concentration of bids occurs in the 1997 through 2000 period. However, the percentage of acquisitions never exceeds 13% of the entire sample in any year. The fourth column of table one indicates the number of

⁶ It is problematic to determine which of these bids occurred first. Retaining these cases does not alter our results.

different four-digit industries participating in bidding activity in a particular year. Thus, in 1985 fifty (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. Across the sample, our firms are distributed across 313 unique 4-digit SIC codes.⁷

3.2 Defining dormant periods and abnormal dormant periods

We first test the anticipation hypothesis using the dormant period (the length of time between acquisitions in an industry) as the degree of surprise for a particular bid. To calculate dormant periods we sort all bidding firms with CRSP SIC codes chronologically within their primary 4-digit 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. In defining dormant periods we use all available cases with valid CRSP SIC codes even if these firms are deleted because of subsequent screening rules. This procedure enables us to capture the potential shock all of these firms have on the industry. However, firms without CRSP SIC codes cannot be considered in the definition of dormant period. Moreover, there are obviously other shocks to an industry that signal information. These shocks include acquisitions by firms in related but different industries, the existence of merger waves within an industry and the existence of a firm in the industry being a target of acquisition. Although we examine the impact of merger waves and control for a firm in the industry being a target, our measure of dormant period cannot capture all conceivable shocks. Nevertheless, to the extent that we misclassify dormant periods we bias against our finding of significant results.

We define an "initial industry bidder" 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 initial

⁷ Except where noted we use CRSP (historical) SIC codes. Kahle and Walkling (1996) discuss the advantages, disadvantages, and inconsistencies between Compustat and CRSP SIC codes. 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.

industry bidder 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 acquisitions 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 with greater numbers of firms or acquisitions. For example, similar results obtain if we restrict our analyses to industries with greater than 20 firms.

Since dormant periods are likely to be a function of the number of acquisitions in an industry, we also calculate *abnormal* dormant periods between acquisitions. Abnormal dormant periods are calculated as the difference in days between the actual and expected dormant periods. Here ‘expected dormant period’ is defined by dividing the number of days in our sample (6,209) by the number of acquisitions (plus one) occurring in an industry. Thus, the expected dormant period for an industry with 100 acquisition bids is quite different from an industry with 30 acquisition bids. Nevertheless, the correlation between our two measures of dormant period (actual and abnormal) is quite high across the sample (0.92).

In our first empirical tests we focus on the initial industry bidders, but actually test three specifications of the dormant period: 1) the level of dormant period in days, 2) a dummy variable recognizing initial industry bidders (i.e., dormant periods greater than one year), and 3) the abnormal dormant period. There is reasonable justification for all of these specifications. The length of time between acquisition bids is indeed the dormant period in an industry. Nevertheless, much financial information is produced annually (e.g., annual reports, yearly analyses by analysts and investment bankers, etc.). Dormant periods less than one year are likely to produce discussion of acquisitions in these analyses and keep the topic alive in the minds of investors. A year without mention of acquisitions is less likely to result in such a reminder justifying use of a binary variable to identify initial industry bidders. Finally, the abnormal dormant period recognizes that industries with greater acquisition activity are likely to have shorter expected dormant periods.

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. Since there are seventeen years in our sample, the expected dormant period for this industry is slightly less than one year (6,209 days divided by 18). The abnormal dormant period for the three cases mentioned above is 1781, 629 and 43 days, respectively.

3.3 Distribution of initial industry bidders and active bidders

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 698 bids are classified as initial industry bids. 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 make multiple bids within the next year. We will refer to these as ‘active initial industry bidders’. This is an empirically based definition of active bidders; it does not necessarily mean that these firms announced an acquisition program. 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 active initial industry bidders is similar to that of the entire sample.

4. Results

4.1 *Distribution of 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 and under the anticipation hypothesis increase the likelihood that effects of a bid are incorporated in the stock price. Table 2 reveals the distribution of industry dormant periods (in days) between bids for all 3,389 bidders. The mean dormant period preceding all bids in our sample is just under a year, 352 days. However, this value is distorted by outliers; the median dormant period is just 77 days. Note that the range of dormant periods is quite large; the lower quartile is just 18 days, while the upper quartile is 288 days.

By definition, initial industry bidders have dormant periods exceeding 12 months. The second row in Panel A of Table 2 reveals the distribution of dormant periods for the 698 initial industry bidders. Obviously mean and median dormant periods will be substantially larger than for the analysis of all bidders. Mean and median dormant periods for the initial industry bidders are 1395 and 795 days, respectively. These periods amount to about 3.8 and 2.1 years, respectively. There is also a wide distribution of dormant periods for initial industry bidders: the lower quartile is 509 days (1.4 years) while the third quartile is 1644 days (4.5 years). Active initial bidders (initial bidders making subsequent bids before the next 12 month dormant period) have distribution similar to that of all initial industry bidders.

The last row of Panel A shows the distribution of the *abnormal* dormant period. The mean value is just 23 days with a median of negative 54 days. Most dormant periods are shorter than expected; less than a quarter of the sample has positive abnormal dormant periods. This result is consistent with the clustering of bids within an industry.

Since the minimum period to define an initial industry bidder 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 initial industry bidders per industry is 3.44

and 3.00, respectively. Thirty industries have only one initial industry bidder over our sample period. Another thirty industries have two initial industry bidders. One hundred and forty-three industries (70% of our initial bids) have three or more initial industry bidders.

For each of the initial industry bids we check the financial press (Lexis-Nexis and Factiva) to verify the announcement date and to find any press reports discussing motives for the acquisition and plans for a program of acquisitions. We find press reports listing motives for the bid in 480 of the 698 initial bids. Dominant motives are listed in Panel C of Table 2. To classify dominant we asked two research assistants to independently classify each announcement. Where there were disagreements, one of the authors made a the classification. Still, many of the motives are rather vague and overlapping in meaning. For example, the reason cited most often is 'growth' followed by 'economies of scale'. These were by far the most popular reasons. Only 7 cases (1%) of the sample listed 'program of acquisitions' as the primary motive. The implication of this is that our 'active initial bidders' are more like the frequent bidders of Netter, Fuller and Stegemoller (2002) than program bidders.

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 abnormal return on day t is calculated as the 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 abnormal returns for all bidders, initial industry bidders (i.e., dormant period greater than one year) and for bidders classified by length of the dormant period preceding their bid. As shown in

Panel A, the average two-day average abnormal return across all 3,389 bidders is an insignificant 0.18%. Median abnormal returns for all bidding firms are -.10%. Forty-nine percent of these abnormal returns are positive. These results are 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 contrasts abnormal bidder returns for initial industry bidders with those for firms with industry dormant periods of less than one year. This is the first direct test of Hypothesis 1, that abnormal returns will be greater for initial industry bidders. Dormant periods of less than a year are the cases where anticipation effects are most likely to occur. Indeed, the mean abnormal return for bidders with dormant periods of less than one year is an insignificant 0.04% (t-statistic = 0.28). By contrast, abnormal returns for initial industry bidders average 0.71% with a t-statistic of 3.15. In addition, about 53% of initial industry bidder abnormal returns are positive, compared to only 48% for bidders with dormant periods less than one year.

Panel C contrasts dormant periods of less than one year to those ranging from one to over five years and beyond five years. Mean and median abnormal bidder returns increase monotonically with these time categories. Mean abnormal returns across the three classifications rise from 0.04% for dormant periods less than one year to 0.65% for one to five year dormant periods and 0.89% for dormant periods exceeding five years. Median abnormal returns across the three categories of increasing dormant periods are -0.20%, 0.31% and 0.55%, respectively. The percentage of positive transactions also rises across the dormant period categories. The increasing pattern of abnormal returns is consistent with our first hypothesis. The significance of the dormant period and the greater returns for less anticipated bids is consistent with average bidding activity for these firms being a wealth increasing activity.

In Panel D of Table 3 we use the alternate measure of dormant period – the abnormal dormant period. Results are again consistent with the first hypothesis. Abnormal returns for bidders with longer than expected dormant periods earn mean returns significantly greater (10% level) than those with smaller than expected dormant periods. Abnormal returns for bidders with dormant periods smaller than those expected earn

insignificant mean (median) returns of 0.07% (-0.2%). Abnormal returns for bidders with longer than expected dormant periods earn a significant mean (median) return of 0.50% (0.29%). Finally, while only 47.5% of the smaller than expected dormant periods produce positive abnormal returns, over 52% of the greater than expected dormant periods produce positive abnormal returns.

4.3 Bidder abnormal returns and industry dormant periods across control variables

The univariate results of the preceding section are consistent with the first hypothesis. In this section we introduce the control variables we will use in our multivariate tests. These variables can be classified into three categories: variables specific to the deal (e.g., is the deal for stock?), variables related to the target (e.g., is the target public?), and variables related to where the bid occurred in reference to any merger wave for its industry. Deal specific variables include form of payment (cash, stock, mixed), the existence of multiple bidders, form of the acquisition (horizontal, non-horizontal), attitude of the target (friendly, unfriendly), and outcome of the acquisition (successful, failure). Target related variables include organizational form and nationality of the target (public or private; United States or foreign) and incorporation of the target (Delaware or other). Each of these variables has been linked to the magnitude of bidder returns in the literature.

The first column of Table 4 shows the name and percentage of each attribute in our sample. For example, stock offers targets comprise 40.6% of our sample. In the paragraphs below we first compare abnormal returns across the attributes (column 3) to results established in the literature. Following this we discuss results for the variables categorized by dormant periods.

4.3.1 Deal Specific Variables

Similar to work dating back to Travlos (1987), we find that bidders in stock offers earn dramatically lower returns than those in cash offers; mixed offers produce returns between stock and cash offers. Bradley, Desai, and Kim (1988) and Betton and Eckbo (2004) note that competition lowers bidder returns. Similarly, bidders in our sample earn significantly positive returns in single bid acquisitions and significantly negative returns in multiple bidder transactions. The literature reports mixed results for differences in bidder return

across horizontal and non-horizontal acquisitions. We find that abnormal returns to bidders involved in horizontal acquisitions are lower than bidders for non-horizontal targets. Bidders in successful acquisitions earn higher mean and median returns than in unsuccessful acquisitions. Schwert (2000) notes the difficulty in identifying hostile offers and reports mixed results for the relation between bid premia and hostility. In our univariate analysis, bidders earn significantly lower returns in hostile offers. This is undoubtedly correlated with results for multiple bidders.

4.3.2 Target Specific Variables

Consistent with the work of Chang (1998), Fuller, Netter and Stegemoller (2002) and others, we find that bidders earn significantly higher returns in acquisitions of private targets. Daines (2001) notes that Delaware firms receive more takeover bids and are more likely to be acquired. We find that bidders of targets incorporated in Delaware earn dramatically lower returns. If these firms do receive more takeover bids, this result could be correlated with the effect of competition. Returns to bidders targeting foreign firms are insignificantly different from bidders targeting domestic firms. These findings are different from those of Moeller and Schlingemann (2005); however, multivariate results in the next section are consistent with their findings.

4.3.3 Wave Related Variables

There is considerable recent work exploring clustering of acquisitions and merger waves. Recent examples include Mitchell and Mulherin (1996) Andrade and Stafford (2004), Harford (2003), Akbulut and Matsusaka (2003) and Rhodes-Kropf, Robinson, and Viswanathan (forthcoming).

As we have noted, dormant periods are not necessarily followed by a merger wave. Conversely, the technologies used to identify merger waves usually do not require a dormant period before the beginning of the wave. Instead, a wave is identified by a clustering of acquisition activity which may or may not be preceded by other acquisitions in the industry. Nevertheless, it makes sense to examine how our results compare to established evidence on merger waves. Valuation effects for bidders can differ by their activity

before, during or after a wave. We test the effects of waves using the definitions of Harford (2004).⁸ To identify waves Harford calculates the maximum twenty-four month period of merger intensity in the 1980s and also in the 1990s for each of the Fama-French 48 industries. Merger intensity is defined to include both target and bidder activity. These periods of maximum intensity are ‘potential’ waves. Next, he simulates the highest twenty-four month level of activity for each industry assuming the activity had occurred randomly. Merger waves are those two year periods of intensity exceeding the 95th percentile from the distribution. There is no requirement that they be preceded by a dormant period.

In our analysis of merger waves we are interested in several questions. First, how many of our initial industry bids occur just before, at the beginning or during a wave? Second, do we note different results for bids (and initial bids) occurring at different parts of a wave? Two differences in our methodology and that of Harford should be noted. First we use a more detailed description of industry. In comparison to the 48 industries of Fama-French we have 313 unique four digit SIC industries. Also, Harford’s activity measure includes both bidder and target activity while our focus is on bidders. For both of these reasons, we often find a lag between the beginning date of the wave and our first bidding activity. Since his measure includes target activity as well this serves as another check on how our results would be altered by target related activity.

We code each bidder by where it is in a wave using the three dummy variables defined in Harford (2004). Pre-wave is equal to one if the bid occurs in the 12 months before a wave; in-wave is equal to one for bids within 24 months of the start of a wave and post wave is equal to one for bids within 36 months after the end of a wave. Thus, the end of a wave is five years from the start.

Results in Panel J reveal that the bulk of our bids (46%) occur in periods unrelated to waves. Confirming our statement that *initial* bids are different than the analysis of waves we note that 64% (447 out of 698 bids) of initial bids (i.e., dormant periods greater than a year) are unrelated to waves. Univariate results

⁸ We are grateful to Jarrad Harford for supplying us with names and dates of the merger waves he identifies.

indicate that bidders earn significantly greater results in the pre-wave period and in periods unrelated to waves. Conversely, they earn significantly negative returns in the post wave period.⁹

4.3.4 Results for different dormant periods across specific variables

The impact of each of the variables from Table 4 is well established in the literature. Before considering the effects of anticipation, our results are quite consistent. After considering anticipation, however, we will show that some well established results disappear. For example, bidders in less anticipated stock offers earn significantly positive abnormal returns, a result opposite to conventional wisdom. Bidders in less anticipated acquisitions of public targets earn insignificant abnormal returns. This is in contrast to the significantly negative abnormal returns noted in the literature. These results are consistent with anticipation. We elaborate on these results in the tables below.

To examine the impact of the anticipation hypothesis for each variable we present abnormal returns for dormant periods either less than or beyond one year in columns four and five, respectively. Results for positive and negative *abnormal* dormant periods are shown in columns six and seven. The table reveals the impact of dormant periods while controlling for specific control variables. Thus, we compare column four with column five and column six with column seven. The last two columns reveal the significance of t-tests (Kruskal Wallis tests) for differences in means (medians) across smaller and larger dormant period categories.

The fact that longer dormant periods are associated with larger abnormal returns across the vast majority of categories related to bidder returns is best revealed in the panels of Figure 1. For each characteristic (e.g., stock offers, or public targets) we calculate abnormal returns for cases with longer and shorter dormant periods and graph the difference. These differences are overwhelmingly positive. This is true

⁹ In sensitivity tests, we also examine results across different types of waves. Harford's Table 2 gives reasons for each of the waves he identifies. We sort these reasons into four categories and classify our in-wave bidders accordingly: consolidation, deregulation, information technology, and growth. We note similar insignificant results for announcement period returns across these categories. The only exception is service industries which have significantly positive announcement period abnormal returns.

for means, for medians and for both measures of dormant periods. Across almost all classifications, bidders in less anticipated acquisitions (i.e., with longer dormant periods) earn larger returns.

We begin with a comparison of dormant periods less than one year with those greater than one year. Significance levels for these differences are shown in column eight. Mean abnormal returns for dormant periods of greater than one year are larger than returns in shorter dormant periods for eighteen of the twenty-one categories examined. Mean returns are significantly different in nine of these categories. Median abnormal returns for dormant period of greater than one year are larger than returns in shorter dormant periods for nineteen of the twenty-one categories examined. Median returns are significantly different at the 10% (5%) level in 12 (11) of these categories. These results provide strong support for the first anticipation hypothesis. Moreover, we are using a conservative two-tailed test to examine a one-tailed hypothesis.

Column 9 shows significance levels comparing *abnormal* dormant periods greater than zero with those less than zero. Mean abnormal returns for longer abnormal dormant periods are larger in eighteen of the twenty-one categories examined; they are significantly different in six of these categories. Median abnormal returns for longer abnormal dormant periods are larger in nineteen of twenty-one categories. Median returns are significantly different at the 5% level in nine of these categories. As before, the pervasive nature of larger returns in longer dormant periods while controlling for a variety of bidder related effects provides strong support for anticipation.

4.4 Multivariate Analysis of the anticipation hypothesis

Table 5 contains a multivariate analysis of our first hypothesis. In particular, we examine the multivariate relation between bidder abnormal returns and the dormant periods while controlling for other variables known to be related to bidder abnormal returns. The sample consists of all bidding firms including initial and subsequent bidders. The dependent variable is the announcement return earned by each bidder at the time of their own bid.

All regressions control for the number of firms in an industry. The first regressions use bidder, target, and deal specific variables. Regression two combines these variables with dummy variables identifying waves as specified in Harford (2003). Regression three adds interaction terms to capture any differential effect of initial industry bidders in waves. Regressions four through six use alternate specification of the dormant period. In regression four, we replace the single dummy variable for initial industry bidders with two dummy variables for dormant periods between one and five years and dormant periods greater than five years, respectively. In regression five we use the continuous specification of dormant period rather than dummy variables. In regression six we use the abnormal dormant period. In all but the last specification (using the abnormal dormant period), the results are consistent with the first anticipation hypothesis: bidder abnormal returns are significantly positive for initial industry bidders, for dormant periods between one and five years and for the continuous definition of dormant period.

Results for our control variables generally confirm results in the literature. 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 significantly smaller in stock offers. Consistent with Moeller and Schlingemann (2005) we find that bidder returns are significantly higher when US firms acquire domestic targets compared to foreign targets. Bidder returns decrease significantly with the acquisition of relatively larger targets and in multiple bid contests. Bidders also earn significantly lower returns in the post wave period compared to bidders outside of waves. Other variables are either insignificant or vary in significance across the specifications.

We also examine whether initial industry bidders have different returns depending on their location relative to a wave. To test this we add interaction terms combining the initial bid dummy with the wave variables. Recall that our initial industry bids do not necessarily occur at the beginning of a wave, nor do waves necessarily occur after a dormant period. The methodology to identify each is quite different. Harford's specification of waves, for example, involves both bidders and targets and is not necessarily

preceded by a long dormant period. Similarly, our initial bidders may or may not be followed by other bidders. The results (regressions four through six) indicate that initial industry bidders are not affected by merger waves; the interaction variables are insignificant throughout.

4.5 Are the effects of initial bidders reflected in subsequent bidders?

The last three anticipation hypotheses relate to the abnormal returns earned by subsequent bidders and non-bidding rivals at the time of the initial industry bidder. Thus, we examine the abnormal return of the 4 digit (CRSP) SIC rivals to an initial industry bidder. Each rival is classified by its subsequent bidding activity: “subsequently bidding rivals” become a bidder before the next 12 month dormant period; “non-bidding rivals” do not. Thus, a subsequent bidder makes a bid after the initial industry bidder and before another initial industry bidder occurs. By definition, there is no dormant period exceeding 12 months for these subsequent bidders. We do not require the subsequent bidder to target a firm in the same industry as targeted by the initial bidder. Some of the subsequent bids are made by the initial bidders themselves. We examine these separately. In calculating abnormal returns we have removed 51 cases (out of 10745) where non-bidding rivals were targeted at the time of initial industry bidder. In addition, we checked all subsequent bidders to determine if any were targeted by the initial industry bidder. We found and removed one case.

Table 6 presents some striking results. Remember, these are returns all firms earn at the time of their initial industry bidder. The first column reveals abnormal returns earned by non-bidding rivals. For the set of all firms (Panel A), the 10,694 non-bidding rivals earn insignificant abnormal returns at the time of the initial industry bidder. In contrast, the average abnormal return for subsequent bidders (excluding additional bids by the initial industry bidder) is significantly positive; the mean abnormal return is 0.26% with a t-statistic of 2.06. Absent anticipation effects or collusion, there is no reason for subsequent bidders to earn abnormal returns over the two day window (-1, 0) around the initial industry bidder. In addition, the return they do earn is between the 0.035% return to non-bidders and the abnormal returns of 0.79% earned by the initial industry

bidders themselves. This is consistent with the market identifying subsequent bidders at the time of the initial industry shock and adjusting their prices upward.

Related to this, it could also be the case that subsequent bidders earn abnormal returns not because they will be subsequent bidders but because they may be subsequent targets. This result would be isolated in horizontal bids made by the initial industry bidder. Panel B presents reveals that subsequent bidders do earn even higher significant abnormal returns in the sub sample of horizontal (initial bid) acquisitions. Results for non-bidding rivals are still insignificant. Results for non-horizontal initial bids are insignificant. Nevertheless, there are substantial reasons to discount the ‘subsequent target’ conjecture. For example, the subsequent target story doesn’t explain why subsequent bidders earn significantly different abnormal returns than non-bidding firms. It seems unlikely that target firms are similar to bidding firms.¹⁰ Moreover, the returns earned by initial bidders themselves are only marginally significant in the non-horizontal cases. If effects are anticipated, they would presumably be less in this category. Finally, multivariate tests in the next section will show that all subsequent bidders adjust to the impact of the initial bidder and they adjust in proportion to the magnitude of the initial bidder’s return.

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. Thus, at the time of an initial bid, the market categorizes it as value increasing or value decreasing. We have noted that a bidder’s announcement return may be distorted by anticipation. This is less likely to be the case with initial bidders since they have a minimum 12 month dormant period. In the last two panels of Table 6 we test whether rivals react to the sign of the initial bidder’s return. Absent anticipation effects there is no direct linkage between initial industry bidder returns and the magnitude or sign of simultaneously measured returns for rival firms. Collusion could explain

¹⁰ Undoubtedly some firms bid defensively – to avoid being a target but this effect will not be pervasive. Moreover, empirical comparisons of target and bidding firms generally suggest substantial differences in their characteristics.

contemporaneous positive returns surrounding positive initial industry bidders, especially for horizontal acquisitions. However, collusion would not explain any such similarity surrounding negative initial industry bidder returns.

Results of these panels show that mean and median returns to subsequent bidders measured at the time of the initial industry bidder, are significantly positive for the positive initial industry bidders and significantly negative for the negative initial industry bidders. More than 53% of the returns to subsequent bidders are positive at the time a positive initial industry bidder is announced in their industry. Only 41% of the returns to subsequent bidders are positive at the time of a negative initial industry bidder in their industry. In contrast, the mean and median abnormal returns for non-bidding rivals do not appear to reflect the signs of the initial industry bidder return. These results are strongly supportive of hypotheses two and three: abnormal returns of subsequent bidders adjust at the time of the initial industry bid and the adjustment is not shared by non-bidding rivals.¹¹

4.6. Predicting subsequent bidders

At the time of the initial industry bid, there has been no public announcement of which rivals will be subsequent bidders themselves. Table 7 contains a further analysis of the market's ability to distinguish subsequent bidders at the time of this initial industry bid. We run five logit regressions testing whether the abnormal return of a rival at the time of the initial bid, is significantly related to the probability of being a subsequent bidder. The binary dependent variable is set equal to one if the firm subsequently bids. The independent variables are those typically associated with bidding activity. Column (1) reveals results for the entire sample; results for cases where the initial bid is horizontal, non-horizontal, positive and negative are contained in

¹¹ An intriguing question is whether the return earned by firms at the time of an initial bid influences the degree of subsequent activity in the industry. That is, do potential bidders learn from the sign of the initial bidders return and bid or not bid accordingly? As one simple test, we examined the percentage of bids in an industry following positive and negative initial bids. We find no significant difference.

columns (2) through (5), respectively. With regard to the control variables, our results indicate that subsequent bidders are significantly larger, more profitable, and liquid than non-bidding rivals. Subsequent bidders also have significantly lower levels of leverage, and significantly higher levels of research and development and Tobin's q . Our focus, however, is on the abnormal return to rivals at the time of the initial industry bid. In all but the subset of cases where the initial bid is non-horizontal, the abnormal return to rivals is significantly related to the probability the firm will subsequently bid. Of particular interest, the sign is reversed for cases where the initial bidder earns negative abnormal returns. That is, when the initial industry bidder earns negative abnormal returns, the market differentiates subsequent bidders with lower returns as well.

4.7. Direct tests of the anticipation hypothesis

Hypothesis three actually suggests a stronger implication of anticipation: that prices of subsequent bidders will adjust proportionally to the return earned by the initial industry bidder and that this adjustment will be greater than that of non-bidding rivals. The dependent variable implied is again the abnormal return for each rival at the time their initial industry bidder is announced. We regress this against the contemporaneous return earned by the initial bidder itself (initial industry bidder CAR or IIBCAR). We also specify dummy variables for subsequent bidders, and the interaction of these terms. This allows the slope and intercept of our regressions to vary for subsequent bidders and non-bidding rivals. 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. The sum of coefficients for IIBCAR and $IIBCAR*SBDUM$ reveals the change in the abnormal return to subsequent bidders with respect to different levels of initial bidder return. Since we use the initial industry bidder's abnormal return as an independent variable, these firms are excluded from the regressions. (Otherwise, we would be regressing a variable on itself.)

Results are shown in Table 8. Throughout the table we find that the dummy coefficient for subsequent bidders is insignificant. Thus, the mean difference in abnormal returns is insignificantly different from that of non-bidding rivals. However, all slope coefficients for subsequent bidders (the sum of coefficients for initial bidder's abnormal return and for the interaction term) are significantly positively related to those of the initial bidders. Moreover, these slope coefficients are significantly greater than those of non-bidding rivals in three of the five regressions, as indicated by the interaction term. That is, abnormal returns to firms that will be subsequent bidders increase at a significantly faster rate than that of non-bidders. These results are strongly consistent with the third anticipation hypothesis.¹²

4.8. Bidding effect or industry co-movement

The asset pricing recognizes the importance of industry specific information. Hou (2004), for example, analyses co-movements across stocks and notes the importance of information disseminated across industries. This emphasizes the importance of our analysis of anticipation across industries, particularly across events where significant abnormal returns are hard to detect. It is possible that some of the effects of Table 8 are driven by the transfer of general industry information rather than acquisition effects. However, the differential results for subsequent bidders are direct contradiction to this assertion. Nevertheless, we also test for general information effects by using a non-announcement day rather than the time of the initial industry bid. We arbitrarily chose our non-bidding day to be sixty days before the initial bid announcement. In results not shown, we find that for the entire sample, and for the subset of (what will become) initial horizontal acquisitions, the dummy variable for subsequent bidders is significantly negative. However, none of the other variables of Table 8 are close to significance. In particular, the abnormal returns of rivals or subsequent bidders are unrelated to the abnormal return of (what will become) the initial industry bidder. We conclude that the results of Table 8 are related to the initial industry bid, not general industry information.

¹² All returns for initial and subsequent bidders are clustered on the announcement day of the initial industry bidder. Brown and Warner (1985) do not find such clustering to be a problem. Nevertheless, all t-statistics (actually asymptotic z-statistics) are adjusted for clustered data. Identical conclusions are obtained without this adjustment.

4.9. *The first mover hypothesis*

Our results are strongly supportive of the anticipation hypothesis. One of these results is that the initial industry bidder earns significantly higher abnormal returns. We attribute this to anticipation. There is, however, an alternate explanation for the significant abnormal returns to initial industry bidders - the first mover hypothesis.¹³

Under this hypothesis, initial industry bidders earn abnormal returns because their actions create a strategic advantage over other rivals. Frequently cited first mover advantages include increased market share, heightened brand recognition, enhanced distribution networks, increased brand loyalty, the ability to set product standards, and increased experience. Any one of these advantages could be achieved through acquisitions and give an initial bidder a competitive edge over rival firms. Nevertheless, there are also first mover disadvantages. Subsequent bidders have the advantage of observing the actions of the initial bidder and avoiding similar unsuccessful combinations. Cottrell and Sick (2001) and Schnaars (1994) examine first mover advantages and disadvantages noting numerous cases where the imitator ultimately gains the advantage over the first mover.¹⁴

While first mover hypothesis is deserving of additional analysis beyond the scope of this paper, we can assert the independent importance of the anticipation hypothesis. 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

¹³ The first mover hypothesis gets extensive coverage in the strategy literature. For a recent examination see Carow, Heron and Saxton (2004). In the finance literature see Akdogu (2003).

¹⁴ Examples from the software industry include the success of VHS tape format over Betamax, the IBM following Apple, and Excel following VisiCalc. Cottrell and Sick (2001) also note the phenomena in the motorcycle industry with Yamaha, Kawasaki, and Suzuki successfully following Harley Davidson, the Indian and many European models.

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 are greater for firms that will be subsequent bidders. Third, under the first mover hypothesis the prices of rival firms should fall at the announcement. Instead, they rise and they rise significantly more for rivals that will be subsequent bidders themselves. Fourth 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 and at a significantly greater rate than non-bidding rivals. Returns for all subsequent bidders 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.

5. Conclusions

A bid announcement signals information about bidding and target firms and their respective industries. Apart from early work on program bids, the literature has not extensively examined the effect of anticipation on a bidder's return or on the returns of their rivals. Nevertheless, the existence of anticipation is important to recognize, particularly given the small magnitude of returns associated with bidding firms. Any measurable effect due to anticipation is likely to be a sizeable portion of documented returns.

This paper develops and tests the bidder anticipation hypotheses. These hypotheses assert that bidder returns will be greater for less anticipated acquisitions and that these returns will be positively related to the degree of surprise surrounding the initial industry bid announcement. In addition, prices of rival firms will adjust at the time of the initial industry bid. If the market correctly anticipates which rivals will be subsequent bidders, their abnormal returns will differ from those of non-bidding rivals. Moreover, the abnormal returns of these subsequent bidders will adjust in proportion to the magnitude of the initial industry shock. This shock is reflected in the abnormal returns earned contemporaneously by the initial bidder. Using a sample of 3,389 bids from 1985 through 2001, we find strong support for the anticipation hypothesis.

Initial tests use the dormant period, the length of time since a previous bidding attempt by a firm in the same 4-digit industry, as a measure of surprise. Similar results are noted using abnormal dormant periods calculated to recognize differing acquisition activity across different industries. After classifying 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, after controlling for variables known to influence bidder returns and after controlling for the existence of merger waves. 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. All results provide strong support for the bidder anticipation hypothesis.

We find that less anticipated bidding activity is, on average, a wealth creating activity. This is in contrast to the negative or zero abnormal returns documented in the literature. Moreover, the magnitude of anticipation effects is large enough to alter some well known results. For example, bidders in less anticipated stock acquisitions earn significantly positive abnormal returns. Similarly, bidders in less anticipated acquisitions of public targets earn insignificant returns. These results are in contrast to those found without consideration of anticipation.

References

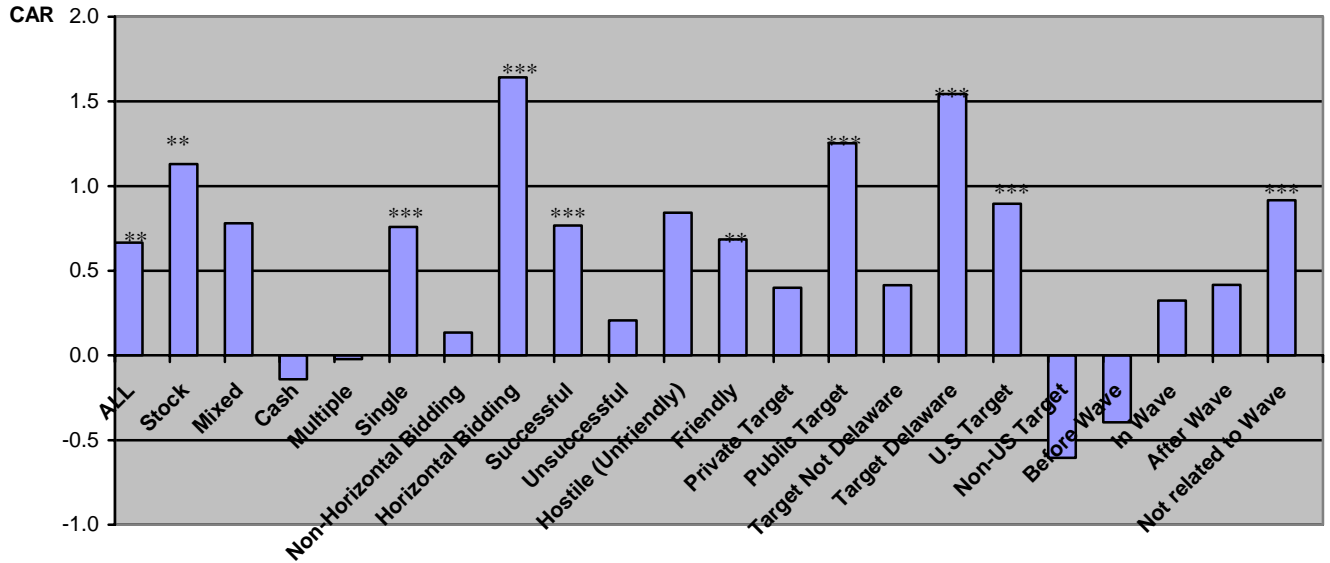
- Akdogu, E., 2003 Gaining a Competitive Edge Through Acquisitions: Evidence from the Telecom Industry, working paper, Southern Methodist University.
- Akbulut, M., Matsusaka, J., 2003. Fifty Years of Diversification Announcements. Working paper. University of Southern California.
- Andrade, G., Stafford, E., 2004. Investigating the Economic Role of Mergers. *Journal of Corporate Finance*, 10 (1),1-36.
- Andrade, G., Mitchell, M., Stafford, E., 2001. New Evidence and Perspectives on Mergers. *Journal of Economic Perspectives* 15 (2), 103-120.
- Asquith, P., Bruner, R., and Mullins, D. 1983. The Gains to Bidding Firms From Merger. *Journal of Financial Economics* 11, 121-139.
- Becher, David A. 2004 Bidder Returns and Merger Anticipation: Evidence from Banking Deregulation, Working paper, Drexel University,
- Betton, S., Eckbo, E., 2004. Toeholds, Bid Jumps and Expected Payoffs in Takeovers. *Review of Financial Studies* 13, 841-882.
- Boone, A., Mulherin, J., 2004. How Are Firms Sold? Working paper. Claremont McKenna College.
- Bradley, M., Desai, A., Kim, E., 1988. Synergistic gains from corporate acquisitions and their division between stockholders of target and acquiring firms? *Journal of Financial Economics* 21, 3-40.
- Bradley, M., Sundaram, K., 2004. Do Acquisitions Drive Performance or Does Performance Drive Acquisitions?
- Brown, S., Warner, J., 1985. Using daily stock returns: the case of event studies. *Journal of Financial Economics* 14, 3-32.
- Carow, K., Heron, R.A. and Saxton, T.,2004. Do Early Birds Get the Returns? An Empirical Investigation of Early-Mover Advantages in Acquisitions, *Strategic Management Journal*, 25, 563-585.
- Chang, S., 1998. Takeovers of privately held targets, methods of payment and bidder returns, *Journal of Finance* 53, 773-784.
- Conn, R., Cosh, A., Guest, Paul M., Hughes, A., 2004. Why Must All Good Things Come to an End? The Performance of Multiple Acquirers. EFMA , working paper, Miami University.
- Cottrell, T., Sick, G., 2001. First-Mover (Dis)advantage and Real Options. *Journal of Applied Corporate Finance* 14, (2), 41-51
- Daines, R., 2001. Does Delaware law improve firm value? *Journal of Financial Economics* 62, 525-558.
- 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.
- 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., Thorburn, K., 2000. Gains to bidder firms revisited: Domestic and foreign acquisitions in Canada. *Journal Of Financial And Quantitative Analysis* 35 (1), 1-25.
- Faccio, M., McConnell, J., Stolin, D., 2004. When Do Bidders Gain? The Difference in Returns to Acquirers of Listed and Unlisted Targets. Working paper.
- Fee, C. Edward and Thomas, Shawn E., 2004, Sources of Gains in Horizontal Mergers: Evidence from Customer, Supplier, and Rival Firms, *Journal of Financial Economics*, 73 (3) 423-60.
- Fuller, K., Netter, J., Stegemoller, M., 2002. What Do Returns to Acquiring Firms Tell Us? Evidence from Firms That Make Many Acquisitions. *Journal of Finance* 57, 1763-93.
- Gort, M., 1969. An Economic Disturbance Theory of Mergers. *Quarterly Journal of Economics* 83, 624-42.
- Gugler, K., Mueller, D., Yurtoglu, B, 2004. The Determinants of Merger Waves, presented at the EARIE 2003 meeting in Helsinki
- Harford, J., 2004. What Drives Merger Waves. Unpublished working paper. University of Washington.
- Harford, J., 2003. Efficient and Distortional Components to Industry Merger Waves. Unpublished working paper. University of Washington.
- Hou, K., 2004. Industry Information Diffusion and the Lead-Lag Effect in Stock Returns. Dice Center Working Paper.
- Hubbard, R., Palia, D., 1995. Benefits of Control, Managerial Ownership, and the Stock Returns of Acquiring Firms. *The RAND Journal of Economics* 26, 782-792.
- Huang, Y., Walkling, R., 1987. Target Abnormal Returns Associated with Acquisition Announcements: Payment, Acquisition Form, and Managerial Resistance. *The Journal of Financial Economics* 19, 329-349.
- Jarrell, G., Brickley, J., Netter, J., 1988. The Market for Corporate Control: The Evidence since 1980. *Journal of Economic Perspectives* 2. 49-68.
- Jarrell G., Poulsen A., 1989. The Returns To Acquiring Firms In Tender Offers - Evidence From 3 Decades. *Financial Management* 18 (3), 12-19.
- Jensen, M., 2004. The Agency Costs of Overvalued Equity and the Current State of Corporate Finance. *European Financial Management* 10, 549-565.
- Jensen, M., Ruback, R., 1983. The Market for Corporate Control. *Journal of Financial Economics* 11, 5-50.
- 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., Walkling, R. 1991. A Test Of The Free Cash Flow Hypothesis: The Case Of Bidder Returns. *The Journal of Financial Economics* (October), 315-337.
- Lang, L., Stulz, R., Walkling, R., 1989. Managerial performance, Tobin's q and the gains from successful tender offers. *Journal of Financial Economics* 24, 137-154.

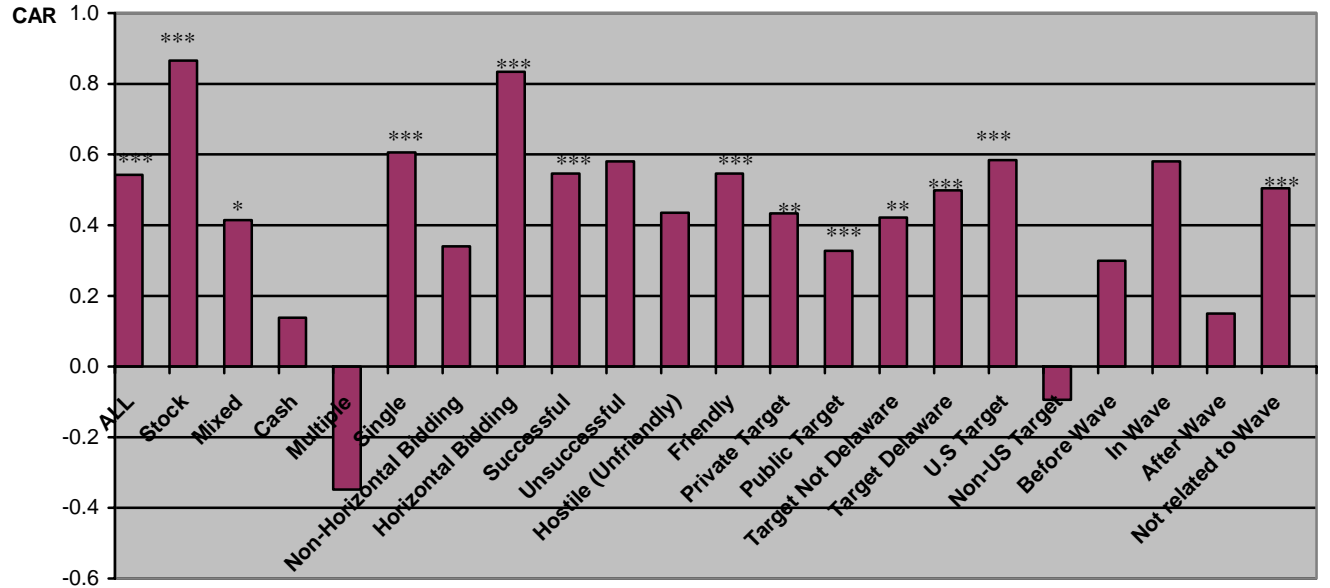
- Loderer, C., Martin, K., 1990. Corporate acquisitions by listed firms: The experience of a comprehensive sample. *Financial Management* 19, 17–33.
- Malatesta, P., Thompson, R., 1985. Partially Anticipated Events: A model of stock price reaction with an application to corporate acquisitions. *Journal of Financial Economics* 14, 237-250.
- Mitchell, M., Mulherin, J., 1996. The impact of industry shocks on takeover and restructuring activity. *The Journal of Financial Economics* 41, 193-229.
- Moeller, S., Schlingemann, F., 2005. Global diversification and bidder gains: A comparison between cross-border and domestic acquisitions. *Journal of Banking and Finance*, 29 (3), 533-64.
- Moeller, S., Schlingemann, F., Stulz., 2003a. Do Shareholders of Acquiring Firms Gain from Acquisitions? Dice Center Working Paper No. 2003a.
- 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. Forthcoming. *Journal of Finance*.
- Moeller, S., Schlingemann, F., Stulz, R., 2004. Do Acquirers with More Uncertain Growth Prospects Gain Less from Acquisitions? Charles A. Dice Center Working Paper No. WP 2004-19.
- Palepu, K., 1986. Predicting takeover targets. *Journal of Accounting and Economics* 8, 3-35.
- Rhodes-Kropf, M., Viswanathan, S. 2004. Market Valuation and Merger Waves. *Journal of Finance*, 59, 2685-2718
- Rhodes-Kropf, M., Robinson, F., Viswanathan, S., Valuation Waves and Merger Activity: The Empirical Evidence. Forthcoming. *The Journal of Financial Economics*.
- Roll, R., 1986. The Hubris Hypothesis of Corporate Takeovers. *Journal of Business* 59, (2), 197-216.
- Schipper, K., Thompson, R., 1983. Evidence on the Capitalized Value of Merger Activity for Acquiring Firms. *Journal of Financial Economics* 11, 85-119.
- Schnaars, S., 1994. *Managing Imitation Strategies: How Later Entrants Seize Markets From Pioneers*. The Free Press, New York.
- Schwert, W., 2000. Hostility in takeovers: In the eye of beholder? *Journal of Finance* 55, 2599-2640.
- Shleifer, A., Vishny, R., 2003. Stock Market Driven Acquisitions. Working paper. Harvard University and University of Chicago.
- Song, M., Walkling, R., 2000. Abnormal Returns To Rivals Of Acquisition Targets: A Test Of The 'Acquisition Probability Hypothesis.' *The Journal of Financial Economics* 55(2), 143-172.
- Stillman, R., 1983. Examining antitrust policy towards horizontal mergers. *Journal of Financial Economics* 11, 225-240
- Travlos, N., 1987. Corporate Takeover Bids, Methods of Payment, and Bidding Firms' Stock Returns. *The Journal of Finance* 42, 943-963.
- Wansley, J., Lane, W., Yang H., 1983. Abnormal Returns to Acquired Firms by Type of Acquisition and Method of Payment. *Financial Management* 12, (3)16-22.

Figure 1 The difference in mean announcement period (-1, 0) abnormal returns to bidders between long and short dormant periods. The graph shows the mean difference in abnormal returns across various attributes related to bidder returns. Dormant periods and abnormal dormant periods are used. Within each category, (e.g., stock, mixed, public target, etc.) we separate the observations into two groups: those with longer and shorter dormant periods. The graph shows the difference in returns (> 1 yr. minus ≤ 1 yr) within each category.

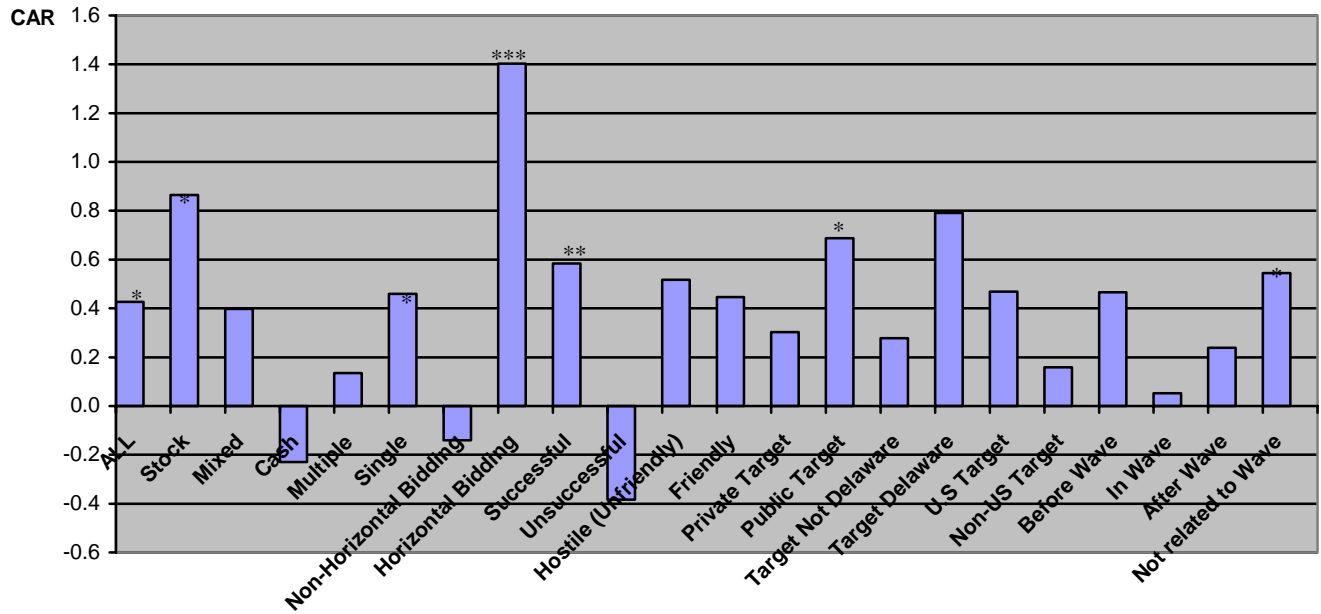
Panel A: Dormant > 1yr - ≤ 1 yr (Mean)



Panel B: Dormant > 1yr - ≤ 1 yr (Median)



Panel C: $Abdorm > 0 - \leq 0$ (Mean)



Panel D: $Abdorm > 0 - \leq 0$ (Median)

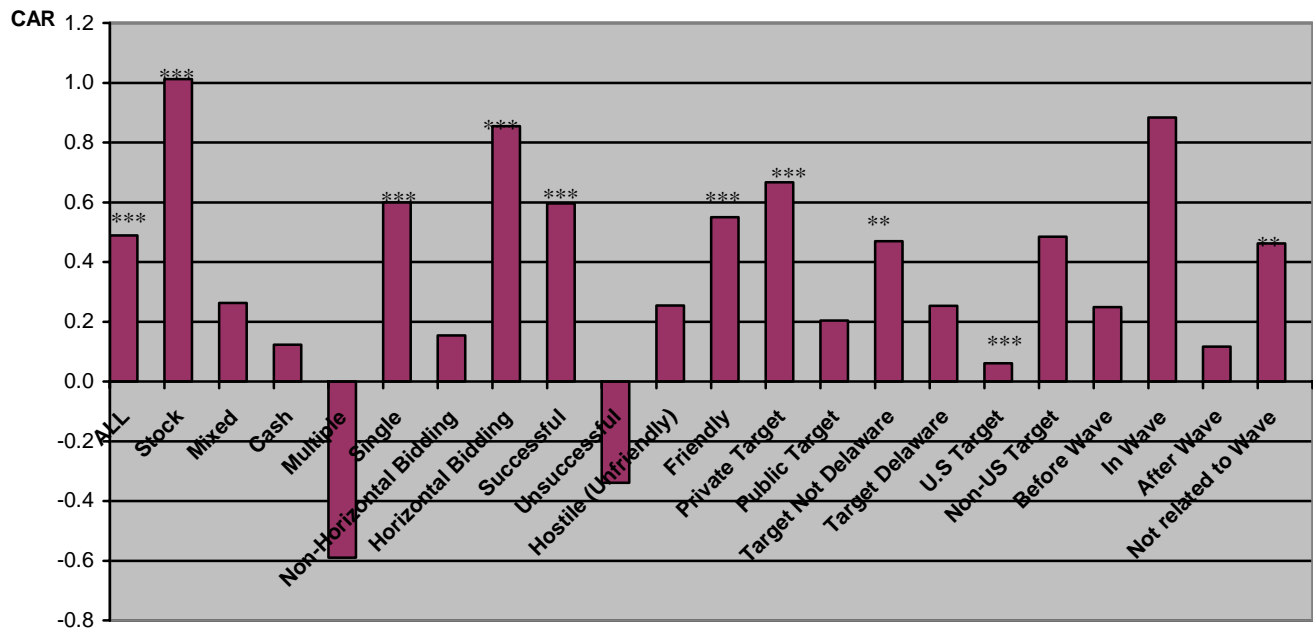


Table 1: Distribution of acquisition bids over the sample period. The sample consists of all US bidders on the SDC database announcing both domestic and international acquisition bids above \$10 million over the period 1/1/1985 through 12/31/2001. This produces an initial sample of 14,564 deals. We delete 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 and acquisitions (initially this is defined as fewer than five firms or acquisitions). This results in a sample of 3389 bidders. "An initial industry bidder" 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.

1	2	3	4	5	6
Year	N	% of Total	# of 4 digit industries with at least one bidder	# initial industry bidders	# of initial industry bidders making additional bids within 1 year (active initial industry bidders)
1985	79	2.3%	50	28	2
1986	81	2.4%	48	33	5
1987	86	2.5%	53	30	5
1988	99	2.9%	54	32	4
1989	87	2.6%	52	35	2
1990	57	1.7%	40	29	4
1991	76	2.2%	44	31	5
1992	108	3.2%	63	49	7
1993	133	3.9%	77	53	14
1994	202	6.0%	86	42	12
1995	275	8.1%	109	64	15
1996	311	9.2%	102	44	11
1997	329	9.7%	108	54	20
1998	387	11.4%	115	53	11
1999	394	11.6%	108	42	14
2000	428	12.6%	103	43	7
2001	257	7.6%	79	36	1
Total	3389	100.0%	313*	698	139

* There are 313 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 3389 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" 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. Row 2 presents results for all initial industry bidders. Row 3 presents results for initial industry bidders making additional bid(s) within a year. The last row shows the distribution of abnormal dormant periods calculated by subtracting the expected dormant period (days in the sample/# acquisitions in the industry) from the actual dormant period. Panel B shows the number of industries and the associated number of initial industry bidders over the sample period. Panel C presents motives mentioned in the financial press for the 698 initial industry bidders.

Panel A: The distribution of dormant periods

Level	N	Mean	Q1	Median	Q3
<i>Dormant period</i>					
All bidders	3389	352	18	77	288
Initial industry bidders	698	1395	509	795	1644
Active initial industry bidders*	139	1367	488	800	1497
<i>Abnormal dormant period</i>					
All bidding firms	3389	23.04	-211	-54	0

* These are initial industry bidders making additional bids within 1 year

Panel B: The number of industries and the associated number of initial industry bidders

# Initial industry bidders	Industries with this many initial industry bidders	
	#	%
1	30	15
2	30	15
3	50	24
4	42	21
5	28	14
6	15	7
7	4	2
8	4	2
	203	100%

The mean and median number of initial industry bidders per industry is 3.44 and 3.00, respectively.

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

Reason	# Firms	
Growth	167	23.93%
Economies of scale	169	24.21%
Acquire technology	58	8.31%
International expansion	40	5.73%
Vertical integration	24	3.44%
Price	10	1.43%
Program of acquisitions	7	1.00%
Other reasons Quality of Management/ HR	5	0.71%
No article found or no explicit reason given	218	31.23%
Total	698	100.00%

Table 3: Cumulative announcement period (-1, 0) abnormal returns for all bidding firms calculated at the time of their own bids categorized by dormant period. Panels A through C reveal abnormal returns classified by length of dormant period. 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 3,389 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 abnormal returns across various abnormal dormant periods. Abnormal dormant periods are calculated by subtracting the expected dormant period (days in the sample/# acquisitions in the industry) from the actual dormant period.

	N	Mean (%)	Median (%)	% Pos.
<i>Panel A: Abnormal returns for all bidding firms</i>				
All Firms	3389	0.177 (1.45)	- 0.101	48.7
<i>Panel B: Abnormal returns for initial industry bidders versus all other bidders</i>				
D<=1 yr	2691	0.040 (0.28)	- 0.197	47.6
D>1 yr (Initial industry bids)	698	0.706 (3.15)***	0.345	52.7
Difference t-stat between D<1yr vs. D>1yr		t = 2.51***		
<i>Panel C: Abnormal returns for bidders with various dormant periods</i>				
D<=1 yr (repeated from above)	2691	0.040 (0.28)	- 0.197	47.6
5yrs >=D> 1 yr	531	0.649 (2.63)***	0.304	52.4
5 yrs <D	167	0.888 (1.74)*	0.546	53.9
<i>Panel D: Abnormal returns for all bidding firms across abnormal dormant periods</i>				
Abnormal dormant period <= 0	2573	0.071 (0.48)	-0.203	47.5
Abnormal dormant period > 0	846	0.497 (2.33)**	0.286	52.1
Difference t-stat between Abnormal D<1yr vs. Abnormal D>1yr		t = 1.65*		

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

Table 4: Characteristics associated with bidding firm returns. This table displays abnormal returns for bidding firms classified by characteristics identified as important in the literature. Across each classification results are shown for all firms and for firms with various length dormant periods. Columns two and three reveal results for firms with dormant periods less than one year and more than one year respectively. Columns four and five show results for firms with dormant periods less than expected and greater than expected based on actual acquisition activity in that firms industry. The Kruskal Wallis is a nonparametric test; the p-value is based on Chi-square test.

1	2	3	4	5	6	7	8	9
		ALL	Dormant ≤ 1yr	Dormant> 1yr	Abdorm ≤ 0	Abdorm> 0	Dormant ≤ 1yr vs >1yr	Abdorm ≤ 0 vs >0
							<i>Difference t-value</i>	
							<i>Kruskal Wallis p value</i>	
<i>Panel A All</i>								
ALL	N	3,389	2,691	698	2,543	846		
	Mean	0.177	0.040	0.706	0.071	0.497	-2.51**	-1.65*
	Median	-0.101	-0.197	0.345	-0.203	0.286	0.00***	0.01***
	%+	48.7	47.6	52.7	47.5	52.1		
<i>Panel B Form of Payment</i>								
Stock 40.6%	Mean	-0.187	-0.343	0.787	-0.375	0.490	-2.33**	-1.82*
	Median	-0.248	-0.406	0.460	-0.535	0.477	0.01***	0.01***
	%+	46.7	45.4	54.7	44.7	54.0		
Mixed 31.7%	Mean	0.315	0.137	0.917	0.219	0.617	-1.49	-0.89
	Median	-0.182	-0.225	0.189	-0.2	0.063	0.09*	0.27
	%+	48.6	47.5	52.2	47.9	50.8		
Cash 27.7%	Mean	0.554	0.594	0.452	0.625	0.395	0.36	0.59
	Median	0.180	0.150	0.288	0.146	0.269	0.93	0.92
	%+	51.7	51.6	51.7	51.8	51.4		
<i>Panel C Number of Bidder</i>								
Multiple 5.7%	Mean	-0.837	-0.830	-0.852	-0.876	-0.741	0.03	-0.22
	Median	-0.443	-0.270	-0.618	-0.203	-0.793	0.68	0.48
	%+	40.4	41.2	38.6	43.1	33.9		
Single 94.3%	Mean	0.239	0.086	0.845	0.125	0.584	-2.71***	-1.68*
	Median	-0.068	-0.190	0.416	-0.203	0.396	0.00***	0.00***
	%+	49.2	48.0	54.0	47.0	53.4		

Continued on next page.

Table 4, continued.

1	2	3	4	5	6	7	8	9
		ALL	Dormant ≤ 1yr	Dormant> 1yr	Abdorm ≤ 0	Abdorm> 0	Dormant ≤ 1yr vs >1yr <i>Difference t-value</i>	Abdorm ≤ 0 vs >0 <i>Kruskal Wallis p value</i>
<i>Panel D Form of Acquisition</i>								
Non-Horizontal Bidding 63.9%	Mean	0.326	0.297	0.431	0.360	0.220	-0.41	0.42
	Median	-0.091	-0.124	0.216	-0.120	0.034	0.16	0.44
	%+	49.1	48.4	51.5	48.7	50.4		
Horizontal Bidding 36.1%	Mean	0.085	-0.405	1.238	-0.452	0.951	-3.43***	-3.41***
	Median	-0.146	-0.297	0.537	-0.326	0.529	0.00***	0.00***
	%+	48.0	46.2	55.0	45.5	55.0		
<i>Panel E Outcome of the acquisition</i>								
Successful 86.1%	Mean	0.190	0.039	0.806	0.049	0.633	-2.71***	-2.13**
	Median	-0.100	-0.190	0.356	-0.220	0.376	0.00***	0.00***
	%+	48.7	47.7	52.8	47.2	53.4		
Unsuccessful 13.9%	Mean	0.100	0.045	0.252	0.218	-0.165	-0.26	0.50
	Median	-0.145	-0.245	0.335	-0.048	-0.387	0.22	0.85
	%+	48.5	47.1	52.4	49.5	46.2		
<i>Panel F Attitude of Target</i>								
Hostile (Unfriendly) 5.0%	Mean	-0.684	-0.940	-0.098	-0.872	-0.355	-1.09	-0.82
	Median	-0.645	-0.783	-0.348	-0.783	-0.529	0.19	0.29
	%+	40.4	37.8	46.2	39.6	41.7		
Friendly 95.0%	Mean	0.223	0.085	0.771	0.114	0.560	-2.45**	-1.63
	Median	-0.073	-0.154	0.392	-0.187	0.363	0.00***	0.01***
	%+	49.1	48.1	53.3	47.9	52.9		
<i>Panel G Public or Private Target</i>								
Private Target 63.2%	Mean	0.921	0.841	1.241	0.846	1.149	-1.14	-0.92
	Median	0.268	0.156	0.589	0.101	0.768	0.03**	0.01***
	%+	53.2	51.8	58.8	51.2	59.1		
Public Target 36.8%	Mean	-1.100	-1.388	-0.136	-1.275	-0.587	-3.13***	-1.69*
	Median	-0.708	-0.811	-0.484	-0.789	-0.585	0.01***	0.23
	%+	41.0	40.4	43.2	41.1	40.6		

Continued on next page.

Table 4, continued.

1	2	3	4	5	6	7	8	9
		ALL	Dormant ≤ 1yr	Dormant> 1yr	Abdorm ≤ 0	Abdorm> 0	Dormant ≤ 1yr vs >1yr	Abdorm ≤ 0 vs >0
							<i>Difference t-value</i> <i>Kruskal Wallis p value</i>	
<i>Panel H Target Incorporated state</i>								
Target	Mean	0.490	0.402	0.816	0.418	0.696	-1.39	-0.97
Not Delaware 79.9%	Median	0.073	-0.030	0.392	-0.048	0.422	0.04**	0.04**
	%+	50.6	49.8	53.8	49.5	54.0		
Target Delaware 20.1%	Mean	-1.065	-1.346	0.198	-1.237	-0.446	-2.74***	-1.22
	Median	-0.866	-0.970	-0.471	-0.951	-0.698	0.01***	0.11
	%+	41.0	39.5	47.6	40.3	43.2		
<i>Panel I Target Nationality</i>								
U.S Target 86.0%	Mean	0.170	-0.011	0.884	0.052	0.520	-3.05***	-1.62
	Median	-0.122	-0.209	0.375	-0.212	0.273	0.00***	0.01***
	%+	48.4	47.2	53.2	47.2	52.0		
Non-US Target 14.0%	Mean	0.223	0.363	-0.241	0.185	0.344	1.00	-0.32
	Median	0.056	0.093	-0.001	-0.063	0.422	0.92	0.31
	%+	50.3	50.4	50.0	49.4	53.1		
<i>Panel J Merger waves</i>								
Before Wave 10.4%	Mean	0.728	0.793	0.398	0.650	1.116	0.42	-0.50
	Median	0.229	0.202	0.501	0.218	0.467	0.87	0.55
	%+	52.0	52.0	51.7	52.2	50.8		
In Wave 26.4%	Mean	0.289	0.254	0.579	0.283	0.336	-0.43	-0.07
	Median	-0.298	-0.391	0.189	-0.402	0.482	0.39	0.44
	%+	47.0	46.6	50.5	46.2	52.8		
After Wave 17.2%	Mean	-0.894	-0.962	-0.546	-0.946	-0.707	-0.63	-0.33
	Median	-0.617	-0.653	-0.503	-0.625	-0.508	0.57	0.50
	%+	43.6	43.4	44.8	43.4	44.5		
Not related to Wave 46.0%	Mean	0.389	0.126	1.043	0.196	0.741	-2.66***	-1.67*
	Median	0.056	-0.073	0.431	-0.085	0.377	0.00***	0.02**
	%+	50.8	49.1	55.0	49.1	53.9		

Table 5: 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 own acquisition bid. t-statistics are shown beneath the coefficients. Regressions include all bidding firms.

	All bidding firms					
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-0.71 (-0.73)	-0.46 (-0.47)	-0.65 (-0.66)	-0.49 (-0.49)	-0.26 (-0.27)	0.01 (0.01)
Dormant Period (in days)					3.03×10^{-4} (1.71)*	
Dormant Period > 1 year? (HISDUM)	0.73 (2.09)**	0.65 (1.88)*	1.14 (2.59)***			
1 < Dormant Period <= 5 years				1.06 (2.30)**		
5 years < Dormant Period ?				0.16 (0.20)		
Abnormal Dormant Period						2.31×10^{-4} (1.27)
<i>Bidder and target specific variables</i>						
Relative Size	-0.12 (-1.71)*	-0.12 (-1.70)*	-0.12 (-1.70)*	-0.12 (-1.65)*	-0.13 (-1.73)*	-0.12 (-1.70)*
Bidder's Q ratio	-0.01 (-0.27)	-0.01 (-0.29)	-0.01 (-0.32)	-0.01 (-0.29)	-0.01 (-0.27)	-0.01 (-0.25)
Target incorporated in Delaware?	-0.33 (-0.88)	-0.30 (-0.80)	-0.30 (-0.81)	-0.31 (-0.83)	-0.33 (-0.87)	-0.34 (-0.89)
US target?	1.18 (2.86)***	1.13 (2.77)***	1.16 (2.83)***	1.16 (2.82)***	1.14 (2.78)***	1.14 (2.77)***
<i>Deal specific variables</i>						
Number of firms in industry	0.14 (1.11)	0.13 (1.09)	0.12 (1.00)	0.09 (0.73)	0.09 (0.71)	0.04 (0.30)
Target is in Compustat (Public target proxy)	-1.73 (-5.20)***	-1.74 (-5.22)***	-1.74 (-5.24)***	-1.75 (-5.26)***	-1.73 (-5.19)***	-1.74 (-5.21)***
Successful offer?	0.35 (0.71)	0.39 (0.79)	0.40 (0.80)	0.43 (0.88)	0.39 (0.79)	0.42 (0.84)
Merger?	-0.48 (-0.97)	-0.48 (-0.96)	-0.46 (-0.92)	-0.45 (-0.91)	-0.45 (-0.90)	-0.45 (-0.91)
Attitude (1 = Friendly)	0.72 (1.09)	0.80 (1.20)	0.84 (1.26)	0.89 (1.33)	0.76 (1.15)	0.79 (1.18)
Cash offer?	0.26 (0.75)	0.21 (0.61)	-0.22 (0.62)	0.20 (0.57)	0.23 (0.65)	0.22 (0.62)

**Continued
on next
page.**

Stock offer?	-0.76 (-2.29)**	-0.85 (-2.57)**	-0.85 (-2.57)**	-0.86 (-2.59)***	-0.86 (-2.59)***	-0.86 (-2.60)***
Multiple offer?	-0.92 (-1.56)	-0.99 (-1.69)*	-0.97 (-1.67)*	-1.00 (-1.71)*	-0.97 (-1.67)*	-0.99 (-1.69)*
Toehold position	1.87 (0.74)	1.82 (0.72)	1.86 (0.73)	2.05 (0.81)	1.67 (0.66)	1.69 (0.66)
<i>Wave variables</i>						
Before the Wave Dummy (PRW)		0.38 (0.83)	0.78 (1.51)	0.70 (1.36)	0.59 (1.16)	0.55 (1.09)
After the Wave Dummy (POW)		-1.40 (-3.74)***	-1.14 (-2.71)***	-1.23 (-2.94)***	-1.34 (-3.28)***	-1.38 (-3.37)***
In the Wave Dummy (INW)		-0.02 (-0.07)	0.19 (0.51)	0.10 (0.28)	-0.00 (-0.01)	0.04 (-0.10)
PRW * HISDUM			-1.77 (-1.57)	-1.55 (-1.37)	-0.99 (-0.93)	-0.87 (-0.82)
INW * HISDUM			-0.95 (-1.07)	-0.74 (-0.84)	-0.20 (-0.25)	-0.07 (-0.09)
POW * HISDUM			-1.10 (-1.19)	-0.87 (-0.95)	-0.35 (-0.41)	-0.24 (-0.28)
Adj R ²	0.03	0.03	0.03	0.03	0.03	0.03
F-stat (<i>p</i> -value)	5.22 (0.00)	5.38 (0.00)	4.76 (0.00)	4.47 (0.00)	4.56 (0.00)	4.49 (0.00)
N	2609	2609	2609	2609	2609	2609

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

Table 6: Abnormal returns of non-bidding and subsequent bidding rivals 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 initial industry bidder. Some of these firms make bids after the initial industry bidder, some do not. The first two columns contain results for non-bidding firms and initial industry bidders. Some of the subsequent bids were made by initial industry bidders themselves. The subsequent bids by these initial industry 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. Positive and negative cases refer to the sign of the initial bidder's return.

Continued on next page

Table 6, continued. Abnormal returns of rival and subsequent bidding firms calculated at the time of initial industry bid.

	1	2	3	4	5	6
		Non Bidders	Initial Industry Bidders	Subsequent bids Excluding subsequent bids by Initial Industry Bidders)	Subsequent bids by Initial Industry Bidders	Non Bidders vs. SB(Excluding Bids by Initial Industry Bidders) t-test
<i>Panel A</i>						
All	N	10,694	698	1,431	182	
	Mean	0.035	0.706	0.255	0.791	
	t-stat	(0.51)	(3.15)***	(2.06)**	(1.95)*	-1.55
	Median	-0.134	0.345	-0.070	0.597	
	%+	47.5	52.7	48.5	59.3	
<i>Panel B</i>						
Initial industry bid is	N	4,163	238	661	60	
Horizontal	Mean	-0.005	1.238	0.598	1.919	
	t-stat	(-0.04)	(3.07)***	(3.19)***	(3.00)***	-2.74***
	Median	-0.102	0.537	0.114	1.473	
	%+	47.9	55.0	52.2	70.0	
<i>Panel C</i>						
Initial industry bid is Non-horizontal	N	6,531	460	770	122	
	Mean	0.060	0.431	-0.038	0.237	
	t-stat	(0.71)	(1.61)	(-0.23)	(0.46)	0.53
	Median	-0.150	0.216	-0.242	0.364	
	%+	47.0	51.5	45.3	54.1	
<i>Panel D</i>						
CAR of Initial industry bid is positive	N	6,199	368	882	108	
	Mean	0.045	4.327	0.600	3.815	
	t-stat	(0.48)	(16.27)***	(3.53)***	(8.89)***	-2.86***
	Median	-0.114	2.754	0.267	2.984	
	%+	47.9	100.0	53.4	100	
<i>Panel E</i>						
CAR of Initial industry bid is negative	N	4,495	330	549	74	
	Mean	0.021	-3.331	-0.298	-3.622	
	t-stat	(0.22)	(16.25)***	(-1.72)*	(9.06)***	1.62*
	Median	-0.172	-2.289	-0.583	-2.726	
	%+	47.0	0	40.6	0	

Table 7: Results of Logistic Regressions Estimating the Probability of Being a Subsequent Bidder. The binary dependent variables are equal to one if the firm announces a bid after initial industry bidder's announcement and before the next initial industry bidder. The independent variables are defined as: Rival's Abnormal Return is a rivals' abnormal announcement return earned at the time of their initial industry bidder's announcement, Size is the natural log of market value of equity, Profitability is operating profit before depreciation normalized with total assets, Liquidity is the cash balance normalized with total assets, Leverage is the long-term debt normalized with total assets, Tobin's $q > 1$ is a dummy variable equal to 1 if Tobin's q is greater than 1, R&D is research and development expenditure normalized with total assets. Initial bidders are excluded in these regressions.

	1 All cases	2 Horizontal	3 Non-horizontal	4 Positive IIB CAR	5 Negative IIB CAR
# Non-Bidding Rivals	9,124	3,456	5,668	5,207	3,917
# Subsequent-Bidding Rivals	1,383	610	773	835	548
Constant	-5.61 (-11.05) ***	-5.08 (-8.47) ***	-6.42 (-6.38) ***	-9.57 (-2.11) **	-4.74 (-9.04) ***
Rival's Abnormal Return	0.01 (1.78) *	0.18 (2.11) **	0.00 (0.27)	0.03 (3.95) ***	-0.03 (-2.66) ***
Size	0.44 (29.74) ***	0.42 (18.34) ***	0.45 (22.99) ***	0.45 (22.83) ***	0.44 (19.20) ***
Profitability	1.51 (8.60) ***	1.62 (6.29) ***	1.61 (6.30) ***	1.64 (7.55) ***	1.45 (4.68) ***
Liquidity	0.78 (4.08) ***	1.33 (4.80) ***	0.26 (0.94)	1.15 (4.66) ***	0.25 (0.77)
Leverage	-0.38 (-2.26) **	-0.93 (-3.59) ***	0.08 (0.34)	-0.12 (-0.54)	-0.59 (-2.24) **
Tobin's $q > 1$	1.09 (2.15) **	0.81 (1.36)	1.71 (1.70) *	4.99 (1.10)	0.12 (0.23)
R&D	1.94 (6.27) ***	2.36 (5.37) ***	1.75 (3.93) ***	1.88 (4.78) ***	2.24 (4.29) ***
Likelihood Ratio Index ^a	0.17	0.16	0.17	0.17	0.16

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

^a The likelihood ratio index is equal to $(1 - \log \text{likelihood at convergence} / \log \text{likelihood at zero})$. It is the analogy of R-square in multiple regression.

Table 8: 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 bidder's abnormal returns. All returns are measured at the time of the initial industry bidder. The dependent variable is the subsequent bidder's and non-bidders' abnormal return over the two-day announcement period (-1, 0) for the initial industry bidder. The independent variables are the initial industry bidders' abnormal return measured over the same period (IIBCAR) and a dummy variable to recognize the existence of a subsequent bidder dummy (SBDUM). Horizontal refers to acquisitions by the initial bidder in the same 4-digit SIC code. Positive and Negative refer to the sign of the initial bidder's announcement return. T-statistics, adjusted for clustered data, are shown in parentheses. Since initial bidder's returns are used as independent variables, they are not included in the regressions.

	1 All cases	2 Horizontal	3 Non-horizontal	4 Positive IIB CAR	5 Negative IIB CAR
Constant	0.00 (0.12)	0.00 (0.05)	0.00 (0.18)	-0.00 (-0.03)	0.00 (2.20)**
IIB's abnormal return (IIBCAR)	0.01 (1.41)	-0.01 (-0.53)	0.04 (2.64)***	0.01 (0.67)	0.08 (3.03)***
Subsequent bidder dummy (SBDUM)	-0.00 (-0.38)	0.00 (0.49)	-0.00 (-1.02)	-0.00 (-0.39)	-0.00 (-0.78)
IIBCAR*SBDUM	0.07 (5.82)***	0.08 (8.05)***	0.07 (1.43)	0.83 (5.10)***	0.02 (0.28)
Adj R ²	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
F-stat	24.08	137.33	4.74	22.50	4.27
p-value	0.00	0.00	0.00	0.00	0.01
N	12,125	4,824	7,301	7,081	5,044

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